

**Submission  
No 17**

## **SKILL SHORTAGES IN NSW**

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# **Skill Needs for Industry and Community**

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# SKILL NEEDS FOR INDUSTRY AND COMMUNITY

## Executive Summary

This report documents the skill needs of industry and community for Muswellbrook and the Upper Hunter sub-region, and details strategies for governments to assist in education and training delivery.

This report addresses the NSW Government's *Smart and Skilled* reforms to vocational education and training (VET). In addition, discusses the arguments for a focus on education and training deliveries that meet the needs of industry and the needs of community rather than an emphasis on an absolute Skills Lists.

It is considered that the risks of determining education and training delivery resolutely around a Skills List are such that it could disadvantage both industry and rural and sub-regional communities especially in the long term. The risks include:

1. Being slow to respond to the skills demand of industry, having a multiplier effect to any fluctuations in leading industries and fostering an over and under supply of skilled labour and the subsequent volatility in wages and prices;
2. Neglecting the skill needs of other industries and the community; and
3. Removing capacity for future skills delivery in rural and sub-regional communities by withdrawing infrastructure in the wrong locations and consequently forcing qualified teachers, and students to leave communities.

The identified strategy of the *Smart and Skilled* reforms is to make training more responsive to industry needs however it may achieve the opposite. The risk inherent is that the NSW Skills List will determine absolutely which courses are funded. The Skills List has the potential to distort the labour market and be slow in response to industry due to significant lag times. The Upper Hunter community alternatively have been very successful in the last decade in fostering links between VET and industry and tailoring delivery.

In the Upper Hunter, demand for power, mining and mining services skills is strong and despite a slowdown in mining sector construction these industries still demand skilled labour. Especially, now as industry shifts the focus to increasing productivity, mining skills remain a critical need.

There is also the need in the Upper Hunter to further meet the skill needs of other industries that often support leading industries like the mining and mining services sector. These other industries often lose qualified tradespeople and professional staff to this sector. There is a risk that the shift towards the Skills List model of VET delivery will not equate to an equivalent and appropriate local supply of skilled labour in rural and sub-regional areas. It will possibly result in a student shift towards metropolitan areas where subjects might be delivered more regularly.

Importantly, there is the need for skills that makes Upper Hunter communities like Muswellbrook function. A set of community skills that is vital for strong local economies and liveable communities.

For sustainable regional industries and communities, particularly in rural and sub-regional areas due to the remoteness of distance, education and training delivery must be focused on both the skill needs for industry and community.

This report presents the argument that in order to support rural and sub-regional industries and communities like the Upper Hunter that the reforms to VET need to provide for regional Centres of Education Excellence. That the reforms need to allow an education and training delivery that meets the needs of leading industry, with the capacity to meet a baseline of skill needs for other industries and the community.

This report concludes the following recommendations as the best strategies for education and training delivery in the Upper Hunter:

1. A Centre of Education Excellence responsive and proximate to meet the needs of leading industry;
2. A Higher Education campus to deliver polytechnic courses that facilitate education pathways; and
3. Delivery of education and training that provides a baseline of skill needs for other industries and the community.



## Muswellbrook Shire Economy

The mining sector is expected to have a long future in Muswellbrook Shire with coal resources within the approved footprints of existing operations alone large enough to last as a resource beyond this century. It is likely that the mining sector for the foreseeable future in Muswellbrook will be a continued source of employment and growing demand for skilled workers from within and outside the sub-region.

Despite the national trend of construction in the mining sector slowing there are still significant projects planned in the Hunter around black coal and infrastructure. Currently there are six (6) extension/modification and or expansion projects planned at local mines near Muswellbrook and there is \$3 billion of planned infrastructure across the Hunter Valley Coal Chain.<sup>1</sup> The Hunter Valley Research Foundation (HVRF) indicates 12-month employment intentions in the Upper Hunter are still high.<sup>2</sup>

Muswellbrook Shire Council continues to assume coal sector growth in Muswellbrook Shire until 2025 and the continuation of coal mining until 2050 to 2080. Council assumes a modest upwards trend towards long term average coal prices together with a substantial downward correction in coal industry input capital costs. These factors combining to provide a modest trend back towards growth in the medium term.

Council anticipates a medium population growth in the short term. The population growth is related to open-cut coal development, and related staged residential developments. Further, Council assumes modest industry growth in the equine and viticulture industries, a significant trend back to growth in the retail sector, and continued strong housing construction development. Attached as *Appendix A* is an overview of Muswellbrook Shire, it provides further detail of the industries in Muswellbrook and the Upper Hunter.

In the last decade, the coal mining industry has generally absorbed any slack in the local labour market and indeed attracted skilled workers from other industry sectors with generous financial incentives. As a result the demand by the mining sector for skills across a broad range of industries cannot be met by the local supply, which has a number of consequences, not least high volumes of traffic on the region's road network and high incidents of road trauma.

Muswellbrook Shire continues to experience a two speed economy, with the mining sector overheating demand on local economic resources. Wages are driven up in an overstretched labour market and this flows on to the prices of goods and services throughout the sub-regional economy. A high labour price contributes to higher prices more generally. This is particularly problematic in a community with a higher proportion of people on fixed incomes many of whom occupy social and community housing.

The unemployment rate in the Upper Hunter (based on Singleton, Muswellbrook and Upper Hunter LGAs) is 2.8%<sup>3</sup>. The December 2012 Small Area Labour Market (SALM) report indicated fewer than 500 people were seeking employment during the period<sup>4</sup>.

The price of labour has been constrained in real terms unable to outstrip the local cost index. That may be one contributing factor in why Muswellbrook's position on the relative wealth index has dropped relative to local government areas without significant mining over the last

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<sup>1</sup> (Hunter Valley Research Foundation, 2013, p. 3)

<sup>2</sup> (Hunter Valley Research Foundation, 2013, p. 2)

<sup>3</sup> (Hunter Valley Research Foundation, 2013)

<sup>4</sup> (Department of Employment Education and Workplace Relations, 2012)

fifteen years<sup>5</sup>. There are other consequences that flow from an economy without sufficient labour. For example the depletion of trade qualified persons providing domestic trade services is one such consequence. To ease volatility in labour markets and economic overheating required is an available pool of skilled labour.

