

3 Social aspects of the project

3.1 Introduction

Population and social change will occur during all phases of the project, that is, in the planning, construction, operations and closure phases. The social changes during each phase of the project will be different and these changes have been considered below.

3.2 Planning, feasibility and approvals phase

The project's planning phase began in December 2010 when Hume Coal acquired A349 from Anglo Coal. Shortly after, in May 2011, Hume Coal began exploration drilling. In August 2011, Hume Coal opened its project planning office in Moss Vale. Since then, Hume Coal has undertaken extensive geological, engineering, environmental, financial and other technical investigations to inform the mine plan, mining system, and address environmental and other constraints. This included two stages of environmental and engineering investigations, three stages of opportunities, constraints analysis and workshops. Hume Coal has also extensively consulted and engaged with the community throughout the project's planning and environmental assessment phase, including establishing community shopfronts in Moss Vale in November 2012 and Berrima in May 2016.

Hume Coal has retained the services of a large technical team, including consultants and contractors, for these activities. In November 2015, Hume Coal had 17 direct employees who were involved in:

- environmental planning;
- mine planning;
- exploration;
- health and safety;
- community liaison;
- administration; and
- executive roles.

Hume has also retained over 40 consulting and contracting companies that have provided the following services:

- mine planning and scheduling;
- civil engineering;
- underground geotechnical engineering;
- coal handling plant design;
- feasibility studies;
- coal quality testing;

- environmental monitoring and assessment;
- traffic and transport;
- electrical work;
- surveying;
- surface geotechnical engineering;
- fencing;
- drilling;
- irrigation and pumping;
- gardening and landscaping;
- construction and excavation;
- safety training; and
- plant and equipment testing.

Hume Coal has also retained the services of a pastoral company, Princess Pastoral Pty Ltd, to operate and manage agricultural land that Hume Coal and or affiliated company owns.

Since February 2015, Hume Coal has invested \$250,000 a year in the Hume Coal Apprenticeship program, which provided funding to trainees and apprentices in the local community which is partnered with 1300apprentice, a not-for-profit group training company. In November 2015, Hume Coal was sponsoring four apprentices and two trainees within a number of local businesses.

In May 2015, Hume Coal also launched the Hume Coal Charitable Foundation. As part of the foundation, Hume Coal provided two rounds of funding each year to local organisations. The foundation invested around \$200,000 a year in the local community with a focus on educational, Indigenous and not-for-profit childcare organisations within the Wingecarribee LGA. To date, the charitable foundation has provided funding to over 40 local organisations, including KU Donkin Pre-school, Wingecarribee Family Support Service, Youth Radio MVH-FM, Kollege of Knowledge Kommittee for Kids, BDCU Children's Foundation, Challenge Southern Highlands, Moss Vale Dragons Junior Rugby League Club, Moss Vale Cricket Club, Bundanoon Highlanders Rugby League Football Club and Bowral Rugby Club.

3.3 Construction phase

3.3.1 Workforce composition and scheduling

The project's construction will occur over a period of about 2 years, with initially about 105 construction workers during early works and then building-up to a peak workforce of about 414 construction workers after 11 months. The peak workforce will be deployed to a number of construction sites, including the coal handling and preparation plant (CHPP) precinct, administration precinct and underground mine precinct.

3.3.2 Sourcing of construction workers

The main skills required by construction workers are as follows:

- project management and administration;
- engineering design and supervision;
- various construction trades;
- plant and equipment operators;
- labourers; and
- accommodation provision and servicing.

Some of these skills will be well suited to local contractors and firms; people with these skills will be recruited where feasible. Examples include plant and equipment operators, trades, engineering and administration tasks, and providing food and accommodation for workers. However, some of the skills required during the construction phase are highly specialised and so specialist firms will be contracted for these tasks. Most of these specialist firms and their employees are located outside of the local area so these workers will require accommodation while rostered on during construction.

For the purposes of the EIS, Hume Coal has conservatively assumed that around 90% of construction personnel will be employees of specialist firms from outside of the local area, although it is likely that the local content of the construction work will be able to be far higher than this. The balance (10%) will be recruited locally. There are no practical means of increasing local recruitment for many key aspects of the project due to the specialised nature of the work.

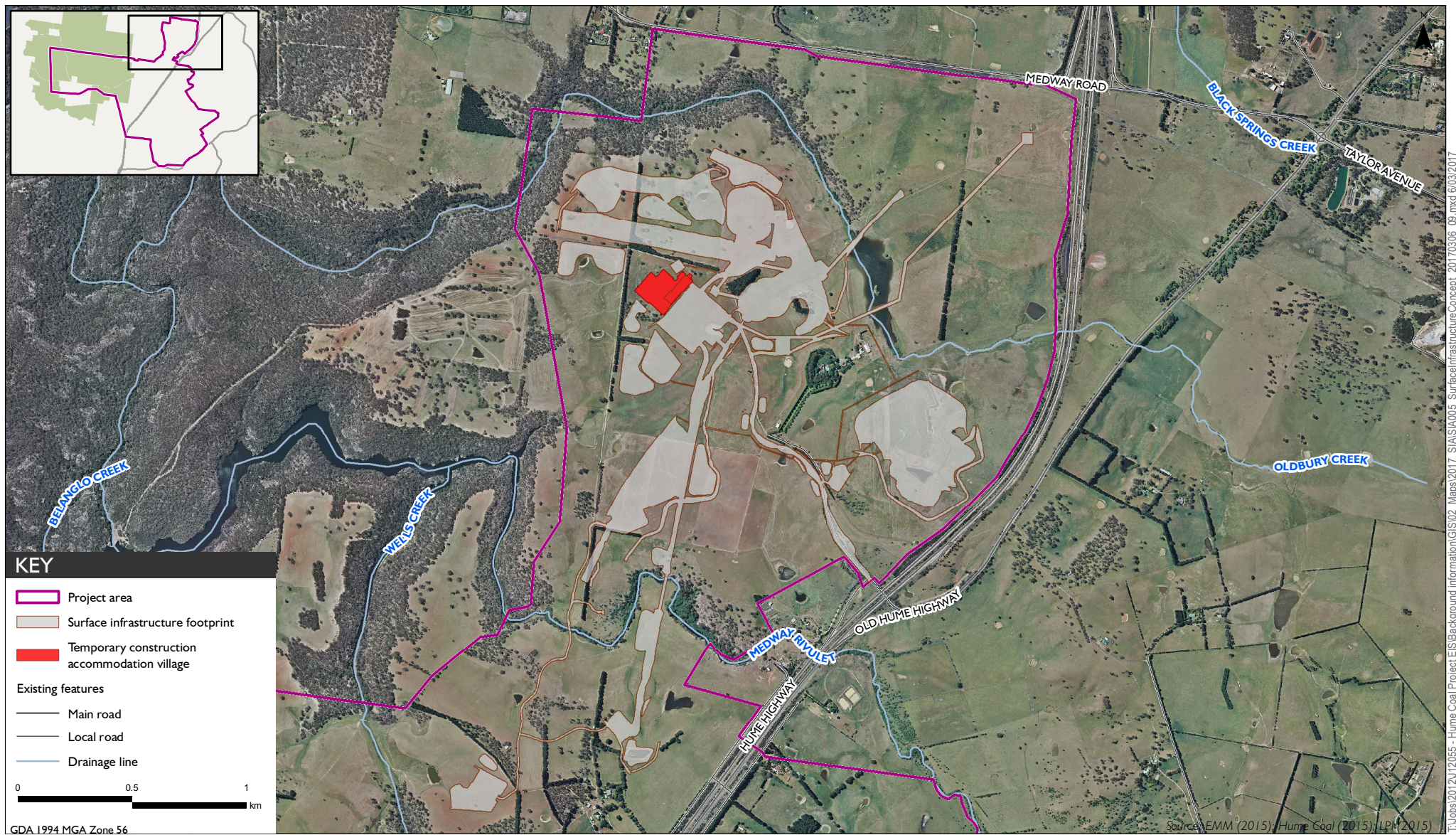
3.3.3 Accommodation and management of construction workers

A construction accommodation village (CAV) that can accommodate nominally 400 workers will be developed before the major construction activities begin. It will accommodate most of the non-local construction workers for the project and the related Berrima Rail Project. The balance will consist of mostly support workers who will not live in the CAV. The CAV will take eight months to construct and will be built in two stages. The first stage will take four months and will accommodate 200 initial construction workers. The second stage will take another four months, after which the CAV will be at its full capacity. During this time, workers building the village will stay in temporary accommodation, such as short-term rental houses, hotels, motels or caravan parks. The CAV will be within the mine surface infrastructure area and will be accessed via Mereworth Road and an internal mine access road. Following its construction, all non-local workers will be required to live in the CAV while they are rostered on. Since the construction workforce will be temporary, workers will almost always be unaccompanied by family, meaning the CAV will have enough capacity for most of the non-local construction workers for both the Hume Coal Project and the Berrima Rail Project.

The CAV will be temporary and operate for a maximum period of 36 months. It will be dismantled once construction works are completed and the project moves into its operational phase. The CAV will be 'dry' (i.e. no alcohol will be permitted) and contain a dining hall, gym, and recreation room. These on-site facilities mean that there will be limited interaction between construction workers and the local community. Consequently, there will be little prospect of any unruly behaviour in nearby towns.

An experienced operator will manage the CAV. Since this is a specialised role, it is likely that the operator will be recruited from outside the local area. However, the operator will be contractually bound to procure local workers and contractors where reliability, quality and financial competitiveness criteria can be satisfied. This will include engaging local businesses to supply goods and services to the CAV, typically consisting of laundry, cleaning and catering.

The presence of the CAV means that non-local construction workers will not place additional pressure on the supply of local housing and short-term accommodation. This is significant as the region's tourism industry relies on the availability of a limited number of beds. The CAV will eliminate project-related impacts on rental accommodation and prices for short-term rentals. The availability of a CAV will also help Hume Coal to attract skilled construction workers and minimise any risks to the project's development schedule from a potential skills shortage.



Indicative surface infrastructure footprint

Hume Coal Project
Social Impact Statement

Figure 3.1

3.4 Operations phase

3.4.1 Workforce composition and scheduling

The operations phase of the project will extend for 19 years. The operations workforce will quickly ramp-up to a peak operations workforce of about 300 workers in year five. This includes direct employees and full-time-equivalent contractors.

The operations workforce will consist of both semi-skilled and skilled mine operators and maintenance staff, engineers, and managers, requiring varying levels of experience. In the early commissioning and build-up phases a core of experienced workers will be needed. However, as capacity for training increases over time there will be a greater opportunity to recruit less experienced workers. When recruiting, Hume Coal will apply the following criteria:

- completion of Year 12 schooling;
- a responsible character;
- be fit and medically suited to working in an underground mine;
- have a stable employment record; and
- ideally have a trade qualification or working towards one.

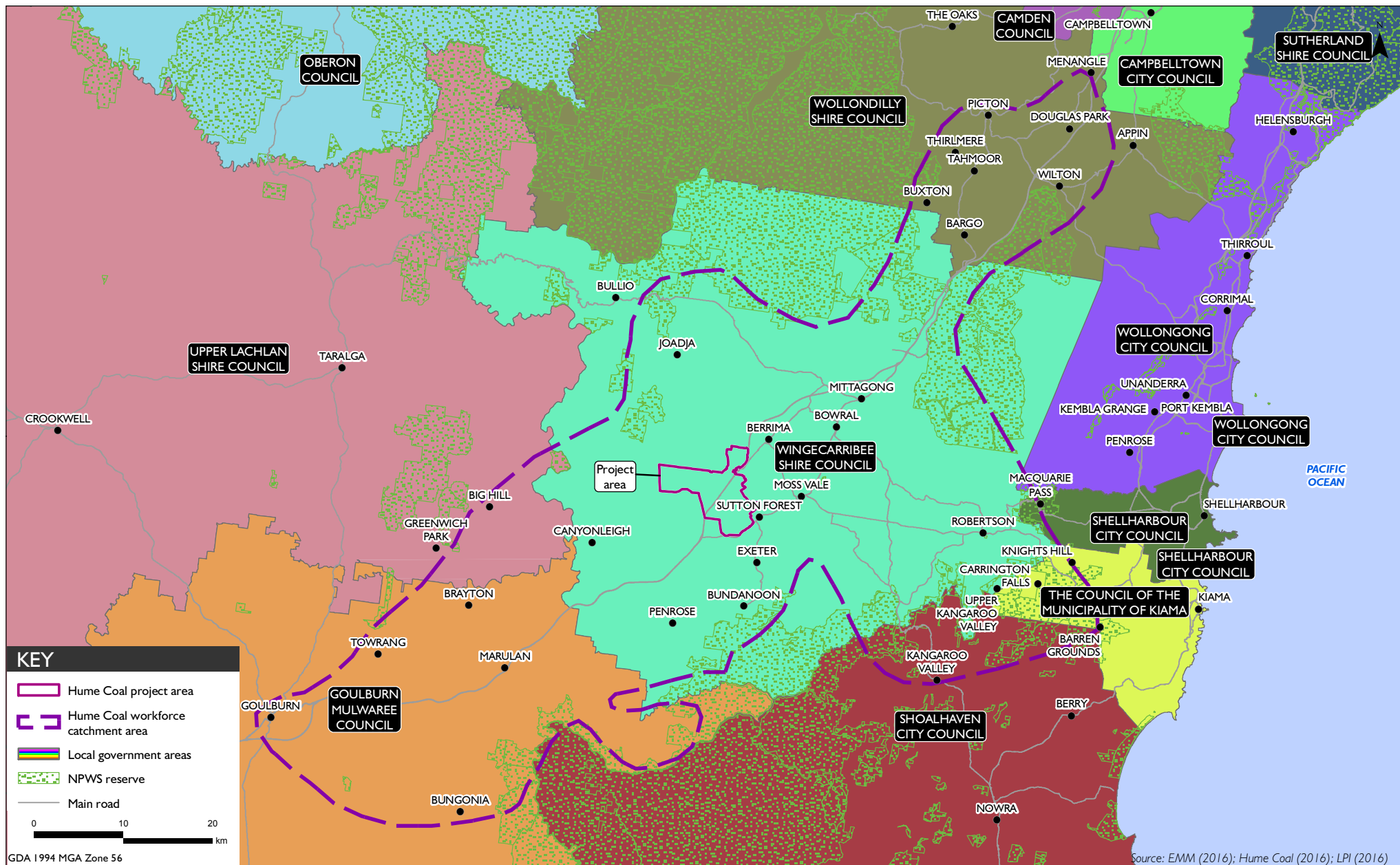
Hume Coal will give priority to local recruits who meet the above criteria.

3.4.2 Workforce catchment area

For work health and safety (WHS) reasons, Hume Coal will require all workers, including those involved in mine closure, to live within 45 minutes travel time from the project area. This policy will minimise the risk of fatigue related travel accidents, given that most of the operations workforce will be doing shift work. The 45-minute travel catchment is shown in Figure 3.2 and termed the “workforce catchment area” or “local area”. It can be seen that it includes most of the Wingecarribee LGA as well as the following localities in adjoining LGAs:

- Wollondilly (Douglas Park, Picton, Thirlmere, Tahmoor and Wilton);
- Kiama (Carrington Falls);
- Shoalhaven (upper Kangaroo Valley); and
- Goulburn Mulwaree (Goulburn and Marulan).

Since all operations workers will be required to live in this workforce catchment area, most population and social change arising during post-construction phases of the project will occur in this catchment area.



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Workforce catchment area

Hume Coal Project
Social Impact Assessment
Figure 3.2

3.4.3 Sourcing of operations workers

On census night in 2011, there were 187 people working in the mining sector residing in the Wingecarribee LGA with a further 876 people in the adjoining LGAs as listed below (ABS 2011a):

- Wollondilly – 459;
- Kiama – 178;
- Shoalhaven – 135; and
- Goulburn Mulwaree – 104.

This ignores a significant number of people who live in the local area but to whom one or more of the following circumstances apply:

- people who were working outside the district on census night (i.e. drive-in-drive-out, or fly-in-fly-out);
- people who work in related industries with highly transferrable skills (e.g. manufacturing); and
- people who have been forced to change industries due to a lack of local opportunities in mining, but who have skills in the industry.

After the construction phase, operations will quickly ramp up and extend for 19 years. This will be long enough to introduce effective training programs for inexperienced workers. For the purposes of this SIA, an “inexperienced” worker is a worker who does not have significant underground coal mining experience, although they could have a lot of experience in a related occupation. It will take around six to nine months to train an inexperienced person to work competently in an underground mine due to the unique work environment. Thus, over time, training programs will increase the potential to recruit local workers and, given the reasonably large pool of suitable local workers, it is considered likely that about 70% of all workers will be sourced locally over the life of the project. However, it is important to note that this is only an educated estimate and it is possible that the proportion of locals could be lower or higher. This figure is important because it is the key determinant of population growth from the project and therefore affects infrastructure and services. Given the inexact nature of these estimates, two scenarios have been used in this SIA – 70% (best estimate) and 50% (conservative case) local recruitment over the life of the project.

Given the announced closure of Tahmoor Colliery in the north of the workforce catchment, it is now more likely that the higher local recruitment estimate (ie 70%) will be achieved or may even be exceeded.

In the higher scenario, it is assumed the following recruitment pattern would occur:

- initially 70 experienced workers would be recruited from outside the area and the remaining 30 would be locally recruited; and
- at peak production, a further 180 local people would be recruited following completion of training programs as required, with 20 more people recruited from outside the local area.

In the second (or 50%) scenario it is assumed the following recruitment pattern would occur:

- initially as above for the 70% scenario; and
- at peak production, 120 more locals would be recruited following completion of training programs as required, with 80 more people recruited from outside the local area.

3.4.4 Residential distribution of operations workers

Population change associated with the project will occur in three ways – workers renting for an initial period of time before buying a home or renting long-term, relocating workers moving to the area, and ‘local’ workers who now live in the outer parts of the workforce catchment area but would choose to relocate closer to the project site. Being long-term residents, these new residents will exercise care in choosing the locations of their new homes. A number of studies have examined the factors influencing peoples’ choices of their residential locations. For instance, the Department of Infrastructure and Transport Major Cities Unit (2013) considered that ‘liveability’ was the major influencing factor and it encompassed a range of factors such as amenity, quality of buildings and public spaces, public transport, job opportunities and availability of goods and services, particularly health and education. Brooker and Mitchell (2014) suggest that there are three controlling factors – accessibility, amenity and affordability.

In this SIA, Brooker and Mitchell’s three factors have been used as well as a fourth factor of ‘availability’. Each factor is described below:

- availability – enough zoned and subdivided residential land is available to meet the project’s housing needs;
- affordability – houses or units are available to buy or rent at prices mine workers can afford;
- accessibility – a town or village lies within an acceptable travel time to the project site (ie within 45 minutes) with closer locations being preferred; and
- amenity – a town or village has essential services, including general medical, a primary school and convenience retail outlets, with those towns containing a broader range of facilities and services being preferred. The environmental amenity of each town and village is also relevant.

The above factors are not of equal weight. Availability and affordability are essential whereas accessibility and amenity are discretionary. Thus, in determining the residential distribution of the project’s workforce, those towns or villages that satisfy the availability and affordability criteria have been given much greater weight. The housing preferences of mine workers also need to be taken into account. The mining industry employs a relatively high proportion of workers aged between 25 and 44 years with around 58.6% falling into this age group (Department of Employment 2014). Because of this, most relocating workers will be accompanied by young families, suggesting a strong preference for houses with three or more bedrooms.

Each residential preference factor is considered below and followed by towns and villages ranked against all factors.

i Availability

Data available for Wingecarribee Shire Council (WSC) suggests there is a good supply of residential zoned land to accommodate future dwelling approvals (SGS Economics and Planning 2012). The data shows that Moss Vale, Mittagong and Bowral have the greatest capacity to accommodate future growth with combined space for 4,714 more dwellings. Smaller settlements within the Wingecarribee LGA have less capacity to accommodate future dwelling growth, but some, including New Berrima and Exeter have some additional land availability (SGS Economics and Planning 2012). The preceding figures deal with vacant land supply, and not vacant houses. There may be some difference between the figures but this is the best reliable data available relating to future housing availability.

The Wollondilly DCP 2016 identifies several urban release areas within the 45 minutes travel zone, including the Wilton park release area, with about 1165 lots. Goulburn Mulwaree Council has also identified several urban release areas.

In summary, the towns and villages within the workforce catchment area have been categorised as follows: high availability of land – Moss Vale, Mittagong and Bowral; some availability – New Berrima, Exeter, and remaining towns in the Wingecarribee, Wollondilly and Goulburn Mulwaree LGAs; little availability – Sutton Forest, Berrima, and relevant towns in the Kiama and Shoalhaven LGAs.

ii Affordability

A search for median house sale prices in the workforce catchment area has been undertaken. It has covered most towns in the Wingecarribee LGA as well as the surrounding LGAs (see Table 3.1 and Table 3.2). The median rents for all dwelling types in towns within the catchment area have been obtained; the results are listed in Table 3.3 and Table 3.4.

Table 3.1 Median house sale prices across the Wingecarribee LGA (year to June 2015)

Location	Median sale price (\$)
Berrima	883,000
Bowral	670,000
Moss Vale	455,000
Mittagong	518,000
Exeter	960,000
Sutton Forest	742,500 ¹
New Berrima	294,000
Wingecarribee LGA	547,000

Source: RP Data 2015.

Note: 1. The median house sale price for Sutton Forest is based on data for March–June 2015.

Table 3.2 Median house sale prices across adjoining LGAs (year to June 2015)

Location	Median sale price (\$)
Wollondilly	567,000
Kiama	640,000
Shoalhaven	379,000
Goulburn Mulwaree	330,000

Source: RP Data 2015.

In the Wingecarribee LGA, houses in New Berrima, Moss Vale and Mittagong were the most affordable. Housing in Berrima and Exeter were the least affordable (RP Data 2015). Outside of the Wingecarribee LGA, houses in Goulburn Mulwaree LGA were the most affordable while those in the Kiama LGA were the least affordable.

Table 3.3 Median weekly rent across the Wingecarribee LGA

Location	Median weekly rent (\$)
Berrima	418
Bowral	450
Moss Vale	380
Mittagong	390
Exeter	Data not available
Sutton Forest	Data not available
New Berrima	330
Wingecarribee LGA	365

Source: RP Data 2015.

Table 3.4 Median weekly rent across adjoining LGAs

Location	Median weekly rent (\$)
Wollondilly	390
Kiama	430
Shoalhaven	300
Goulburn Mulwaree	285

Source: Department of Family and Community Services 2015.

In general, median rental rates were consistent with the housing sales data, with the most affordable towns within the Wingecarribee LGA being New Berrima, Moss Vale and Mittagong, and the least affordable being Bowral. No data was available for Exeter or Sutton Forest. Outside of the Wingecarribee LGA, towns within the Goulburn Mulwaree and Shoalhaven LGAs are the most affordable, while those within the Kiama LGA are the least affordable.

iii Accessibility

Travel times to the project site have been estimated and are shown in Table 3.5.

Table 3.5 Estimated drive times to site (from within workforce catchment area)

Location	Travel time (minutes)
Sutton Forest	0-15
Berrima	0-15
New Berrima	0-15
Bowral	16-30
Exeter	16-30
Moss Vale	0-15
Mittagong	16-30
Rest of the Wingecarribee LGA	16-30
Wollondilly LGA	31-45
Goulburn Mulwaree LGA	31-45
Kiama LGA	31-45
Shoalhaven LGA	31-45

Source: EMM estimates 2014.

The data in Table 3.5 show that towns and villages fall into three categories – closest (less than 15 minutes travel time): Sutton Forest, Berrima, New Berrima; and Moss Vale; close (16–45 minutes): Bowral, Exeter, remaining towns and villages within the Wingecarribee LGA and Mittagong; and more distant (31–45 minutes): the remaining settlements within the Goulburn Mulwaree and Wollondilly LGAs, Kiama and Shoalhaven LGAs.

iv Amenity

The services available and rating of environmental amenity for towns and villages within the Wingecarribee LGA and adjoining LGAs are summarised in Table 3.6.

Table 3.6 Amenity of towns and villages within the workforce catchment area

Location	Essential services present ¹	Other higher order services ²	Environmental amenity ³
Berrima	No	No	Good
Bowral	Yes	Yes	Good
Moss Vale	Yes	Yes	Good
Mittagong	Yes	Yes	Good
Exeter	No	No	Good
Sutton Forest	No	No	Good
New Berrima	No	No	Acceptable
Rest of the Wingecarribee LGA	Yes	No	Good
Wollondilly LGA	Yes	Yes	Good
Kiama LGA (Carrington Falls)	No	No	Good
Shoalhaven LGA (Kangaroo Valley)	Yes	No	Good
Goulburn Mulwaree LGA	Yes	Yes	Good

Notes: 1. Includes general medical, primary school and convenience retail.

2. Includes all essential services plus a high school and entertainment or leisure facilities.

3. Good – a normal town environment in an attractive setting. Acceptable – amenity reduced by presence of major infrastructure and/or industry and/or an unattractive location.

It can be seen that the larger towns rank highest in terms of amenity. They have both a wide range of services and good environmental amenity. Smaller towns generally have most convenience services but some do not have all essential services. It is important to note the above ratings are based on the amenity preferences of a typical mining family – one with a number of young children. Not all mining households will fit this stereotype and some may prefer smaller villages that offer rural lifestyles but with fewer services.

v All preference factors

The towns and villages within the workforce catchment area are categorised against all preference factors in Table 3.7.

