



# Appendix 17

## Social and Economic Environment

South East Open Cut Project  
&  
Modification to the  
Existing ACP Consent



# Estimates of Regional Economic Impacts from the Construction and Operation of the Ashton Coal Operations Ltd – South East Open Cut Mine



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Job no. 225/08

# Estimates of Regional Economic Impacts from the Construction and Operation of the Ashton Coal Operations Ltd – South East Open Cut Mine

Prepared for

**Wells Environmental Services**

On behalf of

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# Executive summary

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## Background

- Ashton Coal Operations Ltd is seeking approval for its South East Open Cut (SEOC) Mine, supporting infrastructure and facilities, and the integration of coal handling and train loading facilities existing at the Ashton Coal Project. The proposed SEOC will extend operations for seven years beyond completion in 2010 of mining at the current North East Open Cut. Corporate employment will be preserved by transferring employees currently working at the North East Open Cut to the SEOC.
- SEOC's operational workforce is expected to originate primarily from the Singleton, Cessnock, Maitland and Muswellbrook local government areas (LGAs). A socio-economic profile of this workforce area provides a 'base line' description of the region which will receive the most immediate benefits from the proposed mine.
- Economic impacts in the Hunter Region generated from both the construction and ongoing operation of the SEOC were assessed using input-output (I-O) analysis and the survey-based I-O model developed by the Hunter Valley Research Foundation. Impacts are identified according to *direct* and *induced* effects, measured in terms of the value of output generated and the number of jobs created in the regional economy. (Induced effects are sometimes referred to as *flow-on* effects.) Estimates are also provided for taxation revenues generated for the Federal and State Governments.

## Socio-economic profile

### Population

- In 2006 the population of the workforce area totalled 145,263 persons. Maitland was the largest LGA (with approximately 62,000 persons, representing 43 per cent of the total), followed by Cessnock (46,000 persons; 32 per cent), Singleton (22,000 per cents; 15 per cent) and Muswellbrook (15,000 persons; 10 per cent).
- Population growth in the area averaged 1.1 per cent per annum between 1996 and 2006, a slightly higher rate than for the State as a whole (0.9 per cent) and the Hunter Region (0.8 per cent). However, there was a substantial variation among the component LGAs of the workforce area, with relatively high growth in Maitland and Singleton offset by low growth in Cessnock and a slight decline in Muswellbrook.
- In the workforce area, as in the State and nation, growth in the number of 'older' persons exceeded growth in the number of 'younger' persons. In the area overall, the population aged 40 and over increased at an average rate of 2.5 per cent per annum between 1996 and 2006, while the population aged below 40 increased by 0.1 per cent per annum on average. As a consequence, the proportion of the total population aged under 40 declined from 62 per cent in 1996 to 56 per cent in 2006.

- *Job creation facilitated by the SEOC will assist in keeping young people in, and attracting them to, LGAs in the workforce area. The age profile of the area is likely to be re-oriented toward the younger age groups as young families are encouraged to the area by the prospects of employment, lifestyle amenity and cheaper housing, and young singles no longer need to leave the area to find work. This, in turn, will assist in increasing the proportion of working age people in the area and so lessen the demand for infrastructure and services required to support an ageing population.*
- The HVRF expects that population of the workforce area will rise from approximately 145,000 persons in 2006 to just under 196,000 by 2031, representing an average annual growth rate of 1.2 per cent over the 25-year period.
- While higher growth is expected for the younger age cohorts in all LGAs, these rates of growth are likely to remain below rates for the older age cohorts, resulting in a continuing decline in the 'younger' population and an increase in the 'older' population. The proportion of the population in the workforce area aged under 40 is expected to fall to 53 per cent in 2031. *Job creation stimulated by the SEOC will assist in mitigating this decline.*

### **Employment and industry structure**

- Census data indicates that employment in the workforce area in 2006 totalled 62,281 persons, a 21 per cent increase from 51,378 ten years earlier. This is almost double the rate of increase in the population of the area over the same period. The bulk of employment in 2006 was in Maitland (44 per cent), followed by Cessnock (29 per cent), Singleton (17 per cent) and Muswellbrook (11 per cent).
- The workforce area was substantially more dependent on the primary sector, and less dependent on the tertiary sector, than the State as a whole. In 2006 primary industry (*agriculture, forestry and fishing and mining*) was significantly more important in the area, accounting for 12 per cent of total employment compared with 3 per cent in NSW. This relatively high proportion reflects the prominence of *mining* in the area. Secondary industry (*manufacturing*) was slightly more important, accounting for 12 per cent of employment in the workforce area and 10 per cent in the State, and tertiary (service) industries were relatively less important, representing 76 per cent of employment in the area and 87 per cent in the State.
- *The SEOC will directly increase employment in the mining sector and indirectly increase employment in related support industries, and provide a substantial economic boost to the regional economy.*
- Current data for 2008 indicates that the unemployment rate of 5.4 per cent in the workforce area was slightly higher than the State average of 5.1 per cent (non-seasonally adjusted). There was substantial variation in the rates among the component LGAs, with unemployment relatively high in Cessnock (an average of 6.9 per cent) and relatively low in Singleton (3.2 per cent). It approximated the State rate in Muswellbrook and Maitland (5.1 per cent).

- *Job creation facilitated by the SEOC will assist in lowering the rate of unemployment in the area, particularly in Cessnock. This LGA has consistently recorded higher rates of unemployment than in the Hunter Region as a whole since major restructuring of the coal mining industry and the relative decline of heavy manufacturing in the 1980s.*
- Employment growth is likely to slow considerably in 2009, and unemployment is likely to increase, in conjunction with the global economic downturn resulting from the crisis in financial markets. *The SEOC will assist in mitigating the effects of these global developments in the local area.*
- Census data indicates that in the workforce area in 2006 there was a significantly higher proportion of *technicians and trades workers; machinery operators and drivers and labourers*, partly reflecting the significance of mining in the area. Conversely, there was a lower proportion of *managers; professionals and clerical and administrative services workers* in the workforce area than in the State.
- *The SEOC will promote both population growth and economic growth in the workforce area. While employment will be directly focused on the technicians and trades workers; machinery operators and drivers; and labourers occupational categories, growth of tertiary sector industries will also encourage employment in the other categories. Higher employment in the managers; and professionals categories may increase income levels in the area and encourage higher levels of educational attainment.*

### **Educational attainment**

- The relative dominance of the primary sector in the workforce area, and proportionally higher employment in mid to lower level occupational categories, is matched by lower levels of educational attainment in the workforce area than in the State. In 2006 a higher proportion of the population aged 15 and over in the workforce area had completed Year 10 or below (58 per cent) than in the State (40 per cent). Conversely, a lower proportion had completed Year 11 or Year 12: 32 per cent in the area compared with 48 per cent in the State. Completion of Years 11 and 12 was lowest in Cessnock (27 per cent) and Muswellbrook (31 per cent).
- Post-school educational attainment was also lower in the workforce area than in the State. In 2006 approximately 52 per cent of the population aged 15 and over in the workforce area did *not* have post school qualifications, compared with 46 per cent in the State. Among those with post-school qualifications, vocational (certificate level) qualifications were more prevalent than degree/diploma qualifications, with 23 per cent in the workforce area holding certificate III or IV qualifications compared with 17 per cent in the State. Again, this is consistent with the industry and occupational structure of the workforce area. Approximately 8 per cent in the workforce area held university degree qualifications compared with 16 per cent in the State, while 4 per cent in the area and 7 per cent in the State held diploma/advanced diploma qualifications.



## **Income**

- Census data suggests that income levels were lower in the workforce area than in the State on average, primarily because of relatively low incomes in Cessnock. In 2006 the median household income was around 30 per cent lower in Cessnock than in the State on average. It was slightly below the State average in Maitland, slightly above the State average in Muswellbrook, and 18 per cent above the State average in Singleton. This profile is also supported by data from the Australian Tax Office for wage and salary earners, though the differences between the component LGAs and the State are less pronounced.
- *Economic development in the workforce area promoted by projects such as the SEOC will promote an expansion of tertiary sector industries as the population in the area increases. This, in turn, will assist in increasing incomes in Cessnock and Maitland. Higher incomes in the longer-term are likely to promote higher educational attainment in the area.*

## **Housing tenure**

- In 2006 home ownership was higher in the workforce area than in the State. While the same proportion of dwellings were fully owned in both the area and the State (35 per cent), a higher proportion were being purchased in the area (37 per cent) than in the State (32 per cent), and a lower proportion were being rented in the area than in the State (25 per cent compared with 30 per cent respectively).
- Within the workforce area, full ownership was highest in Cessnock (39 per cent of private dwellings) and rental tenure was lowest (22 per cent). The proportion of dwellings being purchased was highest in Maitland and Singleton (39 per cent), and rental tenure was substantially higher in Muswellbrook (33 per cent) than in the other LGAs.
- *Higher incomes associated with SEOC will encourage home ownership in the workforce area.*

## **Building**

- In both the workforce area and the State there was a prolonged period of expansion in residential approvals, and by implication the demand for housing, from around mid 2001 to mid 2004, with growth greater in the workforce area than in the State. However, approvals have fallen almost continually since this time as the reversal in interest rate policy, to higher interest rates, in October 2003 effectively stalled the residential housing market across the State and entrenched a fear of rising mortgage rates.
- Despite a reduction in the Reserve Bank's cash rate of 4.25 percentage points between September 2008 and June 2009 (with the last reduction in April 2009), residential approvals in both the workforce area and the State fell substantially over the nine months to March 2009.

- While real value of non-residential approvals increased slightly over the seven years to March 2009, it appears that the non-household sector made less of a contribution to activity in the local construction sector in 2007 and 2008 than in the previous two years. The real value of non-residential approvals in 2007 and 2008 was approximately 30 per cent lower than the value in 2005 and 2006.
- *The employment and income generation associated with the SEOC will assist in increasing housing demand and offsetting the reduction in non-residential construction activity in the workforce area.*

### **SEIFA**

- Socio-Economic Indexes for Areas (SEIFA) indicate that in 2006 the workforce area as a whole was less 'advantaged' (in socio-economic terms) than the broader Hunter Region. Advantage was lowest in Cessnock and Muswellbrook. *The SEOC will assist in boosting socio-economic advantage in the workforce area, particularly in Cessnock and Muswellbrook.*

### **Consumer confidence**

- Consumer confidence in the Hunter Region economy plummeted in 2008 as the dimensions of the global financial crisis and consequent world economic downturn became apparent. By March 2009 confidence had fallen to levels not seen since 1991.
- The increase in spending by Hunter residents in the March quarter in 2009 was significantly lower than at the same time in any of the previous three years, despite cash payments by the Federal Government. Longer-term records indicate that it was the lowest increase since 1998 following the Asian Crisis and the announcement by BHP that raw steel-making in Newcastle would be discontinued.
- The *expected* increase in regional spending in the March quarter 2009 was the lowest since the HVRF began canvassing household opinion in 1989. In combination, these findings are consistent with current ABS data which indicates a marked slowdown in national output and income growth.

### **Businesses confidence**

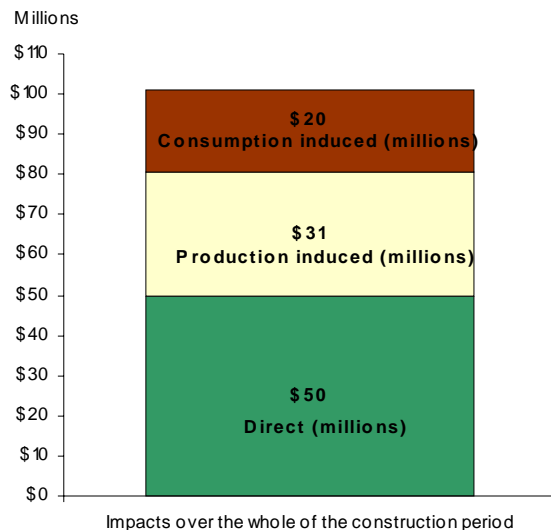
- HVRF business surveys suggest that lower consumer confidence and weaker demand are being reflected in a deterioration of regional businesses' trading performance and profit margins are being squeezed. In addition, orders are falling and less overtime is being worked.
- Business confidence in the Hunter Region economy has also plummeted to long-term lows. Limited data at the regional level indicates that business investment in equipment is falling, with registrations of new commercial vehicles declining since mid 2008 and HVRF surveys suggesting a moderation of capital expenditure plans since September 2007.
- *The SEOC will provide a much needed boost to investment spending and confidence in the Hunter Region.*

## Economic impacts from construction

Expenditure on construction of the SEOC facilities of approximately \$50 million over two years (2009-10 and 2010-11) is expected to:

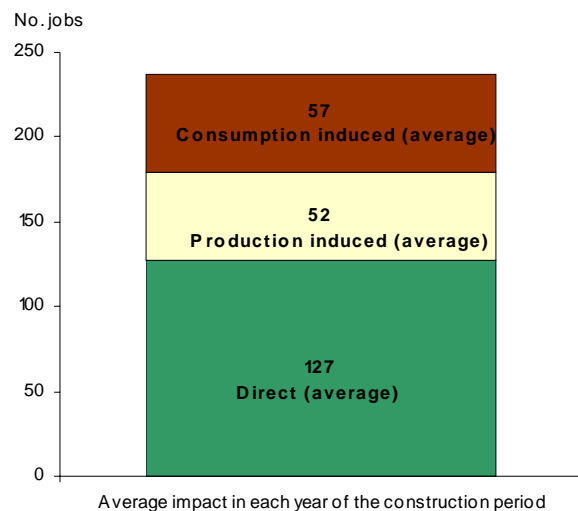
- Stimulate additional production in the Hunter Region valued at \$31 million and additional consumption worth \$20 million: an induced benefit of \$51 million, providing a total benefit to the Region valued at \$101 million.
- Directly create an average of 127 full-time equivalent jobs in each year of the two-year construction period. Additional production in the Region will generate a further 52 jobs, and additional consumption will create a further 57: an induced benefit of 109 jobs, providing a total employment benefit to the Region of 236 full-time equivalent positions, on average, in each year of the construction period.

