



Scenario Planning for an Innovative Response to the Water Challenge in the Murray Riverina Region

Existing Situation Analysis

Regional Development Australia Murray, Regional Development Australia Riverina and Trade & Investment NSW

Revised – 22 December 2010

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Introduction

Sinclair Knight Merz (SKM) was commissioned by RDA Murray on behalf of RDA Murray and RDA Riverina to develop an innovative, robust and sustainable response to the water challenge in the Murray-Riverina region. This project is funded by Trade & Investment NSW (T&I NSW).

The project comprises six main stages:

- Project Start Up
- Existing Situation Analysis
- Market Assessment
- Options Analysis / Scenario Planning
- Business Case Development
- Delivery Strategy

Given the timescale of the project and the requirement to develop practical, sustainable and implementable development opportunities, the work will be incremental with the stages overlapping and findings and deliverables being updated as additional information is received and analysed.

Outputs

This project is designed to provide indicative but objective and evidence-based “business cases” for a short list of practical and sustainable development opportunities which justify the provision of investment based on clear on-going benefits to investors including net financial, economic, social and/or environmental benefits.

A number of key information papers and reports (deliverables) are to be developed at each stage of the study. These deliverables will be reviewed and amended/augmented as required and form the basis of the chapters of this report.

This report represents the first key deliverable of the project as part of the Existing Situation Analysis stage. As noted, this deliverable is a work in progress with the findings based on the information available to date. It is designed to indicate early potential opportunities and provide a basis for discussion with the Steering Committee and other key regional stakeholders. Further work will identify additional opportunities and information, and undertake analyses to test feasibility and develop feasible options for implementation. This work will include a significant interview program with regional industry and other key players.

This report is the final revision of the working draft for discussion and incorporates information from feedback on the initial draft and some additional ideas based on the early interviews. It is still a working document and is not intended for general circulation. It will continue to be progressively updated as further work is undertaken with the final report providing a firm grounding for the chosen opportunities and a basis for further opportunity development.

Existing Situation Analysis

This chapter sets out an initial summary of the current position of the region. It profiles the region’s current socio-economic conditions and describes the current and emerging trends and drivers of change that may represent development opportunities or provide challenges or limitations to their implementation.

The information will be developed further, in particular based on further stakeholder consultation, in order to gain confidence that the opportunities proposed are realistic for the region and the implementation reflects the real challenges and limitations of developing and operating new industry/business activities in the Murray-Riverina area.

Description of the Murray-Riverina region

Figure 1 NSW RDA areas - Murray and Riverina (1)



The Murray and Riverina regions encompass 138,534km² of southern NSW (Murray region – 78,869km², Riverina region – 59,665km²) and contain 3.7% of NSW’s population (2).

The Murray River is Australia’s largest river and plays a pivotal role in the economy and environment for the Murray region, while the Murrumbidgee and Lachlan Rivers are the main water source for the Riverina region. The table below lists the local government areas comprising the two regions.

Table 1 Murray and Riverina region local government areas (3; 4)

Murray region*		Riverina region**	
■ Albury	■ Greater Hume Shire	■ Carrathool	■ Junee
■ Balranald	■ Jerilderie	■ Coolamon	■ Leeton
■ Berrigan	■ Murray	■ Cootamundra	■ Lockhart
■ Conargo	■ Urana	■ Griffith	■ Murrumbidgee
■ Corowa Shire	■ Wakool	■ Gundagai	■ Narrandera
■ Deniliquin	■ Wentworth	■ Hay	■ Temora
			■ Wagga Wagga

* Tumbarumba Shire is often included in the Murray region as there are potential cross-border opportunities and it falls within the ABS’ Murray Statistical Division.

** Similarly the Tumut Shire is often included in the Riverina region, as there are potential cross-border opportunities and it forms part of the Murrumbidgee (equivalent to Riverina) Statistical Division

The region and particularly the Murray region, has strong linkages with the Victorian side of the Murray River with businesses operating on both sides of the river, residents travelling across the river on a daily basis to work and key urban centres on one side or the other along the River Murray offering important business and community services for the cross border areas. Larger ‘twin cities’ such as Albury Wodonga have strong informal and some formal links between facilities and structures in NSW and Victoria. These linkages are recognised with the close cooperation by the RDAs on both sides of the border. Based on these linkages, this study needs to consider cross border opportunities and challenges.

Socio-economic profile of the region

This section looks at the socio-economic characteristics for the region (Murray-Riverina) and explores the implications of the regional profile in terms of the implications for new opportunities for the region and any limitations on new development.