Table 3.7 Ratings of towns against all location preference factors

Rating Level	Availability	Affordability	Accessibility	Amenity
Level 1	Wide choice: Bowral, Mittagong and Moss Vale	Good: New Berrima, Kangaroo Valley and Goulburn Mulwaree towns	Closest: Berrima, Moss Vale, New Berrima and Sutton Forest	Very good: Bowral, Mittagong, Moss Vale, Wollondilly and Goulburn Mulwaree towns
Level 2	Some choice: Exeter, New Berrima, rest of Wingecarribee, Wollondilly and Goulburn Mulwaree towns	Average: Moss Vale, Mittagong, rest of Wingecarribee and Wollondilly towns	Close: Bowral, Exeter, Mittagong Rest of Wingecarribee	Good: Berrima, Exeter, Sutton Forest, rest of Wingecarribee, Carrington Falls and Kangaroo Valley
Level 3	Little choice: Berrima, Sutton Forest, Carrington Falls and Kangaroo Valley	Low: Berrima, Bowral, Exeter, Sutton Forest and Carrington Falls	More distant: Carrington Falls, Kangaroo Valley, Wollondilly and Goulburn Mulwaree towns	Acceptable: New Berrima

The above information has been used to rate the relative attractiveness of all towns and villages using the criteria given in Table 3.8.

Table 3.8 Relative attractiveness of towns and villages

Rating	Criteria
1. Best	Level 2 or above: availability and affordability Level 1: accessibility and amenity
2. Good	Level 2 or above: availability and affordability Level 2: accessibility and amenity
3. Acceptable	Level 2 or above: availability and affordability Level 3: accessibility and amenity
4. Less acceptable	Level 3 or above: availability and affordability Level 1: accessibility and amenity
5. Least acceptable	Level 3 or above: availability and affordability and any combination of Level 2 or Level 3 accessibility and amenity

The data in Table 3.7 show there are no towns that were rated level 1 for all factors. The highest rating for any town in the local area was a level 2 or above for availability and affordability and level 1 for accessibility and amenity. These towns can be classified as “best” according to the rating criteria given in Table 3.8. Moss Vale and Mittagong are considered “best” level towns. Bowral is considered “less acceptable”, mainly because of its higher housing costs.

These ratings suggest that relocating workers will mostly move to Moss Vale and Mittagong. The next most attractive town is Bowral, where more highly paid workers are likely to live. Following this, all remaining towns and villages have various positive and negative characteristics that make them effectively indistinguishable from each other. Table 3.9 summarises the forecast residential distribution of relocating workers and provides estimates of the total number of relocating workers in each town for both in-migration scenarios.

Table 3.9 Residential distribution of relocating operations workers

Locality	Residential distribution	Scenario 1 (30% in-migration)	Scenario 2 (50% in-migration)
Moss Vale	25%	23	37
Mittagong	25%	23	37
Bowral	20%	18	30
Rest of Wingecarribee LGA	6%	5	9
Wollondilly LGA	6%	5	9
Goulburn Mulwaree LGA	6%	5	9
New Berrima	4%	3	6
Sutton Forest	2%	2	3
Berrima	2%	2	3
Exeter	2%	2	3
Kiama LGA (Carrington Falls)	1%	1	2
Shoalhaven LGA (Kangaroo Valley)	1%	1	2
Total	100%	90	150

Note: Numbers are rounded to represent best estimates for population change.

3.4.5 Population change associated with the operations phase

It is assumed that relocating operations workers will be accompanied by their families as they will be long-term residents in the area. The weighted average household size in the Wingecarribee, Wollondilly, Kiama, Shoalhaven and Goulburn Mulwaree LGAs is 2.59 people (ABS 2011a). This is marginally less than in the Singleton LGA (2.7 people per household), which has a relatively high proportion of mining sector workers (ABS 2011a). The figure for Singleton is considered to be a more accurate indicator of the typical household size for project workers and has been used in this analysis.

Based on a 2.7 person household size, the residential distribution given in Table 3.9 and a workforce size of 300 people, the total population increase for all towns is shown in Table 3.10 for both in-migration scenarios.

Table 3.10 Distribution of total population change associated with the project

Locality	Residential distribution	Scenario 1 (30% in-migration)	Scenario 2 (50% in-migration)
Moss Vale	25%	60	102
Mittagong	25%	60	102
Bowral	20%	49	81
Rest of Wingecarribee LGA	6%	15	24
Wollondilly LGA	6%	15	24
Goulburn Mulwaree LGA	6%	15	24
New Berrima	4%	10	16
Sutton Forest	2%	5	8
Berrima	2%	5	8
Exeter	2%	5	8
Kiama LGA(Carrington Falls)	1%	2	4
Shoalhaven LGA (Kangaroo Valley)	1%	2	4
Total	100%	243	405

Note: Numbers are rounded to represent best estimates for population change.

3.5 Concurrent development projects

There are a number of approved, but not as yet developed, projects within the Wingecarribee and surrounding LGAs that may be developed concurrently with the Hume Coal Project. A summary of these projects, including workforce forecasts in operational and construction phases, is given in Table 3.11.

Table 3.11 Concurrent development projects

LGA	Project name	Project life	Year of Commencement	Construction workforce	Operational workforce
Wingecarribee	Green Valley Sand Quarry	30 years	Not stated	20 full time equivalent employees	22 quarry employees 40 truck drivers
Wingecarribee	Berrima Rail Project	19 years	2020	38 full-time equivalent employees	16 additional full-time employees
Wingecarribee	New Berrima Quarry Project	30 years	Not stated	Not stated	4 full-time equivalent employees
Wingecarribee	Proposed 1500 lot residential subdivision new	Not stated	Not stated	Not stated	Nil

The construction phase of the Hume Coal Project will result in 414 new jobs. As 90% of this workforce is expected to comprise of workers from outside of the area, a temporary increase of 373 people is expected, which represents around 0.85% of the Wingecarribee LGA's population at the 2011 Census (ABS 2011a). The known construction workforce associated with expected concurrent projects is 58 full time employees. The sum of construction workers for the Hume Coal Project and the known construction workforce of concurrent projects is 472 or around 1.07% of the Wingecarribee LGA's population at the 2011 Census (ABS 2011a).

As shown in Table 3.10 during the operations phase, under the maximum in-migration scenario, 405 people are expected to relocate to the area. This figure represents 0.92% of the Wingecarribee LGA's population at the 2011 Census (ABS 2011a). The known operations workforce associated with the operational phase of concurrent projects is 82. The sum of operations workers for the Hume Coal Project and the known operations workforce for concurrent projects is 487 or around 1.11% of the Wingecarribee LGA's population at the 2011 Census (ABS 2011a).

The cumulative population increase of the Hume Coal Project and other concurrent developments during construction is 472 people. The population of the Wingecarribee LGA is forecast to increase by 1,400 people between 2016 and 2021 (DP&E 2014). The cumulative population growth of the Hume Coal Project and other concurrent developments makes up around a third of this forecast population increase. During operations, the cumulative population increase of the Hume Coal Project and concurrent developments is 437 people. This is a relatively small portion of the population growth forecast for the Wingecarribee LGA over a similar timeframe, with the population forecast to increase by around 3,400 people between 2016 and 2031 (DP&E 2014). The cumulative impacts of the Hume Coal Project and concurrent developments should not create any unforeseen pressure on community services and facilities as population growth caused by all know concurrent development projects is well within already forecast population growth.

3.6 Closure and decommissioning

The closure and decommissioning phase of the mine entails works associated with the decommissioning, followed by the management of the mine up until lease relinquishment occurs. Closure works entail decommissioning and clearing surface infrastructure and rehabilitating the site such that it can support land uses similar to those that existed before mining occurred. Following this, Hume land will enter into a period of land management in which the success of rehabilitation activities will be monitored.

Works associated with the mine's closure are expected to run for around two years. During this time up to 10% of the operational workforce (30 people) will be retained. Workers to be retained will be selected from the operational workforce on merit. Following the initial two years, the rehabilitated land will enter a period of management. This will require up to three part-time workers.

The mine's closure could result in a decrease in population in the local area from job losses and workers moving away in search of new employment opportunities if there are inadequate local job opportunities at the time. It is difficult to predict the number of workers who will migrate out of the area following the mine's closure given that it will depend on the availability of jobs in the area at the time.

4 Existing social character

4.1 Assessment area

As explained in Section 3.4, Hume Coal's recruitment policy is to require all operational workers, including those involved in closure and decommissioning, to live within 45 minutes travel time of the project area. There is no social data available that corresponds exactly with this area because it does not coincide with ABS Census Collection Districts (CCDs). Therefore, since the project population forecasts suggest that up to 85% of the operations workforce will live in towns within the Wingecarribee LGA, only the towns and villages within the Wingecarribee LGA have been considered in this baseline study. This will still provide an accurate guide to the project's impacts as there will be negligible population growth from the project in the adjoining LGAs.

To determine the existing social character of the assessment area, the following factors have been considered:

- history and settlement pattern;
- population size and composition;
- employment and training;
- regional economy;
- social infrastructure (including housing, education and childcare services);
- health infrastructure (including primary health and emergency services); and
- transport infrastructure.

4.2 Profile of the existing community

4.2.1 History, geography and settlement pattern

According to Tindale (1974), the project area falls within the Aboriginal language group boundary of the Gundungarra people whose territory extended between Camden and Goulburn and the Blue Mountains to the west. However, a number of neighbouring groups may have used the greater Southern Highlands region for travelling routes and other purposes such as ceremonies and gatherings. This includes the Ngunawal people to the south, the Dharawal-speaking Wodi Wodi people to the west and the Dharawal people to the north-west (Tindale 1974).

European settlers first explored the area in 1798 (WSC 2015a). In 1821, a government settlement was established at Bong Bong, between Moss Vale and Burradoo (Profile.id 2015). In the 1830s, Berrima became the second settlement in the region. The area's cool climate, reliable rainfall and undulating terrain led to the establishment of a strong agricultural industry mainly based on sheep and cattle grazing, which attracted people to the area (WSC 2015a). However, population growth remained subdued until the 1860s when the Main Southern Railway Line was opened, after which the region experienced rapid population growth, particularly in the townships of Bowral, Mittagong and Moss Vale, and with some growth in the smaller settlements of Bundanoon, Exeter and Burrawang (Profile.id 2015).

The region continues to support a viable agricultural industry, including sheep and cattle grazing, fruit and vegetable growing and viticulture. Other important primary industries are timber production, mining and quarrying (WSC 2015a). In more recent years, the region has experienced strong growth in the services sector and it is now a major employer.

4.2.2 Socio-economic profile

i Population size, growth and future change

The Wingecarribee Shire has experienced lower than average population growth over the last decade, with an increase in population of 9.8% to an estimated 47,584 people in 2014. This was somewhat less than the NSW population growth of 13% over the same time period (DP&E 2014).

Based on DP&E forecasts in 2014, the Wingecarribee LGA is likely to experience continued population growth through to 2031. It is estimated that there will be an additional 5,000 people living in the LGA by 2031, which represents an increase of 10.9% (see Table 4.1). While the population of Wingecarribee shire will grow, it is important to note that this will be much slower than the rate for NSW generally – NSW is expected to grow at a higher rate (27.8%) over the same period (DP&E 2014).

Table 4.1 Population forecasts for the Wingecarribee LGA

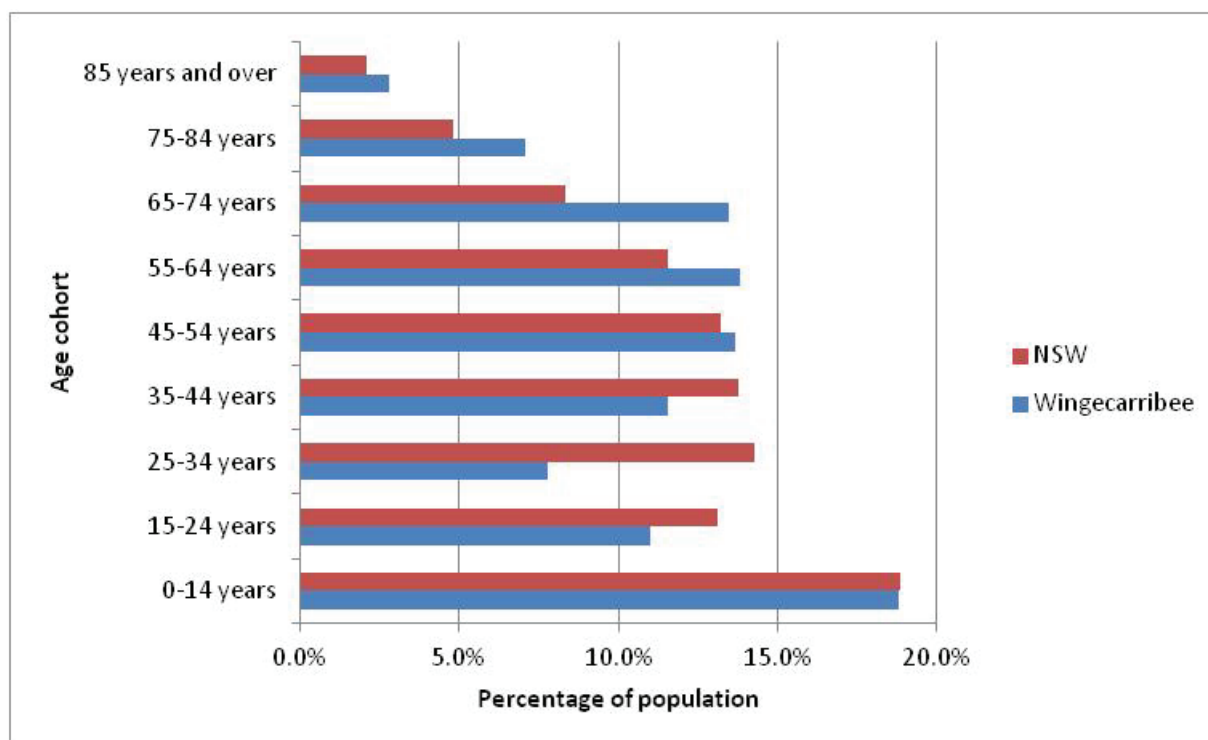
Year	Total population	Total population change	Average annual population growth
2011	46, 150	-	-
2016	47, 750	1, 600	0.7%
2021	49, 150	1, 400	0.6%
2026	50, 300	1, 150	0.5%
2031	51, 150	850	0.3%

Source: DP&E 2014.

ii Population structure and characteristics

In 2011, the population distribution between males and females in the Wingecarribee LGA was 47.9% and 52.1% respectively. This compares with 49.3% males and 50.7% females across NSW (ABS 2011a). This is probably due to the age profile of the population and longer life expectancies of women compared to men.

The largest age cohort in the LGA in 2013 was 0–14 year olds, representing 18.8% of the population, followed by 55–64 year olds (13.9%) and 45–54 year olds (13.7%) (see Figure 4.1). The 85 years and over age cohort experienced the greatest growth (91%) between 2001 and 2013, followed by the 65–74 year age cohort (83%) and 75–84 years (58%). There was a significant decline in the proportion of the population aged 25–34 years (-17%), 35–44 years (-10%) and 0–14 years (-7%) (ABS 2011a). This is indicative of two trends – an ageing population and migration of working age people to larger centres because of limited local employment opportunities.



Source: ABS 2015a.

Figure 4.1 Population distribution of the Wingecarribee shire and NSW, 2013

The Wingecarribee Shire's population is older than the NSW average. The LGA's median age increased from 38 to 44 between 2001 and 2011 compared with 35 to 38 across NSW. The Wingecarribee shire also has fewer people of a younger working age (25–34 years) compared with NSW (7.6% and 13.7% respectively) (ABS 2011a).

About 20% of the population in the LGA were born overseas in 2011 compared with 31.4% across NSW. In addition, about 2% of the LGA's population identified themselves as Aboriginal or Torres Strait Islander compared with 2.5% of the population of NSW in 2011 (ABS 2011a).

iii Household structure

The average household size in the Wingecarribee LGA in 2011 was 2.5 people in 2011. This is similar to the NSW average household size of 2.6 (ABS 2011a).

In 2011, the Wingecarribee LGA had a higher percentage of households containing couples with no children (31.5%) than NSW overall (24.6%). Conversely, the Wingecarribee LGA had a lower percentage of households with couple families (54.1%) than NSW (59.7%). There was a relatively similar rate of one parent families between the Wingecarribee LGA (13.6%) and NSW (14.5%) (ABS 2011a).

Household and dwelling projection data predict there will be significant increases in lone person households between 2011 and 2031 – a 37% increase – and couple only households (32%) (see Table 4.2). Conversely, there will be a decrease in the number of households containing couples with children (-5%) (DP&E 2014).

Table 4.2 Household type projections within the Wingecarribee LGA

Household Type	2011	2016	2021	2026	2031	% Change (2011–2031)
Couple only	6,200	6,900	7,500	7,950	8,200	32%
Couple with children	5,250	5,150	5,100	5,050	5,000	-5%
Single parent	1,750	1,800	1,800	1,800	1,850	6%
Other family households	150	150	150	150	200	33%
Multiple-family households	200	250	250	250	250	25%
Total family households	13,600	14,250	14,800	15,200	15,500	14%
Lone person	4,350	4,800	5,200	5,600	5,950	37%
Group	300	350	350	350	350	17%
Total non-family households	4,700	5,150	5,550	5,950	6,250	33%
Total	18,300	19,400	20,350	21,150	21,750	19%

Source: DP&E 2014.

iv Education and training

The Wingecarribee LGA is ranked the 117th most disadvantaged of 153 LGAs in NSW for education (ABS 2013a), with a marginally lower rate of the population achieving Year 12 or equivalent (44.0%) compared to NSW (49.2%). However, the proportion of the Wingecarribee LGA population completing Year 12 increased by 7% between 2006 and 2011. The percentage of the population that achieved Year 10 or higher within the Wingecarribee LGA was higher (29.8%) than NSW (23.9%) as shown in Table 4.3 (ABS 2011a).

Table 4.3 Highest year of school completed by people aged 15 years and over in 2011

School year	Wingecarribee LGA (%)	NSW (%)
Year 12 or equivalent	44.0	49.2
Year 11 or equivalent	6.1	5.0
Year 10 or equivalent	29.8	23.9
Year 9 or equivalent	7.3	6.6
Year 8 or below	4.4	5.6
Did not go to school	0.3	1.0
Highest year of school not stated	8.1	8.6

Source: ABS 2011a.

Within the Wingecarribee LGA, 20.6% of adults have completed a bachelor level degree (see Table 4.4). This is lower than the NSW level of 24.6% possibly suggesting that local people with higher educational qualifications have to move to cities to find suitable employment. However, certificate level qualifications are higher in the Wingecarribee LGA (35.3%) compared with NSW (30.9%) (ABS 2011a).

Table 4.4 Highest level of post-school educational attainment by people aged 15 years and over in 2011

Level of educational attainment	Wingecarribee LGA (%)	NSW (%)
Postgraduate degree level	5.7	7.5
Graduate diploma and graduate certificate level	3.1	2.6
Bachelor degree Level	20.6	24.6
Advanced diploma and diploma level	16.1	14.5
Certificate level	35.3	30.9
Level of education inadequately described	3.0	3.1
Level of education not stated	16.3	16.9

Source: ABS 2011a.

v Community health and safety

a. Health

The overall health characteristics of the Wingecarribee LGA's population are generally consistent with NSW health outcomes. There are three major health risk factors that can be used as an indicator of population health – smoking, alcohol consumption and obesity. The Wingecarribee shire had the same percentage of the population who consume alcohol at levels considered to be a high risk to health as NSW (both 4.8%) and who smoke (17% in the Wingecarribee shire and 16.2% in NSW). However, there was a higher rate of obesity among the Wingecarribee LGA's population (28.2%) compared with NSW (26.4%). Despite this, a smaller proportion of the Wingecarribee LGA's population aged over 15 years assessed themselves as having fair or poor health (12.3%) compared with the population of NSW (14.3%) (PHIDU 2015).

b. Safety

The NSW Adult Population Health Survey in 2009 assessed social capital in the Wingecarribee shire. Social capital is described as features of social relationships within a group or community and includes such things as the extent of trust between people and how they care for others (Ministry of Health 2014). The survey assessed a range of social capital indicators that are summarised in Table 4.5.

Table 4.5 Social capital for persons aged 16 years and over

Social indicator	Wingecarribee (%)	NSW (%)
Most people can be trusted	73.4	71.3
Feels safe walking down their street after dark	81.1	72.4
Area has a reputation for being a safe place	86.6	75.7
Visited neighbours in the last week	73.5	61.8
Ran into friends and acquaintances when shopping in local area	84.5	82
Would feel sad to leave their neighbourhood	82.4	73.4

Source: Ministry of Health 2014.

Compared with NSW, the Wingecarribee shire has strong social capital, indicating the local community feels relatively secure within their environment.

WSC has developed a Community Safety and Crime Prevention Plan (2011) in consultation with the local community to ensure it remains a safe place to live, work and visit. The top five priority issues identified by the community were:

- speeding, noisy or dangerous driving;
- graffiti and vandalism;
- illegal drugs;
- drunken and disorderly behaviour; and
- house break-ins.

It is important to consider both real and perceived issues related to crime as these can influence peoples' wellbeing.

Between 2010 and 2014, there was a decline in the number of major criminal offences in the Wingecarribee LGA including break and enter of non-dwellings (-27.4%), non-domestic violence related assault (-15.3%), malicious damage to property (-14.1%) and motor vehicle theft (-2.5%). For all other major criminal offences, the rate of incidence remained stable over the same period. However, there was a significant increase in liquor-related offences (39.9%), breach of bail conditions (26.4%) and transport regulatory offences (15.8%) (Bureau of Crime Statistics and Research 2014).

In 2013, there were 136 vehicle crashes in the Wingecarribee shire involving 172 people. This represented 0.7% of total crashes across NSW and a decline in total number of crashes from the previous year (145 crashes) (Transport for NSW 2015).

vi Workforce and occupation structure

In December 2015, the unemployment rate in the Wingecarribee shire was 3.3% or about 760 people compared with 5.8% for NSW as shown in Table 4.6 (Department of Employment 2016). The unemployment rate in the Wingecarribee shire has been increasing while the NSW unemployment rate has remained relatively stable (Department of Employment 2016). Among those employed, 59% were full-time employees and 35% were part-time employees (ABS 2011a).

Table 4.6 Unemployment rates

Area	Unemployment (no.)			Unemployment rate (%)			Labour force
	Jun '15	Sep '15	Dec '15	Jun '15	Sep '15	Dec '15	Dec '15
Wingecarribee LGA	873	784	760	3.9	3.5	3.3	23,291
NSW	228,900	231,700	226,900	5.9	5.9	5.8	3,939,100

Source: Department of Employment 2016.

The main industries of employment in the Wingecarribee shire are health care and social assistance (11.9%), retail trade (11.7%) and manufacturing (10.1%). Employment in mining increased by 73.6% between 2001 and 2011 although it is likely to have declined significantly since 2011. There was also significant growth in employment in public administration and safety (34.0%), administrative and support services (33.1%) and health care and social assistance (33.0%). Employment declined in information media and telecommunications (-31.2%) and agriculture, forestry and fishing (-21.5%) over the same period (ABS 2011a).

The most common occupations in the Wingecarribee shire are professionals (20.1%), technicians and trade workers (15.7%) and managers (14.7%). There was a large increase in community and personal service workers (37.3%), professionals (23.1%) and sales workers (13.5%) between 2001 and 2011 (ABS 2011a).

In 2011, 22% of the Wingecarribee shire's population indicated they participated in voluntary work for an organisation or group compared with 17% of the NSW population (ABS 2011a).

vii Income and cost of living

Household incomes in the Wingecarribee shire increased by 42% between 2001 and 2011. This was lower than the increase for NSW, which experienced 49% growth. In 2011, median weekly household incomes in the Wingecarribee shire (\$1,094) were below the NSW median (\$1,237) (ABS 2011a). But fewer families (7.2%) in the Wingecarribee LGA are low-income and welfare dependent compared with 10.1% of families across NSW (PHIDU 2015). In addition, 3.7% of the Wingecarribee shire's population receives unemployment benefits and 3.0% are long-term unemployment beneficiaries. This is lower than NSW in which 5.2% of the population receive unemployment benefits and 4.3% are long-term unemployment beneficiaries (PHIDU 2015).

Housing in the Wingecarribee shire is relatively affordable. The median weekly rent (\$365) was lower than that for NSW (\$430) and surrounding LGAs, including Wollondilly (\$390) and Kiama (\$430) (RP Data 2015). In the LGA, 30.2% of households are under financial stress from mortgage and/or rent repayments and 2.3% rent their homes from housing authorities compared with 32.9% and 4.4% of households in NSW, respectively (PHIDU 2015).

viii Business and economy

In 2013, there were 5,086 businesses in the LGA. In the same year, there were 484 business entries and 706 business exits. The greater number of business exits illustrates the declining number of businesses within the LGA, with a 3% decline between 2009 and 2013. Conversely, there was a 1% increase in the total number of businesses in NSW over the same period (ABS 2015a).

Of the total number of businesses in the Wingecarribee shire, 17% were in construction, 14% in professional scientific and technical services, 12% in agriculture, forestry and fishing and 11% in rental, hiring and real estate services (ABS 2015a) (see Table 4.7).