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<sup>5</sup> (David Brereton, 2008)



## Smart and Skilled

The NSW Government's Smart and Skilled reforms to the NSW vocational education and training system are to be implemented from July 2014. Critical to this reform is the development of a NSW Skills List that will define which courses are eligible for government funding and which are not. The identified strategy is to make training more responsive to business and industry needs. This is a desirable objective however the strategy has inherent risks that may actually disadvantage industries and communities.

Firstly, determining education and training delivery around an absolute Skills List could distort the labour market and be slow in responding to skills demand by industry. Any fluctuations in leading industries could be further multiplied by the Skills List model. For instance a slowdown in an industry decreases demand for particular skills but the provision of funding would maintain the supply of those skills. Meanwhile an increase in activity in another industry creates demand for particular skills that are not funded and consequently not sufficiently supplied. The result would be an over-supply of particular skills and an under-supply of other skills. This would create especially in communities like Muswellbrook an associated volatility in wages and prices and exacerbate the two-speed economy.

The Skills List model would seem to provide little scope for reskilling and this capacity to reskill in rural and sub-regional communities, dominated by a particular industry, is critical for diversity and sustainability.

The Upper Hunter traditionally as a community has fostered strong links between secondary education, vocational education and industry. These relationships have been critical to the flow of information and in identifying needs around trade requirements and their incorporation into education outcomes. It would be a significant loss for skill delivery in the Upper Hunter that if any change to NSW's vocational education system extinguished this network that has been so successful.

The other risk is that skills for other industries that often support leading industries like mining and mining services are not provided for in the Skills Lists. For example the local light automotive industry in the Upper Hunter has struggled to retain apprentices and qualified tradespeople who are attracted by the well-paid positions in mining and mining services sector. Again if these skills are not supplied there is overheating demand on local economic resources.

For communities like Muswellbrook to function and be livable communities with strong local economies there is also a set of skills required. Skill sets that include: business, information technology, retail, hospitality, hairdressing and beauty, health and aged care, children and community services. These skill sets may not have industry advocates in this region and therefore be neglected from the Skills List.

The long-term risk of determining education and training delivery resolutely around a Skills List is that it could remove future capacity for skills delivery in rural and sub-regional communities. A Skill List will prescribe delivery and required resources. The result could mean withdrawal of education infrastructure and resources that has taken generations to build forcing qualified teaching staff to relocate. A potential consequence of this would be greater numbers of young people will leave communities like the Upper Hunter to achieve their education goals. Once removed the education and training capacity could take many years to rebuild.



## Strategies to assist in delivering skill needs for industry and community

The Upper Hunter requires, strategically located Centres of Education Excellence that draw on the sub-regional and rural communities, and service those areas which align with industry while maintaining capacity to meet the needs of the community.

As the mining industry moves west and north/west, continual delivery of education and training in the Lower Hunter is increasingly high risk and costly because education and training will not be proximate to industry. The Hunter region's major population centre, Newcastle and the Lower Hunter, have significant limitations in their capacity to serve as a regional centres of education for the Upper Hunter because of their distance from industry.

In applications for the development and expansion of coal mining operations or modifications to existing conditions of consent, proponents invariably insist approval of developments will be a source of localised employment. To be clear, industry wants their employees trained locally it has many Work Health and Safety outcomes and contributes to a mining operations' 'social licence'.

TAFE NSW's existing presence in Muswellbrook provides quality vocational education and training in a number of key areas, including general education, business, computing, natural resources, childcare and community services. There is an increasing focus on the mining sector with the Mining Skills Centre on the Muswellbrook campus, providing training in basic engineering, safety and lifestyle skills, together with comprehensive trades training.

Present assets for trades training in support of the mining industry can cope with delivery at 2012 levels at the Muswellbrook campus. However, training delivery required by the ongoing growth of the coal mining industry and the needs of other industries and related economic and social development across Muswellbrook LGA have constrained the Muswellbrook campus capacity. Further the campus has competing needs for delivery of other training crucial to the communities of Muswellbrook and the surrounding region including: adult basic education; business administration and management; information technology and personal and community services.

Hunter TAFE has proposed significant capital improvements to the Muswellbrook TAFE Campus together with a number of other vocational education initiatives for Muswellbrook including the establishment of separate Business and Heavy Plant campuses, both of which are strongly supported by Muswellbrook Shire.

Hunter TAFE has sought funding under the Commonwealth Education Infrastructure Fund (EIF) Regional Priorities Round, and Council was last year successful in its bid for funds under the Commonwealth's Regional Development Australia Fund (RDAF) for the current construction of a (63) bed student accommodation facility located on the Muswellbrook TAFE campus.

The Upper Hunter and particularly Muswellbrook LGA have historically experienced fluctuations in housing demand and supply, which severely impacts on the availability of affordable accommodation. Council identified a unique opportunity to establish additional accommodation specifically for students in partnership with Hunter TAFE and the mining industry. The facility is expected to be operational in 2014. It is envisaged that the supply of additional student accommodation will improve the attractiveness of Muswellbrook to potential students and trainees from outside the LGA and increase the pool of skilled labour in the Upper Hunter.



The *Upper Hunter Economic Diversification Project* commissioned by the New South Wales Government and the six (6) Councils representing LGAs in the Upper Hunter Region identified the need to establish specialist centres of education delivery as a means to diversify the local economy beyond coal mining dependence. It recommends a power and energy Centre of Educational Excellence for Muswellbrook, drawing on the existing industry expertise and key stakeholders including other Upper Hunter Region Councils, Federal and State agencies, Hunter TAFE, universities and industry representatives.