### Output impacts from construction



Source: Hunter Valley Research Foundation, 2009

### Employment impacts from construction



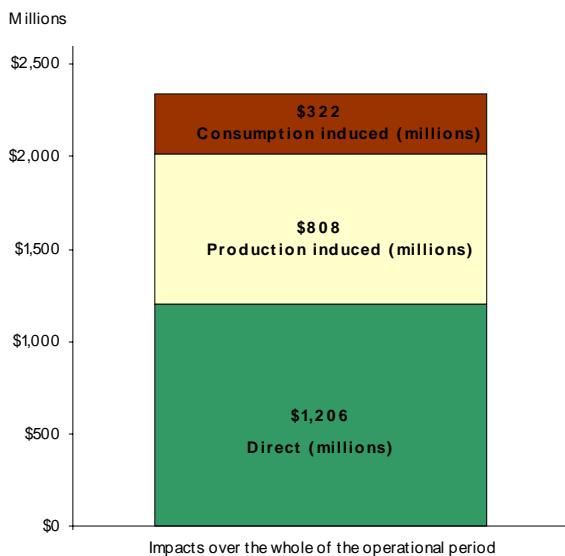
Source: Hunter Valley Research Foundation, 2009

- Generate taxation revenue to the Federal Government totalling approximately \$9 million: \$5.8 million from income tax, \$1.8 million from indirect taxes and \$1.3 million from company tax. Payroll taxation revenue to the State Government is estimated at \$1.6 million, yielding a total public sector benefit of close to \$11 million.

## Economic impacts from operation

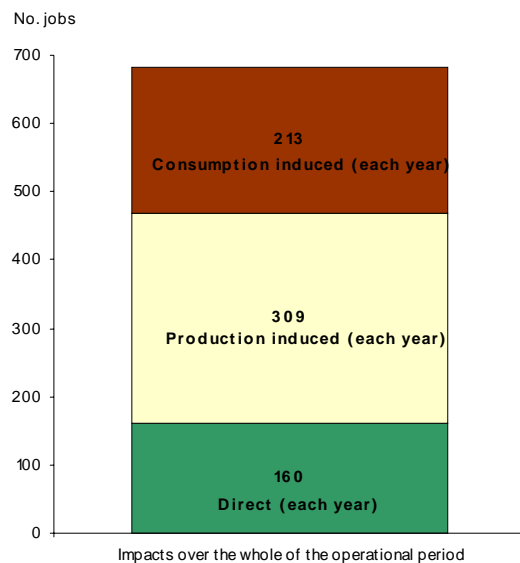
- Production from the SEOC is expected to run for seven years between 2010-11 and 2016-17, totaling approximately 21 million tonnes, run of mine (ROM). For the purposes of this analysis, saleable output has been valued at \$100 per tonne over the whole of the production period.
- Total production over seven years valued at approximately \$1.2 billion is expected to stimulate further production in the Hunter Region valued at \$808 million and additional consumption worth \$322 million: an induced benefit of \$1.2 billion, providing a total benefit to the Region valued at \$2.3 billion.
- Employment at the mining operations will be equivalent to 160 full-time positions in each of the seven years of operation. Induced production and consumption in the Region from the operations will generate a further 309 and 213 jobs respectively: an induced employment benefit of 522 jobs. In total approximately 682 full-time equivalent positions will be created in the Region.

### Output impacts from operation



Source: Hunter Valley Research Foundation, 2009

### Employment impacts from operation



Source: Hunter Valley Research Foundation, 2009

- Over the seven-year operational period, Federal Government taxation receipts are estimated to total approximately \$151 million: \$92 million from income tax, \$29 million from indirect taxes, and \$31 million from company tax. Revenue to the State Government is estimated at \$125 million: \$26 million from payroll tax and \$99 million from production royalties. The total public sector benefit is expected to exceed \$276 million.

## Conclusions

- The workforce area is relatively disadvantaged, particularly in the Cessnock and Muswellbrook LGAs. Over the decade to 2006 the population in the area has aged at a greater rate than in the State as a whole, and in Cessnock and Muswellbrook there has been a substantial decline in the population aged under 40. Unemployment in the area generally exceeds the State average, and educational attainment and income levels are lower than in the State. The current economic downturn has seen residential building approvals decline at a faster rate in the workforce area than in the State, and consumer and business confidence in the broader Hunter Region have deteriorated to levels not seen since 1991. Lower consumer confidence and weaker demand are being reflected in a deterioration of regional businesses' trading performance, lower profit margins, falling orders and less overtime being worked.
- The SEOC will provide a substantial boost to the Hunter Region in general and the workforce area in particular, primarily by increasing employment, income and demand. Construction of the facilities is expected to generate output in the Hunter worth more than \$100 million, and their subsequent operation will generate an estimated \$2.3 billion worth of output. Around 127 jobs will be created, on average, in each of the two years of construction and 160 will be created in each of the seven years of operation.
- Over the medium-term, economic development and job creation promoted by the project will contribute to population growth and assist in keeping younger people in, and attracting them to, the workforce area. Growth in tertiary sector industries will be encouraged as the population increases which, in turn, will assist in further increasing incomes and promoting higher educational attainment in the area.



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# 1 Introduction

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## 1.1 The South East Open Cut

Ashton Coal Operations Ltd is seeking approval for its South East Open Cut (SEOC) Mine, supporting infrastructure and facilities, and the integration of coal handling and train loading facilities existing at the Ashton Coal Project. The proposed SEOC will extend operations for seven years beyond completion in 2010 of mining at the current North East Open Cut. Corporate employment will be preserved by transferring employees currently working at the North East Open Cut to the SEOC.

Wells Environmental Services, on behalf of Ashton Coal Operations Ltd, commissioned the Hunter Valley Research Foundation (HVRF) to prepare a socio-economic profile of the area from which the majority of the mine's operational workforce is likely to be drawn, and to estimate *regional* economic impacts resulting from construction of the new facilities and their subsequent operation.

## 1.2 Socio-economic profile

The socio-economic profile presented in Section 2 contains a collection of data which describes characteristics of the population of the SEOC's likely workforce area: the local government areas (LGAs) of Cessnock, Maitland, Muswellbrook and Singleton. The data is from published sources including the *Census of Population and Housing*, as well as other data from the Australian Bureau of Statistics (ABS) and readily available sources such as the Department of Education, Employment and Workplace Relations. Additional information from HVRF surveys is included to provide some insight into the impact of the current world economic downturn on consumer and business confidence in the broader Hunter Region.

## 1.3 Economic impacts of the project

Economic impacts generated from both the construction and ongoing operation of the SEOC were assessed by the HVRF using input-output (I-O) analysis. Impacts are identified according to **direct** and **induced** effects, measured in terms of the value of output generated and the number of jobs created in the regional economy. (Induced effects are sometimes referred to as *flow-on* effects.) Estimates are also provided for taxation revenues generated for the Federal and State Governments. This analysis is presented in Section 3.



## 2 Socio-economic profile

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### 2.1 The workforce area

SEOC's operational workforce is expected to originate primarily from the Singleton, Cessnock, Maitland and Muswellbrook LGAs. Following is a socio-economic profile of this workforce area to provide a 'base line' description of the region which will receive the most immediate benefits from the proposed mine. The potential effects of the SEOC are considered in relation to each socio-economic aspect considered.

### 2.2 Population growth and distribution

#### (i) Current trends

Table 1 (over) provides details of the age composition and growth of the population in each LGA in the workforce area, the area in total and, for comparison, the State over the last three census periods: 1996, 2001 and 2006. Figure 1 (page 4) shows overall population growth rates in each LGA, the whole of the workforce area, the Hunter Region and the State and Figure 2 (page 4) compares rates of growth of the 'under 40' and '40 and over' age cohorts in each of these areas.

Key points are that:

- In 2006 the population of the workforce area totalled 145,263 persons. Maitland was the largest LGA (with approximately 62,000 persons, representing 43 per cent of the total), followed by Cessnock (46,000 persons; 32 per cent), Singleton (22,000 per cents; 15 per cent) and Muswellbrook (15,000 persons; 10 per cent).
- Population growth in the area averaged 1.1 per cent per annum between 1996 and 2006, a slightly higher rate than for the State as a whole (0.9 per cent) and the Hunter Region (0.8 per cent). However, there was a substantial variation in rates of growth among the component LGAs of the workforce area. Growth was highest in Maitland, averaging 2.1 per cent per annum over the decade, followed by Singleton (1.1 per cent per annum) and Cessnock (0.3 per cent per annum). The population of Muswellbrook declined slightly over the period, by an average of 0.1 per cent per annum.

- In the workforce area, as in the State and nation, growth in the number of 'older' persons exceeded growth in the number of 'younger' persons. In the area overall, the population aged 40 and over increased at an average rate of 2.5 per cent per annum between 1996 and 2006, while the population aged below 40 increased by 0.1 per cent per annum on average. As a consequence, the proportion of the total population aged under 40 declined from 62 per cent in 1996 to 56 per cent in 2006.
- Maitland was the only LGA in the workforce area in which the size of the 'younger' population (below 40) increased, by an average of 1.2 per cent per annum over the decade. It remained relatively stable in Singleton, while it declined in both Cessnock and Muswellbrook at an average annual rate of 0.7 per cent and 1.1 per cent respectively.
- Among the under 40s, the age group with the greatest rate of decline was the 25 to 39 year olds, the age range in which most women have children.

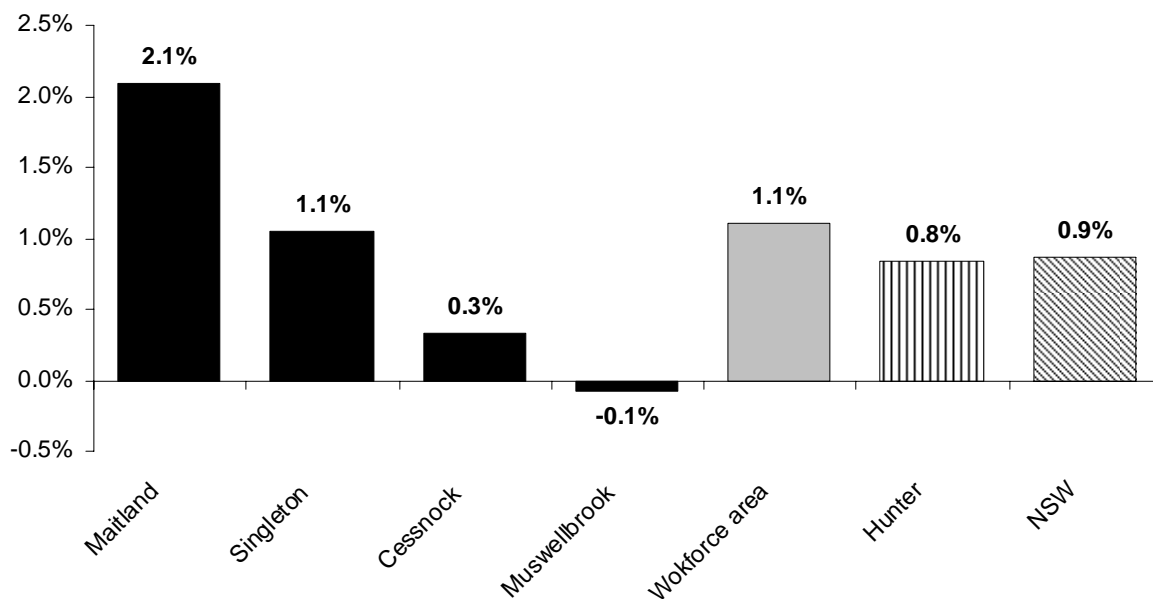
**Table 1: Population growth and distribution, 1996 – 2006**

	1996	2001	2006	Average annual change '96-'06		1996	2001	2006	Average annual change '96-'06
<b>Cessnock</b>					<b>Muswellbrook</b>				
0-14 years	10,553	10,218	10,043	-0.5%	4,038	3,664	3,695	-0.9%	
15-24 years	6,167	5,880	5,875	-0.5%	2,208	1,926	2,059	-0.7%	
25-39 years	9,744	8,999	8,707	-1.1%	3,716	3,339	3,171	-1.6%	
40-54 years	8,951	9,820	9,725	0.8%	3,030	3,105	3,209	0.6%	
55-64 years	3,557	4,354	5,575	4.6%	1,108	1,273	1,560	3.5%	
64+ years	5,763	6,106	6,281	0.9%	1,264	1,396	1,542	2.0%	
<b>Total</b>	<b>44,735</b>	<b>45,377</b>	<b>46,206</b>	<b>0.3%</b>	<b>15,364</b>	<b>14,703</b>	<b>15,236</b>	<b>-0.1%</b>	
<b>Maitland</b>					<b>Singleton</b>				
0-14 years	12,520	12,983	14,208	1.3%	5,311	5,119	5,366	0.1%	
15-24 years	7,362	7,626	8,430	1.4%	2,690	2,788	2,911	0.8%	
25-39 years	11,351	11,290	12,553	1.0%	4,793	4,504	4,575	-0.5%	
40-54 years	10,111	11,664	12,960	2.5%	4,027	4,598	4,826	1.8%	
55-64 years	3,628	4,717	6,495	6.0%	1,327	1,625	2,187	5.1%	
64+ years	5,352	6,110	7,235	3.1%	1,609	1,875	2,075	2.6%	
<b>Total</b>	<b>50,324</b>	<b>54,390</b>	<b>61,881</b>	<b>2.1%</b>	<b>19,757</b>	<b>20,509</b>	<b>21,940</b>	<b>1.1%</b>	
<b>Workforce area</b>					<b>NSW</b>				
0-14 years	32,422	31,984	33,312	0.3%	1,286,689	1,314,456	1,298,916	0.1%	
15-24 years	18,427	18,220	19,275	0.5%	849,575	845,964	871,716	0.3%	
25-39 years	29,604	28,132	29,006	-0.2%	1,397,074	1,400,152	1,365,729	-0.2%	
40-54 years	26,119	29,187	30,720	1.6%	1,193,472	1,336,523	1,387,494	1.5%	
55-64 years	9,620	11,969	15,817	5.1%	515,152	597,588	719,547	3.4%	
64+ years	13,988	15,487	17,133	2.0%	764,244	831,896	905,777	1.7%	
<b>Total</b>	<b>130,180</b>	<b>134,979</b>	<b>145,263</b>	<b>1.1%</b>	<b>6,006,206</b>	<b>6,326,579</b>	<b>6,549,179</b>	<b>0.9%</b>	

Source: Australian Bureau of Statistics, *Census of Population and Housing*, 1996 and 2006, Cat. No. 2068.0

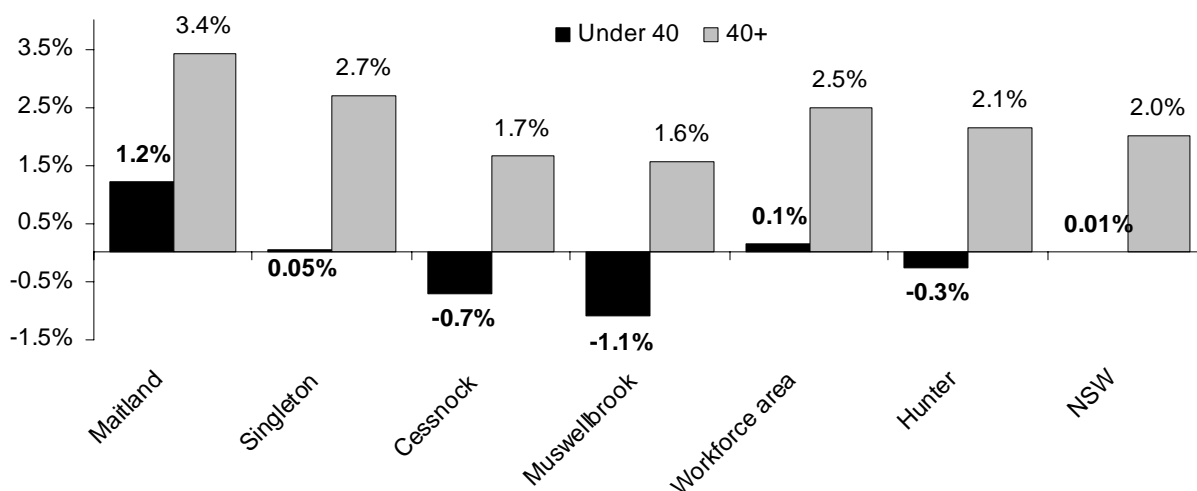
Job creation facilitated by the SEOC will assist in keeping young people in, and attracting them to, LGAs in the workforce area. The age profile of the area is likely to be re-oriented toward the younger age groups as young families are encouraged to the area by the prospects of employment, lifestyle amenity and cheaper housing, and young singles no longer need to leave the area to find work. This, in turn, will assist in increasing the proportion of working age people in the area and so lessen the demand for infrastructure and services required to support an ageing population.