Table 4.7 Business distribution by industry in the Wingecarribee LGA

	Percentage of total businesses in the Wingecarribee LGA	Percentage of total businesses in NSW
Accommodation and Food Services	4.1%	4.3%
Administrative and Support Services	3.8%	4.4%
Agriculture, Forestry and Fishing	11.9%	8.7%
Arts and Recreation Services	1.9%	1.5%
Construction	17.6%	16.0%
Education and Training	1.3%	1.4%
Electricity, Gas, Water and Waste Services	0.2%	0.3%
Financial and Insurance Services	7.1%	8.5%
Health Care and Social Assistance	5.0%	5.6%
Information Media and Telecommunications	1.2%	1.2%
Manufacturing	4.4%	4.1%
Mining	0.4%	0.3%
Professional Scientific and Technical Services	13.3%	13.7%
Public Administration and Safety	0.3%	0.5%
Rental, Hiring, and Real Estate Services	10.7%	11.4%
Retail trade	8.3%	7.2%
Transport, Postal and Warehousing	5.2%	6.7%
Wholesale trade	3.3%	4.3%

Source: ABS 2015a.

4.2.3 Community infrastructure

i Childcare

There are 17 day care centres in the LGA (see Table 4.8). Publically available information on these centres indicates current vacancies in most of them (Australian Government 2015).

Table 4.8 Day care centres in the Wingecarribee LGA

Name	Location	Vacancies
Bambinos Kindergarten, Bowral	Bowral	Yes
Bambinos Kindergarten Bowral St, Bowral	Bowral	Yes
Bowral Street Childcare	Bowral	Yes
Fidgety Frogs Early Learning Centre, Mittagong	Mittagong	Yes
Gibbergunyah Long Day Care Centre	Mittagong	Yes
Hilltop Preschool Daycare Centre	Hill Top	Yes
Kamalei Children's Centre	Bowral	Yes
Kamalei Children's Centre (ELC)	Bowral	Yes
Little Peoples Early Learning Centre, Bowral	Bowral	Yes
Moss Vale Long Day Care (KU)	Moss Vale	Not available

Table 4.8 Day care centres in the Wingecarribee LGA

Name	Location	Vacancies
Mount Gibraltar Preschool	Bowral	Yes
QCE Child Care	Mittagong	Yes
Southern Highlands Early Childhood Learning Centre	Moss Vale	Yes
The Potters Pre-School Child Care Service	Mittagong	Not available
Theaslea Pre-School Child Care Service	Colo Vale	Not available
Wembley Road Preschool	Moss Vale	Yes
Wingecarribee Family Day Care Scheme	East Bowral	Yes

Source: Australian Government 2015.

There are also a number of pre-schools in the LGA (see Table 4.9). A pre-school or kindergarten program is different from day care in that it is a structured, learning-based program run by a qualified teacher.

Table 4.9 Pre-school facilities within the study area

Name	Location
Gib Gate	Mittagong
Gumnut Bowral Memorial Pre-school Incorporated	Bowral
KU – Donkin Memorial Pre-school	Moss Vale
Mittagong Pre-school Kindergarten	Mittagong
Robertson Community Pre-school	Robertson
Southern Highlands Christian School	East Bowral

Source: Australian Government 2015.

ii Education

The LGA is served by 20 primary schools, 7 secondary schools, 2 special schools and 2 tertiary education centres.

a. Schools

The Wingecarribee shire has 30 schools, including government and non-government, and primary and secondary schools. There are approximately 7600 students enrolled in these schools and approximately 570 full-time equivalent teaching staff (Australian Curriculum, Assessment and Reporting Authority [ACARA] 2015).

There are 15 public and 6 private primary schools in the LGA as detailed in Table 4.10.

Table 4.10 Primary schools in the Wingecarribee LGA

Primary school	Sector	Years	Student numbers	Teacher numbers
Avoca Public School	Government	K-6	34	2.4
Berrima Public School	Government	K-6	117	5.8
Bowral Public School	Government	K-6	542	29.9
Burrawang Public School	Government	K-6	44	2.5
Colo Vale Public School	Government	K-6	243	13.4
Exeter Public School	Government	K-6	74	3.6
Gib Gate School	Non-government	K-6	142	12
Glenquarry Public School	Government	K-6	23	1.9
Hill Top Public School	Government	K-6	210	12.7
Kangaloon Public School	Government	K-6	31	2.4
Mittagong Public School	Government	U, K-6	431	25.9
Moss Vale Public School	Government	U, K-6	508	34.4
Penrose Public School	Government	K-6	22	2.4
Robertson Public School	Government	K-6	165	9.8
Southern Highlands – Rudolf Steiner School	Non-government	K-2	13	1.7
St Michael's Catholic Primary School	Non-government	K-6	171	9.5
St Paul's Catholic Primary School	Non-government	K-6	158	9.4
St Thomas Aquinas Catholic Primary School	Non-government	K-6	421	20.7
Tudor House	Non-government	K-6	160	12.2
Wingello Public School	Government	K-6	33	2.5

Source: ACARA 2015.

Note: 'U' refers to students and/or classes who cannot readily be allocated to a specific year of education, for example, students with special education needs.

There are two public and five private secondary schools in the LGA as detailed in Table 4.11.

Table 4.11 Secondary schools in the Wingecarribee LGA

Secondary school	Sector	Years	Student numbers	Teacher numbers
Bowral High School	Government	U, 7–12	851	63.2
Chevalier College	Non-government	7–12	1190	87
Frensham School	Non-government	7–12	321	34.4
Moss Vale High School	Government	U, 7–12	600	50.1
Oxley College	Non-government	K–12	521	45.9
St Paul's International College	Non-government	7–12	139	35.5
Southern Highlands Christian School	Non-government	K–12	383	26

Source: ACARA 2015.

There are also two special schools in Wingecarribee as detailed in Table 4.12.

Table 4.12 Special schools in the Wingecarribee LGA

Special school	Sector	Years	Student numbers	Teacher numbers
Highlands School	Government	U	23	8
Tangara School	Government	U	21	5.7

Source: ACARA 2015.

b. Tertiary education

There are two tertiary education institutions in the LGA. TAFE Illawarra has a campus in Moss Vale that provides vocational education and training leading to certificates and diplomas. The Southern Highlands Campus of the University of Wollongong is also in Moss Vale and offers degrees in humanities and business.

iii Health services

The Wingecarribee shire is within the South Western Sydney local health district.

a. Hospitals

The Wingecarribee LGA has two hospitals servicing the population. Bowral and District Hospital is a public hospital administered by the NSW Department of Health. The hospital has 94 beds and an emergency department. It provides a range of general medical, obstetrics, paediatric, surgical, orthopaedics, ophthalmology, geriatric and emergency services.

Southern Highlands Private Hospital is co-located with Bowral and District Hospital and provides 73 beds. It provides a range of day surgery services, oncology treatments, rehabilitation, palliative, physiotherapy, hydrotherapy, occupational therapy, dietetics, speech therapy and clinical psychology services.

b. General and specialist practitioner services

The 78 practising doctors in the LGA (PHIDU 2015) provide a service ratio of 169.1 doctors per 100,000 people. In comparison, there is a GP service rate of 113 doctors per 100,000 people in NSW (PHIDU 2015). The Australian Medical Workforce Advisory Committee recommends one GP per 950 people and the Wingecarribee shire compares favourably to this with 1.6 GPs per 950 people.

In 2011, there were 40 specialist medical practitioners in the LGA (PHIDU 2015). This equates to 86.4 specialist practitioners per 100,000 people. Comparatively, NSW had a service rate of 123.1 specialist medical practitioners per 100,000 people (PHIDU 2015). Other services available in the LGA include 19 dental practices, 8 physiotherapy practices and 6 optometry practices. In addition, specialist medical doctors in fields varying from neurology to ear, nose and throat surgeons practice in the shire. Many such specialists split their practice between the Southern Highlands and Sydney.

iv Sporting and recreation facilities

In the Wingecarribee LGA, there are 119 council owned sporting and recreational facilities (Parsons Brinckerhoff [PB] 2009), namely:

- 22 sports fields;
- 6 reserves and camping grounds;
- 54 parks;
- 2 recreational centres;
- 2 golf courses;
- 2 cricket grounds;
- 4 swimming centres/pools;
- 11 tennis courts;
- 3 bowling clubs;
- 2 skate ramps;
- 2 basketball courts;
- 1 BMX track;
- 2 cycle ways;
- 1 velodrome;
- 4 pony clubs; and
- 1 croquet club.

In addition, there are 28 privately-owned public facilities, namely:

- 8 golf courses;
- 2 swimming pools;
- 1 gymnastics building;
- 1 tennis court;
- 1 race course;
- 2 bowling clubs;
- 2 showgrounds;

- 1 sailing club;
- 6 equestrian courses;
- 1 basketball stadium;
- 2 sportsgrounds; and
- 1 squash court.

v Community and cultural facilities

There are 40 council owned community and cultural facilities in the Wingecarribee LGA (Parsons Brinckerhoff 2009), namely:

- 4 libraries (including a library roads vehicle);
- 3 guide/scout halls;
- 6 community centres;
- 1 tourist centre;
- 16 memorial and community halls;
- 2 youth centres;
- 2 war memorials;
- 2 CWA halls;
- 2 museums;
- 1 theatrette; and
- 1 Aboriginal community and cultural centre.

In addition, there are 52 privately owned cultural and community facilities, namely:

- 4 scout halls;
- 13 community halls and spaces;
- 2 returned service leagues;
- 12 galleries and arts centres;
- 3 community centres and gardens;
- 5 rooms for hire;
- 1 cinema;
- 2 conference centres;
- 1 school of performing arts;

- 2 youth centres;
- 3 CWA halls;
- 3 historic monuments and museums; and
- 1 bowling club.

vi Emergency services

a. State emergency services

The Wingecarribee LGA falls within the Illawarra South Coast State Emergency Services (SES) region. The regional headquarters is in Wollongong and coordinates all local State Emergency Service units within the region. The Wingecarribee SES unit is located in Mittagong.

b. NSW police

The Wingecarribee LGA has four police stations in Bowral, Moss Vale Robertson and Bundanoon falls within the Hume Local Area Command.

c. Fire and Rescue NSW

Fire and Rescue NSW is the NSW government agency responsible for fire, rescue and hazmat services across NSW. Fire and Rescue NSW has stations in Bundanoon, Bowral, Mittagong and Moss Vale. The stations at Bundanoon, Bowral and Mittagong have retained staff, being fire fighters who are not rostered on duty at the station but are 'on call' to respond to emergency incidents. The Bowral station is staffed by both permanent and retained employees.

d. NSW Rural Fire Service

The NSW Rural Fire Service (RFS) is a volunteer fire service providing fire and emergency services to 95% of NSW. Within the Wingecarribee LGA there are 21 fire brigades.

e. NSW Ambulance Service

The Ambulance Service is a NSW Government service that provides clinical care and health-related transport services to NSW in emergencies and non-emergencies. The Wingecarribee LGA is within the Southern Western Sydney Zone 1 (Metropolitan Division) and has three ambulance stations at Bowral, Canyonleigh and Bundanoon. The Bowral ambulance station has full-time staff, while the Canyonleigh and Bundanoon stations are staffed by volunteers.

vii Women's services and programs

Services and programs for women in the Wingecarribee LGA include:

- Wingecarribee community health centre – a NSW Government funded service in Bowral that provides a range of community health services, including women's health services, sexual assault counselling and family health services.
- Wingecarribee family abuse prevention centre – a NSW Government funded domestic violence service in Moss Vale. The service is run by YWCA NSW to support women in crisis through providing information, advocacy, referral and community education.

- Highlands community centre – an independent community organisation supported by the Wingecarribee Shire Council that provides information and referral to community crises services, advocacy, emergency relief, free tax help and legal aid referral and community development.
- Women’s Domestic Violence Court Advocacy Service – an independent service for women and children seeking information about protection from domestic violence and accessing support services. There are 28 services across NSW including one in Moss Vale.
- Pathways Southern Highlands – a St Vincent de Paul program for single women and women 18 years and over with children in the Wingecarribee LGA who are homeless or are at risk of being homeless. Of priority are women and children who have experienced domestic violence.

viii Aboriginal services

There are a diverse range of services and programs for Aboriginal groups in the Wingecarribee LGA. Many of these programs are run with WSC. Some key groups include:

- Aboriginal community and cultural centre – funded by WSC for the local Aboriginal community to use. The centre is in Mittagong and includes a hall and theatre.
- Tharawal GP clinic – the Tharawal Aboriginal Corporation provide a visiting Aboriginal GP service every Tuesday at the Tharawal clinic within Bowral and Districts Hospital.
- The Mob walking group – a walking group for the community that meets weekly at the Tharawal Clinic at Bowral Hospital.
- Springwater Tots Aboriginal supported playgroup – a playgroup for children aged 0–5 that includes social and cultural connections and allows parents to network.
- Yamanda Aboriginal Association – a group of community representatives responsible for managing the Wingecarribee Shire Council’s Aboriginal community and cultural centre.
- Wingecarribee Aboriginal cluster group – a local group that hosts community events, such as the Wingecarribee Aboriginal Community services expo and family fun day.
- Koori Kulcha experience – an Indigenous education and cultural program that provides training and workshops to local Indigenous people and educational programs for school-aged children.

ix Youth services

A range of government and non-government facilities for local adolescents to use including:

- Mittagong youth and recreation centre – comprises a sports hall, gymnastics hall, shooting gallery and kitchenette and is available for hire from WSC.
- Loseby Park hall and youth hub – comprises a hall with table tennis and kitchenette, a youth hub with a media hub, café kitchen and pool lounge, and a kit home. The hall and youth hub is available for hire from WSC.
- Youth radio – a local radio station run by young people.
- Southern Highlands Youth Arts Council – a non-profit, volunteer organisation providing children and young people with opportunities to participate in the arts.

- Argyle housing – a not-for-profit community housing program providing housing for people on low to moderate incomes.
- Bowral youth refuge – a specialist homeless service for adolescents aged between 14 and 18. The service operates 24 hours a day, is provided by St Vincent de Paul and has free counselling support for young people.
- Highlands Youth Hub – established by the Highlands Community Centres and run with WSC's support, the hub provides information to adolescents in the local area and runs a number of programs and events throughout the year.
- Mittagong medical centre – bulk bills all services for young people under the age of 16.
- Young parent project – run by the Wingecarribee family support in Bowral; the service provides prenatal classes for young parents under the age of 23.

x Men's services

There are Men's Sheds in Moss Vale, Bowral and other Southern Highlands locations.

xi Transport

a. Road

Road vehicles are the major form of transportation in the region. The Wingecarribee LGA is bisected by the Hume Highway, which links Sydney and Canberra. The Illawarra Highway also links the Wingecarribee region to Wollongong and the Illawarra. Other major roads in the LGA are the Old Hume Highway, Moss Vale/Bowral/Mittagong Roads, Nowra Road, Kangaloon Road and Sheepwash Road.

These are all classified roads partially managed by RMS. There are also regionally and locally significant roads in the area under the jurisdiction of WSC.

Regular, that is daily, coach services run between Sydney and Canberra via the Southern Highlands. NSW TrainLink also provides a regional coach service between Wollongong and Robertson, Burrawang, Bowral, Moss Vale, Exeter and Bundanoon.

Within the Wingecarribee LGA, Berrima Buslines provides a town bus service and a rural village service. These services run daily within and between towns in the LGA. Berrima Buslines also provides a school bus service during school terms within the LGA.

Southern Highlands Community transport provides transport services for the elderly, disabled and disadvantaged. The service runs Monday to Friday and transports passengers to medical appointments, social outings and local shopping centres.

The Southern Highlands taxi service also provides coach and taxi services within the Wingecarribee LGA.

At present, there are dedicated on-road bicycle facilities in the main centres within the Wingecarribee LGA. WSC has also received funds from RMS to develop a bicycle strategy so that rural towns and villages across the LGA can be better linked.

People in the Wingecarribee LGA rely heavily on private road transport. For example, 68.6% of the LGA's population travel to work by car, either as the driver or passenger compared with 62.6% of NSW who travel to work by car (ABS 2011a). In addition, just 5.0% of homes in the LGA are occupied by people who do not own a motor vehicle, 36.3% own one vehicle and 55.7% own two or more vehicles. In comparison, 10.4% of dwellings in NSW do not own a motor vehicle, 37.8% own one motor vehicle and 48.6% own two or more vehicles (ABS 2011a).

b. Rail

NSW TrainLink provides rail services between Sydney and Mittagong, Bowral, Moss Vale and Bundanoon daily. Sydney Trains also provides daily services between Sydney and Yerrinbool Mittagong, Bowral, Burradoo, Moss Vale, Exeter, Bundanoon, Penrose and Wingello.

c. Air

Sydney Airport is the closest main airport to the Wingecarribee LGA. A number of coach services and train services provide transport between the Wingecarribee LGA and the airport. A smaller airfield is located at Mittagong, which is used by the Berrima District Aero Club and chartered flights only.

4.2.4 Housing supply

i Existing supply and ownership

In 2011, there were about 19,650 dwellings in the Wingecarribee LGA (ABS 2011a). There were very low levels of housing diversity among these dwellings, with 76.7% of total housing stock comprising free standing dwellings compared with 62.8% in NSW. Just 1.5% of the total housing stock comprises flats, units or apartments compared with 17.0% in NSW. A high proportion of the total private housing stock in the Wingecarribee LGA is unoccupied (15.1%) compared with NSW (9.7%), suggesting the LGA accommodates many holiday homes (ABS 2011a).

On average, houses within the Wingecarribee LGA are larger than that across NSW – 82.2% of houses in the LGA have three or more bedrooms compared with 69.3% of houses in NSW (ABS 2011a).

Outright ownership of dwellings is considerably higher in the Wingecarribee LGA (42%) compared with NSW (33%). However, only 22% of the Wingecarribee LGA population rent their homes compared with 30% of the NSW population.

ii Short-stay accommodation supply

In June 2015, there were 649 rooms within hotels, motels and serviced apartments available as short-term accommodation in the Wingecarribee LGA (Destination NSW 2015). This represented a reported 54% increase in the number of rooms available since June 2014. Occupancy rates for the year ending June 2015 were about 51% (Destination NSW 2015). Given the LGA's closeness to nearby major population centres it is likely these average figures conceal a more polarised usage pattern, with occupancy rates on weekends being much higher than 50% and lower than 50% on weekdays.

a. New housing and rental supply

Housing forecasts for the Wingecarribee LGA predict a total increase of 4,050 dwellings between 2011 and 2031 in response to population growth and shifting patterns in household structure and number (see Table 4.13) (DP&E 2014).

Table 4.13 Household growth forecasts for the Wingecarribee LGA.

	2011	2016	2021	2026	2031
Total population	46,150	47,750	49,150	50,300	51,150
Total households	18,300	19,400	20,350	21,150	21,750
Average household size	2.46	2.40	2.34	2.30	2.27
Implied dwellings	21,400	22,700	23,850	24,750	25,450
Total dwelling change	-	1,300	1,150	900	700

Source: DP&E 2014.

Note: Average household size is taken from DP&E 2014 but there is a mathematical discrepancy – average household size is not equal to the total population divided by the total number of households.

Recent growth in housing supply can be estimated from residential building approval figures for the LGA. In the year ending June 2015, there were 432 approvals for new houses and 87 approvals for other residential buildings (see Table 4.14). Therefore, there were 519 new residential building approvals for the year, an increase of 293 from the previous year.

Table 4.14 Total residential building approvals in Wingecarribee LGA

Year (ending June 30)	Number			Change on prior year		
	Houses	Other	Total	Houses	Other	Total
2014–15	432	87	519	251	42	293
2013–14	181	45	226	51	34	85
2012–13	130	11	141	-1	7	6
2011–12	131	4	135	14	-55	-41
2010–11	117	59	176	-19	48	29
2009–10	136	11	147	-52	-157	-209
2008–09	188	168	356	-9	93	84
2007–08	197	75	272	10	51	61
2006–07	187	24	211	22	-43	-21
2005–06	165	67	232	-61	16	-45
2004–05	226	51	277	-154	11	-143
2003–04	380	40	420	96	30	126
2002–03	284	10	294	-188	-16	-204
2001–02	472	26	498	-	-	-

Source: ABS 2015c, Profile.id 2015.

The above tables illustrate the capacity of the local building industry. Assuming that building approvals continue at the 2014–15 rate of 519 dwellings, more than 1,540 dwellings will have been approved between 2011 and 2016. This is more than enough to meet the expected demand for new dwellings shown in Table 4.13 in 2016 and beyond.

The Wingecarribee LGA demographic and housing study (SGS Economics and Planning 2012) identifies areas of residential zoned land in the Wingecarribee LGA that can accommodate future dwelling growth as identified in Table 4.15. The study suggests a large enough suitable area within the Wingecarribee LGA to accommodate the predicted growth in dwellings to 2031.

Table 4.15 Existing urban and rural residential zoned land and total dwelling potential

Location	Total potential	Existing dwellings	Total
Aylmerton	13	53	66
Balaclava	150	185	335
Balmoral	50	85	135
Berrima	39	196	235
Bowral	897	4297	5194
Braemar	458	119	577
Bundanoon	1574	1067	2641
Burrawang	79	119	198
Buxton	59	28	87
Colo Vale	215	516	731
Exeter	347	352	699
Fitzroy Falls	8	27	35
Hill Top	283	1184	1467
Joadja	17	70	87
Mittagong	1664	2279	3943
Medway	28	27	55
Moss Vale	2191	3004	5195
New Berrima	32	226	258
Penrose	15	24	39
Robertson	187	474	661
Sutton Forest	10	17	27
Welby	153	296	449
Willow Vale	127	235	362
Wingello	607	180	787
Yerrinbool	111	423	534
Total	9314	15483	24797

Source: SGS Economics and Planning 2012.

Table 4.16 Dwelling capacity by town in the Wingecarribee LGA

Location	Role	Capacity to supply additional dwellings
Bowral	Major centre	2,979
Mittagong	Major centre	4,811
Moss Vale	Major centre	5,818
Berrima	Small centre	381
Bundanoon	Small centre	2,138
Burradoo	Small centre	363
Robertson	Small centre	827
Colo Vale	Village	106
Exeter	Village	97
Hill Top	Village	625
Wingello	Village	134
Yerrinbool	Village	60
Rural balance	Remainder	10,626
Total		28,965

Source: SGS Economics and Planning 2012.

4.2.5 Current community issues and values

Hume Coal extensively researched community opinion across the Wingecarribee LGA focusing on Moss Vale, Bowral, Burradoo and Berrima. This included telephone surveys and focus groups to identify issues of concern to the local community. The outcomes of this research are provided below.

Generally, residents within the Wingecarribee LGA are optimistic about their lives and are positive about their choice to live in the Southern Highlands. There is a strong sense of community connection, with residents citing the relaxed lifestyle, friendly people, open space and general sense of safety and security as key reasons for living in the Southern Highlands.

The most important issues within the local community were cited as hospitals and high quality health (see Figure 4.2). There was also a strong focus on traffic, road maintenance and infrastructure and coal seam gas. Mining was seen as less of a concern by the local community. Other issues of concern identified by the community include a lack of services and facilities for young people within the area and limited variety in shopping choices.

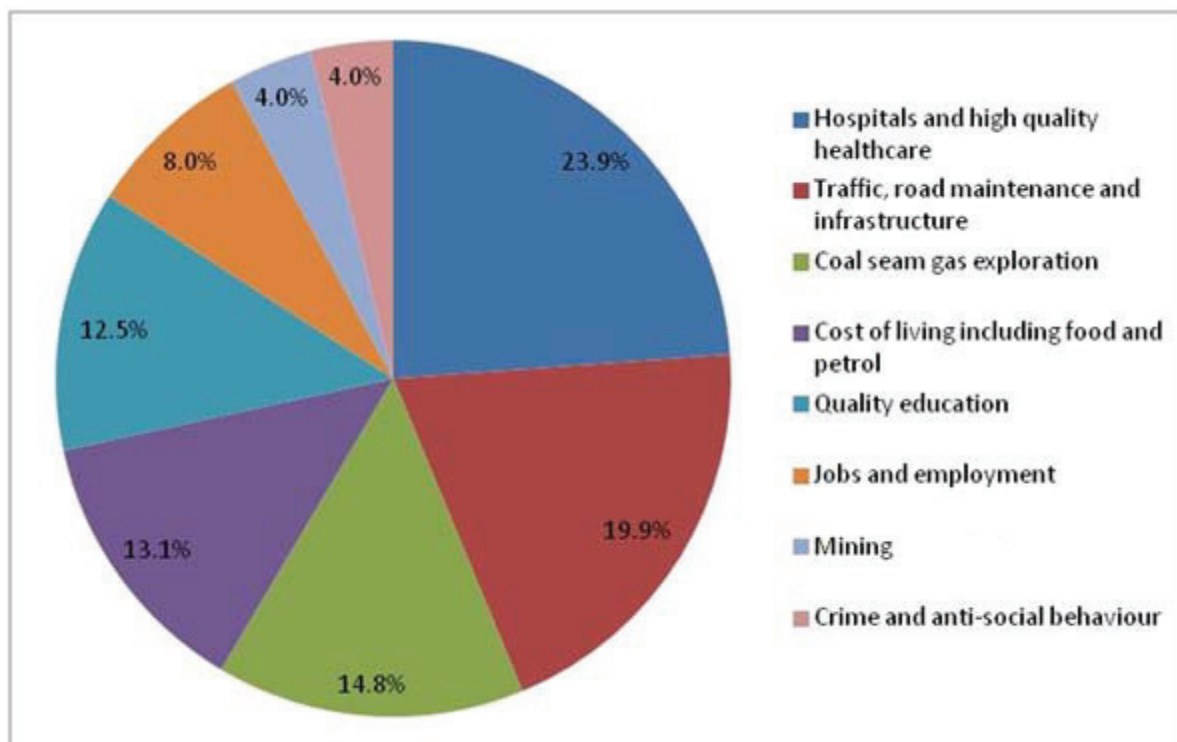


Figure 4.2 Summary of current community issues

4.3 Conclusion

The Wingecarribee LGA is characterised by a polarised age profile, concentrated in the young and older age groups but with a relatively smaller proportion of working age people. The area has experienced moderate population growth over the last decade, albeit less than for NSW as a whole, and forecasts suggest the area is likely to experience continued growth. This is due to the area's high amenity, strategic location between Sydney, Canberra and Wollongong, and its diverse economy.