Population

In 2008-09, the population of the Riverina region was 147,197, with 68% located in the local government areas of Wagga Wagga, Griffith and Leeton. The Murray region also has a large proportion of its population based in local government areas with major regional cities, with 71% of its 114,805 people situated in Albury, Corowa Shire, Greater Hume Shire and Berrigan. Population in these areas grew from 2004 to 2009, while less populated municipalities such as Urana, Jerilderie, Conargo, Balranald, Murrumbidgee, Carrathool, Lockhart and Hay all experienced reductions in population over that period (2).

Population in both regions is projected to continue to grow, albeit slowly, over the next 20-30 years. The Murray region is expected to grow to 116,700 people by 2036, and the Riverina region to 154,000 by 2026 (5; 4). This increase is projected to be due to the growth in population of older residents, with an increase in retirees and older people moving to the regions for a lifestyle change. Combined with the outward migration of younger people seeking to explore alternative careers and lifestyles nearer to major cities, the aging population of the regions is expected to almost double over the next thirty years (the number of people over 65 years of age are expected to increase by 31% in the Murray region by 2036 and 20% in the Riverina region in 2026). Aging population is occurring across NSW (see Figure 2), however inland NSW is also experiencing a high proportion of people aged less than 15 years and a low proportion of people aged 20 to 35 (see Figure 3).

This change will increase demand for services and infrastructure associated with health and aged care, information media and telecommunications, as well as

general liveability attractions such as ecotourism, gourmet food, arts and recreation. As the level of services and infrastructure provided rise, this could also help the regions appeal to people from cities like Sydney and Melbourne who are still working but are attracted by the concept of a 'tree change'.

Despite the opportunities provided by an increasing but aging population, it also presents a number of challenges, particularly in maintaining a viable economy in less densely populated agricultural and rural areas.

Figure 2 NSW age and sex distribution, 2001 and 2031 (6)

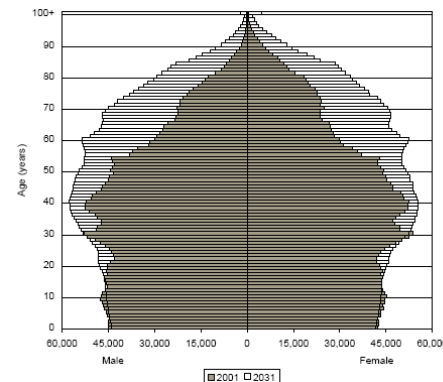
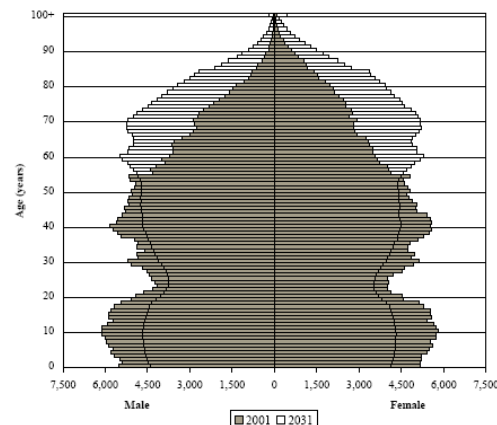


Figure 3 Inland NSW age and sex distribution, 2001 and 2031 (6)

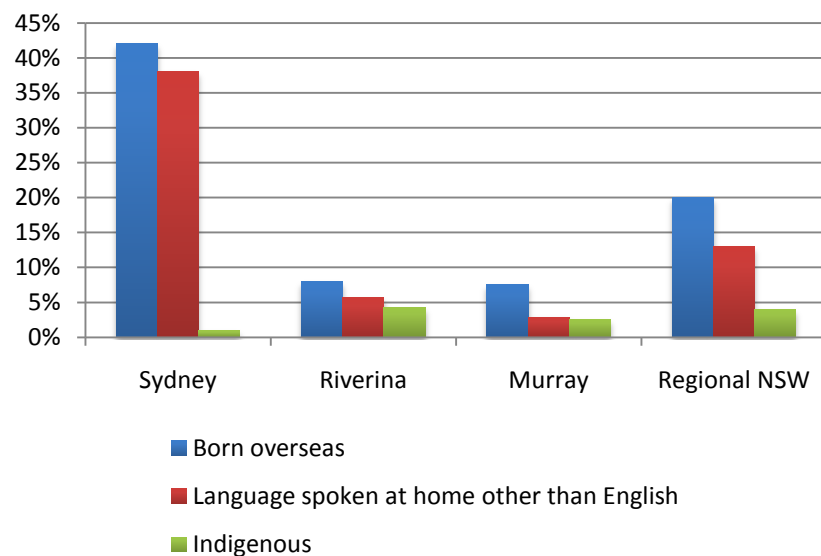


Cultural backgrounds

Figure 4 shows that when compared with Sydney and even regional NSW overall, the Murray and Riverina regions have a low proportion of residents born overseas. The RDAs for the two regions both have skilled migration programs in place, but further investment or opportunities could be explored to attract more skilled migrants to the area and overcome barriers which are currently preventing this from happening.