**Figure 1: Average annual rate of population change, 1996 – 2006**



Source: Australian Bureau of Statistics, *Census of Population and Housing*, 1996 and 2006, Cat. No. 2068.0

**Figure 2: Average annual rate of change of the 'younger' and 'older' population cohorts, 1996 – 2006**



Source: Australian Bureau of Statistics, *Census of Population and Housing*, 1996 and 2006, Cat. No. 2068.0

**(ii) HVRF population projections**

The HVERF model provides projections for the total population of each LGA in the Hunter Region, as well as the age distribution of these totals, using the latest available data at November 2008. The projections are based on the following data and assumptions:

- Baseline population – the actual population ‘usually resident’ in each of the Hunter LGAs on the night of the Census in 2006.
- Birth rates for each age group – for women aged between 15 and 49. Because birth rates are not available at the LGA level, the rate for the Hunter Statistical District has been used.
- Death rates for each age group – increase significantly after 75 years of age. Because death rates are not available at the LGA level, the rate for NSW has been used.
- The number of deaths in an area before a house becomes vacant and, therefore, available for new residents. In the Hunter Region the 2006 Census indicates that, on average, there were 2.5 people in each household. Therefore, two deaths have been assumed in this model.
- The proportion of occupied private dwellings in an area – this varies between LGAs, with holiday areas having a higher proportion of non-occupied houses, which is then reflected in household size.
- The number of new dwellings built in the LGA – this is a major indicator of in-migration at the local level.

Output from the model shown in Table 2 (over) indicates that the population of the workforce area is projected to rise from approximately 145,000 persons in 2006 to just under 196,000 by 2031, representing an average annual growth rate of 1.2 per cent over the 25-year period. This rate is slightly higher than the average of 1.1 per cent per annum which prevailed over the decade between 1996 and 2006.

Maitland is expected to continue to have the highest average annual rate of growth (1.7 per cent), followed by Muswellbrook (1.1 per cent), Singleton (1.0 per cent) and Cessnock (0.5 per cent). These projections represent a reversal of the population decline recorded between 1996 and 2006 in Muswellbrook, a slight increase for Cessnock, and a slowing in growth for Maitland and Singleton.

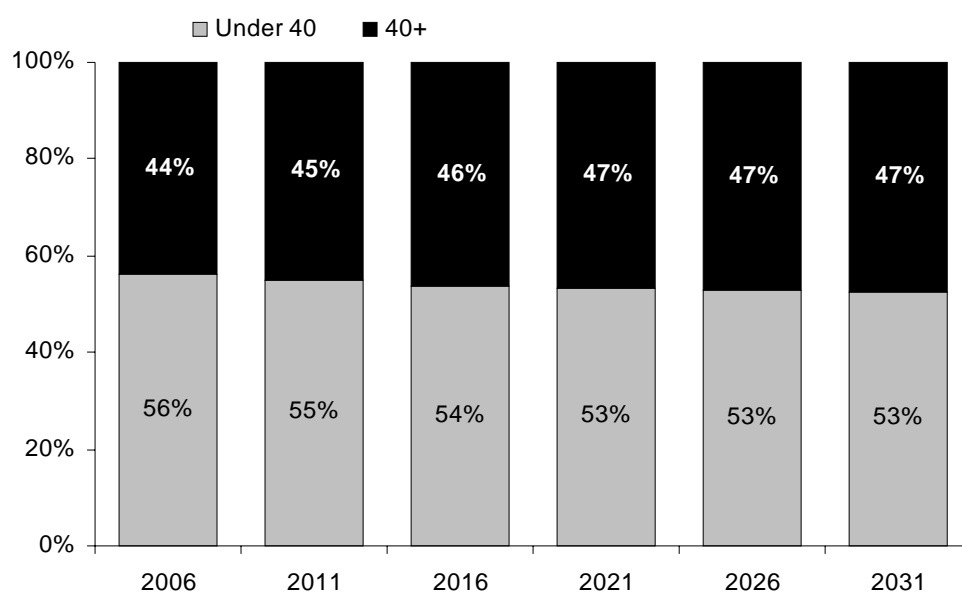
In addition, higher growth is expected for the younger age cohorts in all LGAs. However, these rates of growth are likely to remain below rates for the older age cohorts, resulting in a continuing decline in the ‘younger’ population and an increase in the ‘older’ population. Figure 3 (over) indicates that the proportion of the population in the workforce area aged under 40 is expected to fall from 56 per cent in 2006 to 53 per cent in 2031. *Job creation stimulated by the SEOC will assist in mitigating this decline.*

**Table 2: Population growth projections, 2006 – 2031**

	Actual	Predicted					Average annual growth '06-'31
	2006	2011	2016	2021	2026	2031	
<b>Cessnock</b>							
Under 40	24,625	24,580	24,634	24,890	25,279	25,772	0.2%
40+	21,581	23,120	24,416	25,421	26,287	27,061	0.9%
<b>Total</b>	<b>46,206</b>	<b>47,700</b>	<b>49,050</b>	<b>50,312</b>	<b>51,566</b>	<b>52,833</b>	<b>0.5%</b>
<b>Maitland</b>							
Under 40	35,191	38,237	41,217	44,269	47,198	50,275	1.4%
40+	26,690	30,380	34,065	37,573	41,074	44,349	2.1%
<b>Total</b>	<b>61,881</b>	<b>68,616</b>	<b>75,282</b>	<b>81,842</b>	<b>88,272</b>	<b>94,624</b>	<b>1.7%</b>
<b>Muswellbrook</b>							
Under 40	8,925	9,300	9,748	10,298	10,817	11,334	1.0%
40+	6,311	6,916	7,438	7,864	8,324	8,797	1.3%
<b>Total</b>	<b>15,236</b>	<b>16,215</b>	<b>17,186</b>	<b>18,162</b>	<b>19,141</b>	<b>20,131</b>	<b>1.1%</b>
<b>Singleton</b>							
Under 40	12,852	13,319	13,760	14,326	14,933	15,574	0.8%
40+	9,088	10,031	10,866	11,532	12,143	12,734	1.4%
<b>Total</b>	<b>21,940</b>	<b>23,350</b>	<b>24,626</b>	<b>25,858</b>	<b>27,077</b>	<b>28,309</b>	<b>1.0%</b>
<b>Workforce area</b>							
Under 40	81,593	85,436	89,359	93,784	98,228	102,956	0.9%
40+	63,670	70,446	76,785	82,390	87,828	92,941	1.5%
<b>Total</b>	<b>145,263</b>	<b>155,881</b>	<b>166,145</b>	<b>176,173</b>	<b>186,056</b>	<b>195,897</b>	<b>1.2%</b>

Source: Hunter Valley Research Foundation, November 2008

**Figure 3: Proportion of the population in the workforce area aged under 40 and 40 and over, 2006 – 2031**



Source: Hunter Valley Research Foundation, November 2008

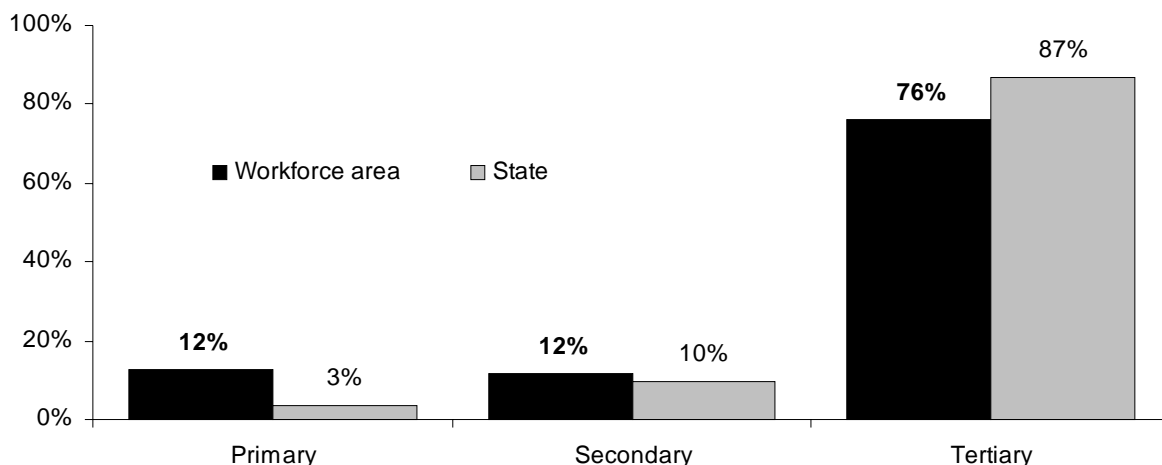
## 2.3 Employment and industry structure

### (i) Census data

Census data indicates that employment in the workforce area in 2006 totalled 62,281 persons, a 21 per cent increase from 51,378 ten years earlier. This is almost double the rate of increase in the population of the area over the same period: a 12 per cent rise from 130,180 people in 1996 to 145,263 in 2006. The bulk of employment in 2006 was in Maitland (44 per cent), followed by Cessnock (29 per cent), Singleton (17 per cent) and Muswellbrook (11 per cent).

The workforce area was substantially more dependent on the primary sector, and less dependent on the tertiary sector, than the State as a whole. Figure 4 indicates that in 2006 primary industry (*agriculture, forestry and fishing and mining*) was significantly more important in the area, accounting for 12 per cent of total employment compared with 3 per cent in NSW. This relatively high proportion reflects the prominence of *mining* in the area. Secondary industry (*manufacturing*) was slightly more important, accounting for 12 per cent of employment in the workforce area and 10 per cent in the State, and tertiary (service) industries were relatively less important, representing 76 per cent of employment in the area and 87 per cent in the State.

**Figure 4: Broad industry structure of the workforce area and State, 2006**  
Proportion of total employment



Source: Australian Bureau of Statistics, *Census of Population and Housing*, 2006, Cat. No. 2068.0

Figure 5 (over) presents a more detailed industry breakdown for the workforce area in 1996 and 2006. Major points of note are that:

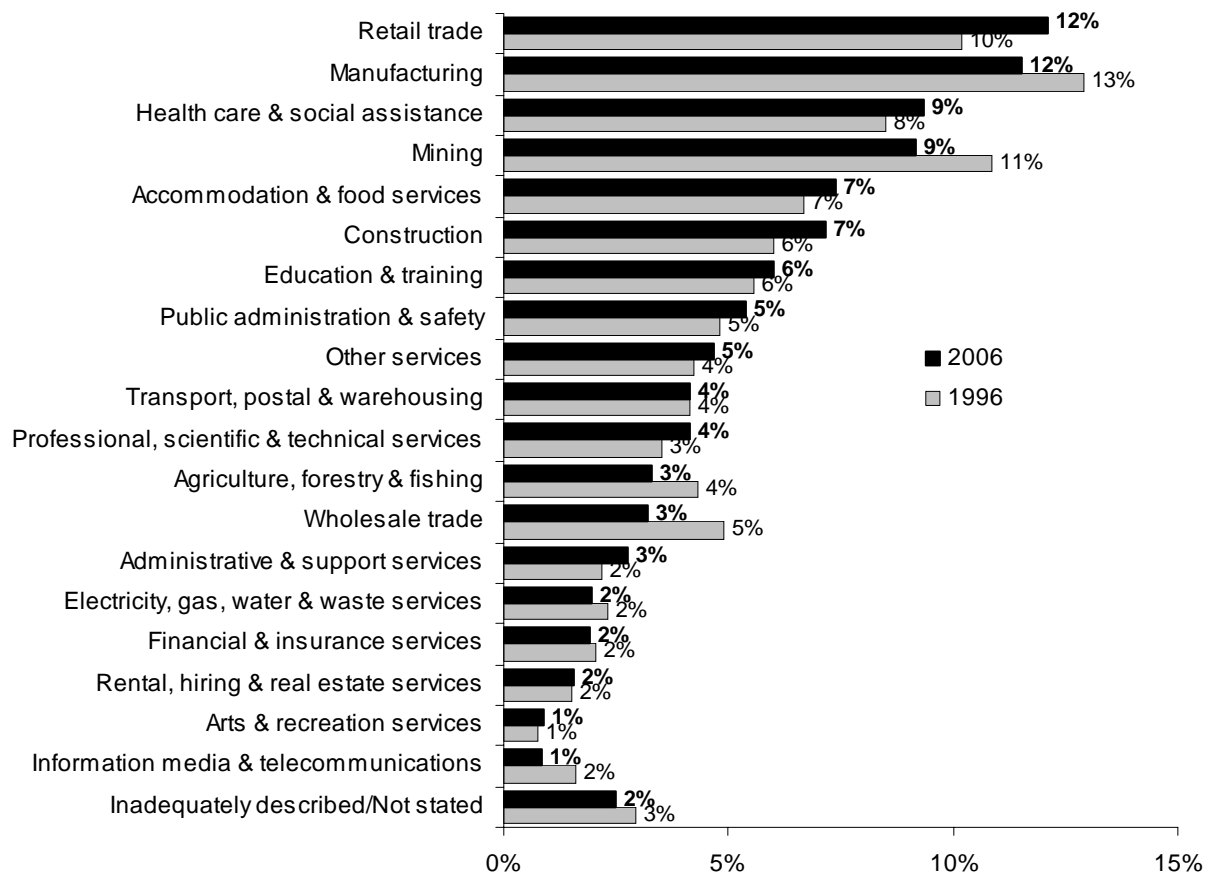
- The four major industries in the area were *retail trade; manufacturing; health care and social assistance* and *mining*. Over the decade there was a decline in the proportion of employment in *manufacturing*, from 13 per cent in 1996 to 12 per cent in 2006, and in *mining*, from 11 per cent to 9 per cent in each year respectively. Employment in *retail trade* increased from 10 per cent of the total to 12 per cent over the decade, and in *health care and social assistance* there was a rise from 8 per cent to 9 per cent.