A good supply of affordable housing is available to cater for population growth, with substantial potential to further increase housing supply. In addition, there is a good supply and wide range of community facilities available to the public.

5 Policy context

Strategic policies and plans help guide future development in the area and this will influence the future distribution of people and the social make-up of the community. Relevant State, regional and local strategic policies and plans are discussed below.

5.1 State planning context

5.1.1 NSW 2021

NSW 2021: A Plan to Make NSW Number One aimed to guide policy and budget decisions over the 10 years to 2021. The plan is based around the following strategies:

- rebuild the economy;
- return quality services;
- renovate infrastructure; and
- strengthen the local environment and communities.

These strategies have been ‘localised’ by developing tailored priorities for various regions in NSW in consultation with local government and communities. The result has been the development of local and regional action plans across NSW, including the Southern Highlands and Tablelands Regional Action Plan, which was released in 2012. The key priorities identified by communities within the Southern Highlands and Tablelands Regional Action Plan are:

- **Economically strong and diverse** – The Southern Highlands and Tablelands will capitalise on accessibility to the Sydney and Canberra transport corridor and a supply of affordable employment lands. We will maximise the investment opportunities to build a diverse regional economy.
- **Sustainable** – The high quality natural environment and heritage of the Southern Highlands and Tablelands will be preserved and natural resources and biodiversity sustainably managed. We will support sustainable agricultural production and manage the impacts of development, climate change, weeds and waste in the region.
- **Connected with efficient and integrated regional transport** – Our regional communities will be connected from and across the region, in particular to Sydney, Canberra and Wollongong by accessible, efficient and integrated transport.
- **Providing quality health and community services** – Our health and community services will meet community needs, providing support for ageing and vulnerable families and individuals. Our services will be integrated, coordinated and accessible.
- **Providing opportunities for the region’s young people** – Our education system will provide education and training pathways for young people encouraging them to stay in the region.

5.1.2 State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industry) 2007

The State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 (Mining SEPP) is a state-wide policy that recognises mining, petroleum production and extractive industries are important for NSW. The Mining SEPP aims to, among other things:

- provide for the proper management and development of mineral, petroleum and extractive material resources for the purpose of promoting the social and economic welfare of NSW;
- facilitate the orderly and economic use and development of land containing mineral, petroleum and extractive material resources;
- promote the development of significant mineral resources; and
- establish appropriate planning controls to encourage ecologically sustainable development through environmental assessment and sustainable management of the development of mineral, petroleum and extractive material resources.

5.2 Regional planning context

5.2.1 Sydney Canberra Corridor Regional Strategy 2006–2031

The Sydney–Canberra Corridor Regional Strategy (SCCRS) 2006–2013 applies to the area extending between Sydney and Canberra, which is experiencing much growth given its strategic location between two capital cities. The strategy provides a framework to manage and direct growth in housing and employment while protecting the environment. The project is within the corridor and so the strategy applies to the proposed development.

The strategy recognises the importance of the Wingecarribee area for economic development and employment growth due to:

- its proximity to major metropolitan markets for regionally based businesses;
- its relatively high accessibility through infrastructure, such as the M7 and M5, to the southern part of the Sydney metropolitan area;
- land affordability; and
- high rates of commuting out of the subregion and the desirability of reversing or at least slowing this trend.

5.2.2 Regional Development Australia Southern Inland Regional Plan

Regional Development Australia is an Australian Government initiative comprised of 55 committees across Australia. These committees include local leaders who work in consultation with all levels of government, businesses and community to promote the development of regional Australia. The Southern Inland Region comprises 13 LGAs, including the Wingecarribee LGA, and covers 50,000 km. The Southern Inland Regional Plan includes six priorities, namely:

- Regional development planning – use informed planning at all levels to guide the strategic and sustainable development of the region.
- Education, employment and investment – work with partner agencies to promote education and strong regional economies.
- Transport – improve transport infrastructure and delivery.
- Regional food – support regional food production, processing, marketing and consumption as well as food and wine tourism.
- Digital economy transition – assist businesses and community organisations to adopt and use the digital economy.
- Living and working sustainably – support the region’s renewable energy sector and promote sustainability practices in the workplace and community.

5.2.3 Southern regional transport plan

The NSW Long Term Transport Master Plan establishes the strategic context for the Southern Regional Transport Plan. The plan recognises the importance of the region in providing connectivity between Sydney, Canberra and Melbourne. Within the southern region, which encompasses the project area, the Southern Regional Transport Plan includes actions to:

- improve road safety;
- improve regional bus services;
- integrate NSW TrainLink coach services with regional bus services;
- improve public transport interchanges;
- ensure adequate community transport services are provided;
- integrate community transport services into the passenger transport system;
- support proposals to investigate walking and cycling trails; and
- improve tourism-related transport services.

Within the Moss Vale–Bowral–Mittagong area there are additional specific measures to improve transport. These include measures to improve both public transport and opportunities for walking and cycling, including providing bicycle parking at major centres.

5.3 Local planning context

To understand baseline or pre-development conditions in the locality, WSC's community strategic plans were reviewed, with the findings summarised in Table 5.1. WSC has consulted the community extensively in the development of its strategic plans, and they reflect local community aspirations and values.

Table 5.1 Relevant local plans and policies

Policy	Aims and objectives
Wingecarribee Community Strategic Plan 2031 ⁺ (W2031 ⁺)	The Wingecarribee Community Strategic Plan (W2031+) provides the future vision, goals and priorities for the LGA through to 2031. The plan was developed in consultation with the local community and is comprised of five themes relevant to WSC, namely leadership, people, places, environment and economy. For each theme, a number of goals and strategies have been identified that work towards the council's vision of establishing 'a healthy and productive community, learning and living in harmony, proud of our heritage and nurturing our environment'. The plan was developed in consideration of the SCCRS 2006–2031 and makes provisions for population and housing projections for the LGA.
Wingecarribee Strategic Plan 2002	The Wingecarribee Strategic Plan outlines WSC's vision for the future and provides a framework for decision-making by council. The overarching goal of the plan is 'to make the Shire a better place in which to live and in doing so, ensure that the unique character of the Shire is retained'. The plan targets specific planning objectives and strategies for a range of 'issue areas', such as population and housing, employment and economic development, and mining and extractive industries.
Draft Wingecarribee Local Planning Strategy 2015–2031	The Wingecarribee Local Planning Strategy 2015–2031 outlines a number of land use proposals to guide future development within the LGA. It will replace the Wingecarribee Strategic Plan 2002. The strategy is strongly aligned to the W2031+ plan and the community's vision for the LGA. In particular, the strategy provides specific land use proposals for the LGA's natural environment, rural lands, housing, the economy, the built environment and infrastructure needs. It also provides township specific objectives for each major town and village within the LGA.
Wingecarribee Economic Development Strategic Plan 2008-2016	The Wingecarribee Economic Development Strategic Plan aims to promote economic growth that respects the community and natural environment, and encourages a strong and diversified economy that supports local employment and enhances quality of life. To do this it establishes four strategic approaches to economic development, including: <ul style="list-style-type: none"> • WSC promotion – encourage investment and a diverse, broad-based economy; • skill development – provide workforce education, encourage innovation, creativity and enterprise, develop a competitive economic environment; • risk minimisation – provide greater clarity and certainty in WSC's LEP and DCP; and • sustainable development – promote development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
Bowral Parking, Traffic and Transport Strategy	WSC developed the Bowral Parking, Traffic and Transport Strategy to address the impacts of future growth within the Bowral town centre. In particular, the strategy provides short-term and long-term infrastructure development goals. The strategy will ensure acceptable transport services are provided in the town centre while maintaining pedestrian safety.
Wingecarribee Demographic and Housing Study	The Wingecarribee Demographic and Housing Study examines the current housing stock and availability within the LGA allowing WSC to make informed decisions about matching demand for housing over the next 20 years. The study includes a detailed analysis of current and historical demographic profiles of the community, a baseline study of current housing supply, and future household projections, including location and type of housing, in line with predicted population growth.

Table 5.1 **Relevant local plans and policies**

Policy	Aims and objectives
Wingecarribee Shire-wide Needs Study	The Wingecarribee Shire-wide Needs Study provides an assessment of the future demand for open space, recreation, cultural and community facilities within the LGA in line with expected population growth. The study identifies future growth areas within WSC and provides an action plan to meet future demand for services in these growth areas.

5.4 Summary

Strategic state, regional and local plans have been examined as part of this assessment. Broadly speaking, the project is aligned itself with many of the goals and objectives given in these plans. It can stimulate new direct and indirect economic activity within the Wingecarribee LGA and surrounds, contribute to community development and support regional economic development through providing new local employment and training opportunities and increased opportunities for local businesses. The project can contribute to a longer legacy by helping to improve the skills of local workers through its training program and the capacities of local businesses through procuring local business where possible. At the same time, the strategic plans present a number of advantages for the project. Principally, these are meeting environmental objectives and avoiding land use conflicts. Secondary challenges are to accommodate population growth associated with the project without adversely affecting the local housing market or overloading community services and facilities.

The proposal's overall performance compared with applicable strategic plans is assessed in Chapter 7 and related management and mitigation measures are described in Chapter 8.

6 Stakeholder consultation

6.1 Introduction

Stakeholder consultation is an important component of the social impact assessment as it allows both real and perceived stakeholder values, issues, impacts and opportunities associated with the project to be identified. Public participation in decision-making for resource developments typically results in better outcomes for communities by ensuring that a project is consistent with the values and livelihoods of stakeholders, leading to more positive attitudes towards, and better support for, the project.

This chapter describes the findings of stakeholder consultation and provides a catalogue of the current perceived issues, both positive and negative, about the project from the perspective of a broad range of stakeholders.

Hume Coal has consulted extensively during the project planning phase and will continue to engage with local landholders and other as the project progresses. Further details about the consultation are also provided in Chapter 5 of the EIS.

6.2 Consultation tools

Hume has used a range of consultation tools to inform stakeholders about the project that are outlined in Table 6.1.

Table 6.1 Consultation tools

Item	Summary
Project website: www.humecoal.com.au	Hume Coal has a dedicated project website that provides up-to-date information about the project, environmental matters and local engagement initiatives. Project factsheets, bulletins and newsletters are available on the website, as well as links for people who can provide feedback or supply further information.
Community shopfronts: Argyle Street, Moss Vale Old Hume Highway, Berrima 02 4877 2481	Community members are able to speak directly with Hume Coal's community liaison team by phone or face-to-face at the shopfront offices in Moss Vale (closed in July 2016) and Berrima, where an information display and factsheets are also available.
Hume Coal head office Unit 7–8 Clarence House 9 Clarence Street Moss Vale 02 4869 8200	Community members are able to speak directly with Hume Coal's project team or technical staff by phone or face-to-face at the head office in Moss Vale.
Project email address	Hume Coal has three dedicated email addresses that provide contact points for stakeholders: general enquiries (info@humecoal.com.au), media enquiries (media@humecoal.com.au) and Hume Coal's charitable foundation (charitablefoundation@humecoal.com.au).
Information sessions	Hume Coal has held community information sessions during the project planning phase to provide information about the project and its environmental studies to members of the community. They were held across the Wingecarribee LGA between 2012 and 2016.
Briefing and representation	Hume Coal has provided project briefings to interested stakeholder groups and individuals, including local businesses and industry groups. Hume is also a member of many of these groups and has attended executive meetings as members. Hume Coal has also provided many briefings to individuals (at their request) who are both supporters and non supportive of the project.

Table 6.1 **Consultation tools**

Item	Summary
Communication materials	Hume Coal has issued formal letters to landholders and community members on a number of occasions. These letters generally provide project updates, and offers of individual briefings about the project. Bulletins and factsheets are also distributed locally and are available in the community shopfront and on Hume Coal's website. Community updates are also published in local newspapers and emailed to those registered on Hume Coal's mailing list.
Media communications	Project information has been communicated through media releases, local newspaper publications and radio segments.
Surveys and focus groups	Telephone surveys and facilitated focus groups have been used to gauge public opinion and understand peoples' views on the project.
Advisory groups	Hume Coal established two advisory groups, the social reference group (SRG) and water advisory group (WAG). These groups generally held quarterly meetings and included representatives from the local community.
Social Media	In early 2016, Hume Coal introduced three social media platforms – Facebook, Twitter, and LinkedIn. These platforms provide daily project updates, facts about the project, contact details for the project team, information about upcoming events and links to media releases on the Hume Coal Project website.

6.3 Stakeholders

Hume Coal has been engaging with stakeholders since 2011. The consultation was in accordance with a stakeholder engagement and consultation plan prepared specifically for the project. The plan establishes who the potential stakeholders are and how, why and when they are to be engaged.

For the purposes of this chapter, stakeholders have been considered in three groups:

- government authorities and service providers;
- corporate entities with a direct or indirect interest in the project; and
- landholders, community groups and individuals.

These stakeholders have been consulted both formally and informally, using the methods outlined in Table 6.1.

6.3.1 Government

Table 6.2 provides a summary of matters raised by government agencies and service providers during the consultation program.

Table 6.2 Matters raised by government, service providers and agencies

Stakeholder	Theme	Matters raised	EIS reference
Government			
Wingecarribee Shire Council	Community services and demographics	General discussions	SIA
	Community consultation	Types of community consultation being undertaken	Chapter 4
		Hume Coal apprenticeship program	EIS Section 2.13.1
		Hume Coal charitable foundation	Section 3.2 of the SIA
	Heritage	New heritage listings	Statement of Heritage Impact (Appendix T)
	Traffic and transport	Potential impacts and possible road upgrade requirements	Traffic assessment (Appendix M)
	VPA	General discussion	Chapter 3 (Legislation)
	Local tourism	Impacts on local tourism and the need for a CAV	SIA Section 7
NSW Department of Industry (formerly Department of Trade and Investment, Regional Infrastructure and Services)	Community consultation	Local jobs expo	-
		Berrima Community shop reception to date	-
		Community information sessions	EIS Section 4.5.2i
		Hume Coal apprenticeship program	EIS Section 2.13.1
		Hume Coal charitable foundation	SIA Section 3.2
	Subsidence	Local government concerns	EIS Chapter 14
	Significant local issues	Youth employment in the Southern Highlands Region	SIA section 4.2
	Section 31 court case	Updates/results	Not applicable to EIS
	Land access	Land access issues such as arbitration	Not applicable to EIS

Table 6.2 Matters raised by government, service providers and agencies

Stakeholder	Theme	Matters raised	EIS reference
NSW Department of Trade and Investment	Mine Plan	Conceptual project Development Plan	EIS chapter 2
	Determination process update	SEARS	Each relevant chapter of the EIS, and Appendix B
		Site verification certificate (SVC) referral	EIS Chapter 3
NSW Office of Water	Water	General discussions	EIS Chapter 7
	Determination process update	SEARS	Each relevant chapter of the EIS, and Appendix B
		SVC referral and EPBC Act referral	EIS Chapter 3
NSW Environment Protection Authority	Determination process update	SEARS	Each relevant chapter of the EIS, and Appendix B
		SVC referral and EPBC Act referral	EIS Chapter 3
	Air quality	Assessment methodology	EIS Chapter 12
		Preliminary results and mitigations	EIS Chapter 12
	Noise	Assessment methodology	EIS Chapter 11
	Surface water	Assessment methodology	EIS Chapter 7
NSW Department of Planning and Environment	Project update	Mine plan	EIS Chapter 2
		SVC application	EIS Chapter 3
		Environmental considerations	EIS Chapters 7-18
		Aboriginal Heritage Impact Permit	EIS Chapter 21
	Determination timeframe	Adequacy review period	-
NSW Office of Environment and Heritage	Project update	Project progression	EIS Chapter 3
		Preliminary ecology and heritage results	EIS Chapters 10, 21 and 22
Office of the Minister for Industry, Resources and Energy	Project update	Mine plan	EIS Chapter 2
		Mining Lease Application details	EIS Section 1.1
Office of the Hon. Anthony Roberts, Minister for Industry, Resources and Energy	Exploration	Drill holes	EIS Section 2.2
		Groundwater monitoring	EIS Chapter 5 (Figure 5.2) and Chapter 7
		Baseline environmental works being undertaken	EIS Chapter 5
	Community	Demographics	SIA Chapter 4
		Perception research	EIS Section 4.5.3
		Community engagement	EIS Chapter 4
	Land access	Types of properties	-
		Action group misinformation	-
		Ongoing delays	-

Table 6.2 Matters raised by government, service providers and agencies

Stakeholder	Theme	Matters raised	EIS reference
Office of Andrew Stoner, NSW Deputy Premier	Exploration	Section 252 of the <i>Mining Act 1992</i> .	-
		Drilling program	EIS Section 2.2
		Land access	-
		Southern Highland Coal Action Group	-
Office of the Minister for Primary Industries	Water licensing	General discussions	EIS Chapter 7
Office of Pru Goward, NSW Member for Goulburn	Water	Aquifer Interface Policy	EIS Chapter 7
		Water Monitoring	EIS Chapter 7
		Location of bores in the area	EIS Section 5.2
	Mine design	Mining method	EIS Chapter 2
		Subsidence	EIS Chapter 14
Office of Angus Taylor, Federal Member for Hume	Project updates	Mine plan	EIS Chapter 2
	Community perception	Community perception research results	EIS Section 4.5.3
		Community response to mine plans	EIS Chapter 4
	Transport	Covering coal wagons during transport	EIS Chapter 12
	POSCO	Investments in Australia	EIS Section 1.5
		Importance of the Hume Coal Project to POSCO's consideration for any further investment in the Australian market	EIS Section 1.5
Office of Stephen Jones, Federal Member for Throsby	Local opposition	Anti Asian/Korean sentiment as Xenophobic	-
	Transport	Transport of material by road	EIS Chapter 2 and 15
	Water	Water systems, particularly groundwater in the Southern Highlands	EIS Section 5.2.5
		Hume Coal Project Water Advisory Group	EIS Section 4.5.2ii
Office of Jai Rowell, Member for Wollondilly	Employment	Number of future jobs	EIS Section 2.13
		Employment catchment area	EIS Section 2.13
	Community perception	Results of community perception research	EIS Section 4.5.3
	Financial viability	Mining systems used by the project	EIS Chapter 2
		Extraction rate	EIS Chapter 2
	Water	Groundwater	EIS Chapters 2 and 7
	Agriculture	Current farming practices on the project site	EIS Appendix G

Table 6.2 Matters raised by government, service providers and agencies

Stakeholder	Theme	Matters raised	EIS reference
Office of Steve Whan, Shadow Minister for Primary Industries	Mine design	Coal seam gas misconceptions	-
Premier	Project update	Letter sent providing project update and timing	-
RMS	Clarify agency requirements	Mining system used by the project	EIS Chapters 2
		Flood assessment	EIS Chapter 7
		Subsidence assessment	EIS Chapter 14
EPBC Advisor, Commonwealth Minister of Environment	Progress briefing	Mine plan and Commonwealth referral	Chapters 2 and 3
Chair of Coalition Backbench Committee on Infrastructure, Energy and Resources	Progress briefing	Mine plan and Commonwealth referral	Chapters 2 and 3
Federal Minister for Industry, Ian Macfarlane	Progress briefing	Mine plan and Commonwealth referral	Chapters 2 and 3
Commonwealth Department of Environment and Energy	Progress briefing	Commonwealth referral and lodgement timing	Chapter 3

6.3.2 Corporate stakeholders

The following companies or industry groups were consulted:

- Port Kembla Coal Terminal;
- NSW Ports;
- Forestry Corporation;
- Boral;
- ARTC;
- Endeavour Energy;
- APA Group;
- Princess Pastoral;
- rail providers;
- local suppliers; and
- mining equipment manufacturers.

6.3.3 Community and special interest groups

Table 6.3 provides a summary of matters raised by community and specialist interest groups during the consultation program to date.

Table 6.3 Matters raised by community and special interest groups

Theme	Matters raised	EIS reference
Project	Is exploration of coal seam gas part of the project?	Not applicable – No CSG exploration
	Fear of foreign ownership – % of money remaining locally versus % of money going abroad	EIS Chapter 19
	Project timeline	EIS Chapter 2
	Justification of the location of the surface infrastructure	EIS Chapter 6
	What will the coal be used for?	EIS Section 1.6
Mining system	Has the mining method been used elsewhere?	EIS Chapter 24
	Why is only 35% of the coal being removed?	EIS Chapters 24
	Is the mine system safe?	Section 2.5.2 and EIS Appendix L
	Dimensions of the panels	EIS Chapter 2
	How will the voids be backfilled?	EIS Chapter 2
Groundwater	Impacts on groundwater including drawdown depth and contamination	EIS Chapter 7
	Impacts on private bores	EIS Chapter 7 and Section 4.5.4
	Groundwater recovery time	EIS Chapter 7
	How will the water be used?	Section 2.10
	Methods for removing water from the mine	Section 2.10
	Impacts of groundwater drawdown on agriculture	EIS Chapter 9
	Groundwater monitoring and management	EIS Chapter 7
	Water for future generations	EIS Chapter 7
Surface water	Impacts on Medway Dam	EIS Chapter 7
	Surface water storage locations	EIS Chapter 7
	Will Wingecarribee Shire water supplies be used?	Section 2.10.1
Ecology	Impact on koala habitat	EIS Chapter 10
	Impacts on Paddy's River Box trees	EIS Chapter 10
	Habitat disturbance	EIS Chapter 10
	Impacts on bats and bat habitat	EIS Chapter 10
Agriculture	Loss of productive agricultural land	EIS Chapter 9
	Is the land BSAL?	Section 5.2.6
	Location of soil sampling points	EIS Chapter 8
Air quality	Dust impacts on surrounding land uses	EIS Chapter 12
	Dust mitigation and management measures	EIS Chapter 12
	Assessment of PM _{2.5} including health impacts	EIS Chapter 12
	Location of weather monitoring station and TEOMs	EIS Chapter 5
	Height and location of stockpiles	EIS Chapter 2

Table 6.3 **Matters raised by community and special interest groups**

Theme	Matters raised	EIS reference
Noise	Noise attenuation measures including noise walls	EIS Chapter 11
	Noise impacts on health	EIS Chapter 11 and Appendix I.
	Are the impacts of explosives included in the noise modelling?	EIS Chapter 11 and Appendix I
	Impacts of noise on Berrima	EIS Chapter 11
	Noise generation from the conveyor belt	EIS Chapter 11 and Appendix I
Visual	Impacts on visual amenity	EIS Chapter 16
Subsidence	Impacts on houses	EIS Chapter 14 (negligible subsidence expected)
	Impacts of a panel failure	EIS Chapter 14 (negligible subsidence expected)
	Impacts on water supplies	EIS Chapter 14 (negligible subsidence expected)
Transport	Vehicle access to the mine	EIS Chapter 15
	Potential congestion on local road network	EIS Chapter 15
Social	Impacts on community life and sense of place	EIS Chapter 20
	Opportunities for apprenticeships	EIS Chapter 20
	Benefits to landholders in the project area	EIS Chapter 19
	Source of workers	EIS Chapter 20
	Residential location of workers	EIS Chapter 20
	Sponsorship of community events and activities	EIS Chapter 20
Economy	Opportunities for local businesses and suppliers	EIS Chapter 20
	Impacts on tourism industry	EIS Chapter 19 and 9
	Impacts on local land and property prices	EIS Chapter 19
	Economic feasibility of project	EIS Chapter 19
Aboriginal heritage	Management of Aboriginal heritage sites	EIS Chapter 21
	Impacts on Aboriginal artefacts	EIS Chapter 21

6.4 Stakeholder surveys

An independent research consultant, on behalf of Hume Coal, researched community perceptions using quantitative surveys and qualitative focus groups in November and December 2013, October and November 2014, and June and September 2015.

The quantitative surveys each had a sample size of at least 400 people drawn from across the Wingecarribee LGA. In each case a random stratified sampling technique was used to obtain representative samples of the population. Interviews were structured and all stakeholders were asked pre-determined questions so that consistent data were collected.

The focus groups were generally held at two evening meetings and went for two hours. The focus group participants were recruited to obtain a representative sample of the population.

The following concerns were identified by the focus groups and are shown in Figure 6.1. It can be seen that a range of issues were identified, but one matter clearly dominated, which was the effects on local aquifers and/or water supplies.