The recommendation of the strategy confirms Council's identification of a unique opportunity to improve Muswellbrook's delivery of VET and education outcomes for the surrounding region. The rationale is based on Muswellbrook's strategic location as well as a leading provider of skills, labour, industry expertise and support to the mining and energy sector. It could build on the existing presence of the Hunter Institute of TAFE Mining Skills Centre and their determination to foster excellence in the mining industry, whilst continuing to provide baseline skills for industries outside the mining and energy sectors.

The determination of education and training delivery for other industries could be made from analysis of historical delivery and sub-regional labour market trends. Attached as *Appendix B* is an analysis of Upper Hunter education and training delivery that identifies skill needs and future projections.

There are also significant opportunities that exist to partner with industry and other education providers, particularly in the university sector. The University of Newcastle only provides mining engineering for two years of a four year program in partnership with the University of New South Wales and University of Wollongong. As a consequence opportunities exist for an enterprising tertiary education provider to offer degree qualification courses and research opportunities through education facilities in Muswellbrook. A number of universities have expressed interest in such an opportunity

Given the current and anticipated demand for skilled employees in the mining sector, significant synergies could be realised with TAFE NSW, through the sponsorship of course programs to up-skill existing workers and for apprentices, building on existing relationships with industry. It should also be noted that peripheral industry operators, such as in the manufacturing sector could also play an important role in furthering education delivery outcomes in Muswellbrook. Industry organisations such as HunterNet, a leading network of Hunter based manufacturers has for many years undertaken initiatives to improve the skills base of manufacturing, may also play a partnering role in the success of education delivery.

Council has supported Hunter TAFE in its application for funding under the Education Infrastructure Fund (EIF) Regional Priorities Round to enhance the provision of VET in Muswellbrook and the Upper Hunter. The application seeks to establish a higher education campus in the Upper Hunter and to deliver four years of mining engineering and other polytechnic courses that the University of Newcastle has been unable to offer.

This campus would allow the existing to Muswellbrook TAFE campus to address the rapid growth of the mining and power generation industries. It would support the business community through provision of new and expanded facilities for Business Management, Administration and IT, Hairdressing and Beauty Therapy. It would also further support the maximisation of training opportunities for all residents in the region through the provision of improved facilities for Adult General Education, and pathways to higher education.

The project is strongly supported by the coal industry and the wider community, and Council seeks to bring its importance to the future of the Muswellbrook community and its economy (currently and post-mining). A successful bid would represent a significant investment in a



regional community, which supports the coal industry. There are growing concerns that the Gillard and O'Farrell Governments are neglecting capacity building in the coal industry.

Despite undertakings for an announcement by the Federal Government in relation to the EIF bid for funding, the outcome remains unknown, which has undermined certainty within the mining industry and the community at large. It is noted that the announcement by the Federal Government of \$30 million for the University of Newcastle on 15 April 2013 is unlikely to deliver any additional higher education capacity for the region, and will simply duplicate facilities for the sake of urban renewal. Those additional courses proposed for delivery by Hunter TAFE's Upper Hunter proposal would have built further education and labour capacity for the region's export industries and ensured that more of the existing dollars generated by those industries remained in the region. Council is concerned the announcement may be a missed opportunity for education delivery and economic capacity building in the Hunter.

The University of Newcastle is yet to establish a presence in the Upper Hunter. Furthermore the largest export region in NSW and the largest coal region in Australia does not have a university that delivers four years of mining engineering. A second university in the Hunter focussed on polytechnic professions and with articulated courses from Hunter TAFE in engineering, the geosciences, robotics, energy and carbon capture and storage is now critical to the Hunter regions' future.

### **Relevant Priorities and Strategies**

Muswellbrook's proximity to coal operations gives training providers a competitive advantage over training institutions in Sydney and Newcastle. Expanded delivery in Muswellbrook will bring school leavers from the greater Hunter Region, Sydney, and Western NSW to study in the Upper Hunter and contribute to the skilling of region, consistent with the ambitions of the State Government's *NSW 2031* document for regional NSW.

The relevant priorities of the State Plan *NSW 2021: A Plan to make NSW Number One* for education and training include increasing levels of attainment for all students, more students completing Year 12 or recognized vocational training, more people participating in education and training throughout their lives, and provision of better access to training in rural and regional NSW to support local economies.

To be able to achieve Goal 3 of the State Plan 'Drive economic growth in regional NSW' and Goal 6 'Strengthen the NSW skill base' there is the need for quality education and training that is diverse in regional areas and expands education and training pathways from school education through VET to Higher Education, and reverse pathways from Higher Education to VET.

Resource allocation has been problematic in the past, with sudden growth in demand appearing to take VET funding providers by surprise. An analysis of pending development approvals would provide a clear basis for predicting expected future demand. Council for its part in the planning process obtains planning commitments from each developing coal mine to employ a minimum number of locally sourced apprentices for each year of operation, with Muswellbrook TAFE to provide a key role in delivering those local skills to industry.

The provision of skills training must respond to those locations where the need is greatest. Government support for vocational education and training must flow to areas that maximise economic benefits and which are responsive to industry development.



Further NSW State and Commonwealth Governments recognise the need to meet skill needs across the economy, and the need to ensure sustainable economic and social growth in rural and regional areas. The COAG Participation and Productivity agendas are also highly relevant to the Upper Hunter with youth unemployment and the enormous strength in two sectors of the regional economy (mining and power generation) draining skilled labour from other sectors.

## Summary

The focus of NSW reforms to VET should be on the required skill needs of leading industries with delivery located proximate to industry and a baseline of skill needs for other industries and the community rather than emphasis on an absolute Skills List.

An absolute Skills List will distort local labour markets and exacerbate the two speed economy by contributing to volatility in wages and prices. The Skill Lists model will be slow to respond to changes industry particularly compared to Upper Hunter education and industry networks that have been long established. The best identified strategies for the Upper Hunter sub-region which are consistent with the goals of the NSW 2021 State Plan include:

1. Centres of Education Excellence in power and mining that are responsive and proximate to meet the needs of industry;
2. A Higher Education campus to deliver polytechnic courses that facilitate education pathways; and
3. Education and training delivery that provides a baseline of skill needs for other industries and the community.