- There was a relatively large increase over the ten-year period in the *number* of people employed in *administrative and support services* (by 53 per cent); *arts and recreation services* (46 per cent) and *professional, scientific and technical services* (44 per cent).
- There was a relatively large decline in the *number* of people employed in *information media and telecommunications* (35 per cent); *wholesale trade* (21 per cent) and *agriculture, forestry and fishing* (8 per cent).

*The SEOC will directly increase employment in the mining sector and indirectly increase employment in related support industries, and provide a substantial economic boost to the regional economy.*

**Figure 5: Detailed industry breakdown of the workforce area, 1996 and 2006**  
**Proportion of total employment**



Note: percentages are rounded to the nearest whole number

Source: Australian Bureau of Statistics, *Census of Population and Housing*, 1996 and 2006, Cat. No. 2068.0

## (ii) Current data

Current data for 'small area labour markets' is published by the Federal Department of Education Employment and Workplace Relations (DEEWR). The latest available *annual* data for employment, unemployment and the total labour force in each of the LGAs in the workforce area is provided in Table 3. Figure 6 and Figure 7 (over) show, respectively, *quarterly* time series data for the total level of employment, and the rate of unemployment, in the combined area from the end of 2000.

The DEEWR data suggests that, on average, close to 69,800 people were employed in the workforce area in 2008, with an additional 3,900 seeking work. The estimated unemployment rate of 5.4 per cent for the year was slightly higher than the State average of 5.1 per cent (non-seasonally adjusted). There was substantial variation in the rates among the component LGAs, with unemployment relatively high in Cessnock (an average of 6.9 per cent) and relatively low in Singleton (3.2 per cent). It approximated the State rate in Muswellbrook and Maitland (5.1 per cent).

*Job creation facilitated by the SEOC will assist in lowering the rate of unemployment in the area, particularly in Cessnock. This LGA has consistently recorded higher rates of unemployment than in the Hunter Region as a whole since major restructuring of the coal mining industry and the relative decline of heavy manufacturing in the 1980s.*

**Table 3: Employment and unemployment in the workforce area, 2008**  
Period averages

	Cessnock	Maitland	Muswellbrook	Singleton	Total
<b>Employment</b>					
No.	21,179	29,130	7,762	11,728	<b>69,798</b>
% total	30%	42%	11%	17%	<b>100%</b>
<b>Unemployment</b>					
No.	1,565	1,569	409	383	<b>3,926</b>
Rate*	6.9%	5.1%	5.1%	3.2%	<b>5.4%</b>
<b>Labour force</b>					
No.	22,744	30,699	8,171	12,111	<b>73,725</b>
% total	31%	42%	11%	16%	<b>100%</b>

\* Derived by the HVRF

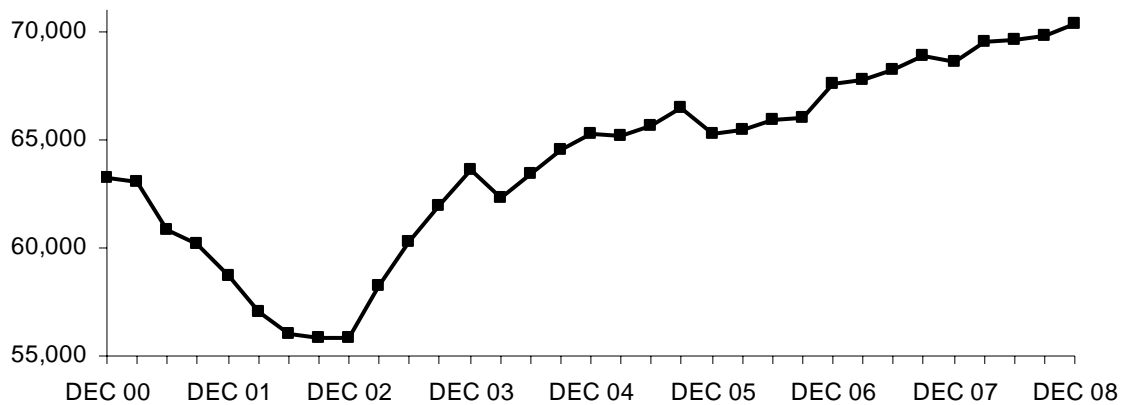
Source: Department of Education, Employment and Workplace Relations, *Small Area Labour Markets*

Longer-term trends in employment and unemployment shown below suggest relatively strong economic growth in the workforce area over the six years to 2008, with around 14,000 jobs created over the period and a reduction in the unemployment rate from around 10 per cent during the 2001-02 downturn.

Employment growth is likely to slow considerably in 2009, and unemployment is likely to increase, in conjunction with the global economic downturn resulting from the crisis in financial markets. This issue is discussed further in Sections 2.9, 2.10 and 2.11 below.

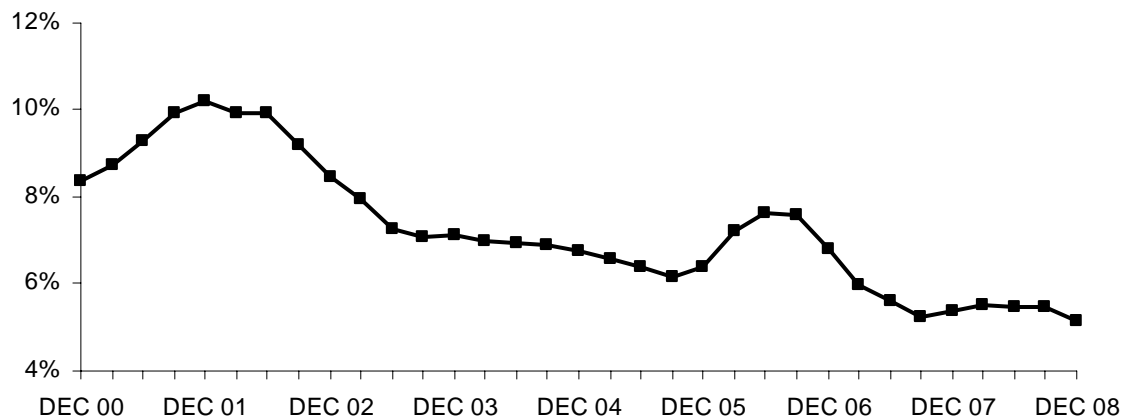
*The SEOC will assist in mitigating the effects of these global developments in the local area.*

**Figure 6: Total employment in the workforce area, 2000 – 2008**



Source: Department of Education, Employment and Workplace Relations, *Small Area Labour Markets*

**Figure 7: Rate of unemployment in the workforce area, 2000 – 2008**



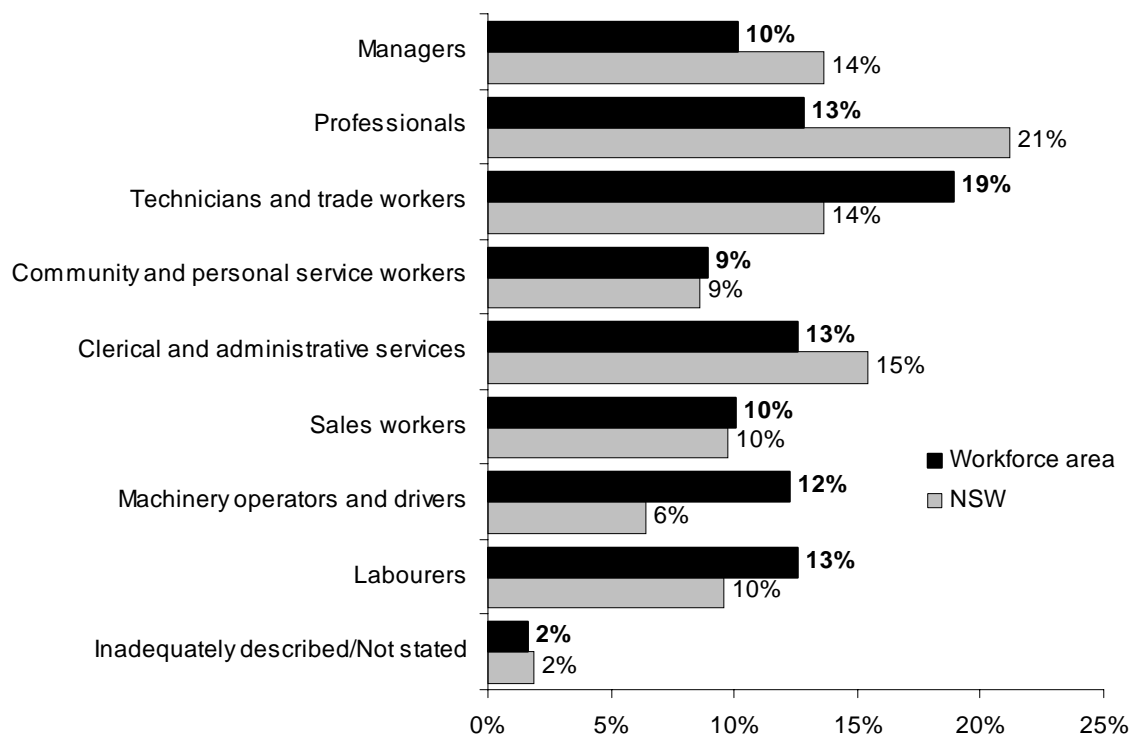
Source: Department of Education, Employment and Workplace Relations, *Small Area Labour Markets*

## 2.4 Occupational structure

The primary-industry orientation of the workforce area is reflected in a substantially different occupational structure than the State, presented in Figure 8. Census data indicates that in the workforce area in 2006 there was a significantly higher proportion of *technicians and trades workers; machinery operators and drivers* and *labourers*, partly reflecting the significance of mining in the area. Conversely, there was a lower proportion of *managers; professionals* and *clerical and administrative services* workers in the workforce area than in the State.

*The SEOC will promote both population growth and economic growth in the workforce area. While employment will be directly focused on the technicians and trades workers; machinery operators and drivers; and labourers occupational categories, growth of tertiary sector industries will also encourage employment in the other categories. Higher employment in the managers; and professionals categories may increase income levels in the area and encourage higher levels of educational attainment.*

**Figure 8: Occupational structure of the workforce area and State, 2006**



Note: percentages are rounded to the nearest whole number

Source: Australian Bureau of Statistics, *Census of Population and Housing*, 2006, Cat. No. 2068.0

## 2.5 Educational attainment

### (i) School education

The relative dominance of the primary sector in the workforce area, and proportionally higher employment in mid to lower level occupational categories, is matched by lower levels of educational attainment in the workforce area than in the State. In 2006 a higher proportion of the population aged 15 and over in the workforce area had completed Year 10 or below (58 per cent) than in the State (40 per cent). Conversely, a lower proportion had completed Year 11 or Year 12: 32 per cent in the area compared with 48 per cent in the State. Completion of Years 11 and 12 was lowest in Cessnock (27 per cent) and Muswellbrook (31 per cent). Table 4 provides details.

**Table 4: Highest level of schooling completed, workforce area and State, 2006**  
Population aged 15 and over

	Cessnock		Maitland		Muswellbrook		Singleton		Workforce area		NSW
	No.	% LGA total	No.	% LGA total	No.	% LGA total	No.	% LGA total	No.	% area total	% State total
Year 12 or equivalent	7,461	21%	14,022	29%	2,775	24%	4,643	28%	28,901	26%	42%
Year 11 or equivalent	2,271	6%	3,089	6%	811	7%	1,313	8%	7,484	7%	6%
Year 10 or equivalent	13,586	38%	17,419	37%	4,238	37%	6,223	38%	41,466	37%	26%
Year 9 or equivalent	5,296	15%	5,802	12%	1,355	12%	1,887	11%	14,340	13%	8%
Year 8 or below	3,538	10%	3,365	7%	1,018	9%	1,185	7%	9,106	8%	7%
Did not go to school	113	0%	134	0%	47	0%	41	0%	335	0%	1%
Highest year of school not stated	3,902	11%	3,840	8%	1,299	11%	1,284	8%	10,325	9%	10%
<b>Total</b>	<b>36,167</b>	<b>100%</b>	<b>47,671</b>	<b>100%</b>	<b>11,543</b>	<b>100%</b>	<b>16,576</b>	<b>100%</b>	<b>111,957</b>	<b>100%</b>	<b>100%</b>

Source: Australian Bureau of Statistics, *Census of Population and Housing*, 2006, Cat. No. 2068.0

### (ii) Post-school education

Table 5 (over) shows that post-school educational attainment was also lower in the workforce area than in the State. In 2006 approximately 52 per cent of the population aged 15 and over in the workforce area did *not* have post school qualifications, compared with 46 per cent in the State. Among those with post-school qualifications, vocational (certificate level) qualifications were more prevalent than degree/diploma qualifications. Approximately 23 per cent in the workforce area held certificate III or IV qualifications compared with 17 per cent in the State. Again, this is consistent with the industry and occupational structure of the workforce area.

In 2006 approximately 8 per cent of the population aged 15 and over in the workforce area held university degree qualifications compared with 16 per cent in the State, while 4 per cent in the area and 7 per cent in the State held diploma/advanced diploma qualifications.