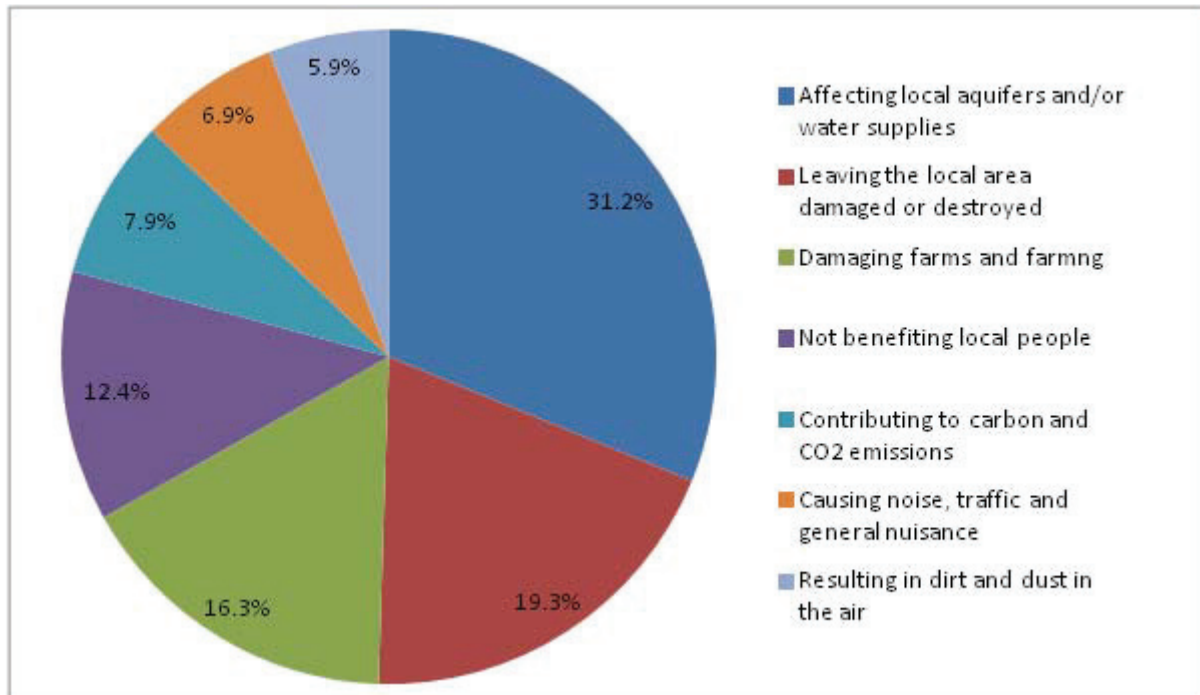


Figure 6.1 Issues of concern identified by focus

6.5 Conclusions

A comprehensive stakeholder engagement program has been conducted over five years, and virtually all interested parties have been invited to have their say about the project. The concerns and issues raised have been grouped into particular topics and prioritised by the project team. They have been taken into account in the project's design so that the concern is avoided, mitigation is provided or where a positive opportunity exists it is exploited. In some cases where it has been impossible to address an issue explanations have been provided as to why this is the case. The sections of the EIS showing where issues have been addressed are given in Tables 6.2 and 6.3.

7 Social impacts

7.1 Methodology

The benchmark for the assessment is the existing social and economic conditions of the area, as described in Chapter 4. The potential impacts considered are based on those experienced by other coal mining projects in Australia and the issues identified by stakeholders in Chapter 6.

A social impact is something that is experienced or felt (either real or perceived) by an individual, social group or economic unit (Franks 2012). Social impacts can be positive or negative and are the result of an action (or lack of action) by a person, company or group. Social impacts can also be direct or indirect and may accumulate over time as an activity progresses. This chapter considers the direct, indirect and cumulative social impacts related to the project.

There are a number of typical social impacts induced by mining projects and they are well documented in the literature (for instance, Franks 2012 and Franks et al. 2010). These typical or 'generic' impacts of mining have been used in this SIA to provide a comprehensive and objectively derived basis for the assessment; they are listed in Table 7.1.

Table 7.1 Typical social consequences of mining projects and associated impacts

Area of change	Potential impacts
Population and demographics	In-migration, out-migration, workers camps, growth or decline of towns, changed demographic profile
Labour market	Changes in unemployment rate, workforce participation, training, health and safety, working conditions, remuneration, skills shortages, changing employment base
Economic change	Royalties, taxes, economic growth or decline, flow-on benefits, local business spending, economic narrowing and instability
Community services and facilities	Demands on, or investment in, roads, rail, power and water supplies, childcare, health, education and emergency services
Housing and accommodation	Changes in demand for and availability of housing, housing ownership, temporary accommodation, property values
Community liveability	Increased traffic, alcohol and substance abuse, pollution, amenity, disruption to social activities and norms, community engagement, community development and investment, land use change, land acquisition, reduced community participation, community cohesion, sense of place, marginalisation of vulnerable groups

Note: Adapted from Franks 2012.

Mining projects pass through various phases as they develop and each has its own distinctive social impacts. For the purposes of this assessment the project has been divided into four phases as follows:

- planning, feasibility and approvals;
- construction;
- operations; and
- closure, decommissioning and rehabilitation.

The social impacts that could occur in each phase have been assessed against a set of criteria describing specific parameters of the impacts – their duration, extent and magnitude. These criteria are listed in Table 7.2. Based on the assessment criteria, a level of significance has been assigned to each impact to determine if it will have a low, medium or high impact on those affected, and whether the effect will be positive or negative.

One theoretically possible impact is “solastalgia”. It is a condition caused by the gradual erosion of the sense of belonging to a particular place and a feeling of distress about its transformation (Albrecht et al. 2007). The concept was examined in detail by the Land and Environment Court during its consideration of the Warkworth Extension Project in the Singleton LGA [2013 NSWLEC 48]. The court found that solastalgia is mostly relevant to the consideration of objective impacts on amenity and the public interest more generally, where the impact is based on the specific likely effects of proposed development rather than an expression of subjective fear or concern. Amenity impacts and mitigation measures relating to specific aspects of the Hume Coal Project such as noise and air quality, are addressed in the relevant sections of this EIS. Impacts on amenity and public interest relating to social aspects of the proposal are comprehensively examined below. Accordingly, no examination of solastalgia is warranted.

Table 7.2 Assessment criteria for determining significance of potential impacts

Criteria	Category	Description
Duration of impact	Short-term	Limited to a specific phase of the project
	Medium-term	Will occur for the duration of the project
	Long-term	Including and beyond the project life
Extent of impact	Site specific	Confined to the project area
	Local	Project area and neighbours
	Regional	Across the Southern Highlands, including the 45-minute travel zone
Magnitude of impact	Minor	Impact is barely noticeable, small number of people directly impacted
	Moderate	Impact is noticeable, medium number of people directly impacted
	Major	Substantial change or effect, large number of people directly impacted

The social impacts and opportunities arising from each phase of the project have been assessed against the above criteria and are summarised in the following sections. Detailed explanations of the assessment results for each factor are provided in Appendix A.

To determine the likely overall significance of social impacts, a value is given to each of the three assessment criteria assigned to each impact as shown in Table 7.3. The overall significance of each impact is calculated by summing the value given to the three assessment criteria relating to it.

Table 7.3 Values for assessing overall significance

Criteria	Category	Score
Duration of impact	Short-term	1
	Medium-term	2
	Long-term	3
Extent of impact	Site-specific	1
	Local	2
	Regional	3
Magnitude of impact	Minor	1
	Moderate	2
	Major	3

The lowest possible score for the overall significance of an impact is three. Social impacts with a total score of three or four are given a low significance. Impacts with a total score of five, six or seven are given a medium significance. Impacts with a total score of eight or nine are given a high significance. In cases where special circumstances occur which confer a significance which differs from the total score given to an impact, footnotes are provided giving an explanation why.

7.2 Planning, feasibility and approvals phase

7.2.1 Context

Exploration and other investigations within the land subject to A349 have been occurring since the 1950s. However, since Hume Coal acquired A349 in December 2010, there has been a heightened level of activity in and around the lease area as geological, engineering, environmental, financial and other technical investigations have taken place. Other activities include Hume Coal's community consultation program about mining options and the responses by various individuals and groups to this. These investigations and activities have created greater awareness of the project within the local community.

7.2.2 Impact assessment

Table 7.4 outlines the social impacts and opportunities that could occur during the project's planning phase.

Table 7.4 Planning, feasibility and approvals phase impacts

Potential social impact or opportunity	Potential outcome	Duration	Extent	Magnitude	Overall significance	Potential to mitigate or enhance?
1. Population and demographics						
Change in the number of residents within the project area due to project-related property acquisitions and subsequent tenancy agreements.	Direct, positive	Medium	Site specific	Minor	Low	Yes

Table 7.4 Planning, feasibility and approvals phase impacts

Potential social impact or opportunity	Potential outcome	Duration	Extent	Magnitude	Overall significance	Potential to mitigate or enhance?
2. Labour market						
Create 17 direct employment opportunities.	Direct, positive	Short	Regional	Minor	Medium	Yes
Improve workforce skills through sponsoring around two trainees and four apprentices.	Direct, positive	Long	Regional	Minor	Medium	Yes
3. Economic change						
Provide economic stimulus to local economy through engaging local consultants and contracting companies for preliminary works and to provide services.	Indirect, positive	Short	Regional	Minor	Medium	Yes
4. Community services and facilities						
Improve community facilities and services through sponsoring local organisations through the Hume Coal Charitable Foundation.	Direct, positive	Short	Regional	Moderate	Medium	Yes
5. Housing and accommodation						
Small increase in demand for housing by direct employees.	Direct, positive	Short	Regional	Minor	Medium	Yes
6. Community liveability						
Create uncertainty about the type, location, timing and potential impacts of future coal mining on the local area.	Direct, negative	Short/Medium	Local	Minor	Medium	Yes
Improve amenity and rural character of project area by improving agricultural practices and output.	Direct, positive	Long	Local	Minor	Medium	Yes

7.2.3 Summary of impacts during the planning, feasibility and approvals phase

During the planning, feasibility and approvals phase, the project will generate a number of benefits, namely:

- a modest number – 17 – of new job opportunities (excluding contractors and consultants), as well as further indirect and induced jobs from spending by Hume Coal and its employees, consultants and contractors;
- a small improvement in the skills base of the local workforce through Hume's apprenticeship and training program;
- improved community facilities and services from investments by the Hume Coal Charitable Foundation; and
- increasing agricultural output from the project area, which will also benefit local rural services businesses.

There will also be a negative impact during the planning phase being stress and anxiety caused by uncertainty about aspects of the project and its potential impacts on the local area.

On balance, positive impacts will clearly outweigh negative ones during the planning phase so there will be a net benefit to the local community during this phase.

7.3 Construction phase

7.3.1 Context

The construction phase includes two stages – early works and construction of surface infrastructure; and construction of drifts and associated infrastructure. These works will be completed over about 2 years and will require a peak workforce of 414 people. It is proposed to construct a temporary CAV to accommodate non-local workers during the construction phase.

7.3.2 Impact assessment

The social impacts and opportunities resulting from the construction phase of the project are outlined in Table 7.5.

Table 7.5 Construction phase impacts

Potential social impact or opportunity	Potential outcome	Duration	Extent	Magnitude	Overall significance	Potential to avoid, mitigate or enhance?
1. Population and demographics						
Temporarily increase population of the Wingecarribee LGA through in-migration of non-local workers.	Direct, mostly positive	Short	Local	Minor	Low	Yes
2. Labour market						
Create 414 direct employment opportunities.	Direct and indirect, positive	Short	Regional	Minor	Medium	Yes
Employment opportunities for local residents.	Direct, positive	Short	Regional	Minor	Medium	Yes
Create skills shortages in the local economy.	Indirect, negative	Short	Regional	Minor	Low ¹	Yes

¹ The significance of potential skills shortages in the local economy is expected to be low due to the small number of local workers required during this phase.

Table 7.5 Construction phase impacts

Potential social impact or opportunity	Potential outcome	Duration	Extent	Magnitude	Overall significance	Potential to avoid, mitigate or enhance?
3. Economic change						
Provide economic stimulus to local businesses particularly contractors engaged for construction works.	Direct, positive	Short	Regional	Moderate	Low ²	Yes
Limited direct spending by the workforce in the local economy due to provision of services at CAV and temporary nature of workforce.	Direct, positive	Short	Local	Minor	Low	Yes
4. Community services and facilities						
Temporarily increase demand for medical services.	Direct, negative	Short	Local	Minor	Low	Yes
Improve community services and facilities through continued investment by Hume Coal through a voluntary planning agreement (VPA).	Direct, positive	Long	Regional	Major	High	Yes
5. Housing and accommodation						
Help avoid inflationary and availability pressures on housing due to availability of the CAV.	Indirect, positive	Short	Regional	Minor	Medium	Yes
Increase demand for short-term accommodation during initial construction of the CAV.	Direct, positive	Short	Local	Moderate	Medium	Yes
6. Community liveability						
Improve visual amenity due to tree planting and better agricultural land use.	Direct, positive	Long	Local	Minor	Medium	Yes
Reduced social cohesion due to influx of construction workers.	Indirect, negative	Short	Local	Minor	Low	Yes
Environmental impacts from construction activities.	Direct, negative	Short	Local	Moderate	Medium	Yes

7.3.3 Summary of impacts during construction phase

The main impacts are expected during the project's construction phase are small benefits from increased direct and indirect local job opportunities.

² While it is possible that the economic stimulus to local businesses could be observed regionally, due to the overall potential impacts being minor, significance is low.

The construction phase may negatively affect the local housing market and increase the demand for community services, however, these impacts will be largely avoided by mitigation measures, particularly the availability and effective management of a CAV. This will avoid such negative impacts as crowding out tourist accommodation, tightening the rental market and any potential anti-social behaviour of non-local workers. The net impact on housing and access to service infrastructure during construction will therefore be minor. The third type of impact associated with this stage will be negative. There could be some noticeable environmental impacts from construction activities, possible increases in demand and pressures on medical services and some specialised trade services and temporary, minor social change due to the influx of construction personnel.

On balance, benefits will outweigh negative impacts during construction, so there will be a net positive social outcome for the community.

7.4 Operations phase

7.4.1 Context

The operations phase will extend for 19 years and will require a peak workforce of 300 people. As explained in Section 3.4, two local recruitment scenarios have been considered:

- Scenario 1: 70% local recruitment (i.e. 210 local recruits and 90 external recruits); and
- Scenario 2: 50% local recruitment (i.e. 150 local recruits and 150 external recruits).

Assuming there is an average household size of 2.7 people associated with each operations worker, there will be a total population increase of 243 people under Scenario 1 and 405 people under Scenario 2. This population increase will be distributed through the workforce catchment area, which is mainly within the Wingecarribee LGA, but also small parts of the Wollondilly, Kiama, Shoalhaven and Goulburn Mulwaree LGAs.

7.4.2 Impact assessment

The operations phase will generate a number of social impacts and opportunities. These are listed in Table 7.6.

Table 7.6 Operations phase impacts

Potential social impact or opportunity	Potential outcome	Duration	Extent	Magnitude	Overall significance	Potential to avoid, mitigate or enhance?
1. Population and demographics						
Population increase across the workforce catchment area.	Direct, positive	Medium	Regional	Minor	Medium	Yes
More normal age structure due to an increase in the number of family aged people.	Indirect, positive	Medium	Regional	Minor	Medium	No

Table 7.6 Operations phase impacts

Potential social impact or opportunity	Potential outcome	Duration	Extent	Magnitude	Overall significance	Potential to avoid, mitigate or enhance?
2. Labour market						
Creation of approximately 300 direct and 62 indirect employment opportunities, 34 of which would be in Wingecarribee LGA.	Direct and indirect, positive	Medium	Regional	Major	High	No
Reduction in unemployment rates across the workforce catchment area.	Direct, positive	Medium	Regional	Moderate	Medium	Yes
Improved mental wellbeing of workers and their families due to improved economic prospects and reduced financial stress.	Direct, positive	Medium	Regional	Major	High	Yes
Changed labour force structure if local mining industry grows significantly.	Direct negative	Medium	Regional	Minor	Low ³	Yes
Increase in demand for workers with relevant skills may result in labour shortages.	Indirect, negative	Short	Local	Minor	Low	Yes
Adverse health impacts from shift work.	Indirect, negative	Short	Local	Minor	Low	Yes
Provision of training for workers, focusing on improving their skills and future employment prospects.	Direct, positive	Long	Regional	Minor	Medium	Yes
3. Economic change						
Increased economic activity through direct business and employee expenditure.	Direct and indirect, positive	Medium	Regional	Minor	Medium	Yes
Increased revenue for WSC through project-induced growth in population and household numbers.	Direct and indirect, positive	Medium	Regional	Minor	Medium	Yes
Squeezing out established industries if there is excessive demand for labour.	Indirect negative	Long	Regional	Minor	Low ⁴	Yes
Some economic instability due to commodities cycles and mine closure.	Indirect, negative	Medium	Regional	Moderate	Medium	Yes

³ Hume Coal's direct contribution to changes in the labour force would be minor.

⁴ Hume Coal's demand for local labour is small on a regional scale and the project is not expected to squeeze out other industries through competition for labour.

Table 7.6 Operations phase impacts

Potential social impact or opportunity	Potential outcome	Duration	Extent	Magnitude	Overall significance	Potential to avoid, mitigate or enhance?
Perceived impact on tourism industry due to amenity impacts from the mine.	Indirect, negative	Short	Local	Minor	Low	Yes
4. Community services and facilities						
Minor increase in demand for community services, such as health, education and childcare.	Direct, negative	Short	Regional	Minor	Low ⁵	Yes
Minor increase in demand for emergency services.	Direct, negative	Short	Regional	Minor	Low ⁶	Yes
Increased use of road infrastructure resulting in increased congestion and reduced road condition.	Direct, negative	Short	Local	Minor	Low	Yes
Improved services and infrastructure due to continued investment in potential VPA.	Direct, positive	Medium	Regional	Moderate	Medium	Yes
Possible increase in demand for utilities, including electricity and water supplies.	Indirect, negative	Short	Local	Minor	Low	No
5. Housing and accommodation						
Increased demand for housing during operations – up to 150 dwellings over the life of the project.	Direct positive and negative	Short	Regional	Minor	Low ⁷	Yes
Increased demand for short-term accommodation.	Direct, negative	Short	Local	Minor	Low	No
6. Community liveability						
Potential impacts on the character and amenity of the area due to land use changes and environmental impacts.	Indirect, Negative	Medium	Local	Minor	Medium	Yes
Loss of connection to rural environment as a result of changing landscape character.	Indirect negative	Medium	Site Specific	Minor	Low	Yes

⁵ Hume Coal's contribution to increased demand for community services will be minor and the implementation of the VPA is likely to assist in providing services to cater for project related increases in demand.

⁶ Hume Coal's contribution to increased demand for emergency services would be very minor.

⁷ The project's contribution to increased demand for housing will be small compared to total forecast population growth.

Table 7.6 **Operations phase impacts**

Potential social impact or opportunity	Potential outcome	Duration	Extent	Magnitude	Overall significance	Potential to avoid, mitigate or enhance?
Reduced social cohesion and loss of local customs due to rapid population growth and change.	Indirect negative	Short	Local	Minor	Low	Yes
Improved amenity of locality due to improved land management, such as more productive agricultural practices and revegetation works.	Indirect, positive	Long	Local	Minor	Medium	Yes
Improved quality of life resulting from better services and infrastructure.	Indirect, positive	Long	Regional	Minor	Medium	Yes

7.4.3 Summary of impacts during operations phase

The project will have both positive and negative impacts during operations, which are summarised below.

Population and demographic impacts will be mostly positive. There will be a small increase in the Wingecarribee LGA's population (ie more than 0.69) of between 209 and 349 people depending on the proportion of non-local workers recruited. This will help normalise the Wingecarribee LGA's age structure by increasing the number of family-aged people and reducing the need for young people to move elsewhere to find work.

Labour market impacts will be mostly positive. A moderate number of jobs will be created and the skills of those employed in the mine will improve, which in combination will enhance the wellbeing of the workers and their families. Conversely, some local businesses may lose employees due to competition from the mine, and mine workers may face minor adverse health impacts from the pressures of working varying shifts.

The dominant economic effect of the operations phase is increased economic activity. This is expected to have a positive effect overall and on the entire workforce catchment area. However, some local businesses may suffer due to increased competition for labour. The last impact is unlikely in this case as mining is only a small part of the local economy.

The demand for community services will increase in line with population growth but the magnitude of growth should be manageable and not noticeable given that the project-related population growth will only be a small portion of overall forecast population growth for the area. A noticeable positive outcome will be continued improvements to community facilities from funding provided by the Hume Coal VPA.

Impacts on housing and accommodation will be neutral. There will be some stimulus on housing as a result of small increased demand, although it is expected this will be offset by new land releases.

Community liveability impacts will also be variable. Positive impacts will arise from improved local services and facilities from increased population, and land management in the project area will improve. Furthermore, coal miners tend to be responsible, family oriented and community minded people. The slight increase in the number of miners should improve social cohesion in the area. At the same time, the project area's character will become slightly more industrial.

On balance, positive outcomes should outweigh negative ones during operations, principally because the project's main effects will be economic stimulus through worker recruitments and local expenditure, and improved community facilities through Hume Coal's VPA and population growth. There is potential for some negative impacts, but these are not major and can be mitigated by implementing appropriate measures.

7.5 Closure and decommissioning phase

7.5.1 Context

The closure and decommissioning phase will extend for two years. The project will then enter a longer-term period of agricultural land management leading to probable relinquishment of the land. The initial active works will decommission and remove mine infrastructure followed by rehabilitating disturbed areas. Most of these will be returned to agricultural uses, with some smaller areas restored for ecological, landscape or heritage reasons. Approximately thirty people will be employed during the peak of active closure works.

7.5.2 Impact assessment

The social impacts and opportunities associated with the closure and decommissioning phase are provided in Table 7.7.

Table 7.7 Closure and decommissioning phase impacts

Potential social impact or opportunity	Potential outcome	Duration	Extent	Magnitude	Overall significance	Potential to avoid, mitigate or enhance?
1. Population and demographics						
Potential minor drop in resident population within workforce catchment area.	Direct, negative	Short	Local	Minor	Low	Yes
2. Labour market						
Loss of jobs due to mine closure potentially resulting in higher unemployment rates.	Direct, negative	Long	Regional	Minor	Medium	Yes
Increased financial stress.	Indirect, negative	Medium	Regional	Minor	Medium	No
3. Economic change						
Reduction in economic activity as a result of mine closure.	Direct, negative	Short	Local	Major	Medium	Yes
Opportunities for new businesses, such as environmental rehabilitation.	Direct, positive	Short	Local	Minor	Low	Yes
4. Community services and facilities						
Potential minor reduction in demand for community services and facilities.	Direct, positive and negative	Short	Local	Minor	Low	No
Loss of funding for community services and facilities.	Direct negative	Long	Regional	Moderate	High	Yes

Table 7.7 Closure and decommissioning phase impacts

Potential social impact or opportunity	Potential outcome	Duration	Extent	Magnitude	Overall significance	Potential to avoid, mitigate or enhance?
Ongoing legacy of improved services and facilities established during operations.	Indirect positive	Long	Regional	Moderate	High	Yes
5. Housing and accommodation						
Minor increase in housing supply resulting in reduced housing costs.	Direct, Positive and negative	Short	Regional	Moderate	Medium	No
6. Community liveability						
Stress and fear due to uncertainty about mine closure impacts.	Direct, negative	Short	Local	Moderate	Medium	Yes
Improved environmental amenity due to rehabilitation of surface infrastructure areas and return to agricultural land uses.	Direct, positive	Long	Local	Moderate	Medium	Yes

7.5.3 Summary of impacts during closure and decommissioning phase

The closure and decommissioning phase will result in overall net social costs mainly because of job losses and reduced local expenditure. However, the duration, extent, magnitude and significance of these impacts will depend on economic activity in the local economy at the time of closure, the number of displaced workers who remain in the region and the presence of future industries and job opportunities. Therefore, it is difficult to accurately predict the social impacts and opportunities associated with the closure and decommissioning phase. The significance of impacts will also be influenced by the implementation of proposed mitigation measures throughout the operations phase to help prepare the workforce and local economy for mine closure. Therefore, while there is potential for negative social outcomes from the closure and decommissioning phase of the project, careful strategic planning can ease these impacts by laying the foundation for post-mine opportunities.

7.5.4 Overall social impacts

The overall social impacts of the project are illustrated in Figure 7.1. In the figure each impact has been given a value based on its overall significance (see Tables 7.4–7.7). A ‘high’ impact has a score of three, a ‘medium’ one two, a ‘low’ rating one and a ‘neutral’ rating zero. Negative impacts receive the same scores as positive impacts but are negative values positioned below the axis. This implies that a ‘high’ impact is three times as significant as a low one, which is obviously a simplification for the purpose of illustration only. The actual significance of impacts will be judged by each individual or group who experiences the impact.

The project’s net social impacts will be positive in each phase apart from closure and decommissioning. Most importantly, a positive outcome will occur during operations, the longest phase. It follows then that the net social outcome for the project overall will be positive. This does not mean that negative social impacts will not occur, clearly there will be some and they are discussed individually in the preceding sections with more detail being provided in Appendix A. Negative social impacts tend to be more localised or of shorter duration and lower magnitude. The negative effects are outweighed by positive impacts, a number of which have benefits that are of long duration and benefit the whole region.