Muswellbrook has both the central proximity and the significant presence of the energy sector: both extractive and generation and related industries, to be an established industry specific vocational education sector and network.

Further, a higher education campus in the Upper Hunter would address a significant regional gap in education and training delivery. It would address capacity constraints in the mining sector through up-skill existing workers and apprentices as the industry shifts focus to increasing productivity.

Investing in education and training in the Upper Hunter would support sustainable economic and community development in a key region of NSW now and into the future.

## Works Cited

- Australian Bureau of Statistics. (2012). *2011 Census*. Australian Bureau of Statistics.
- Buchan Consulting. (2011). *Upper Hunter Economic Diversification Project* .
- David Brereton, C. M. (2008). *Assessing the Cumulative Impacts of Mining on Regional Communities: An Exploratory Study of Coal Mining in the Muswellbrook Area of NSW*. Centre for Social Responsibility in Mining, Centre for Water in the Minerals Industry, Uni. of Queensland .
- Department of Employment Education and Workplace Relations. (2012). *Small Area Labour Data - December Quarter*.
- Hunter Thoroughbred Breeders Association. (2011, September). Community Forum - Coal Mining and Coal Seam Gas in the Upper Hunter Shire.
- Hunter Valley Research Foundation. (2013). *Upper Hunter Region Economic Indicators: December Quarter 2012*.
- NSW Department of Primary Industries. (2012). *Upper Hunter Pilot: Viticulture - Fact Sheet*.
- NSW Department of Primary Industries. (2012). *Upper Hunter Pilot; Beef Profile*.
- NSW Department of Primary Industries. (2012). *Upper Hunter Region Dairy Profile - Fact Sheet*.
- NSW Trade & Investment. (2013). *Economic Assessment of Mining Affected Communities*.



## **Appendix A – Muswellbrook Shire Overview**

Muswellbrook Shire is situated in the Upper Hunter sub-region of the Hunter region of New South Wales, located 3.5 hours by road from Sydney and up to two hours from Newcastle. It is a regional centre supporting diverse industries, a young and growing population and expanding business and community opportunities.

Muswellbrook is the major population centre in the Muswellbrook Shire LGA and in the last decade has experienced concentrated population and housing growth. In the between Censuses period of 2006 to 2011 Muswellbrook had an average annual population growth rate of 2.2% and a total growth in private dwellings of 17.4%.<sup>6</sup>

Increasingly, Muswellbrook Shire is a younger community, with children aged 0–14 now comprising 22.8% of Muswellbrook Shire’s population and a median age of 34, compared to the national figures of 19.3% and 37 respectively.<sup>7</sup>

### **Industries**

Industry in the Upper Hunter includes agriculture, viticulture, equine, power generation, coal mining, education and government services. While often the collective focus on industrial activity in the Muswellbrook Shire LGA is on the leading energy sector: both extractive and generation there still remains a number of significant diverse industries.

The Upper Hunter sub-region is a rich agricultural resource for the state of NSW, contributing: 16% of milk production,<sup>8</sup> 6.1% of beef production,<sup>9</sup> a thoroughbred region second internationally to only Kentucky in the USA,<sup>10</sup> and a wine production region of quality with domestic and international markets.<sup>11</sup>

Muswellbrook Shire itself is home to the largest critical mass of thoroughbred rearing in Australia, located in an arc from Widden Valley through Sandy Hollow to Jerry’s Plains. The equine industry origins in the Upper Hunter Valley date back over 150 years and were established here as a result of the area’s unique topography, soil, air, and water.

The Upper Hunter viticulture industry is also renowned nationally and internationally for quality and quantity of wine production and processing, and as a wine tourism destination. Earliest evidence of grape growing in the Upper Hunter date back to 1860 when vines were planted at the meeting of Wybong Creek and the Goulburn River.

Macquarie Generation, Australia’s largest electricity producer generates 40% of NSW’s base load energy requirements from Muswellbrook Shire’s Liddell and Bayswater power stations. These two power stations employ approximately 610 persons and supply over a billion dollars a year to the state’s economy.

Muswellbrook is one of the two major centres for coal production in the Hunter Valley with coal mining commencing in the late 1800s; initially underground mining and then, from 1944, open cut mining. The oldest operating mine is Muswellbrook Coal, which celebrated its centenary in 2006.

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<sup>6</sup> (Australian Bureau of Statistics, 2012)

<sup>7</sup> (Australian Bureau of Statistics, 2012)

<sup>8</sup> (NSW Department of Primary Industries, 2012)

<sup>9</sup> (NSW Department of Primary Industries, 2012)

<sup>10</sup> (Hunter Thoroughbred Breeders Association, 2011)

<sup>11</sup> (NSW Department of Primary Industries, 2012)



Technological advances, coupled with a growing demand for mainly thermal coal has resulted in an increase in open cut mines. In the last decade coal mining operations have expanded exponentially, from 4 million tonnes in 2001 to 43 million tonnes in 2011. Recent approvals, proposed modifications and proposed new operations are projected to increase production to over 80 million tonnes by 2014.

Figures based on the place of work from the 2011 Census<sup>12</sup> indicate that the mining industry now provides over 28% of jobs in Muswellbrook Shire LGA and is the largest industry of employment. In 2011/12 Muswellbrook Shire and Singleton contributed \$819 million in State mining royalty revenue, 56 per cent of all State mining royalties.<sup>13</sup>

Other major industries in Muswellbrook Shire LGA include retail trade 7.8%, electricity-gas-water-and-waste services 6.8%, construction 6.6%, health-care-and-social assistance 6.2%, accommodation-and-food services 5.5%, and agriculture-forestry and fishing 5.4%.<sup>14</sup>

A number of State Government Departments and Agencies have offices located in Muswellbrook and have based regional and sub-regional operations to service the Upper Hunter. These include the Department of Education, Corrective Services, Juvenile Justice, Department of Human Services and the area command for NSW Police. Centrally located between the New England and Lower Hunter, Muswellbrook provides a geographical advantage in servicing the surrounding areas through these government agencies.