On the other hand, the Riverina and Murray regions have a higher proportion of Indigenous people than Sydney. While the proportion of the indigenous population is not uniform across the region, this could provide opportunities to develop/expand the Indigenous tourism industry in both of the regions.

Figure 4 Cultural background 2006 (7; 8; 9)

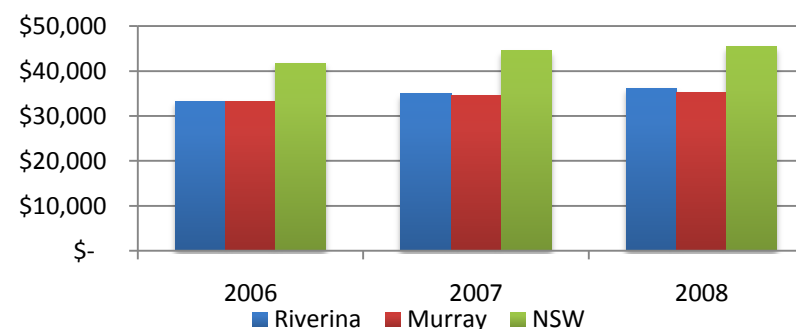


Income

As can be seen in Figure 5, the average income in the Murray and Riverina regions is approximately 20% less than the average income across NSW. In 2008, the average taxable income in NSW was \$45,439, while in the Riverina region it was \$36,203 and in the Murray region \$35,213. Between 2006 and 2008 incomes grew by a total of 8 and 9% in the Riverina region and NSW respectively, but only by 6% in the Murray region.

This difference in salaries is a significant barrier to attracting people to the regions. The difference reflects the type of employment (i.e. mostly farming) available in the regions. Nevertheless, the cost of returning to a major city after working in one of the regions makes any move and particularly a more temporary career move, a major risk and may be perceived as a backward step in careers if local industries cannot afford to pay similar salaries as potential employees could receive in other parts of NSW. Observable trends suggest this gap is widening. This perception may be reinforced by differences in regional and city property prices. Conversely lower relative property prices should be a positive incentive for people moving on a more permanent basis.

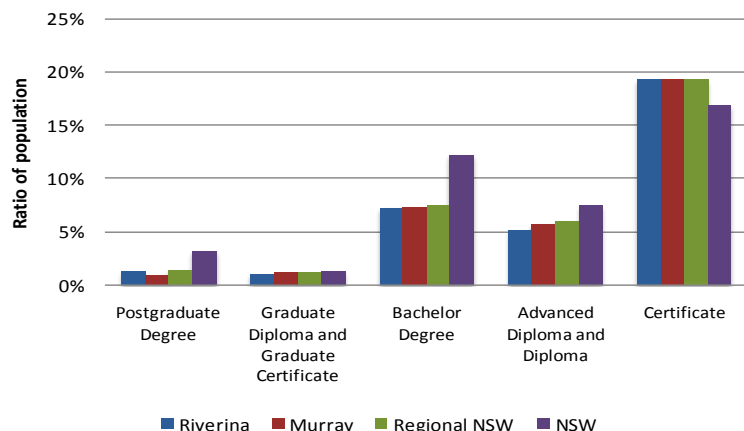
Figure 5 Average taxable income per annum (taxable and non-taxable income) (8; 9)



Post school qualifications

The total level of post school qualifications in each of the regions is shown in Figure 6. The percentage of people with post school qualification in each of the regions appears to be consistent with elsewhere in regional NSW, with a higher proportion of Certificate qualifications but lower levels of Bachelor and postgraduate degrees. This reflects the requirements of the major industries in the region such as agriculture, retail trade and manufacturing (see *Industry* section below), and suggests that upskilling local residents or attracting more skilled workers to the regions would be required to develop a more diversified economy.