**Table 5: Highest level of post-school education, workforce area and State, 2006  
Population aged 15 and over**

	Cessnock		Maitland		Muswellbrook		Singleton		Workforce area		NSW
	No.	% LGA total	No.	% LGA total	No.	% LGA total	No.	% LGA total	No.	% area total	% State total
<b>Degree/diploma</b>											
Postgraduate Degree	187	1%	511	1%	69	1%	137	1%	904	1%	3%
Graduate Diploma and Graduate Certificate	205	1%	473	1%	76	1%	133	1%	887	1%	1%
Bachelor Degree	1,554	4%	3,457	7%	596	5%	1,077	6%	6,684	6%	12%
Advanced Diploma and Diploma	1,621	4%	3,055	6%	516	4%	1,004	6%	6,196	6%	7%
<i>Total</i>	<i>3,567</i>	<i>10%</i>	<i>7,496</i>	<i>15%</i>	<i>1,257</i>	<i>11%</i>	<i>2,351</i>	<i>14%</i>	<i>14,671</i>	<i>14%</i>	<i>23%</i>
<b>Certificate</b>											
Certificate not further defined	618	2%	971	2%	192	2%	322	2%	2,103	2%	2%
Certificate III & IV	6,845	19%	8,839	19%	2,196	19%	3,415	21%	21,295	19%	14%
Certificate I & II	530	1%	821	2%	187	2%	284	2%	1,822	2%	1%
<i>Total</i>	<i>7,993</i>	<i>22%</i>	<i>10,631</i>	<i>22%</i>	<i>2,575</i>	<i>22%</i>	<i>4,021</i>	<i>24%</i>	<i>25,220</i>	<i>23%</i>	<i>17%</i>
Level of education inadequately described/not stated	4,999	14%	5,389	11%	1,641	14%	1,847	11%	13,876	12%	14%
No post school qualification	19,608	54%	24,155	51%	6,070	53%	8,357	50%	58,190	52%	46%
<b>Total</b>	<b>36,167</b>	<b>100%</b>	<b>47,671</b>	<b>100%</b>	<b>11,543</b>	<b>100%</b>	<b>16,576</b>	<b>100%</b>	<b>111,957</b>	<b>100%</b>	<b>100%</b>

Source: Australian Bureau of Statistics, *Census of Population and Housing*, 2006, Cat. No. 2068.0

## 2.6 Income

Census data suggests that income levels were lower in the workforce area than in the State on average, primarily because of relatively low incomes in Cessnock. Table 6 (over) indicates that in 2006 the median household income was around 30 per cent lower in Cessnock than in the State on average. It was slightly below the State average in Maitland, slightly above the State average in Muswellbrook, and 18 per cent above the State average in Singleton.

This profile is also supported by data from the Australian Tax Office for wage and salary earners. In 2005-06, the latest year for which this data is available, the median wage and salary income in the workforce area was slightly higher than for the State. In Cessnock it was 4 per cent below the State average and in Singleton it was 12 per cent above the State average.

Higher incomes in Singleton and Muswellbrook reflect the relatively high level of employment in the mining and power generation industries in these LGAs.

**Table 6: Income levels in the workforce area and State, 2006 and 2005-06**

	Cessnock	Maitland	Muswellbrook	Singleton	Workforce area*	State
<b>Total income (Census data) 2006; weekly</b>						
Median weekly individual income (persons aged 15 and over)	\$358	\$428	\$453	\$487	<b>\$417</b>	\$461
Median weekly family income	\$1,015	\$1,159	\$1,213	\$1,458	<b>\$1,164</b>	\$1,181
Median weekly household income	\$786	\$1,025	\$1,060	\$1,258	<b>\$988</b>	\$1,036
<b>Wage and salary income (ATO data) 2005-06; annual</b>						
Median annual wage and salary income	\$35,190	\$37,730	\$39,870	\$41,606	<b>\$37,877</b>	\$36,539
Average annual wage and salary income	\$40,943	\$42,703	\$47,803	\$50,801	<b>\$44,073</b>	\$43,245

\* Weighted average derived by the HVRF.

Source: Australian Bureau of Statistics, *Census of Population and Housing*, 2006, Cat. No. 2068.0; *Regional Wage and Salary Earner Statistics, Australia*, Cat. No. 5673.0.55.003

*Economic development in the workforce area promoted by projects such as the SEOC will promote an expansion of tertiary sector industries as the population in the area increases. This, in turn, will assist in increasing incomes in Cessnock and Maitland. Higher incomes in the longer-term are likely to promote higher educational attainment in the area.<sup>1</sup>*

## 2.7 Housing

### (i) Type of private housing

Consistent with its non-metropolitan location, private housing in the workforce area is predominately 'low density'. Table 7 (over) shows that in 2006 there was a substantially higher proportion of separate houses in the area (91 per cent) than in the State (71 per cent), and a lower proportion of townhouse-type accommodation (3 per cent compared with 10 per cent in the State) and apartment-type accommodation (5 per cent compared with 18 per cent respectively).

Within the workforce area, density was lowest in Cessnock, with separate houses comprising 94 per cent of all occupied private dwellings compared with 89 per cent in the other LGAs.

<sup>1</sup> The educational attainment of children has been linked to the socio-economic status of their parents. For further details see, for example, *Staying on at school: Improving student retention in Australia*. Report for the Queensland Department of Education and the Arts by the Centre for Post-compulsory Education and Lifelong Learning, the University of Melbourne, 2004.

**Table 7: Types of private housing in the workforce area and State, 2006**  
Occupied private dwellings

	Cessnock	Maitland	Muswell- brook	Singleton	Workforce area		NSW
	No.				No.	% total	% total
Separate house	15,660	19,445	4,716	6,491	46,312	91%	71%
Semi-detached, townhouse, etc.	319	973	158	280	1,730	3%	10%
Flat, unit or apartment	526	1,275	362	399	2,562	5%	18%
Other dwelling	128	114	58	118	418	1%	1%
Not stated	31	3	7	0	41	0%	0%
<b>Total</b>	<b>16,664</b>	<b>21,810</b>	<b>5,301</b>	<b>7,288</b>	<b>51,063</b>	<b>100%</b>	<b>100%</b>

Source: Australian Bureau of Statistics, *Census of Population and Housing*, 2006, Cat. No. 2068.0

## (ii) Housing tenure

In 2006 home ownership was higher in the workforce area than in the State. Table 8 shows that while the same proportion of dwellings were fully owned in both the area and the State (35 per cent), a higher proportion were being purchased in the area (37 per cent) than in the State (32 per cent), and a lower proportion were being rented in the area than in the State (25 per cent compared with 30 per cent respectively).

Within the workforce area, full ownership was highest in Cessnock (39 per cent of private dwellings) and rental tenure was lowest (22 per cent). The proportion of dwellings being purchased was highest in Maitland and Singleton (39 per cent), and rental tenure was substantially higher in Muswellbrook (33 per cent) than in the other LGAs.

**Table 8: Housing tenure in the workforce area and State, 2006**  
Occupied private dwellings

	Cessnock	Maitland	Muswell- brook	Singleton	Workforce area		NSW
	No.				No.	% total	% total
Fully owned	6,565	7,051	1,619	2,392	17,627	35%	35%
Being purchased	5,729	8,511	1,696	2,827	18,763	37%	32%
Rented	3,722	5,582	1,724	1,876	12,904	25%	30%
Other tenure type	135	133	47	40	355	1%	1%
Tenure type not stated	514	534	215	153	1,416	3%	3%
<b>Total</b>	<b>16,665</b>	<b>21,811</b>	<b>5,301</b>	<b>7,288</b>	<b>51,065</b>	<b>100%</b>	<b>100%</b>

Source: Australian Bureau of Statistics, *Census of Population and Housing*, 2006, Cat. No. 2068.0

*Higher incomes associated with SEOC will encourage home ownership in the workforce area.*



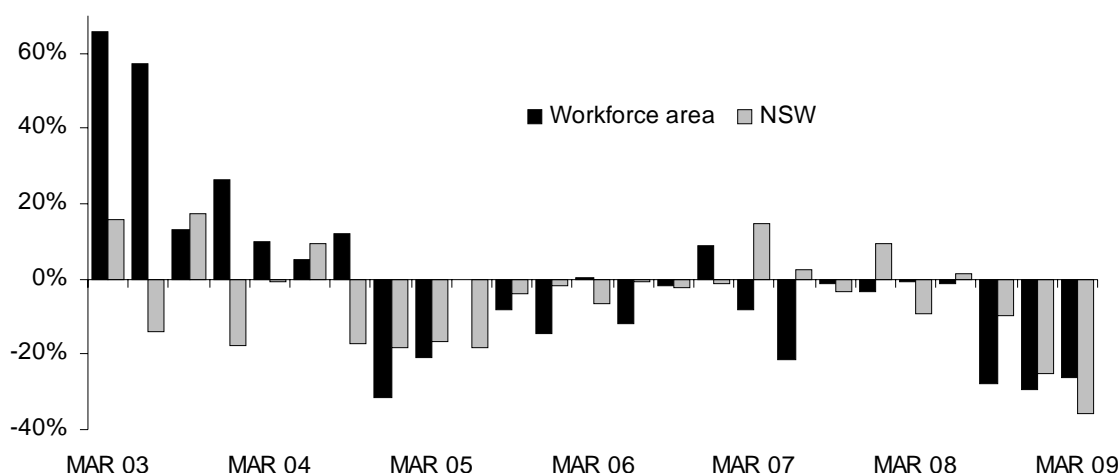
### (iii) Residential building approvals

Figure 9 presents the annual change in the real value of residential approvals in the workforce area and the State. Real values have been calculated by deflating the current dollar values by the ABS *Price index of materials used in house building* so that the effects of inflation are eliminated (as much as possible).

In both the workforce area and the State there was a prolonged period of expansion in residential approvals, and by implication the demand for housing, from around mid 2001 to mid 2004, with growth greater in the workforce area than in the State. However, approvals have fallen almost continually since this time as the reversal in interest rate policy, to higher interest rates, in October 2003 effectively stalled the residential housing market across the State and entrenched a fear of rising mortgage rates.

One of the few positives to come out of the current credit crisis is that the mortgage rate cycle has at last turned, with the Reserve Bank's cash rate falling by 4.25 percentage points between September 2008 and June 2009 (with the last reduction in April 2009). As a consequence, households' ability to repay/borrow has improved and the psychological threat of rising interest rates been dispelled. Despite this, residential approvals in both the workforce area and the State fell substantially over the nine months to March 2009.

**Figure 9: Annual change in real value of residential building approvals in the workforce area and State, 2003 – 2009**



Source: Australian Bureau of Statistics, *Building Approvals*, Cat. No. 8731.1 and *Producer Price Indexes*, Cat. No. 6427.0

The shift in monetary policy to an expansionary setting is the first pre-requisite for an upturn in the housing sector. The second phase includes the return of investors and first home buyers to the market. These demand segments are essential, as they provide the means for activity further up the property chain and into new housing construction. The financial equation continues to improve for residential investors as rental growth gradually lifts income yields towards an appropriate level compared with alternative investments. Reported vacancy rates in the Hunter remain low (1.8 per cent in December 2008), and in the absence of new supply rents will rise further. While income yields will attract investors, the prospect of capital growth is still necessary to drive acquisitions.

In 2009 to date prevailing uncertainty has continued to undermine confidence in the prospects for capital growth, and significant investment levels are unlikely to return until broader confidence improves.

*The employment and income generation associated with the SEOC will assist in increasing housing demand, improving consumer confidence and stimulating the local, regional and State economies.*

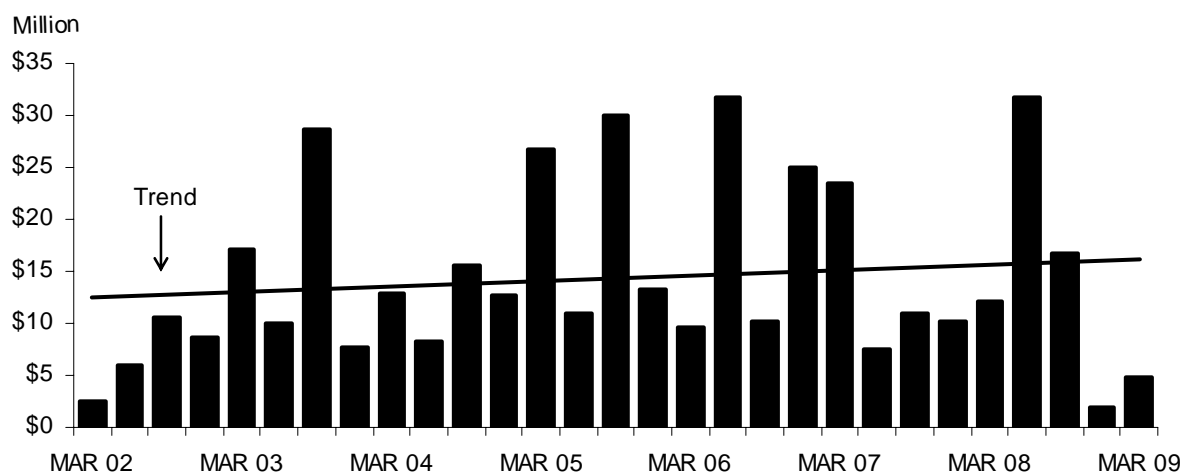
**(iv) Non-residential building approvals**

Figure 10 shows the real value of non-residential approvals (in 1988-99 dollars) in the workforce area and the State (with real values calculated by a combination of indexes). This data, particularly at small area levels, tends to be volatile because large projects have a substantial influence in the quarter in which they are approved. Nonetheless, its value as an economic indicator is twofold: first, it is a leading indicator of actual building activity generated by the non-household sector and, second, it is an indicator of business willingness to invest in infrastructure. It is noted that this data does not include projects for which a local government development approval is not required, such as Federal and State Government infrastructure expenditure and mining developments.

These limitations notwithstanding, the linear trend line on the chart suggests that the real value of non-residential approvals increased slightly over the seven year period shown. However, it appears that the non-household sector made less of a contribution to activity in the local construction sector in 2007 and 2008 than in the previous two years, with the total real value of non-residential approvals in 2007 and 2008 approximately 30 per cent lower than the value in 2005 and 2006.

*The SEOC will assist in offsetting the reduction in non-residential construction activity in the workforce area.*

**Figure 10: Real value of non-residential building approvals in the workforce area, 2002 – 2009 \$1998-99**



Source: Australian Bureau of Statistics, *Building Approvals*, Cat. No. 8731.1 and *Producer Price Indexes*, Cat. No. 6427.0

## 2.8 Socio-economic indexes for areas

Table 9 (over) presents Socio-Economic Indexes for Areas (SEIFA) compiled by the ABS. Each index summarises a different aspect of the socio-economic conditions of the respective LGAs. All indexes have been constructed so that relatively *advantaged* areas (for example, those with many high income earners) have *high* index values. Indexes for the workforce area and Hunter Region and sub-Regions have been calculated by the HVRF as population-weighted averages of indexes for the component LGAs.