Muswellbrook Shire is located between the fast developing areas of coal mine and coal seam gas related exploration and extraction activities. Situated at the convergence point of the Ulan/Western, Hunter and Gunnedah/Namoi coal basins and connected to each by road and rail.

Muswellbrook has developed as a centre of educational excellence for mining skills in the Upper Hunter as it is particularly well positioned, due to the proximity to industry, for the efficient and effective provision of VET for the NSW coal and power industries. The Hunter TAFE (Muswellbrook Campus) Mining Skills Course, is highly regarded by industry, and continues to experience growth in enrolments.

In response to industry requests, Hunter TAFE has also been developing heavy vehicle mechanical courses in Muswellbrook and planning a stand-alone Heavy Plant campus. Hunter TAFE and Muswellbrook Shire Council are also collaborating on a proposed CBD Business Campus and Tertiary studies centre.

Presently Council, in partnership with Industry, TAFE, and the Federal Government, is constructing a (63) bed student accommodation facility located at Muswellbrook TAFE campus. This is in response to the need for affordable student accommodation to meet demand for skilled labour in the mining industry.

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<sup>12</sup> (Australian Bureau of Statistics, 2012)

<sup>13</sup> (NSW Trade & Investment, 2013)

<sup>14</sup> (Australian Bureau of Statistics, 2012)



## **Appendix B - Upper Hunter Education and Training Delivery and Projections**

The following section reports actual data from TAFE NSW service delivery in the Upper Hunter and research studies undertaken by Deloitte Access Economics in 2011 and findings from the 2011 *Upper Hunter Economic Diversification Project*.

The *Upper Hunter Economic Diversification Project* was commissioned by the New South Wales Government and the six (6) Councils representing LGAs in the Upper Hunter Region (Upper Hunter Shire Council, Muswellbrook Shire Council, Great Lakes Council, Singleton Council, Dungog Shire Council and Gloucester Shire Council). The report focused on the future of the region and the emerging business and employment opportunities over the next 20-25 years.<sup>15</sup>

In compiling their data, Deloitte Access Economics considered global, national, state-wide and regional economic and demographic developments and data sets. Deloitte Access Economics also considered changes within key Industry sectors which are driving the demand for training within the region, and at a state and national level.

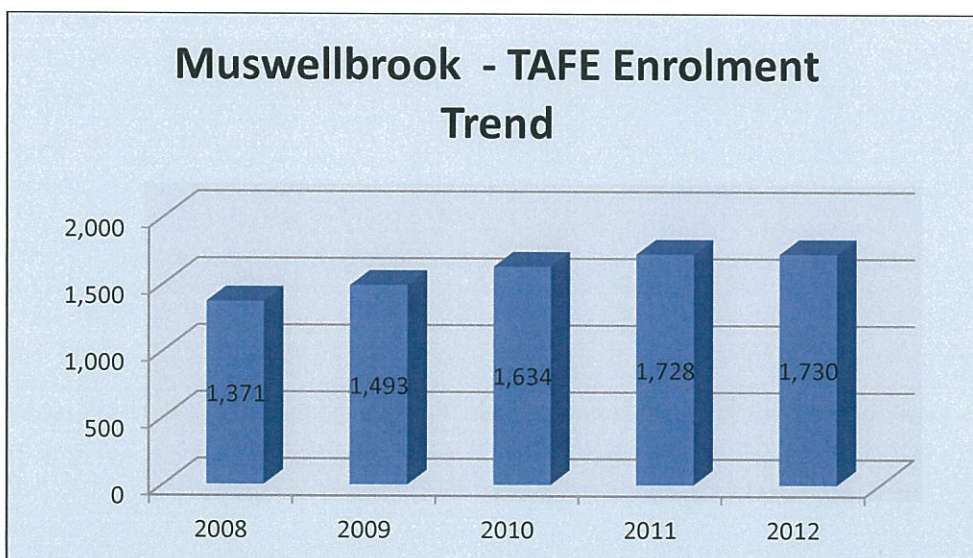
### **Muswellbrook TAFE Delivery Projections**

The Hunter has seen a large shift in its industrial and employment make-up over the last three decades, moving from a dependence on a small number of large manufacturing employers, to an increasing emphasis on coal mining, power generation and a more diverse manufacturing sector, as well as a higher proportion of tertiary and service sector employment.

The sectors with the highest employment in the Hunter region are retail, health care and social assistance, construction, education, accommodation and food services, and mining, with mining experiencing the fastest industry and employment growth.

These regional trends are particularly pointed in the Upper Hunter. Enrolments at Muswellbrook TAFE have been growing strongly. From 2008 to 2011 annual enrolment growth averaged 7.81% reaching 1,728 in 2011 and plateauing just above that figure in 2012.