Figure 6 Ratio of Post school qualifications to population over 15 years Riverina, Murray, Regional NSW and NSW 2006 (7)



However, this situation masks differences between the larger cities and towns and the smaller ones and between municipalities. See Figure 7 and Figure 8 show the situation for Albury and Jerilderie, typical of differences between larger and smaller centres. This information indicates that Albury has higher levels for all types of post secondary qualifications than both Jerilderie and Regional NSW. These discrepancies could provide a challenge for diversifying the smaller economies but conversely could offer opportunities for innovative delivery of education.

Figure 7 Ratio of Post School Qualifications to Population over 15 Years Albury 2006 (10)

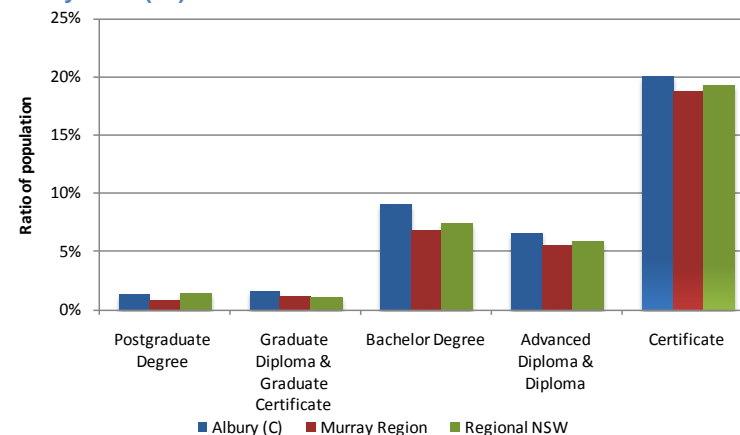
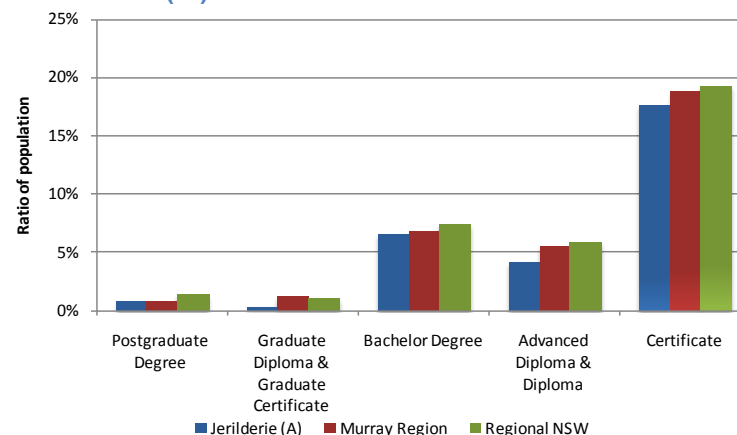


Figure 8 Ratio of Post School Qualifications to Population over 15 Years Jerilderie 2006 (10)

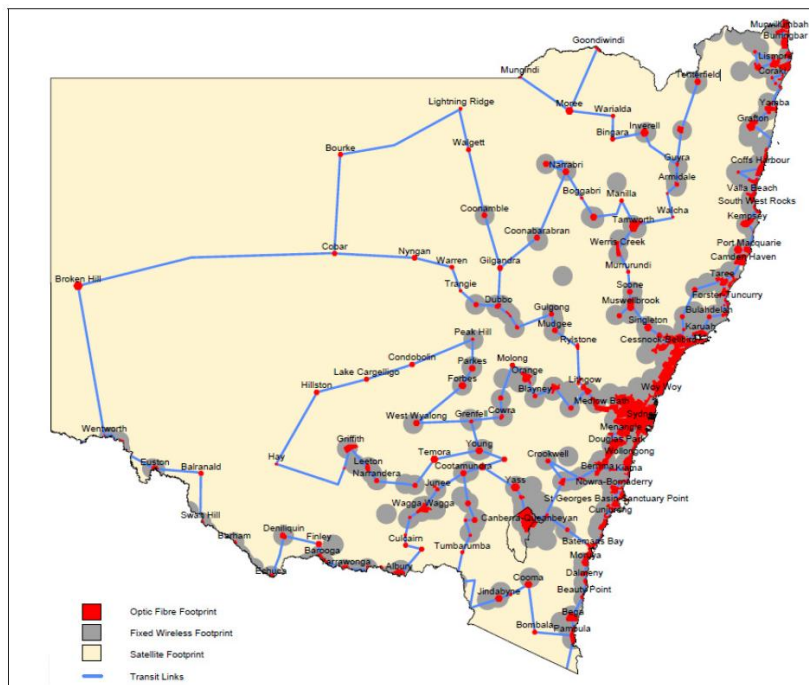


Further analysis of the position and consideration of the implications will be undertaken across the region. This could include considering the role of the resident post secondary institutions in increasing the relative level of qualifications in the parts and whole of the region as well as the more detailed types of qualification in terms of subjects provided and vocation supported.