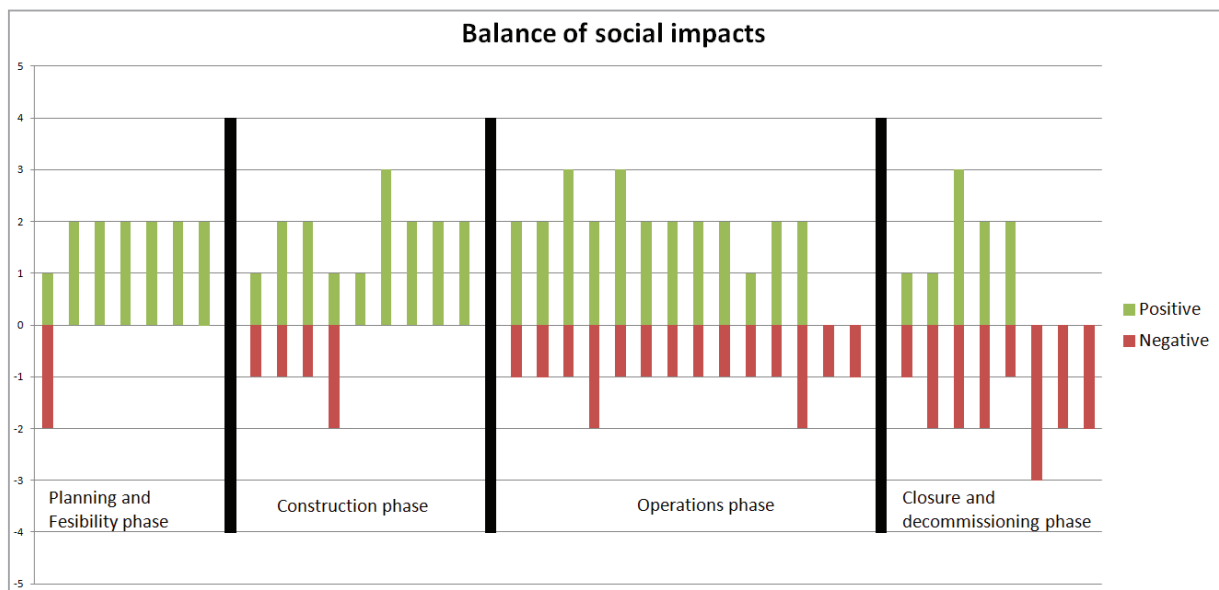


Figure 7.1 Balance of social impacts

8 Management and mitigation measures

8.1 Introduction

A social impact assessment requires identification of various measures and strategies that will be implemented during all phases of a development to monitor, report, evaluate, review and proactively respond to social change (Franks 2012). In many circumstances, there is a lack of integration between a social impact assessment and the ongoing management of social and economic issues once a project begins and after it ceases operation. Therefore, it is important to consider the delivery of long-term positive outcomes for the duration of the project and beyond (Franks et al 2010). This SIA follows leading practice and has considered the social impacts during all phases of the project to identify appropriate management measures to mitigate negative impacts and promote the project's socio-economic benefits.

Hume Coal has proposed and incorporated in the project design measures to mitigate or enhance the project's potential impacts and opportunities. The measures were developed using the outcomes of stakeholder engagement sessions and the relative significance was assessed for each identified impact by using the impact assessment criteria contained in Table 7.2.

8.2 Population and demographics

One issue raised during consultation with stakeholders was a concern about the population increase that would result from the project.

The establishment of a CAV will avoid or mitigate most potentially negative impacts relating to population increases associated with the mine's construction. The CAV will be constructed within the mine surface infrastructure area and will accommodate any non-local workers needed for construction except for the small number of workers required to construct the CAV itself and CAV operational and maintenance workers. Any non-local construction workers will be obliged to live in the CAV while rostered on. The CAV is temporary and will be dismantled once construction works are complete. On-site facilities will be provided so that limited interaction occurs between non-local construction workers and the local community. Throughout its operation, the CAV will be managed by a specialist contractor.

Hume Coal has made a commitment to employ as many local people as possible. As discussed in Section 8.3, Hume Coal will give preference to local workers and local firms where possible. This will help to mitigate demographic changes resulting from the project.

The population increase associated with the mine is expected to result in a number of indirect impacts. Mitigation measures relating to these impacts are discussed in Sections 8.3–8.7.

8.3 Labour market

Another key issue raised during stakeholder consultation was the provision of employment opportunities for local residents. As described in Section 3.4.3, Hume Coal has committed to source most of its operations workers from within the local area, defined as the 45-minute travel zone. This will include providing opportunities for training local workers with the skills required to fulfil the type of positions needed by the operation.

Hume Coal will employ as many local people as possible and provide training and education opportunities by:

- implementing its employment policy to ensure all workers live within the 45-minute workforce catchment area;
- giving preference to employing locals wherever possible;
- encouraging local contractors to tender for work, during the construction, operations and closure phases;
- providing training and professional development opportunities for employees beyond those available in nearly all other local industries and with a particular focus on safety in the workplace; and
- working with recruitment, education and training providers within the workforce catchment area to encourage them to provide future employment and training opportunities for skills that the project would directly and indirectly generate.

8.4 Economic change

Enhancing economic opportunities for the local community was an issue raised by stakeholders during consultation. The project presents opportunities for the community to benefit from increased economic activity in the area.

Hume Coal will aim to maximise local business opportunities by giving preference to local suppliers where reliability, quality and financial competitiveness criteria can be satisfied. Over the life of the project, it is expected that the mine will provide benefits through an increase in economic activity in the workforce catchment area and surrounds, through direct business and employee expenditure and an increase in population in the area. Through its commitment to employing as many of the workforce as possible from local hires, and its policy requiring all employees to live within the 45-minute travel workforce catchment area of the mine, Hume Coal will maintain economic benefits locally.

8.5 Community services and facilities

The potential increased demand for community services is low because the project will only add marginally (0.69%) to the LGA's total population. It is not expected that any special mitigation measures are required to be taken in respect of provision of community services and facilities.

Hume Coal has played an active role in the local community through financial contributions as part of the Hume Coal Charitable Foundation. Further, Hume Coal will actively support, participate and align its future investment towards community needs by:

- ongoing contributions to community-based organisations by offering to enter into a VPA with WSC; and
- focusing contributions on community services and facilities that the community has identified as insufficient or where potential shortfalls have been identified.

The improvements to services and facilities provided by the VPA will result in a lasting legacy after the mine closes.

8.6 Housing and accommodation

Hume Coal will develop and provide accommodation during the construction phase. The CAV will have capacity for 400 workers, which is enough to house most of the estimated number of non-local construction workers required for the Hume Coal Project as well as the associated Berrima Rail Project. This will mean the construction workforce's demand for accommodation will not induce inflationary and availability pressures.

As construction progresses the capacity of the CAV will be wound-down as the size of the non-local workforce decreases.

Based on the current availability and forecast future supply of new housing in the region, the operations and closure workforce will not significantly impact the local housing market. It is probable that there will be adequate capacity to cater for the relocated workers and their families meaning mitigation measures will almost certainly not be needed.

8.7 Community liveability

As described in Chapter 1, the project will last some decades and the company is committed to making a significant and lasting contribution to the region's prosperity. Hume Coal is therefore actively promoting and supporting local businesses, industries and education facilities.

The Hume Coal Charitable Foundation has focused on initiatives that directly benefit the local community. Since its initiation, the Hume Coal Charitable Foundation has supported more than 40 local organisations, including KU Donkin Pre-school, Wingecarribee Family Support Service, Youth Radio MVH-FM, Kollege of Knowledge Kommittee for Kids, BDCU Children's Foundation, Challenge Southern Highlands, Moss Vale Dragons Junior Rugby League Club, Moss Vale Cricket Club, Bundanoon Highlanders Rugby League Football Club and Bowral Rugby Club.

The charitable foundation's board of directors was composed of community representatives who provided a wide range of local opinions to inform the company's community investment decisions. The foundation made available about \$200,000 a year to the local community; its priority funding areas were education, Indigenous programs and not-for-profit pre-school providers.

The company's community support program includes the Hume Coal Apprenticeship Program, established in 2015 to support training and development within the local community. The apprenticeship program focused on building skills within local businesses. It provided opportunities for local people to improve their skills and gain employment by placing funded apprentices and trainees in local businesses.

Up to \$250,000 a year was spent on these programs and it is expected that during construction and operations they will be replaced with a VPA and normal workplace training.

8.8 Closure and decommissioning

At the completion of mining activities, the project's infrastructure will be decommissioned and the mine site progressively closed and rehabilitated. While there will be a permanent loss of jobs, the timing of the wind-down and ultimate site decommissioning will be planned and communicated in advance. Hume Coal will work with relevant stakeholders to provide information about the timing of these final stages and provide appropriate support to employees, suppliers and other directly affected members of the community as required.

The following measures will be used to alleviate negative impacts associated with the mine's closure:

- training and staff development throughout the mine life will give workers transferrable skills opening up opportunities for these workers in other industries;
- communicate and engage proactively with directly affected stakeholders; and
- consultation with relevant authorities.

The above actions and others will be detailed in a formal mine closure plan that will be prepared towards the end of the project's operational life. The plan will build on the commitments made in the EIS and detail all decommissioning, rehabilitation, redeployment and consultation activities required to close the mine in a responsible manner.

The project will leave an important legacy of community facilities established by the Hume Coal Charitable Foundation. It will be important that Hume Coal set in place measures to ensure the long-term independence of community facilities created by the charitable foundation. Accordingly Hume Coal will:

- commit to long-term community partnerships; and
- tailor the projects it supports to achieve post-development independence.

8.9 Social impact management plan

It is proposed to develop and implement a social impact management plan (SIMP) for the project. SIMPs detail strategies to use during the construction, operation, and closure and rehabilitation phases of the project to monitor, report, evaluate, review and proactively respond to social change. Generally, SIMPs summarise the findings of the social impact assessment, outline any management and mitigation measures proposed, including estimates of their timing, frequency, duration and cost, and establish ongoing monitoring and reporting procedures. They also outline the responsibilities of various parties in relation to the management of social impacts that have been identified.

The SIMP will be prepared following project approval in consultation with relevant government agencies and the local community using the multi-stakeholder approach described below. It will be periodically reviewed and updated as the project progresses through different phases.

The SIMP will also contain provisions for ongoing stakeholder consultation and engagement. This will help to mitigate many of the project's perceived impacts.

8.10 Multi-stakeholder approach

For all proposed mitigation and management measures, a multi-stakeholder approach will be adopted. This approach is used successfully to manage social impacts from mining operations in a number of other mining areas around the world. The approach includes forming multi-stakeholder groups for ongoing monitoring and management of social impacts associated with a project. The groups typically include diverse representatives from the community, such as youth and aged organisations, local businesses, tourism representatives, welfare agencies, emergency and community services, government agencies and environment and community groups. This ensures a broad range of social issues is considered and helps to align the activities of multiple groups.

The multi-stakeholder groups will be encouraged to adopt a regional and systems level perspective when monitoring programs instead of monitoring only specific facilities. This allows social impacts to be considered beyond the geographic location of the mine and ensures cumulative impacts can be monitored and managed.

A multi-stakeholder approach will provide an effective way of managing and monitoring social impacts, thus fostering the project's integration into the local economy and community.

8.11 Monitoring

Hume Coal will continue to monitor and review potential impacts on the local community over time, of which the comprehensive stakeholder engagement plan will form an essential part.

Monitoring will include mechanisms for:

- reviewing and updating the social baseline study periodically (about every five years) to address spatial and temporal changes during different project phases. Management and mitigation measures will be reviewed and updated to reflect any significant changes in baseline conditions on which this impact assessment was based;
- liaising and consulting regularly with the community, government agencies and service providers;
- holding further meetings of the Hume Coal Social Reference Group or a Community Consultative Committee (CCC);
- producing a public annual environmental management report that will review social and environmental performance each year;
- employing a person whose role includes community liaison responsibilities to respond to any community concerns and issues;
- publishing regular project updates through factsheets, bulletins and community events; and
- establishing a grievance and complaint handling system, including complaints communications channels such as a dedicated telephone line).

Hume Coal will maintain open and constructive communication channels with affected landholders and groups. Ongoing consultation and monitoring impacts will ensure continuous improvements can be made to the project in response to changing circumstances and awareness of impacts over time.

9 Conclusion

This assessment has followed leading practice to clearly and objectively identify social impacts arising from the Hume Coal project. Impacts have been assessed separately for the project's four phases and can be summarised as follows.

During the planning phase the project will create a modest increase in job opportunities and contribute to strengthening the skills base of the local workforce as a result of Hume Coal's apprenticeship and traineeship programs. Investment generated from Hume Coal's Charitable Foundation has resulted in improvements to community facilities and services. While at times sections of the community may experience stress and concern about the project, overall during this initial planning phase positive impacts will outweigh negative ones.

The project's construction phase will provide numerous job opportunities. There will be potential for some negative impacts crowding out of housing and tourist accommodation but they will be largely eliminated by the provision of a well-managed CAV, which will accommodate all non-local construction workers. Some negative environmental impacts will occur as a result of construction works but again these impacts can be mitigated using well-proven environmental management measures. Consequently, during this second phase of the project positive impacts again outweigh negative ones, meaning there will be a net positive social outcome for the community.

The operations phase will be the longest part of the project's lifecycle and so impacts that occur then will be of the greatest consequence. The principal impact will be to create long-term jobs, most of which will be filled by locals, thus reducing the need for working age people to leave the area, and there will be a substantial economic stimulus to the area from greater local expenditure. Other benefits will be skills improvements through training and continued investments in community facilities through the increase in resident families. Conversely, there will be some negative impacts. Change in the character of the project area will be noticeable and some environmental impacts from coal extraction and other mine operations will occur. The project has been designed to avoid or minimise its environmental impacts, and conditions will be imposed on operations to ensure these impacts are acceptable. In summary, during operations the project area will experience change but no impacts will be of a level that would be unacceptable, and substantial social benefits will occur. The net outcome will be positive for the local and broader communities.

The final closure and decommissioning phase will have overall net social costs. It will result in a loss of jobs and a consequent decline in economic activity. Benefits would be observed as a result of decreased demand for community services and facilities, and the ongoing legacy of the mine's contribution to the community.

A set of mitigation and management measures will be put in place that have been designed to address specific impacts that will coincide with each phase of the project. All of the measures will be developed and detailed in a SIMP. The SIMP will include periodic monitoring of and the effectiveness of measures and will be revised as necessary throughout the life of the project. Social impacts will be managed using a multi-stakeholder approach that has proven to be effective in other resource development jurisdictions.

The overall conclusion or net outcome is that the project will be socially beneficial. This will be the case during three of the four phases of the project's lifecycle, that is, from the planning phase through to the end of operations. Negative effects will most likely outweigh positive ones during the final closure phase.

References

Albrecht, G, Sartore, GM, Connor L, Higginbotham N, Freeman S, Kelly B, Stain H, Tonna A and Pollard G 2007, 'Solastalgia: The distress caused by environmental change', *Australasian Psychiatry*, 15(1), pp. 95-98.

Australian Bureau of Statistics (ABS) 2011a, *Census of Population and Housing 2011*, Australian Government.

- 2011b, *Census of Population and Housing 2001*, Australian Government.
- 2011c, *Schools, Australia*, NSW Government.
- 2013a, *Socio-economic Indexes for Areas (SEIFA) 2011*, Australian Government.
- 2013b, *Australian social trends*, Australian Government.
- 2014, *Tourism Accommodation, New South Wales 2013-14*, Australian Government.
- 2015a, *National Regional Profile, 2009-2013*, Australian Government.
- 2015b, *Regional population growth, Australia*, Australian Government.
- 2015c, *Building approvals Australia*, Australian Government.
- 2016, *Labour force survey*, Australian Government.

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2015, *My School*, viewed 6 July 2015, www.myschool.edu.au/.

Australian Government 2011, *Mining Employment Outlook*.

- 2015, *mychild*, viewed 6 July 2016, www.mychild.gov.au/.

BAEconomics 2016, *Economic Impact Assessment of the Hume Coal project*.

Brooker, T and Mitchell, P 2014, 'Analysis of population growth forecasts for the Sydney Metropolitan Region and adjoining regions of NSW', paper presented at the Planning Institute of Australia Congress, Sydney, May 2014.

Bureau of Crime Statistics and Research (BOCSAR) 2014, *New South Wales Crime Statistics 2010-2014: Wingecarribee Local Government Area*, NSW Government.

Centre for Social Responsibility in Mining, Sustainable Minerals Institute and the University of Queensland 2009, *Leading Practice Strategies for Addressing the Social Impacts of Resource Development*.

- 2010, *Cumulative Impacts – A Good Practice Guide for the Australian Coal Mining Industry*.

Department of Employment 2014, *Industry Outlook Mining*, Viewed 26 July 2016, <https://cica.org.au/wp-content/uploads/2014-Mining-Industry-Employment-Outlook1.pdf>.

- 2016, *Small Area Labour Markets – December Quarter 2015*, Australian Government.

Department of Planning and Environment (DP&E) 2014, *New South Wales State and Local Government Area Population, Household and Dwelling Projections: 2014 Final*, NSW Government.

Department of Family and Community Services 2015, *Rents, March 2015*, viewed 13 August 2015, www.housing.nsw.gov.au/About+Us/Reports+Plans+and+Papers/Rent+and+Sales+Reports/Latest+Issue/.

Department of Infrastructure and Transport Major Cities Unit 2013, *State of Australian cities 2013*, Commonwealth Government.

Destination NSW 2015, *LGA Accommodation Profiles*, viewed 11 April 2016, www.destinationnsw.com.au/tourism/facts-and-figures/local-area-profiles

Energy Sector Management Assistance Program, the World Bank and the International Council on Mining and Metals 2012, *Community Development Toolkit*.

Franks, D 2012, *Social impact assessment of resource projects*. International Mining for Development Centre.

Franks, D, Brereton, D, Moran, C, Sarker, T, Cohen, T 2010, *Cumulative impacts – a good practice guide for the Australian coal mining industry*, Centre for Social Responsibility in Mining and Centre for Water in the Minerals Industry, Sustainable Minerals Institute, the University of Queensland.

International Council on Mining and Metals 2013, *Approaches to Understanding Development Outcomes from Mining*.

International Mining for Development Centre 2012, *Social Impact Assessment of Resource Projects*.

Ministry of Health 2014, *Wingecarribee Local Government Area Health Profile 2014*, NSW Government.

Morton, P 2015, 'Highlands History: Indigenous peoples once thrived in the district', *Southern Highlands News*, 9 February.

National Health Performance Authority 2015, *MyHospitals*, viewed 6 July 2016, www.myhospitals.gov.au/.

Parsons Brinckerhoff 2009, *Wingecarribee Open Space, Recreation, Cultural and Community Facilities Needs Study and Strategy – Review*, Wingecarribee Shire Council.

PHIDU 2015, *Social Health Atlas of Australia New South Wales & Australian Capital Territory*. viewed 1 April 2016, <http://www.phidu.torrens.edu.au/social-health-atlases/data>.

Profile.id 2015, *Community profile: Wingecarribee Shire*, viewed 6 July 2016, <http://profile.id.com.au/wingecarribee/abouts>.

RP Data 2015, *Property Value*, viewed 15 March 2016, viewed 11 April <http://www.propertyvalue.com.au/>.

SGS Economics and Planning 2012, *Wingecarribee Demographic and Housing Study*, Wingecarribee Shire Council.

Tindale, N, B 1974, *Tribal boundaries in Aboriginal Australia*, University of California Press, Canberra.

Tourism Research Australia 2014, *Local government area profiles*, 2014, Australian Government viewed 11 April 2016 ([http://tra.gov.au/Tourism in Local Government Areas 2016/LGA Profiles/index.html](http://tra.gov.au/Tourism%20in%20Local%20Government%20Areas%202016/LGA%20Profiles/index.html)).

Transport for NSW 2015, *Interactive crash statistics*, viewed 6 July 2016, <http://roadsafety.transport.nsw.gov.au/statistics/interactivecrashstats/>.

Wingecarribee Shire Council (WSC) 2011, *Wingecarribee Community Safety and Crime Prevention Plan 2011-2014*, Wingecarribee Shire Council.

- 2015a, *Heritage*, viewed 6 July 2016, www.wsc.nsw.gov.au/development/heritage.
- 2015b, *Guide to council rates*, viewed 31 March 2016, www.wsc.nsw.gov.au/services/rates/guide-to-council-rates.
- 2015c, *2014/15 Annual report*, Wingecarribee Shire Council.

Abbreviations

ABS	Australia Bureau of Statistics
ACARA	Australian Curriculum, Assessment and Reporting Authority
CAV	construction accommodation village
CCD	Census Collection District
CHPP	coal handling and preparation plant
DCP	development control plan
DPI	NSW Department of Primary Industries (now Department of Trade and Investment, Regional Infrastructure and Services)
DP&E	Department of Planning and Environment
EIS	environmental impact statement
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i> (Cth)
EP&A Act	<i>Environmental Planning and Environment Act 1979</i> (NSW)
GP	general practitioner
LGA	local government area
MIA	mining impact area
RFS	Rural Fire Service
SCCRS	Sydney-Canberra Corridor Regional Strategy
SEARS	Secretary's environmental assessment requirements
SEPP	State Environmental Planning Policy
SES	State Emergency Services
SIA	social impact assessment
SIMP	social impact management plan
SRG	Social Reference Group
SVC	Site verification certificate
TAFE	Technical and Further Education
WAG	water advisory group
WHS	work health and safety
WSC	Wingecarribee Shire Council

Appendix A

Explanation of impact criteria ratings

A.1 Planning, feasibility and approvals phase

The assessment for the planning, feasibility and approvals phase used six criteria. The impact ratings derived for each criterion are explained below. The planning and feasibility phase of the project will have overall benefits for the area.

A.1.1 Population and demographics

The project's population impacts during the planning phase will be positive as explained below.

To date, Hume Coal has bought five properties across the project area including 11 dwellings. Before they were bought, two of the dwellings were occupied periodically, four were unoccupied and five were permanently occupied. About 12 people lived in those dwellings that were permanently occupied. By contrast, six families now have tenancy agreements with Hume Coal, 22 people have moved into the acquired properties in the project area to date, with a net population gain of 11 people.

The displacement of people from their homes is a negative impact of the project, however, the population growth that has occurred in the project area is a positive impact resulting in improved use and better maintenance of existing dwellings and a benefit that will extend for the life of the project. In a broader context this population change is small given that the Wingecarribee LGA is home to 47,584 people, and the net population gain from the project represents a 0.02% increase in the population size in 2011 (DP&E 2014).

A.1.2 Labour market

During the project's planning phase, Hume Coal directly employed on average 17 people, and engaged over 40 consulting and contracting companies. Hume Coal's direct workforce represents 0.07% of the total labour force in the Wingecarribee LGA (Department of Employment 2016). While positive, this is a not a major benefit given it represents a small fraction of the LGAs total labour force.

Hume Coal launched its apprenticeship program in 2015, in partnership with 1300apprentice, a not-for-profit group training company. Through this program, Hume Coal invested around \$250,000 a year in trainee and apprenticeship programs. During the project planning phase, Hume Coal has sponsored four apprentices and two trainees. This is a valuable contribution to the local community as it helps to redress the very limited local employment opportunities available for young workers. In a broader context, Hume Coal's planning phase training program only has a small beneficial effect. In 2011, there were 1,052 people in the Wingecarribee LGA attending technical or further educational training (ABS 2011), of which the number of trainees and apprentices associated with the Hume Coal apprenticeship program represents 0.6%. The program will provide long-term social capital for the local community by improving the skills and ability of the workers concerned. While this benefit will extend across the workforce catchment zone, it will be minor in magnitude, resulting in an overall medium impact.

A.1.3 Economic change

The planning and feasibility phase of the project will have economic benefits as described below.

As discussed in Section A.1.2, Hume Coal employed 17 people, on average, and engaged more than 40 consulting and contracting companies during the project's planning, feasibility and approvals phase. These companies were involved in a range of activities and generated economic stimulus to the local economy through direct and indirect spending. This represents a positive economic contribution to the regional economy.

A.1.4 Community services and facilities

Benefits to community services and facilities during planning and feasibility will be observed.

In 2015, Hume Coal established its charitable foundation. The foundation focused on initiatives that directly benefit the local community and has supported more than 40 local organisations including KU Donkin Pre-school, Wingecarribee Family Support Service, Youth Radio MVH-FM, Kollege of Knowledge Kommittee for Kids, BDCU Children's Foundation, Challenge Southern Highlands, Moss Vale Dragons Junior Rugby League Club, Moss Vale Cricket Club, Bundanoon Highlanders Rugby League Football Club and Bowral Rugby Club.

The foundation invested around \$200,000 a year in the local community; its priority funding areas were education, Indigenous programs and not-for-profit childcare organisations within the Wingecarribee LGA. These organisations can use the funding to invest in better services or new facilities for the local community.

To gain an understanding of the relative value of Hume Coal's charitable activities, it was compared with similar programs run by WSC. In 2014–2015, WSC contributed \$446,152 in funding, grants and rate subsidies to local groups and organisations (Wingecarribee Shire Council 2015). In the same year Hume Coal's charitable contribution was approximately 36% of WSC's, and is thus a significant benefit for the whole of the LGA.

A.1.5 Housing and accommodation

The planning and feasibility phase will result in some minor negative impacts as discussed below.

The provision of 17 direct employment opportunities, on average, over the planning, feasibility and approvals phase could generate some additional demand for housing. Assuming every employee requires a new home, this represents demand for 0.09% of the total housing stock across the Wingecarribee LGA (ABS 2011). This level of demand is imperceptible and can be easily satisfied by the local home building industry, it provides local economic stimulus and is a positive impact of the project.

A.1.6 Community liveability

The planning and feasibility phase of the project will provide overall benefits to community liveability.