#### **Actual Enrolments – Trend Data:**

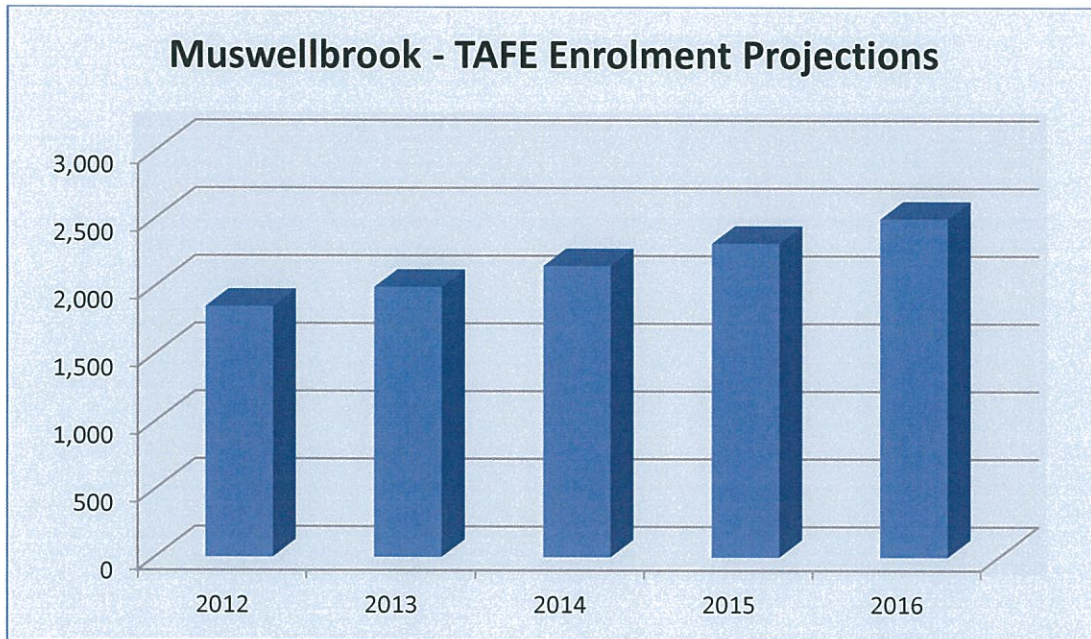


<sup>15</sup> (Buchan Consulting, 2011)



**Projected Enrolments:**

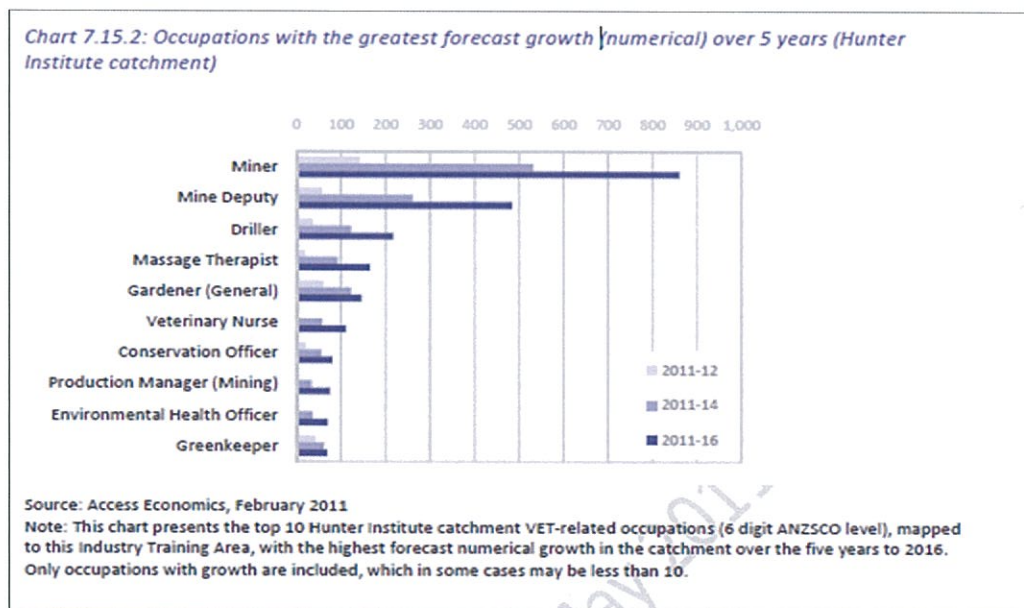
Future enrolment growth at Muswellbrook TAFE is expected based on regional labour market trends and in particular from the mining and mining services sector.



**Training Market – Research Findings**

**Mining Occupations:**

According to Deloitte Access Economics, within the Primary Industries group of occupations, mining industry employment takes out the top three positions in the Hunter for highest forecast numerical growth.



The strength of mining occupation employment is also reflected in projections of employment growth as shown in the following table.

Table 7.15.2: Occupations with the greatest forecast growth (numerical) over 5 years and related enrolments (Hunter Institute)

ANZSCO	Occupation	Current	Occupational Growth Projections						2010		Occupation:		Share of
		Estimated Employment	2011-12		2011-14		2011-16		Enrolments		SpOL <sup>1</sup>	SOL <sup>2</sup>	RAM <sup>3</sup>
712212	Miner	3,438	141	4.2	531	15.7	861	25.4	0	4			0.1
312913	Mine Deputy	759	56	7.3	260	33.9	484	63.1	51	23			1.4
712211	Driller	419	35	8.5	122	29.5	217	52.4	0	0			0.0
411611	Massage Therapist	543	18	3.6	92	18.4	164	32.7	0	0			0.0
362211	Gardener (General)	803	58	7.0	121	14.6	145	17.5	123	21			2.6
361311	Veterinary Nurse	337	2	0.6	56	17.2	111	34.0	141	42			3.4
234311	Conservation Officer	81	20	17.9	54	48.2	81	72.3	22	0			0.4
133513	Production Manager (Mining)	190	6	3.2	32	17.1	75	40.1	0	0			0.0
251311	Environmental Health Officer	193	6	3.3	34	18.7	70	38.5	0	855			15.7
362311	Greenkeeper	633	40	6.7	60	10.1	69	11.6	89	3			1.7

Source: Access Economics, February 2011 and TAFE Data Warehouse, December 2010

Note: This table presents the top 10 Hunter Institute catchment VET-related occupations (6 digit ANZSCO level), mapped to this Industry Training Area, with the highest forecast numerical growth in the catchment over the five years to 2016. Only occupations with growth are included, which in some cases may be less than 10.

<sup>1</sup> Specialised occupations as at December 2010

<sup>2</sup> Skilled occupations as at December 2010

<sup>3</sup> Percentage of all funds delivery for each occupation in this Industry Training Area is based on enrolments

It is also reasonable to predict that given the anticipated significant growth within the Ulan/Western, Hunter and Gunnedah/Namoi regions of New South Wales Coal Seam Gas industry further unmet demand for skilled labour will emerge.