The indexes are 'ordinal measures', not 'interval measures'. That is, they can be used to order areas in terms of disadvantage, but any other arithmetic relationships between index values may not be meaningful. For example, an area with an index value of 1,200 does not have twice the wellbeing of an area with an index value of 600. Similarly, the socio-economic difference between two areas with index values of 800 and 900 is not necessarily the same as the difference between two areas with index values of 1,050 and 1,150.<sup>2</sup>

The indexes presented are:

- **Index of Relative Socio-Economic Disadvantage** – derived from Census variables related to disadvantage, such as low income, low educational attainment, unemployment, dwellings without motor vehicles, jobs in relatively unskilled occupations and other variables that reflect disadvantage. *Unlike the other indexes, this index includes only measures of relative disadvantage. Relatively disadvantaged areas have lower index numbers; a high score reflects lack of disadvantage (rather than high advantage).*
- **Index of Relative Socio-Economic Advantage/Disadvantage** – a continuum of advantage (high values) to disadvantage (low values) which is derived from Census variables related to *both* advantage and disadvantage, like household with low income and people with a tertiary education. A higher score on this index indicates that an area has attributes such as a relatively high proportion of people with high incomes or a skilled workforce.

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<sup>2</sup> Details on compilation of the index numbers are available at:

*Information Paper: An Introduction to Socio-Economic Indexes for Areas (SEIFA), 2006*, Australian Bureau of Statistics, Cat. No. 2039.0

<http://www.abs.gov.au/ausstats/abs@.NSF/Latestproducts/2039.0Main%20Features12006?opendocument&tabname=Summary&prodno=2039.0&issue=2006&num=&view>

*Socio-Economic Indexes for Areas (SEIFA) – Technical Paper, 2006*, Australian Bureau of Statistics, Cat. No. 2039.0.55.001

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/2039.0.55.0012006?OpenDocument>

- **Index of Relative Economic Resources** – focuses on Census variables like the income, housing expenditure and assets of households. Education and occupation variables are excluded because they are not direct measures of economic resources. A higher score on this index indicates that the area has a higher proportion of families on high income, a lower proportion of low income families, and more households living in large houses (four or more bedrooms).
- **Index of Education and Occupation** – includes Census variables relating to the educational and occupational characteristics of communities, like the proportion of people with a higher qualification or those employed in a skilled occupation. No income variables are included. An area with a high score on this index would have a high concentration of people with higher education qualifications or undergoing further education, with a high percentage of people employed in more skilled occupations.

Major points of note from Table 9 are that:

- In 2006 the workforce area as a whole was generally less ‘advantaged’ (in socio-economic terms) than the broader Hunter Region.
- Advantage was clearly highest in the Singleton LGA and, to a less extent, Maitland. The relatively high value of the *economic resources* index in Singleton reflects the coal reserves in the area.
- Advantage was lowest in Cessnock. Coal reserves help to boost the indexes for Muswellbrook. The index of *education and occupation* does not take these reserves into account, and clearly reflects the relative disadvantage of both Cessnock and Muswellbrook.

**Table 9: SEIFA indexes, 2006**

	Population	SEIFA Indexes of Relative...			
		Disadvantage	Advantage/ disadvantage	Economic resources	Education and occupation
Cessnock	46,206	939	915	957	878
Maitland	61,881	992	975	997	939
Muswellbrook	15,236	973	951	987	905
Singleton	21,940	1,017	995	1,041	936
<b>Workforce area*</b>	<b>145,263</b>	<b>977</b>	<b>956</b>	<b>990</b>	<b>916</b>
<b>Hunter*</b>	<b>589,240</b>	<b>984</b>	<b>972</b>	<b>983</b>	<b>951</b>

\* Derived by the HVRF

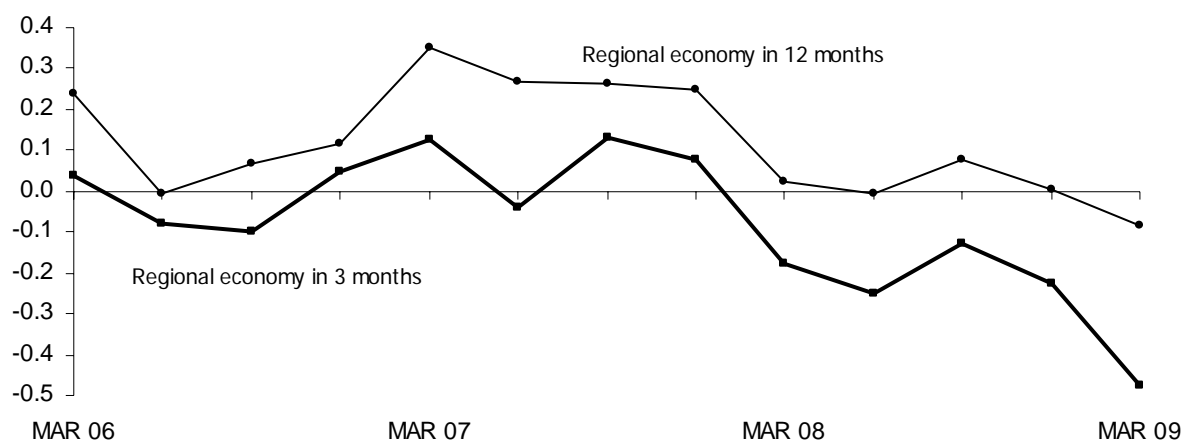
Source: Australian Bureau of Statistics, *Socio-economic Indexes for Areas*, 2006, Cat. No. 2033.0.55.001

*The SEOC will assist in boosting socio-economic advantage in the workforce area, particularly in Cessnock and Muswellbrook.*

## 2.9 Consumer confidence

Consumer confidence in the Hunter Region economy plummeted in 2008 as the dimensions of the global financial crisis and consequent world economic downturn became apparent (see Figure 11). By March 2009 confidence had fallen to levels not seen since 1991.

**Figure 11: Consumer confidence in the Hunter Region economy, 2006 – 2009**  
+1=Most optimistic; -1=Most pessimistic



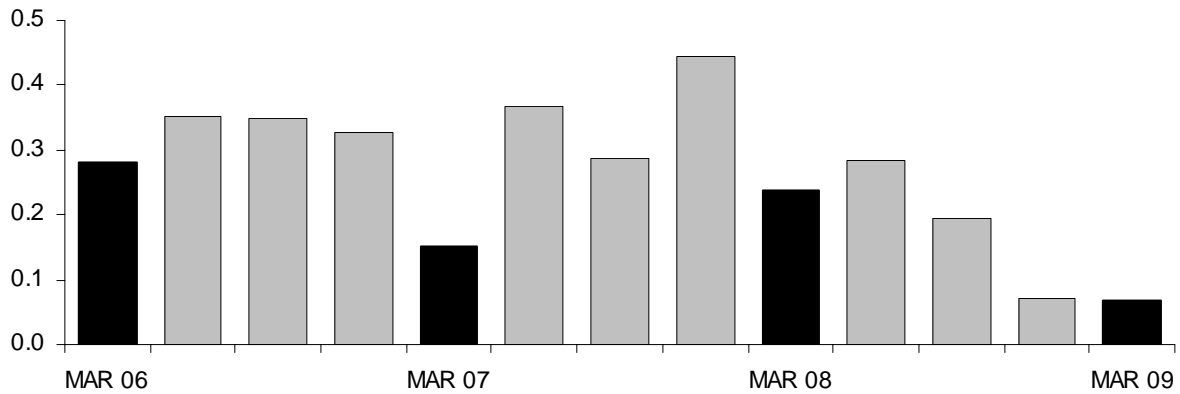
Source: HVRF household surveys

The downturn has seen previous certainties continually dispelled as governments nationalise banks and imperious institutions such as General Motors and Lehman Brothers prove fallible. Uncertainty regarding employment, personal investments and the whole economic context remains prevalent in the Region's households, instilling cautious behaviour and entrenching weak retail and housing demand.

Figure 12 (over) shows that the increase in spending by Hunter residents in the March quarter in 2009 was significantly lower than at the same time in any of the previous three years, despite cash payments by the Federal Government. Longer-term records indicate that it was the lowest increase since 1998 following the Asian Crisis and the announcement by BHP that raw steel-making in Newcastle would be discontinued. This reduction in consumer demand is consistent with a decline in employment in the Region's *accommodation, cafes and restaurants* sector and a substantial reduction in growth in employment in *retail trade*. While the latter is probably being supported by ongoing spending on staple products including food, spending in the former is largely discretionary, and the first to be cut when household budgets are under threat.

The *expected* increase in regional spending in the March quarter 2009 was the lowest since the HVRF began canvassing household opinion in 1989. In combination, these findings are consistent with current ABS data which indicates a marked slowdown in national output and income growth.

**Figure 12: Increase in spending over the past three months by Hunter Region residents, 2006 – 2009; +1=Increase by all; -1=Decrease by all**



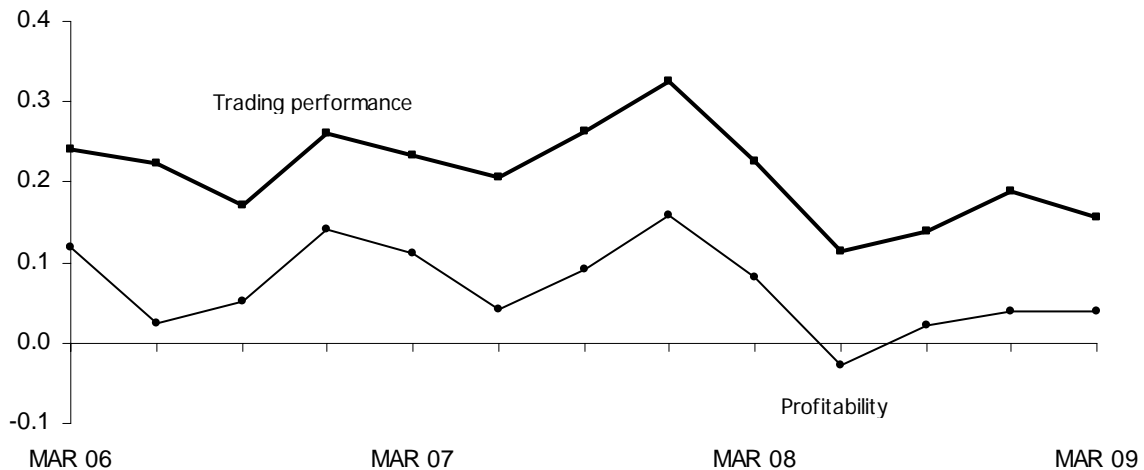
Source: HVRF household surveys

## 2.10 Business performance

Economic activity in the Hunter Region in 2006 and 2007 was generally supported by strong commodity-related business and historically strong terms of trade, which flowed into above-average retail trade performance. However, these two pillars have now dissipated, and HVRF business surveys suggest that lower consumer confidence and weaker demand are being reflected in a deterioration of regional businesses' trading performance and profit margins are being squeezed (see Figure 13). In addition, orders are falling and less overtime is being worked.

Looking forward, lower cash rates should translate to lower business finance costs when confidence in the global financial sector returns, although this is unlikely to overcome the uncertainty and caution regarding business and consumer spending in the short-term. Similarly, the relatively weaker Australian dollar will assist the competitive position of local manufacturing and tourism providers, but only amid the new context of substantially weaker domestic and international demand for these goods and services.

**Figure 13: Hunter Region businesses' trading performance and profitability over the last three months, 2006 – 2009; -1=Very poor; 0=Satisfactory; +1= Very good**

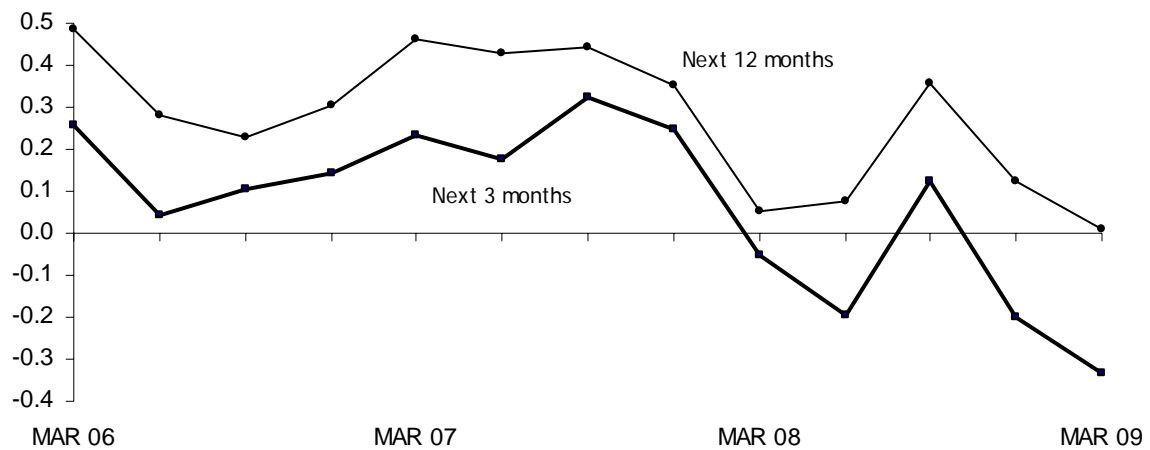


Source: HVRF business surveys

## 2.11 Business confidence

Figure 14 shows that, despite a lift in September 2008, business confidence in the Hunter Region economy has also plummeted to long-term lows. This is a key factor in pessimism regarding short to medium-term investment and employment growth going forward. Limited data at the regional level indicates that business investment in equipment is falling, with registrations of new commercial vehicles declining since mid 2008 and HVRF surveys suggesting a moderation of capital expenditure plans since September 2007.

**Figure 14: Business confidence in the Hunter Region economy, 2006 – 2009**  
+1=Most optimistic; -1=Most pessimistic



Source: HVRF business surveys

*The SEOC will provide a much needed boost to investment spending and confidence in the Hunter Region.*



## 3 Economic impact analysis

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### 3.1 The HVRF input-output model

Estimates are provided of the economic impacts generated in the Hunter Region from the construction and ongoing operation of the SEOC Mine. The estimates have been compiled using input-output (I-O) analysis and the current version of the I-O model of the Hunter Region economy developed by the HVRF. The model is survey-based, comprising 29 sectors. Leakages from each sector are assessed using the information provided by firms in the survey sample. In this analysis:

- A job is defined as a full-time position which lasts for one year
- All currency values are in terms of 2009 Australian dollars.