Given the length of the planning, feasibility and approvals phase, uncertainty about the project among the local community was identified as a concern during stakeholder consultation. In particular, concerns were raised over the location, timing and potential impacts of future coal mining on the locality. These were of most concern to landholders within, and immediately next to the project area who could be directly affected by the project. Uncertainty about the project and its potential impacts is a negative impact of the planning, feasibility and approvals phase. Feelings of concern should be short-term and can be mitigated through regular stakeholder consultation. Hume Coal has already consulted stakeholders, as outlined in Chapter 6, and will continue to consult regularly with relevant project stakeholders. In addition, the perceived impact of the mine is greater than the actual impact, such that the actual extent to which it affects community liveability will be much lower. The project team has and continues to actively communicate the actual scale of potential impacts via a variety of means, including six community information sessions held in 2015, newspaper advertisements, mail-outs, one-on-one meetings, and interviews with the media.

During stakeholder consultation, loss of rural character and rural amenity were also identified as issues of concern by local landholders. Hume Coal has engaged an agricultural company to operate and manage its rural land holdings. This has significantly improved the agricultural productivity of the land by using modern, high-tech farming practices, weed eradication, pasture improvement and rehabilitation of fences and infrastructure. To date Hume Coal has spent over \$350,000 remediating farm houses on the properties. This represents a long-term benefit for the local community. The benefits of better land management will be experienced by a number of people within, or immediately next to, the project area, and rural service businesses and down-stream customers for agricultural products will also benefit.

A.2 Construction phase

The impact assessment for the construction phase relied on six criteria. An explanation of the ratings derived for each follows. On balance, the construction phase of the project will provide benefits to the area.

A.2.1 Population and demographics

Overall, the population and demographic impacts of the project during construction will be positive as explained below.

The mine construction workforce associated with the Hume Coal Project will begin with about 105 workers and build to a peak of about 414 workers after 11 months. It is estimated that only around 10% of those workers will be recruited locally, so 90% of the construction workforce, will be recruited from outside of the local area. As the workers will be short-term residents, the workers' families are most unlikely to move to the area, which means there will be a temporary increase in population in the Wingecarribee LGA of 373 people. Such an increase in population is often perceived as a negative impact due to perceived changes to local customs and relationships from a rapid influx of new residents, and because of concerns about anti-social behaviour. However, population growth generally provides positive opportunities to an area and will act as an economic stimulus, particularly when the new residents are fully employed, as will be the case in this instance. In addition, given the anticipated population increase associated with the construction phase represents less than 1% of the total projected population of the Wingecarribee LGA by 2019 (DP&E 2014), the population change will be minor.

A.2.2 Labour market

The construction phase of the project will result in overall benefits to the local labour market.

As described in Section A.2.1, the Hume Coal Project 414 fulltime equivalent workers at peak construction. The project is also likely to generate indirect or flow-on jobs within the region, particularly for suppliers of goods and services to the project. Such job creation will undoubtedly be positive; however, in an LGA-wide context, the impacts will be more muted. In December 2015, the total labour force for the Wingecarribee LGA was 23,291 people (Department of Employment 2016), so Hume Coal's construction workforce will be a 1.8% increase in its current labour force. The creation of job opportunities is a positive yet minor impact of the project that will extend for the duration of the construction phase and provide benefits across the LGA.

Given the skill set of the existing workforce in the Wingecarribee LGA, and the specialised nature of the skills required by the project's construction workforce, it is likely that only 10% of construction workers will be recruited locally. Therefore, despite a peak construction workforce of 414 people, only around 41 of these jobs will be available to existing residents in the area. As a result, the project will provide limited employment opportunities to local residents. This is a perceived negative impact, but it will have a minor positive impact given that a small number of new employment opportunities will be created. Any negative perceptions associated with limited local recruitment will be short term and only extend for the construction phase.

Recruiting local employees for the project will generate greater demand for workers with relevant skills and qualifications in construction from within the existing labour pool. This could put a strain on the existing skilled labour force within the local area and cause some temporary skills shortages, which, if they eventuated, would be a negative impact requiring mitigation. However, the project will only require 41 local construction workers, which represents just 2.9% of the total number of construction workers currently within the Wingecarribee LGA. In addition, any skills shortages will extend only for the duration of the construction phase. Therefore, while a skills shortage represents a potential negative impact, this impact would be minor and short term and the significance will be low.

A.2.3 Economic change

The construction phase of the project will generally provide economic benefits to the area.

Procuring local businesses where reliability, quality and financial competitiveness criteria can be satisfied will help produce the greatest economic benefits to the local economy. This applies to both construction companies and businesses that can supply goods and services to the CAV. This is a benefit of the project as it will create opportunities for businesses within the local area. Given that construction companies represent 17% of all businesses in the Wingecarribee LGA, the potential magnitude of this positive impact is moderate. However the overall significance of Hume Coal's contribution to economic change in the region through this stimulus is expected to be low.

During the mine's construction, the construction workforce will inject some money into the local economy during their leisure time resulting in some short-term economic benefits in the local area. Direct spending by workers on goods and services in the local towns will be limited, particularly if workers return to where they usually live while they are not rostered on. Therefore any increased economic activity in the area will be minor.

A.2.4 Community services and facilities

Overall, the project's impacts on community services and facilities will be positive during the construction phase.

The construction workforce will only create a limited additional demand for community services and facilities given that most workers will be accommodated in the CAV with its own facilities. Therefore, any additional demand for community services and facilities during the construction phase is likely to be limited to a short-term increase in demand for emergency health services only. It is likely that for all non-emergency health concerns, construction workers will visit their usual health practitioners where they normally live. Any additional demand for health services may place pressure on these services and may present a potential negative impact of the project. However, it would be short-term, based on the fact that any additional demand would be a minor change and the existing health services can cater for a temporary increase in demand.

Given that the construction workforce will mainly be unaccompanied men without families, demand for education, childcare and youth services will be negligible.

Hume Coal will continue to invest in the community throughout the construction period through the implementation of a VPA. This will provide ongoing improvements to community services and facilities through continued funding of local community organisations. This will be a significant benefit to the local community.

A.2.5 Housing and accommodation

The balance of impacts relating to housing during the construction phase is positive as explained below.

The construction workforce will be accommodated in a CAV that will contain 400 beds and will accommodate most construction workers associated with the project. This will ensure the project does not add any pressure to the existing stock of housing and temporary accommodation and avoid creating inflationary and availability pressures. Thus, the project's actual impact during construction will be low given there will be only a minor change to the local housing market.

The initial construction workforce will require some short-term accommodation before, and during the CAV's construction. As outlined in Section A.2.1, there will be around 105 workers required for the early works of the construction phase, which includes developing the construction camp. It is estimated about 50% of these workers can be sourced locally and so will not require accommodation. However, the remaining 50% will require short-term accommodation before the CAV is in use. This demand will be temporary and will be for 53 workers at most.

Table A.1 provides a summary of the number of rooms available within tourist accommodation and their average occupancy rates over the year to June 2015. In the Wingecarribee LGA, the average occupancy of short-term accommodation is 51%, which means there are generally 318 unoccupied rooms available each night. The demand for short-term accommodation generated during the construction phase represents 16.7% of these unoccupied rooms. Nevertheless, it is likely that room occupancy rates are higher on weekends and lower on weekdays than the average rate. Since visitors to the mine site will generally require short-term accommodation on weekdays, the existing short-term accommodation supply can cope with any increase in demand. As a result, an increase in demand for short-term accommodation represents a benefit of the project given it will not place strain on the existing short-term accommodation supply; will not detract from other industries requiring accommodation (such as tourism); and will generate additional revenue for the businesses concerned. These benefits will be experienced by the local economy for the duration of the construction phase.

Table A.1 **Tourist accommodation**

LGA	Number of rooms	Room occupancy rates
Wingecarribee	649	51%
Wollondilly	N/A	N/A
Kiama	270	59.5%
Shoalhaven	678	55.1%
Goulburn Mulwaree	500	62.6%

Source: Destination NSW 2015b.

A.2.6 Community liveability

Benefits to community liveability in the area are expected during the construction phase of the project as explained below.

It is anticipated that the contracted farm management company, Princess Pastoral, will continue to operate and manage land Hume Coal owns for agricultural purposes throughout the construction phase. Therefore, there will be ongoing amenity benefits to the local area and ongoing maintenance of the rural character of the locality. Hume Coal has also commenced to plant native vegetation along property boundaries, which may also have benefits for rural amenity. This will have long-term, positive benefits to liveability for those living in and immediately next to the project area.

During consultation about potential impacts, stakeholders raised the issue that community life and general sense of place could be adversely affected. The establishment of the CAV will concentrate the construction workforce in a single area, away from the existing community. Given the temporary nature of these workers, and their relative isolation, they are unlikely to participate in, or contribute to the local community regularly. This could create an 'us' versus 'them' mentality resulting in community fragmentation and some diminution of social cohesion, which would be negative. However, the construction workers will be on short-term contracts, intensively engaged in completing their obligations within the specified timeframes, and hence have very little interaction with the resident local community. Therefore, the actual impact on social cohesion is likely to be minor if any.

A.3 Operations phase

The impact assessment for the operations phase used six criteria; explanations of the impact ratings for each criterion are given below. While the potential significance of negative impacts associated with the operations phase of the project are high, many of these impacts can be effectively mitigated to allow the operations phase of the project to have net benefits.

A.3.1 Population and demographics

The project's population impacts during the operations phase will be positive as explained below.

As discussed in Section 3.4, the project will result in potential population increases of 243 people under the 70% local recruitment scenario (Scenario 1) and about 405 people under the 50% local recruitment scenario (Scenario 2) during the operations phase. Table A.2 shows the predicted distribution of this population across the five LGAs in the workforce catchment area for both recruitment scenarios. It can be seen that population growth will be greatest in the Wingecarribee LGA.

Table A.2 Residential distribution of the operational workforce

LGA	Scenario 1	Scenario 2
Wingecarribee	209	349
Wollondilly	15	24
Kiama	2	4
Shoalhaven	2	4
Goulburn Mulwaree	15	24
Total	243	405

Table A.3 provides population forecasts for each LGA prepared by DP&E (2014). It is anticipated that the project will be operating at peak production by 2026. Reference to Table A.3 shows that in 2026, under the maximum population in-migration scenario of 405 people within the workforce catchment area, the population increase associated with the project's operations will represent only a minor proportion of the forecast population increase between 2011 and 2026 for each LGA as follows:

- 8.41% in the Wingecarribee LGA;
- 0.25% in the Wollondilly LGA;
- 0.11% in the Kiama LGA;
- 0.04% in the Shoalhaven LGA; and
- 0.59% in the Goulburn Mulwaree LGA.

Based on the total projected population size of each LGA by 2026, and the maximum population in-migration scenario (Scenario 2), the population increase associated with the project will represent the following proportion of the total projected population in each LGA:

- 0.69% in the Wingecarribee LGA;
- 0.04% in the Wollondilly LGA;
- 0.02% in the Kiama LGA;
- 0.004% in the Shoalhaven LGA; and
- 0.07% in the Goulburn Mulwaree LGA.

Table A.3 **Population projections in the workforce catchment area**

	Wingecarribee		Wollondilly		Kiama		Shoalhaven		Goulburn Mulwaree	
Year	Population size	Total change	Population size	Total change	Population size	Total change	Population size	Total change	Population size	Total change
2011	46,150	-	44,600	-	20,800	-	96,200	-	28,350	-
2016	47,750	1,600	47,500	2,900	22,000	1,200	99,800	3,600	29,800	1,450
2021	49,150	1,400	50,800	3,300	23,150	1,150	103,000	3,250	31,200	1,350
2026	50,300	1,150	54,200	3,400	24,300	1,150	105,850	2,850	32,450	1,250
2031	51,150	850	57,700	3,500	25,450	1,100	108,150	2,300	33,550	1,100

Source: DP&E 2014.

Based on population forecasts for the region, the project's effect will be to contribute to population growth, with the largest impact being experienced in the Wingecarribee LGA. However, the proportion of the total projected population for each LGA by 2026 that is attributable to the Hume Coal Project will be negligible. These conclusions are based on the 50% local recruitment scenario and assume there will be a population increase of 405 people associated with the project. Actual increases in population associated with the project are likely to be lower because the 50% in-migration figure is conservatively high. An increase in population growth is a positive impact of the project with benefits across the whole workforce catchment area. But given that the project's contribution to the total population growth will be minor, the associated change will also be minor.

The project is also likely to result in demographic changes to the existing population. Across Australia, the mining industry is typically dominated by workers aged 25–44 years, accounting for 58.6% of the mining workforce, compared with 45.4% for all industries (Department of Employment 2014). Given that Hume Coal will have a minimum employment age of 25 years for all operational workers, it is assumed the project workforce will display a similar age structure to that of the mining industry across Australia.

The current age distribution of the population in the Wingecarribee LGA is shown in Figure 4.1. It can be seen that the Wingecarribee LGA has a distorted age structure with a very low proportion of the population aged 25–35 years. Therefore, the operations workforce will help to establish a more normal age structure within the population. This effect will be further enhanced by families who are anticipated to accompany workers to the area. Under Scenario 2, the project's total migrant workforce represents 1.6% of the projected population aged 25–44 years in 2026 (DP&E 2014). Assuming each worker will be accompanied by a partner or spouse of a similar age, this represents 3.3% of the projected population (DP&E 2014). Therefore, while the project will help to normalise the age structure, the change attributable to the Hume Coal Project will be quite small.

A.3.2 Labour market

The operations phase will result in benefits to the area's labour force as detailed below.

The operations phase will generate 300 direct employment opportunities. This represents 1.3% of the total labour force in the Wingecarribee LGA (Department of Employment 2016). Of these jobs, up to 210 will be provided to existing local residents under the 70% local recruitment scenario and 150 under the 50% local recruitment scenario. The creation of new jobs is a positive impact of the project and a moderate change.

The project is also expected to generate flow-on employment in the workforce catchment area. These jobs are likely to be in the services sector, building and construction sectors and accommodation and food services. The economic impact assessment estimates that an additional 62 full-time equivalent flow-on jobs will be generated, 34 of which would be in the Southern Highlands Region over the life of the project. As the operations phase is the longest phase of the project, it is expected that a significant portion of these jobs would occur during this phase.

Unemployment trends for all LGAs in the workforce catchment area and across NSW are shown in Figure A.1. It can be seen that for all LGAs, except Kiama, unemployment rates have increased or remained stable since December 2010 (Department of Employment 2016; ABS 2016). Therefore, the creation of employment opportunities from the project will help to reduce current unemployment rates and reverse recent unemployment trends. Currently, there are 760 unemployed people in the Wingecarribee LGA. Therefore, the creation of 150 employment opportunities for locals represents a 19.7% decrease in the number of people unemployed (Department of Employment 2016). This is a significant benefit of the project during the operations phase.

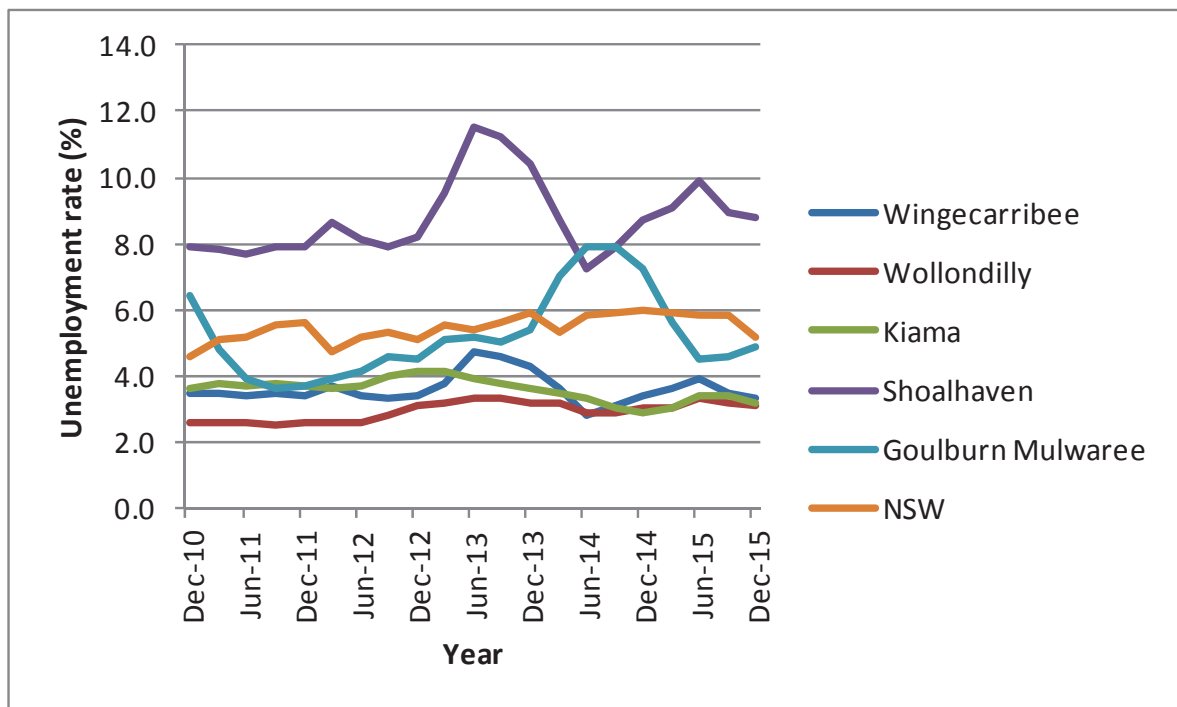


Figure A.1 Unemployment trends across the workforce catchment area and NSW (Department of Employment 2016) (ABS 2016)

A reduction in unemployment rates, better job security and relatively high wages are likely to result in improved mental wellbeing of workers and their families. Mine workers typically earn more than those in other industry sector; for example, in 2012, full-time, non-managerial employees in the mining industry earned \$52.30 an hour, on average, compared with \$25.20 an hour for comparable employees in retail trade and \$23.90 for employees in accommodation and food services (Australian Bureau of Statistics, 2013). Improved economic prospects may result in reduced economic stress and an overall improvement in quality of life for operational workers and their families. This is an important benefit of the project.

Due to the higher wages provided by the mining industry, mining companies are usually better placed to attract and retain skilled workers than non-mining companies. Given that Hume Coal is also committed to employing local residents throughout the operations phase, there will be an increase in demand for labour with relevant qualifications from within the local labour pool. This may draw labour from existing employment in non-mining sectors in the local economy, which could cause labour shortages in affected companies. Nonetheless, the Hume Coal workforce represents just 1.3% of the total labour force in the Wingecarribee LGA (Department of Employment 2016), so while labour shortages are a potential negative impact associated with the operations phase, it will be minor.

As outlined in Section 3.4.3, at the time of the 2011 Census, a combined total of 1,063 people were employed in the mining industry in the Wingecarribee, Wollondilly, Kiama, Shoalhaven and Goulburn Mulwaree LGAs. The creation of 300 direct employment opportunities as a result of the project would represent a 28% local increase in employment in mining based on this figure. Given that these are LGA-wide figures, which include a number of mining areas outside of the project's workforce catchment area, it is likely this percentage would small if applied only to the latter area. Assuming that 50% of the total mine workers in the relevant LGAs live within the workforce catchment area, there would be 532 people employed in mining. If this figure is adopted, then employment from the project would contribute to a 56% increase in employment in mining. However since the 2011 Census the closure of Berrima Colliery and winding-down of activities at Glencore's Tahmoor Colliery have occurred. The closure of the Berrima Colliery resulted in the loss of around 40 jobs (Heber 2013) while the Tahmoor colliery's workforce of 350 people will be reduced gradually over the next year, with mining expected to cease in 2019 (Tullis 2016). The Hume Coal Project alone will replace some of these lost jobs but will not significantly change the overall structure of the workforce in the area beyond what is historically typical for the area.

Shift work, such as that proposed for the project, can have a number of occupational health impacts on workers. For example, it can cause loss of sleep resulting in fatigue, stress and adverse mental health impacts. A higher prevalence of cardiovascular and gastrointestinal disorders has also been reported amongst shift workers. Worker safety can also be affected by shift work and extended working hours through a loss of performance and a higher probability of accidents due to fatigue. Finally, shift work can disrupt family and social activities as these are generally held during the day. This, in turn, can lead to social marginalisation (Harrington, 2001). The negative impacts of shift work can be further exacerbated by the number of hours worked by mine workers each week. Across Australia, those employed in the mining industry typically work an average 51 hours a week. This is substantially higher than the average 35 hours worked across other industries (Australian Bureau of Statistics, 2013). All health impacts from shift work will be carefully monitored by Hume Coal and appropriate controls will be put in place to prevent and manage adverse health impacts among the operations workforce. In the broader context of the Wingecarribee LGA, just 0.6% the population will be subject to these potential adverse health impacts (DP&E 2014). Therefore, while health impacts associated with shift work are potentially significant for individual workers, the actual change will be small even if Hume Coal's management measures are ineffective.

Hume Coal is committed to providing training opportunities for its workforce and will provide ongoing training programs to all operational workers. This will help to manage any potential labour shortages and improve the skills of the labour force in the long term. This is a positive impact associated with the operations phase. However, the change will be minor in magnitude given that the operations workforce represents a small proportion of the total LGA workforce.

A.3.3 Economic change

The project's operations phase will provide overall benefits if it is successful. If the mine is unsuccessful and it is forced into care and maintenance, economic impacts would be negative.

There will be direct and indirect (flow-on) economic impacts resulting from the project and associated Berrima Rail Project. These impacts are described in detail in the Economic Impact Assessment (Appendix Q). These impacts also have direct social relevance and are described below.

As discussed in the Economic Impact Assessment the project is expected to generate significant economic benefits at local and state levels including:

- total incremental disposable income payments of \$85 million and \$134 million over the life of the project in to the local and state economies respectively (measured in NPV using a 7% real discount rate);
- total net (direct and flow-on) value added to NSW of \$368 million (measured in NPV using a 7% real discount rate); and
- \$1 million in incremental payments in local council rates, \$114 million in royalty payments to the NSW Government and \$48 million increased personal and company income tax attributable to NSW (measured in NPV using a 7% real discount rate) (BAEconomics 2016).

As the operations phase is by far the longest phase of the project, a significant portion of these economic benefits will be observed during this phase.

As explained in Section A.3.1, the creation of 300 jobs during the operations phase will lead to a potential population increase of at most 405 people across the workforce catchment area. This will generate a number of indirect benefits for the local economy. An increase in population would increase household expenditure on goods and services across the workforce catchment area. This, in turn, would generate consumption-induced employment in the services sector, retail trade and accommodation and food, further contributing to the local economy.

In 2011, the median total personal income of residents in the Wingecarribee LGA was \$547 a week (ABS 2011). In comparison, the average weekly income of those working in coal mining was \$2,301 (Department of Employment 2014). This represents an income that is 420% greater than the average income earned in the Wingecarribee LGA. This is a significant difference, indicating the potential contribution that the mine workforce can make to the local economy. However, the proportion of the total population who will experience these benefits is small, with the project workforce representing just 0.63% of the total Wingecarribee LGA population (DP&E 2014). Therefore, while the increased presence of those with an elevated income will have positive impacts for the region, the change will only be moderate.

An increase in population will also provide increased revenue to local councils in the workforce catchment area through an increase in the number of households in the region. This, in turn, will increase the number of ratepayers in the area, resulting in additional annual revenue for the relevant councils. In 2011, there were around 19,650 dwellings in the Wingecarribee LGA (ABS 2011). Under the maximum in-migration scenario, the mine will generate demand for an extra 150 dwellings. This will create additional revenue to WSC from household rates, however the significance of this additional revenue is minor, representing an increase in the number of households of less than 1%. All government areas that will accommodate in-migrant workers will observe benefits.

A potential negative economic impact of the mine's operation would be reduced economic diversity. Due to better wages and the mining industry's ability to attract and retain skilled labour, established industries where there is excessive competition for resources, such as labour, may be squeezed out. The result is a two-stream economy in which the mining and related industries are able to grow while other non-mining sectors decline or experience slower rates of growth. As a result, the local economy may experience a reduction in diversity and an increased reliance on the mining industry. However, the maximum number of recruits from within the existing labour pool in the Wingecarribee LGA is 210 people, which represents 0.9% of the total labour force in the Wingecarribee LGA (Department of Employment 2016). Therefore the project's actual demand for labour as a proportion of the total labour force will be minor.

The demand and prices paid for commodities, such as coal, are cyclical, experiencing upturns and downturns largely in response to changing international economic conditions. A loss of diversity in the local economy and increased reliance on mining would make the economy more vulnerable to these cycles. However, given that mining has historically taken place in the area and the economy has been able to diversify in spite of this, the likelihood of such cycles being of a noticeable adverse effect is considered to be low. The realistic worst-case scenario for the mine during a time of low prices would be placing it into care and maintenance.

This would result in the mine only requiring 12 employees and could last for 8–10 years. Should this occur, the 288 mine workers who would be unemployed would represent a moderate 38% increase in the number of unemployed people in the Wingecarribee LGA (Department of Employment 2016).

The Wingecarribee and the surrounding LGAs support an established tourism industry, with 5,328,900 people visiting the region each year (see Table A.4). During stakeholder consultation, potential adverse impacts on tourism due to reduced amenity and loss of rural character were perceived as a concern. These impacts would be concentrated within the Wingecarribee LGA where the mine will be. Therefore, the extent of any perceived impacts on tourism would be limited. The visual amenity impacts of the project have been assessed in the visual impact assessment, which found that there are unlikely to be significant impacts on the character and amenity of the area so that any impacts on the tourism industry are expected to be minor.