### Electrical Trades:

Electrical and related trades are a focus of TAFE service delivery at the Muswellbrook Campus, with the completion in 2010 of a \$2.5m Electro-technology training centre. Electrical trades' employment is a key component of the regional mining industry – but it is also a key component of the power generation industry.

Deloitte Access Economics notes that for NSW:

The Hunter has by far the highest proportion of electro-technology workers of all regions. In part this reflects the extensive power generation activities in the region. The manufacturing base of the Hunter is also large and supports specialised workers within the electro-technology occupation group, such as electrical engineers.

There are many electro-technology projects proceeding or planned in the Hunter. These include:

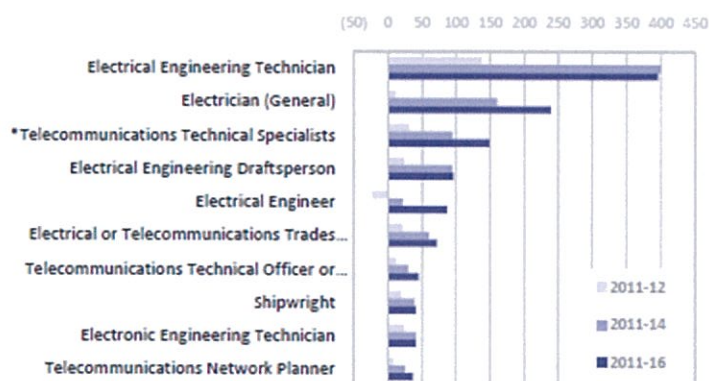
- The solar thermal project at Liddell power station;
- A \$190 million clean energy park in the Upper Hunter;
- The \$2 billion dollar infrastructure spend of a third power station Bayswater B;
- Upgrades for Bayswater and Liddell power stations, \$40 million energy research institute at the University of Newcastle;
- \$100 million Smart Grid, Smart City program; and
- The CSIRO National Energy Research Centre.

Each of these projects will boost the demand for electro-technology workers in the Hunter region.

The following charts present the 10 NSW and Hunter Institute catchment VET related occupations (6 digit ANZSCO level) mapped to this Industry Training Area with the highest forecast numerical growth over the five years to 2016.



Chart 7.7.2: Occupations with the greatest forecast growth (numerical) over 5 years (Hunter Institute catchment)



Source: Access Economics, February 2011

Note: This chart presents the top 10 Hunter Institute catchment VET-related occupations (6 digit ANZSCO level), mapped to this Industry Training Area, with the highest forecast numerical growth in the catchment over the five years to 2016.

Only occupations with growth are included, which in some cases may be less than 10.

\* This occupation and associated training has been mapped in the TAFE Data Warehouse to a higher ANZSCO code than the ANZSCO 6 digit level mainly presented in these charts. This means there may be reporting of a more detailed level which is a subset of this ANZSCO code. Appendix 1 provides more detail on the ANZSCO classification of occupations.

Table 7.7.2: Occupations with the greatest forecast growth (numerical) over 5 years and related enrolments (Hunter Institute)

ANZSCO	Occupation	Current Estimated Employment	Occupational Growth Projections						2010 Enrolments		Occupation: SpOL <sup>1</sup> SOL <sup>2</sup>	Share of RAM <sup>3</sup> %
			2011-12		2011-14		2011-16		Core	Non core		
312312	Electrical Engineering Technician	658	137	15.6	400	45.6	396	45.1	0	2,138	✓	36.7
341111	Electrician (General)	9,465	11	0.1	160	1.7	239	2.6	1,287	197	✓	25.5
313200	*Telecommunications Technical Specialists	311	31	8.7	94	26.5	149	42.0	0	0		0.0
312311	Electrical Engineering Draftsperson	177	24	10.2	94	39.8	96	40.7	156	24	✓	3.1
233311	Electrical Engineer	1,457	(23)	(1.6)	22	1.6	87	6.1	0	0	✓	0.0
899914	Electrical or Telecommunications Trades Assistant	252	21	7.5	60	21.4	72	25.6	22	369		6.7
313214	Telecommunications Technical Officer or Technologist	124	12	8.5	30	21.3	45	31.9	0	0	✓	0.0
399112	Shipwright	112	19	12.5	39	25.7	41	27.0	0	17	✓	0.3
312412	Electronic Engineering Technician	239	24	8.2	41	13.9	41	13.9	54	63		2.0
313213	Telecommunications Network Planner	91	8	7.9	25	24.8	37	36.6	0	0	✓	0.0

Source: Access Economics, February 2011 and TAFE Data Warehouse, December 2010

Note: This table presents the top 10 Hunter Institute catchment VET-related occupations (6 digit ANZSCO level), mapped to this Industry Training Area, with the highest forecast numerical growth in the catchment over the five years to 2016. Only occupations with growth are included, which in some cases may be less than 10.

\* This occupation and associated training has been mapped in the TAFE Data Warehouse to a higher ANZSCO code than the ANZSCO 6 digit level mainly presented in these tables. This means there may be reporting of a more detailed level which is a subset of this ANZSCO code. Appendix 1 provides more detail on the ANZSCO classification of occupations.

<sup>1</sup> Specialised occupations as at December 2010

<sup>2</sup> Skilled occupations as at December 2010

<sup>3</sup> Percentage of all funds delivery for each occupation in this Industry Training Area is based on enrolments

## Construction/ Carpentry & Joinery:

Construction is a major growth area in the Upper Hunter, as a consequence of major infrastructure and related developments which include the continuance of regional mines expansions and or modifications and extensions, planned infrastructure for the Hunter Valley Coal Chain and housing construction to meet population growth.