### 3.2 Input-output analysis

I-O analysis essentially identifies and evaluates linkages between sectors in the economy. The analysis uses the expenditure by a firm on its final product as a starting point, and then tracks backward through the various sectors in the economy to identify the contribution each sector makes to that final product. As the connections are traced backwards, the analysis is made in terms of the **direct** (or initial) impacts of the final expenditure and the **induced** (or flow-on) impacts as all sectors provide inputs to enable the final production. The impacts are quantified using multiplier coefficients derived from the model, in terms of the value of the goods and services and the number of jobs which result from production of the specified good or service and the expenditure of salaries and other income earned due to that production. Estimates are also provided for taxation revenues generated for the Federal and State Governments.

For the SEOC, economic impacts will first result from **construction** of the mining facilities over the planned two-year period. During this period, the direct output impact is measured by the value of the capital expenditure on the facilities. Direct and induced impacts result as jobs are created on the construction and related sites, and as firms which manufacture the materials and components necessary to construct the facilities buy, from various suppliers, the raw materials and services required for the production of their own products. In turn, these suppliers purchase inputs for the production of their products and services and employment increases to enable the production of these required raw materials and services at all stages of production. These effects are referred to as *production induced* impacts. Additional, *consumption induced* impacts will occur during construction of the facilities as the recipients of income derived (in the form of profits, dividends, wages and salaries) make purchases which generate output and employment.



The direct (annual) output impact of the **operation** of the proposed mining facilities is measured by the value of the coal output. Employment is generated onsite to operate and maintain the facilities, and elsewhere in the Region as raw material inputs (spare parts, fuel, utilities etc.) and services are purchased from various suppliers. In turn, these suppliers need to purchase inputs necessary for the production of their own products. Employment increases to enable production of these required raw materials and services at all stages of production, and income will be generated, and spent, in each stage.

During both construction and ongoing operation of the mine, it is anticipated that a majority of the direct impacts, as well as a substantial proportion of the induced impacts, will accrue in the Cessnock, Maitland, Muswellbrook and Singleton LGAs.

Stimulating output and employment throughout the regional economy will also increase government revenue through increased **taxation receipts**. Federal and State Government taxation revenues are calculated by the HVRF I-O model under relatively conservative assumptions. The estimates are, therefore, considered to represent the lower bounds of potential receipts.

In addition to payroll taxation receipts (estimated by the I-O model), the State Government will receive revenues based upon the tonnage of coal output from the project in each year. These include rail freight charges, port charges, royalties and other taxes. Additional revenue will also be derived by local Councils through rate payments and fees associated with the approval of investment plans. The estimated value of State Government royalties is included in this report, but no estimates have been made for the revenue derived from other sources.

### **3.3 Construction impacts**

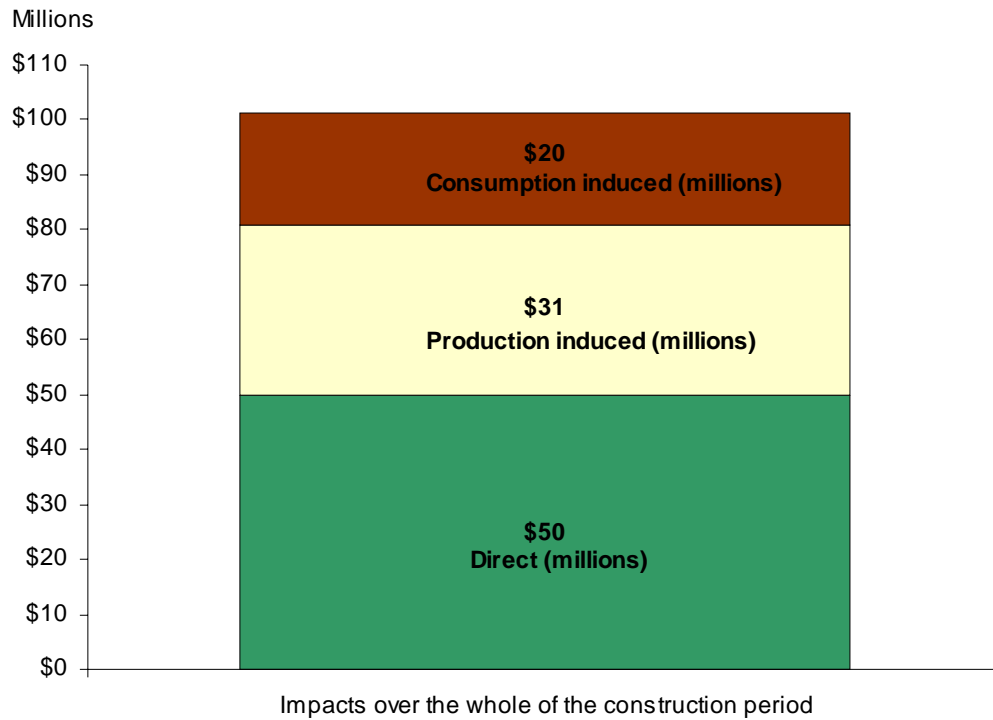
#### **(i) Construction expenditure**

Expenditure on construction of the SEOC facilities is estimated to total \$49.9 million over two years: \$3.5 million in the first year (2009-10) and the bulk of the expenditure, \$46.4 million, in the second year (2010-11). For the purposes of this analysis the expenditure has been apportioned over four of the 29 sectors described by the HVRF I-O model. The induced impacts have been calculated using the multipliers for each of these sectors.

**(ii) Output impacts**

Total expenditure of approximately \$50 million over the two-year construction period is expected to stimulate additional production in the Region valued at \$31 million and additional consumption worth \$20 million: an induced benefit of \$51 million, providing a total benefit to the Region valued at \$101 million (see Figure 15).

**Figure 15: Value of output generated from construction of the SEOC, 2009-10 – 2010-11**



Source: Hunter Valley Research Foundation, 2009

Table 10 (over) provides details of the value of the initial, direct expenditure in each sector of the regional economy, and the value of output induced as a result, in each year of the construction period and for the whole of the period. The majority expenditure of approximately \$46 million in the second year is expected to stimulate additional production valued at \$28 million and consumption worth \$19 million: an induced benefit of \$47 million, providing a total benefit to the Region valued at \$93 million.

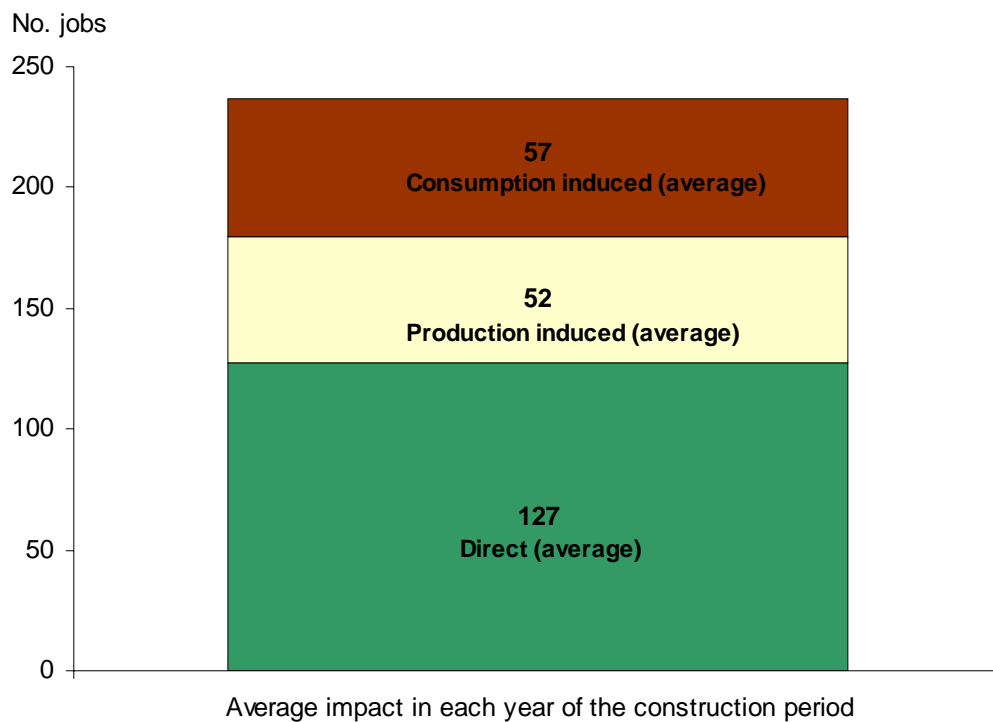
**Table 10: Value of output generated from construction of the SEOC, 2009-10 – 2010-11**

	Direct (i)	Induced		Total induced (iv)=(ii)+(iii)	Total (i)+(iv)
		Production induced (ii)	Consumption induced (iii)		
<b>Year one (2009-10)</b>					
Mining	\$0.3	\$0.2	\$0.1	\$0.2	\$0.5
Machinery and equipment	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Construction	\$0.2	\$0.1	\$0.1	\$0.2	\$0.4
Property and business services	\$3.0	\$2.6	\$1.3	\$3.9	\$6.9
<b>Total</b>	<b>\$3.4</b>	<b>\$2.9</b>	<b>\$1.4</b>	<b>\$4.3</b>	<b>\$7.7</b>
<b>Year two (2010-11)</b>					
Mining	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Machinery and equipment	\$9.1	\$1.8	\$4.4	\$6.2	\$15.3
Construction	\$23.9	\$14.5	\$9.0	\$23.4	\$47.3
Property and business services	\$13.4	\$11.7	\$5.7	\$17.3	\$30.7
<b>Total</b>	<b>\$46.4</b>	<b>\$27.9</b>	<b>\$19.0</b>	<b>\$46.9</b>	<b>\$93.3</b>
<b>Whole of the construction period (total)</b>					
Mining	\$0.3	\$0.2	\$0.1	\$0.2	\$0.5
Machinery and equipment	\$9.1	\$1.8	\$4.4	\$6.2	\$15.3
Construction	\$24.1	\$14.6	\$9.0	\$23.6	\$47.7
Property and business services	\$16.4	\$14.3	\$6.9	\$21.2	\$37.6
<b>Total</b>	<b>\$49.9</b>	<b>\$30.8</b>	<b>\$20.4</b>	<b>\$51.2</b>	<b>\$101.1</b>

**(iii) Employment impacts**

Total construction expenditure of \$50 million is expected to directly create an average of 127 full-time equivalent jobs in each year of the two-year construction period. Additional production in the Region will generate a further 52 jobs, and additional consumption will create a further 57: an induced benefit of 109 jobs, providing a total employment benefit to the Region of 236 full-time equivalent positions, on average, in each year of the construction period (see Figure 16).

**Figure 16: No. of jobs generated from construction of the SEOC, 2009-10 – 2010-11 (average no. full-time equivalent jobs in each year)**



Source: Hunter Valley Research Foundation, 2009

Table 11 (over) provides details of the number of full-time equivalent jobs created from the initial, direct expenditure in each sector of the regional economy, and the number induced as a result, in each year of the construction period and for the whole of the period. Employment creation will be highest in the second year, with 230 jobs expected to be directly generated and a further 94 and 106 induced from the additional production and consumption respectively: an induced benefit of 201 jobs. In total 430 full-time equivalent positions will be created in the second year.

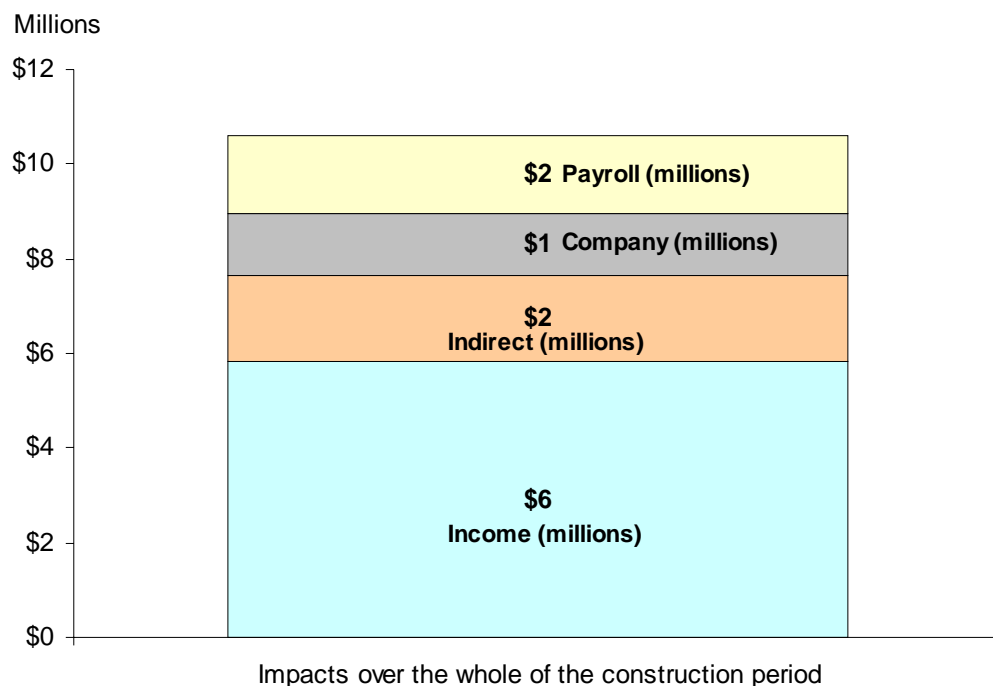
**Table 11: No. of jobs generated from construction of the SEOC, 2009-10 – 2010-11**

	Direct (i)	Induced		Total induced (iv)=(ii)+(iii)	Total (i)+(iv)
		Production induced (ii)	Consumption induced (iii)		
<b>Year one (2009-10)</b>					
Mining	0	1	0	1	1
Machinery and equipment	0	0	0	0	0
Construction	1	0	0	1	1
Property and business services	24	9	7	16	40
<b>Total</b>	<b>25</b>	<b>10</b>	<b>8</b>	<b>18</b>	<b>43</b>
<b>Year two (2010-11)</b>					
Mining	0	0	0	0	0
Machinery and equipment	50	7	24	32	82
Construction	71	48	50	98	169
Property and business services	109	39	32	71	180
<b>Total</b>	<b>230</b>	<b>94</b>	<b>106</b>	<b>201</b>	<b>430</b>
<b>Whole of the construction period (period average)</b>					
Mining	0	0	0	0	1
Machinery and equipment	25	4	12	16	41
Construction	36	24	25	49	85
Property and business services	66	24	19	43	110
<b>Total</b>	<b>127</b>	<b>52</b>	<b>57</b>	<b>109</b>	<b>236</b>

#### (iv) Federal and State Government taxation revenues

Over the two-year construction period it is estimated that taxation revenue to the Federal Government will total approximately \$9 million: \$5.8 million from income tax, \$1.8 million from indirect taxes and \$1.3 million from company tax. Payroll taxation revenue to the State Government is estimated at \$1.6 million, yielding a total public sector benefit of close to \$11 million (see Figure 17).