Table A.4 Tourism in local government areas

LGA	Number of tourism businesses	Total number of visitors ('000) ¹	Average stay (nights) ¹	Total spend (\$m) ¹
Wingecarribee	707	1,334.0	2.6	210.4
Wollondilly	384	45.7	3.2	33.1
Kiama	241	971.0	3.0	156.3
Shoalhaven	1,184	2,378.6	3.7	503.6
Goulburn Mulwaree	313	599.6	2.2	80.0
Total	2,829	5,328.9	2.9	983.4

Notes: ¹Values include international, domestic overnight and domestic day visitors.

Source: Tourism Research Australia 2014.

Analysis of the interaction between mining and tourism in the western coalfields and Hunter Valley has indicated mining and tourism can coexist without harm. The examination of data from Destination NSW (2015b) reveals that increases in mining activity in both the western coalfields and Hunter region has occurred alongside increases in the total spend on tourism in the region.

A.3.4 Community services and facilities

Overall benefits would be observed during the project's operations phase as explained below.

The project may affect community services and facilities through:

- increased demand for services due to an increase in population;
- change in demand for certain services related to a different demographic profile of workforce; and
- change in user behaviour, such as workforce rosters determining patterns of peak service use.

The project's impact on different community services and facilities is considered in the following sections.

i Education services

During the operations phase, there is likely to be an increase in families, including school-aged children, and consequently demand for education services will increase. To determine the capacity of schools in the workforce catchment area, the student-to-teacher ratio for each school type present in the area was compared with that of NSW and Australia (see Table A.6).

Table A.5 Student-to-teacher ratios in the Wingecarribee LGA

School type	School level	Workforce catchment area	NSW ratio	Australian ratio
Government	Primary	15.8	15.8	15.3
	Secondary	12.9	12.5	12.7
Non-government	Primary	15.6	16.3	15.7
	Secondary	9.8	11.7	11.7
All school types	Primary	15.7	15.9	15.4
	Secondary	11.5	12.1	12.3

Sources: ACARA 2015, ABS 2011c.

In general, student-to-teacher ratios across the workforce catchment area are consistent with, or better than student-to-teacher ratios across NSW and Australia. This suggests that existing schools in the workforce catchment area can accommodate the operations workforce's increased demand for education services. The potential population increase expected to result from mine operations is less than 1% of the projected population in 2026 (DP&E 2014). The increase in education services required to accommodate this population growth is minor. There are some 60 schools within the workforce catchment area, with demand for education services spread across these schools. There will be only small increases in demand for education services at each school, and this will be well below increased demand from overall population growth.

More recently, Sutton Forest Public School was closed following declining student enrolments. The workforce population will help to reverse such trends and could help smaller, historic schools, such as Sutton Forest Public School, to remain open.

ii Health services

The project will attract a younger population than the region's current age structure. This is likely to increase the demand for health services, particularly child and family health services, GP and dental services given that relocating workers will be accompanied by their families.

Table A.6 provides a summary of the rate of different health practitioners per 100,000 people in each LGA relevant to the project (PHIDU). The table highlights the relatively low rates of health practitioners in the Wollondilly and Kiama LGAs, compared with surrounding LGAs and NSW. However, demand for health services in these LGAs from project workers and their families will be negligible given the small number of people anticipated to move to these areas.

Table A.6 also highlights the relatively high rate of health practitioners in the Wingecarribee LGA compared with surrounding LGAs and non-metropolitan NSW. In addition, the rate of health practitioners in the Wingecarribee LGA is above that for metropolitan NSW generally. The greatest increases in population, and hence demand for health services, is predicted to be in the Wingecarribee LGA. Therefore, while the project will increase demand for health services, it is not anticipated it would place any unacceptable pressure on these services.

Table A.6 **Number of health practitioners (per 100,000 people)**

LGA	General practitioners	Total medical practitioners ¹	Dentists	Total dental practitioners ²
Wingecarribee	169.1	297.4	55.2	77.2
Wollondilly	31.5	35.4	15	15
Kiama	86.6	93	36.5	36.5
Shoalhaven	131.6	241.6	44.5	56.5
Goulburn Mulwaree	127.6	272.8	38.2	49.5
Non-metropolitan NSW	109.9	274.5	42.3	57.3
NSW	113	353.3	59	73.9

Notes: 1. Total medical practitioners includes both general and specialists practitioners (eg anaesthesia, emergency medicine, obstetrics, ophthalmology, paediatrics, pathology, physician, psychiatry, radiology, rehabilitation medicine and surgery).

2. Total dental practitioners include dentists, oral health therapists, dental hygienists, dental therapists and dental prosthetics.

Source: PHIDU 2015.

There are also public and private hospitals and health care centres in the workforce catchment area. Two of these, Bowral Hospital and Goulburn Base Hospital, will be redeveloped. Bowral Hospital has received \$50 million in funding for an upgrade, while Goulburn Base Hospital has received \$120 million in funding towards its redevelopment. The upgrades will help the region to meet the needs of the existing population and also accommodate anticipated population growth.

Given that a maximum of 405 people are expected to move to the area under the 50% local recruitment scenario, which represents less than 1% of the projected population in 2026 (DP&E 2014), the demand for health services generated by the project is predicted to be minor.

iii Emergency services

The project will provide its own first aid facility, emergency equipment and health personnel to respond to any emergency incidents, with no increase anticipated in demand for ambulance services.

The RFS, Fire and Rescue NSW and the SES are all volunteer-based organisations; the ambulance stations at Bundanoon and Canyonleigh are also volunteer-based. The project could benefit these services by increasing the number of people in the area who can participate as volunteers. This could improve their capacity in the long term and provide better services to the local community. Any benefits realised would be minor.

The operations phase of the project will result in an increase in population that is less than 1% of the projected population in the Wingecarribee LGA in 2026. Hume Coal will also monitor impacts relating to emergency services throughout the workforce catchment area to identify any shortfalls in capacity. Therefore, any negative impacts experienced by emergency services are unlikely to be significant.

iv Childcare

The increase in population associated with the project, including an increase in families and young children, is likely to generate increased demand for childcare services within the workforce catchment area. Information published on the Commonwealth Government's 'mychild' website indicates that most childcare facilities in the workforce catchment area have vacancies and, therefore, some capacity to accommodate the small increase in demand for services that the project will generate.

v Other community service impacts

An increase in population associated with the project is likely to generate an increased demand for community and recreation facilities, such as sporting grounds, libraries, community halls and youth facilities. However, as previously mentioned, the population increase associated with the project represents a small proportion of the projected population for the area. Therefore, any increase in the demand for services attributable to the project will not cause any noticeable impacts on community services and facilities beyond those generated by the projected population increase. Hume Coal will also offer to enter into a voluntary planning agreement with the WSC, which will help the councils to maintain or improve their community services and facilities.

vi Road Infrastructure

The increase in population associated with mining activity will result in more use of road infrastructure. As with any increase in traffic, levels of service could decrease, and the number of accidents could increase. As the population increase in the area is expected to be minor, so is the impact of increased road usage.

All Hume Coal employees will be obliged to live within a 45-minute drive of the mine. As such, the extent of any impacts associated with road infrastructure will be limited to the workforce catchment area, with impacts concentrated on the area immediately surrounding mine operations. It is expected that the consent authority for the development will require Hume Coal to make necessary improvements to the road network so that levels of service and/or safety risks are not compromised. This would require any expected negative impacts resulting from increased road infrastructure use to be redressed. As such, no negative impacts relating to traffic from mine operations are anticipated.

vii Utilities

An increase in population in the workforce catchment area may result in an accompanying increase in the demand for utilities, including water and electricity. This could place a strain on existing services. As previously mentioned, the development will result in an increase in population that is less than 1% of the projected 2026 population of the Wingecarribee LGA (DP&E 2014). As such, the impact on surrounding utility networks would not be significant. Impacts associated with this increase in demand would be short-term, occurring only for the mine's operations phase. Any additional dwellings required to accommodate the expected population increase would require the relevant consent body to consider the existing utilities infrastructure and make arrangements to ensure utility needs are met without adversely affecting surrounding networks. Therefore, any impacts on utilities will be minor.

In May 2015, Hume Coal launched the Hume Coal Charitable Foundation to provide funding to local organisations. The foundation has invested approximately \$200,000 a year in the local community, with priority areas being education, Indigenous programs and not-for-profit childcare organisations within the Wingecarribee LGA. As a result the foundation has contributed to providing better services or new facilities that provide long-term positive opportunities for the local community and surrounds. Hume Coal's contribution is significant, for comparison, in 2014–2015, WSC invested \$453,800 in capital expenditure on community and operational buildings in community services and facilities.

If the project is approved, Hume Coal proposes to replace funding provided by the Charitable Foundation with a Voluntary Planning Agreement (VPA). If agreement is reached the VPA will provide funding to improve community services and facilities that provide long-term benefits to the community.

A.3.5 Housing and accommodation

The project will result in net negative social impacts during operations as explained below.

The housing stock in the Wingecarribee LGA is characterised by low rates of home rental, high private ownership, a high proportion of freestanding dwellings and lower rates of occupancy compared with NSW's overall housing stock.

Table A.7 shows the predicted demand for dwellings in each LGA within the 45-minute travel zone for both local recruitment scenarios. The table assumes all workers who relocate to the area require their own home with no provision for share housing.

Table A.7 Dwelling demand

LGA	70% local recruitment scenario	50% local recruitment scenario
Wingecarribee	78	128
Wollondilly	5	9
Kiama	1	2
Shoalhaven	1	2
Goulburn Mulwaree	5	9
Total	90	150

Under the maximum in-migration scenario of 50% local recruitment during the operations phase, up to 150 people will relocate to the area. This will generate demand for up to 150 dwellings. However, this demand will be spread over a four-year ramp-up period to peak operations. Therefore, the total demand for housing from the start of operations to employment of the peak operations workforce, based on 50% in-migration, will be as follows:

- 88 dwellings in Year 1;
- 38 dwellings in Year 2;
- 13 dwellings in Year 3; and
- 11 dwellings in Year 4.

As explained in Section 4.2.4, the number of building approvals for an area provides an indicator of the capacity of the local building industry to satisfy demand for new housing. Table A.8 provides a summary of building approvals in the relevant LGAs since 2010. In the Wingecarribee LGA, where demand for dwellings associated with the project will be greatest, there were 519 approvals for new residential building approvals in 2014–2015. Under the maximum in-migration scenario (50% local recruitment), there would be a maximum demand for up to 150 dwellings in the Wingecarribee LGA, assuming all migrating workers require their own home and relocate to the Wingecarribee LGA. If current building approval rates continue, the construction industry in the Wingecarribee LGA could accommodate this demand for housing. In the remaining LGAs, the demand for dwellings due to the project is far lower. A comparison of the expected dwelling demand in each of these LGAs with residential building approvals shows each of them could accommodate any future dwelling demand.

Table A.8 Total residential building approvals in the Wingecarribee LGA

Year (ending June 30)	Wingecarribee	Wollondilly	Kiama	Shoalhaven	Goulburn Mulwaree
2014–15	519	486	45	729	177
2013–14	227	276	61	563	119
2012–13	142	198	15	600	143
2011–12	125	316	-	461	150
2010–11	176	282	-	760	166

Source: Profile.id 2015.

This analysis assumes all relocating workers require a new home to be built; however, it is likely that actual demand for new dwellings will be lower, and instead there will be increased demand for dwellings from within the existing housing stock. This could increase the cost of housing within the workforce catchment area. While this has positive benefits for home owners, it may also exclude some people from the property market and cause increased housing stress among the local community. Hume Coal will continue to monitor the housing market to match housing demand with the needs of the incoming residential population.

During the initial operations works it is expected that a number of workers will rent accommodation for a short time while searching for suitable housing to buy in the area. This may put a strain on the existing rental properties within the workforce catchment area, resulting in increased rental costs and reduced housing affordability. Assuming that 50% of workers will use short-term rental housing, initial works will result in a demand for 150 more properties at most. This represents only 4.1% of the total number of houses being rented in the area (ABS 2011), and, as previously mentioned, increased demand for rental accommodation would be spread over the four-year ramp-up period. Consequently, the project will not have an adverse effect of the affordability of rental accommodation.

During the operations phase, visiting technical staff associated with the mine's operation may also need short-stay accommodation. However, this demand will be lower than during the construction phase. It is anticipated that up to 10 technical staff may be visiting the mine site at any time. As explained in Section 4.2.4, there are 649 rooms available in hotels, motels and serviced apartments in the Wingecarribee LGA with an occupancy rate of 51% (Destination NSW 2015b), or, on average, 318 unoccupied rooms available each night. Therefore, demand for short-term accommodation associated with the project represents 3.1% of the total available rooms. While demand for short-stay accommodation services during the operations phase will be lower than that during the construction phase, it will continue to generate revenue for the accommodation sector, which is a benefit for the local economy albeit small.

In summary, the project will create only a small proportion of the future demand for housing due to overall population growth. Also the local building industry has more than sufficient capacity to provide the number of new dwelling units required. Thus, the project is not anticipated to place significant additional pressure on the local housing market.

A.3.6 Community liveability

Overall, community liveability impacts would be neutral during mine operations as discussed below.

During community consultation, impacts on visual and environmental amenity were perceived as key issues of concern. As part of the planning for the project, a range of environmental impact studies have been prepared and measures adopted to mitigate potential impacts.

The project will require the development of above-ground infrastructure, including facilities for coal handling and washing. The new infrastructure could lead to impacts on the area's character and amenity from changes to land use and environmental impacts. However, most work associated with the mine will be underground, with only 117 ha of the total surface area of the Wingecarribee LGA affected by above-ground infrastructure, out of a total area of 2700 km². The surface disturbance related to mining operations therefore represents a very small portion of the total area of the LGA, and is much smaller than the area of land consumed by new residential developments, which is around 24.5 ha annually or 490 ha over the mine's operational life. As such, any impacts associated with the changing of the landscape character and amenity is expected to be minimal and will be limited to the area immediately surrounding the site. A visual impact assessment prepared for the project indicates that it will not have any significant visual impacts on the locality.

The Wingecarribee LGA and surrounds are mainly characterised by rural and semi-rural uses and landscapes. Expansion of mining activity in the area presents potential impacts associated with changing the landscape character. As mentioned, the area of surface disturbance associated with mining activities represents a very small portion of the Wingecarribee LGA, and as such any adverse impacts from landscape changes in the area are expected to be minor. While minor in significance, the impacts associated with surface disturbance will last for around 23 years.

As explained in Section 3.4.1, the project will generate a population change through the employment of up to 300 workers. A rapid influx of new workers into the area, together with an increased presence of mine vehicles and mine personnel could affect the sense of community in the workforce catchment area. These effects are likely to be greatest in Bowral, Mittagong and Moss Vale where the largest changes in population are predicted to occur (see Table 3.9). However, the mine workforce will represent only a small proportion of the total population in the area (see Section A.3.1); the introduction of mine workers into the area will be staged over the first five years of mine operations; and mining is a long-established industry which has been part of the area for over 100 years. Therefore, the actual impacts on the sense of community resulting from the project are considered to be minor.

The project could also improve the rural character and general amenity of the area through better land management, revegetation works and agricultural use of the land owned by Hume Coal. By using a long-term strategic approach to land management, the project could improve the land's productivity and overall use. The site will also be rehabilitated after mining finishes and so no significant long-term impacts on the visual amenity of the area are anticipated as a result of the project. The project also presents opportunities for improvements in services and infrastructure in the area as a result of increases in demand due to a higher population. Service and infrastructure increases are expected to occur in response to population increases to retain current levels of servicing.

A.4 Closure and decommissioning phase

The impact assessment for the closure and decommissioning phase relied on six criteria, and the rating derived for each of them is explained below. On balance the closure and decommissioning phase will result in net social costs.

A.4.1 Population and demographics

The mine's closure and decommissioning will have negative impacts for population and demographics.

The mine's closure could cause a small localised decrease in population due to job losses and workers moving away in search of new employment. There will be a need for up to 30 workers in the first two years of closure and decommissioning phase of the project and then up to 3 part time workers for the management of mine until lease relinquishment occurs.

It is difficult to predict the number of workers who will migrate out of the area after the mine's closure given that it would depend on the availability of jobs at the time. However, assuming 50% of the operations workforce and their families leave the area (or 405 people based on an average household size of 2.7 people), there will be a 0.8% decrease in the forecast population of the Wingecarribee LGA in 2031 (DP&E 2014).

DP&E population projections have only been forecast until 2031 and the mine is likely to close after that. Nonetheless, the projected population for 2031 has been used as a benchmark to assess the magnitude of change associated with population decline from the mine's closure. However, as the population of the Wingecarribee LGA is predicted to continue growing, and the population at the time of closure is likely to be higher than that predicted for 2031, the magnitude of change will be even lower than that assessed here. While population decline represents a negative impact of the mine's closure, any decreases in population associated with the mine workforce is likely to be a small portion of the area's total population. Population projections for the Wingecarribee LGA also suggest that the area will experience continued population growth. Therefore, population loss associated with mine closure will be offset by other continued population growth in the LGA.

The potential out-migration of the working age population may also cause the population to return to a more distorted age structure, such as that now displayed by the Wingecarribee LGA's population. Again, assuming 50% of the operations workforce and their families leave the area following the mine's closure, this would represent a 1.7% decline in the projected population aged 24–44 in 2031 (DP&E 2014). Assuming each worker is accompanied by a partner or spouse of a similar age who also leaves the area, this represents a 4.6% decline. Given that this represents a worst-case scenario, the actual magnitude of change will be even lower.

A.4.2 Labour market

The project would result in overall negative labour market impacts relating to the mine's closure, as discussed below.

During the closure and rehabilitation phase, there will be up to 30 full-time equivalent employees. Therefore, the mine's closure will result in a permanent loss of up to 270 operational jobs. This represents 1.2% of the current labour force of the Wingecarribee LGA (Department of Employment 2016). However, it also represents a 35.5% increase in the number of people currently unemployed in the Wingecarribee LGA (Department of Employment 2016). While it will cause a large increase in the number of people unemployed in the LGA, this is still a small proportion of the total labour force that will be affected.

The loss of jobs and increase in unemployment associated with the mine's closure could increase levels of financial stress experienced by the operational workforce due to loss of income. For those experiencing financial stress, the impacts would be significant and could detrimentally affect an individual's wellbeing and family life. However, the proportion of the total labour force that will be affected by financial stress is low, representing 1.2% of the current labour force (Department of Employment 2016). Nonetheless, this is an important issue that Hume Coal will be required to manage and mitigate. This will include providing training programs to improve the skills of the operational workforce, which would help to equip them with the necessary skills to gain employment in other industries following the completion of mining.

A.4.3 Economic change

The mine's closure would result in overall negative economic impacts as discussed below.

When mining ceases after 19 years of operation it is likely to reduce economic activity within the workforce catchment area and beyond. This is due to reduced direct annual expenditure within the local economy by both the mine and its employees, diminished demand for mining-related goods and services, and reduced government income from royalties and taxes. This will have flow-on effects to other sectors of the economy. The magnitude of change will depend on the number of workers who remain in the area, the level of economic activity at the time of closure and the economy's resilience to changed circumstances. If the mine's closure occurs during an economic downturn, any impacts associated with it may be heightened compared with the mine closing during an economic upturn. Therefore, it is difficult to predict how the mine's closure will affect economic activity.

Assuming 50% of the operations workforce and their families leave the area, there will be a 0.8% decrease in the forecast population for the Wingecarribee LGA in 2031 (DP&E 2014). This would be a small portion of the total population within the workforce catchment area. However, those who have moved away from the area represent a portion of high income households that have an elevated spending capacity. Impacts could occur across the workforce catchment area and would be long term if no new jobs were created. At the same time, the mine's closure may create new opportunities for businesses in areas such as environmental rehabilitation, but these opportunities are not expected to be equivalent to the losses from the mine closure.

A.4.4 Community services and facilities

The impact of the mine's closure on community services and facilities would be neutral.

As mining operations begin to decline and the project enters the closure and decommissioning phase, there will be gradual declines in demand for community services and facilities. This may prompt government agencies to reduce funding to these services, due to fewer people using them. The result may be job cuts to service providers, provision of fewer services or cessation of certain services. Assuming 50% of workers and their families leave the area, there will be a 0.8% decrease in the forecast population of the Wingecarribee LGA in 2031 (DP&E 2014). As such, any changes are not expected to be significant.

Conversely, a reduction in demand for community services and facilities may reduce pressures on them, increasing their availability for other users. In this case, any improvements made to services and facilities during the construction and operations phases will leave a lasting positive legacy in the community for future generations to enjoy. These benefits may be further enhanced through ongoing community funding from the VPA to maintain these services and facilities. Such benefits would extend beyond the end of mining activity in the area and be experienced by the wider workforce area.

A.4.5 Housing and accommodation

The overall impact of closure and decommissioning on housing and accommodation would be negative.

Population out-migration associated with the mine's closure and job losses may lead to a decline in demand for dwellings. If 50% of the operational workforce moves away from the workforce catchment area, this would represent a decline in housing demand of 150 dwellings. This, in turn, would represent 0.6% of the projected number of dwellings in 2031 (DP&E 2014). If there were insufficient in-migration of new residents to fill these houses, and supply of housing exceeded demand, there would likely be surplus housing stock. This may result in reduced housing prices and a fall in residential property values, which would represent a negative impact of the mine's closure for home owners in the workforce catchment area. However, it would also benefit home buyers who may previously have been excluded from the housing market due to higher costs. Reduced house prices may also help to attract new people to the area to counteract potential out-migration of the operational workforce. Therefore, a moderately reduced demand for houses would be both a positive and negative impact of the project.

A.4.6 Community liveability

The overall impact of the mine's closure and decommissioning would be neutral for community liveability, as discussed below.

The operational workforce may experience stress and anxiety due to uncertainty about the mine's closure and its impacts on their future. This, in turn, may reduce morale and productivity among the workers concerned. Any stress or anxiety reported by the workforce may be alleviated through regular consultation and maintaining open communication between Hume Coal and its employees. This negative impact of the project will be short-term and limited to the operational workforce, which represents a small number of the total workforce in the area. Any impacts associated with workforce stress and anxiety can be mitigated by adopting well proven techniques.

The closure and decommissioning phase will include decommissioning and rehabilitating land affected by mine infrastructure. As previously mentioned, about 117 ha will be disturbed by above-ground mining activities. This represents a tiny portion of the total WSC LGA, and is much smaller than the area developed by housing each year in the LGA. The mine's closure will result in the demolition and rehabilitation of these areas.

Rehabilitation will improve visual and environmental amenity and help to restore the agricultural setting of the areas immediately affected by above-ground activities. However, the 117 ha of disturbed land represents a small portion of the total workforce catchment area and, as such, its impacts will not be significant in a broader context. The community will observe these benefits in the long term.

A.5 References

Australian Bureau of Statistics (ABS) 2011, *Census of Population and Housing 2011*, Australian Government.

- 2013 (April 10), *Towns of the mining boom*, retrieved from www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4102.0Main+Features10April+2013#p3.
- 2015, *Schools Australia*, Australian Government.
- 2016, *Labour force survey*, Australian Government.

Australian Curriculum, Assessment and Reporting Authority (ACARA) 2015, *My School*, viewed 6 July 2015, www.myschool.edu.au/.

Department of Employment, 2014, *Mining industry outlook*, Australian Government.

- 2015, *Industry Outlook: Construction*, viewed 11 April 2016 <https://cica.org.au/wp-content/uploads/2015-Construction-Industry-Outlook.pdf>.
- 2016, *Small Area Labour Markets – December Quarter 2015*, Australian Government.

Department of Planning and Environment (DP&E) 2014, *New South Wales State and Local Government Area Population, Household and Dwelling Projections: 2014 Final*, NSW Government.

Destination NSW 2015a, *LGA Accommodation Profiles*, viewed 4 April 2016, www.destinationnsw.com.au/tourism/facts-and-figures/local-area-profiles.

- 2015b, *Regional Tourism Statistics*, viewed 18/04/2016, www.destinationnsw.com.au/tourism/facts-and-figures/regional-tourism-statistics.

Harrington, JM 2001, 'Health effects of shift work and extended hours of work', *Journal of Occupational and Environmental Medicine* 58, pp 68-72.

Heber, A 2013, Boral puts Berrima Colliery into care and maintenance, 40 jobs cut, *Australian Mining*, 24 October 2013, viewed 2 November 2016 (<https://www.australianmining.com.au/news/boral-puts-berrima-colliery-into-care-and-maintenance-40-jobs-cut/>).

PHIDU 2015, *Social Health Atlas of Australia New South Wales & Australian Capital Territory*. viewed 1 April 2016, <http://www.phidu.torrens.edu.au/social-health-atlases/data>.

Profile.id 2015, *Community profile*, viewed 40/04/2016, <http://profile.id.com.au/>.

Tourism Research Australia 2014, *Local government area profiles, 2014*, Australian Government viewed 11 April 2016 ([http://tra.gov.au/Tourism in Local Government Areas 2016/LGA Profiles/index.html](http://tra.gov.au/Tourism%20in%20Local%20Government%20Areas%202016/LGA%20Profiles/index.html)).

Tullis, A 2016, 'Glencore's Tahmoor mine to close: 350 workers will lose their jobs', *Camden-Narellan Advertiser*, 1 June 2016, viewed 2 November 2016 (<http://www.camdenadvertiser.com.au/story/3943212/mine-to-close-350-job-losses/>).

Wingecarribee Shire Council (WSC) 2015, *Guide to council rates*, viewed 31 March 2016, www.wsc.nsw.gov.au/services/rates/guide-to-council-rates.



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