Deloitte Access Economics writes:

The Construction industry division, which is most closely aligned with this Industry Training area, employs a large number of workers in the Hunter Institute catchment (10.7 per cent), which is higher than the 8.5 per cent share of construction workers in NSW. A significant increase in employment of 12.1 per cent is predicted over the next five years. The Hunter has close to the highest share of building construction workers of all regions, which reflects its position as one of the faster growing populations in NSW. The Hunter acts as a spill over region for Sydney's population growth, which increases the demand for residential construction in the region.



Table 7.6.2: Occupations with the greatest forecast growth (numerical) over 5 years and related enrolments (Hunter Institute)

ANZSCO	Occupation	Current Estimated Employment	Occupational Growth Projections						2010 Enrolments		Occupation: SpOL <sup>1</sup> SOL <sup>2</sup>		Share of RAM <sup>3</sup> %
			2011-12		2011-14		2011-16		Core	Non core			
			No.	%	No.	%	No.	%					
334100	* Plumbers	6,771	(4)	(0.1)	219	3.5	300	4.8	0	19			0.7
332211	Painting Trades Worker	1,566	100	5.7	225	12.8	208	11.8	43	31	✓		2.9
333211	Fibrous Plasterer	909	92	9.3	215	21.8	206	20.9	47	0		✓	1.8
333111	Glazier	800	45	5.6	158	19.7	194	24.1	0	0		✓	0.0
332111	Floor Finisher	785	69	8.1	185	21.8	186	21.9	32	0	✓		1.2
331200	* Carpenters and Joiners	5,625	249	4.1	372	6.1	181	3.0	10	0			0.4
331212	Carpenter	4,837	202	3.9	285	5.5	142	2.7	947	103		✓	40.5
334115	Roof Plumber	692	21	3.4	94	15.3	109	17.8	16	0		✓	0.6
333212	Solid Plasterer	275	30	9.7	87	28.1	85	27.4	0	0		✓	0.0
334111	Plumber (General)	5,486	(42)	(0.8)	43	0.8	78	1.5	428	114		✓	20.9

Source: Access Economics, February 2011 and TAFE Data Warehouse, December 2010

Note: This table presents the top 10 Hunter Institute catchment VET-related occupations (6 digit ANZSCO level), mapped to this Industry Training Area, with the highest forecast numerical growth in the catchment over the five years to 2016. Only occupations with growth are included, which in some cases may be less than 10.

\* This occupation and associated training has been mapped in the TAFE Data Warehouse to a higher ANZSCO code than the ANZSCO 6 digit level mainly presented in these tables. This means there may be reporting of a more detailed level which is a subset of this ANZSCO code. Appendix 1 provides more detail on the ANZSCO classification of occupations.

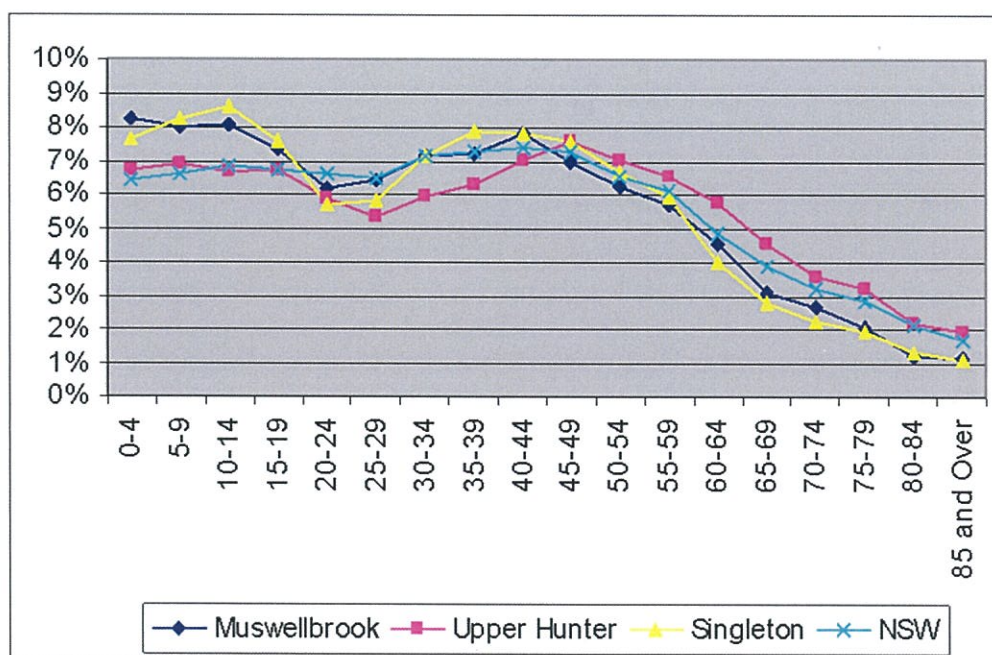
<sup>1</sup> Specialised occupations as at December 2010

<sup>2</sup> Skilled occupations as at December 2010

<sup>3</sup> Percentage of all funds delivery for each occupation in this Industry Training Area is based on enrolments

### Human Services – Age Care and Children’s Services:

2011 ABS Census data, showing population distributions by age, demonstrate that for the three LGA shires of the Upper Hunter region, children are a much higher percentage of the resident population than is the case for the NSW average.



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The Upper Hunter population is growing as a consequence of growth in the mining industry, bringing more families with children and generating increased need for children’s services. Note the graphs also show that there is a decline in the proportions of 20-29 year olds in Muswellbrook and Singleton, suggesting young people leaving the towns.

Not all students graduating from the regions secondary schools desire a career in the mining industry. For a community to function well a variety of skills are needed and rural and sub-regional communities for strong local economies and liveable communities need to retain young people by providing a baseline education and training options.

<sup>16</sup> (Australian Bureau of Statistics, 2012)

Although older people are a slightly smaller proportion of the population the *Upper Hunter Economic Diversification Project* report identified aged care as a key long term need for all Upper Hunter LGAs. Aged care and related health services, is acknowledged as a growing national priority by the Council of Australian Governments (COAG), and by Treasury in the Intergenerational Reports.