**Figure 17: Value of taxation revenues generated from construction of the SEOC, 2009-10 – 2010-11**



Source: Hunter Valley Research Foundation, 2009

Table 12 details estimates of the taxation revenue that will accrue to the Federal and State Governments as a result of the direct and induced output and employment generated from expenditure on the mining facilities, in total and in each year of the two-year construction period. Revenue will be highest in the second year, totaling \$8.3 million for the Federal Government and \$1.5 million for the State Government.

**Table 12: Value of taxation revenues generated from construction of the SEOC, 2009-10 – 2010-11**

	Federal			Total Federal (iv) = (i)+(ii)+(iii)	State Payroll (v)	Total Federal and State (iv)+(v)
	Income (i)	Indirect (ii)	Company (iii)			
Year one (2009-10)	\$0.4	\$0.1	\$0.1	\$0.6	\$0.1	\$0.7
Year two (2010-11)	\$5.4	\$1.7	\$1.2	\$8.3	\$1.5	\$9.9
<b>Total</b>	<b>\$5.8</b>	<b>\$1.8</b>	<b>\$1.3</b>	<b>\$9.0</b>	<b>\$1.6</b>	<b>\$10.6</b>

### 3.4 Operational impacts

#### (i) Coal production

Output and employment impacts resulting from ongoing operation of the SEOC will be directly generated in the *mining* sector of the I-O model. Production is expected to run for seven years between 2010-11 and 2016-17, totaling approximately 21 million tonnes, run of mine (ROM). For the purposes of this analysis, saleable output has been valued at \$100 per tonne over the whole of the production period. On the basis of these assumptions the total value of output over the life of the mine is estimated at approximately \$1.2 billion. Operational employment is expected to remain constant at 160 full-time equivalent positions in each year of production. Table 13 provides details.

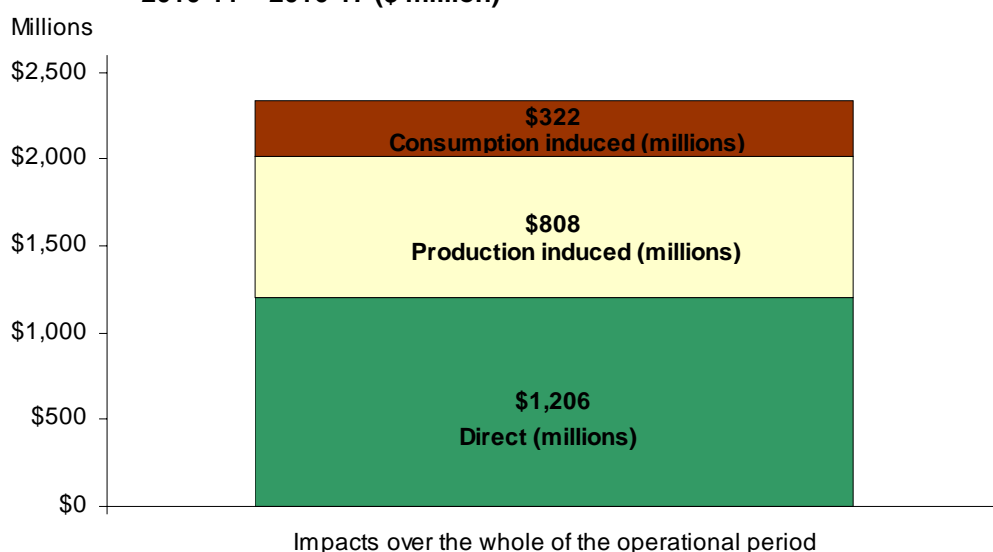
**Table 13: Production schedule for the SEOC, 2010-11 – 2016-17**

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	Total
ROM production (million tonnes)	2.93	3.54	3.10	3.32	3.42	3.17	1.12	<b>20.60</b>
Value (\$ million)	\$183.30	\$214.50	\$178.00	\$188.60	\$184.80	\$184.50	\$71.98	<b>\$1,205.68</b>
Employment (no. full-time equivalent jobs)	160	160	160	160	160	160	160	<b>160</b>

#### (ii) Output impacts

Total production over seven years valued at approximately \$1.2 billion is expected to stimulate further production in the Region valued at \$808 million and additional consumption worth \$322 million: an induced benefit of \$1.2 billion, providing a total benefit to the Region valued at \$2.3 billion (see Figure 18).

**Figure 18: Value of output generated from operation of the SEOC, 2010-11 – 2016-17 (\$ million)**



Source: Hunter Valley Research Foundation, 2009

Table 14 provides details of the value of production and the value of output induced as a result, in each year of operation and for the whole of the operational period. Production is expected to be highest in the second year of operation (2011-12), when output worth \$215 million is estimated to stimulate additional production valued at \$144 million and consumption worth \$57 million: an induced benefit of \$201 million, providing a total benefit to the Region valued at \$416 million.

**Table 14: Value of output generated in each year from operation of the SEOC, 2011 – 2016-17 (\$ million)**

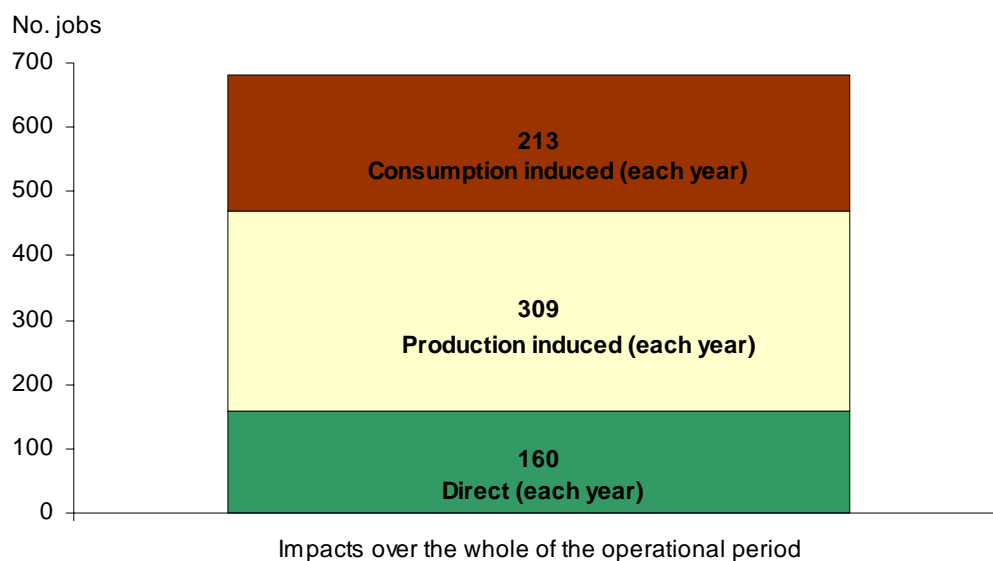
	Direct (i)	Induced		Total induced (iv)=(ii)+(iii)	Total (i)+(iv)
		Production induced (ii)	Consumption induced (iii)		
2010-11	\$183.3	\$122.8	\$49.0	\$171.8	\$355.1
2011-12	\$214.5	\$143.7	\$57.3	\$201.0	\$415.5
2012-13	\$178.0	\$119.3	\$47.5	\$166.8	\$344.8
2013-14	\$188.6	\$126.4	\$50.4	\$176.8	\$365.4
2014-15	\$184.8	\$123.8	\$49.4	\$173.2	\$358.0
2015-16	\$184.5	\$123.6	\$49.3	\$172.9	\$357.4
2016-17	\$72.0	\$48.2	\$19.2	\$67.5	\$139.4
<b>Total</b>	<b>\$1,205.7</b>	<b>\$807.9</b>	<b>\$322.0</b>	<b>\$1,129.9</b>	<b>\$2,335.6</b>



### (iii) Employment impacts

Employment at the mining operations will be equivalent to 160 full-time positions in each of the seven years of operation. Induced production and consumption in the Region from the operations will generate a further 309 and 213 jobs respectively: an induced employment benefit of 522 jobs. In total approximately 682 full-time equivalent positions will be created in the Region (see Figure 19 and Table 15).

**Figure 19: Employment generated from operation of the SEOC, 2010-11 – 2015-16 (no. full-time jobs in each year)**



Source: Hunter Valley Research Foundation, 2009

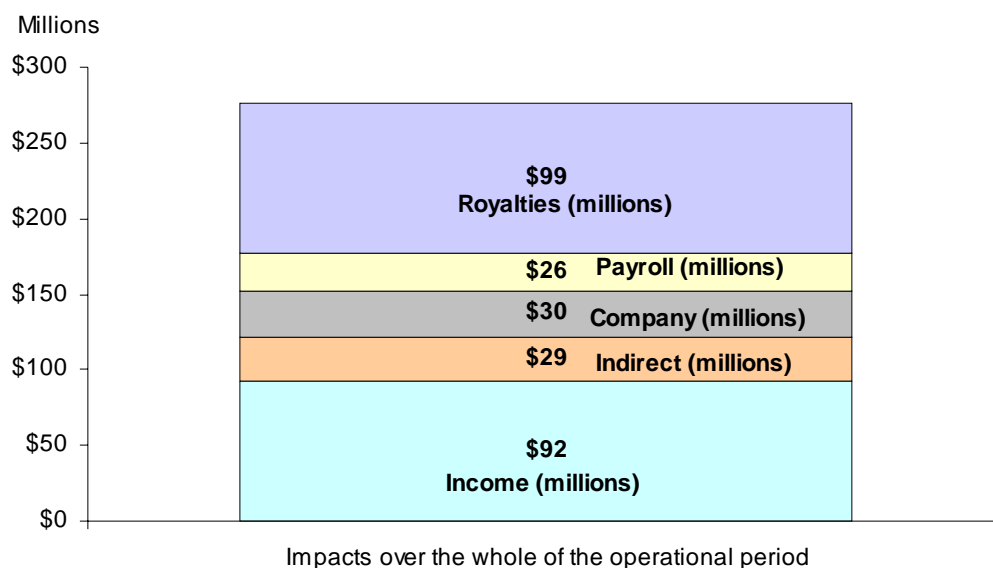
**Table 15: No. of jobs generated from operation of the SEOC, 2010-11 – 2016-17 (no. full-time jobs in each year)**

	Direct (i)	Induced		Total induced (iv)=(ii)+(iii)	Total (i)+(iv)
		Production induced (ii)	Consumption induced (iii)		
2010-11 – 2016-17	160	309	213	522	682

#### (iv) Federal and State Government taxation and royalty revenues

Over the seven-year operational period, Federal Government taxation receipts are estimated to total approximately \$151 million: \$92 million from income tax, \$29 million from indirect taxes, and \$31 million from company tax. Revenue to the State Government is estimated at \$125 million: \$26 million from payroll tax and \$99 million from production royalties. The total public sector benefit is expected to exceed \$276 million (see Figure 20).

**Figure 20: Value of government revenues generated from operation of the SEOC, 2010-2011 – 2016-17 (\$ million)**



Source: Hunter Valley Research Foundation, 2009

Table 16 details estimates of revenues that will accrue to the Federal and State Governments as a result of the direct and induced output and employment generated in each year of the mining operations, as well royalty payments estimated on the basis of the value of production.

**Table 16: Value of government revenues generated from of operation of the SEOC, 2010-11 – 2016-17 (\$ million)**

	Federal				State			Total Federal and State (iv)+(vii)
	Income (i)	Indirect (ii)	Company (iii)	Total Federal (iv)=(i)+(ii)+(iii)	State Payroll (v)	Royalties (vi)	Total State (vii)=(v)+(vi)	
2010-11	\$14.0	\$4.4	\$4.6	\$23.0	\$3.9	\$15.0	\$18.9	\$42.0
2011-12	\$16.4	\$5.2	\$5.4	\$26.9	\$4.6	\$17.6	\$22.2	\$49.1
2012-13	\$13.6	\$4.3	\$4.5	\$22.4	\$3.8	\$14.6	\$18.4	\$40.8
2013-14	\$14.4	\$4.5	\$4.8	\$23.7	\$4.0	\$15.5	\$19.5	\$43.2
2014-15	\$14.1	\$4.4	\$4.7	\$23.2	\$3.9	\$15.2	\$19.1	\$42.3
2015-16	\$14.1	\$4.4	\$4.7	\$23.2	\$3.9	\$15.1	\$19.1	\$42.2
2016-17	\$5.5	\$1.7	\$1.8	\$9.0	\$1.5	\$5.9	\$7.4	\$16.5
<b>Total</b>	<b>\$92.0</b>	<b>\$29.0</b>	<b>\$30.5</b>	<b>\$151.4</b>	<b>\$25.8</b>	<b>\$98.9</b>	<b>\$124.6</b>	<b>\$276.1</b>



## 4 Conclusions

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The workforce area is relatively disadvantaged, particularly in the Cessnock and Muswellbrook LGAs. Over the decade to 2006 the population in the area has aged at a greater rate than in the State as a whole, and in Cessnock and Muswellbrook there has been a substantial decline in the population aged under 40. Unemployment in the area generally exceeds the State average, and educational attainment and income levels are lower than in the State. The current economic downturn has seen residential building approvals decline at a faster rate in the workforce area than in the State, and consumer and business confidence in the broader Hunter Region have deteriorated to levels not seen since 1991. Lower consumer confidence and weaker demand are being reflected in a deterioration of regional businesses' trading performance, lower profit margins, falling orders and less overtime being worked.

The SEOC will provide a substantial boost to the Hunter Region in general and the workforce area in particular, primarily by increasing employment, income and demand. Construction of the facilities is expected to generate output in the Hunter worth more than \$100 million, and their subsequent operation will generate an estimated \$2.3 billion worth of output. Around 127 jobs will be created, on average, in each of the two years of construction and 160 will be created in each of the seven years of operation.

Over the medium-term, economic development and job creation promoted by the project will contribute to population growth and assist in keeping younger people in, and attracting them to, the workforce area. Growth in tertiary sector industries will be encouraged as the population increases which, in turn, will assist in further increasing incomes and promoting higher educational attainment in the area.



## 5 References

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