Internet connection

According to the 2006 Census, in both the Riverina and Murray regions only 54% of people had access to the internet at home, compared with 63% across NSW (7). Internet uptake however, has most likely substantially increased in both NSW and the Riverina and Murray regions since 2006. Lack of home internet makes it harder for people to access government and business services, telecommute, work outside standard business hours, and stay in contact with family, friends or other social groups. The National Broadband Network initiative should improve the region's access to internet and may assist industries and individuals to conduct business and live in the regions.

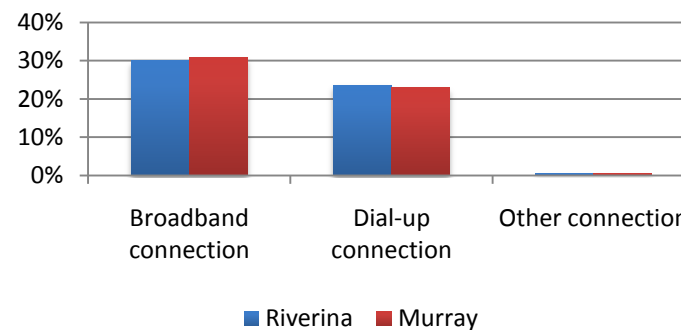
Figure 9 Location of proposed National Broadband fibre, wireless and satellite footprint in NSW (11)



This could include the potential to develop new businesses and/or extended services which need higher speed broadband access than is currently available. National Broadband Network plans show universal broadband availability throughout NSW, but that outside towns and their immediate surrounds, servicing technology will be satellite based, with potential cost, speed and service reliability issues.

In addition, if lower internet use is a factor of awareness and understanding its use, there may be opportunities to provide additional education and training in internet benefits and use in the regions.

Figure 10 Proportion of occupied private dwellings with access to internet 2006 (12; 13)



Housing tenure and characteristics

Of the 53,247 households in the Riverina region and 41,951 households in the Murray region, approximately 70% are family households, 26% lone person households, and 3% group households (7). These proportions reflect the average housing tenure composition across NSW.

The table below shows that the median weekly rent in the Murray and Riverina regions is significantly less than the rest of regional NSW and Victoria, and less than half the weekly rent of Sydney and Melbourne in the case of the Riverina region.

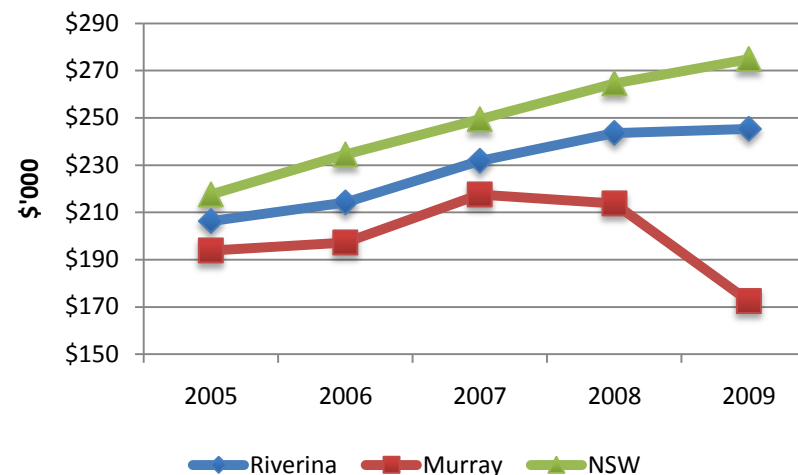
Figure 11 similarly illustrates the lower cost housing in the Murray and Riverina regions, with the median house price in NSW rising steadily, while in the Riverina region it appears to be slowing and in the Murray region it has dropped significantly.

The lower cost of housing could be used to attract people from other areas and even compensate for the lower incomes earned in the regions.

Table 2 Median weekly rent (4; 10)

Area	Median weekly rent (\$)
Riverina	136
Murray	199
Sydney	350
Melbourne	329
Regional NSW	250
Regional Victoria	227

Figure 11 Median value of private sector houses 2005 – 2009 (12; 13)



Industry sectors

Both the Murray and Riverina regions are currently dominated by agriculture and associated agricultural processing industries, however have growing manufacturing, transport and distribution, and tourism industries. The major sectors in the two regions are described in the table below.

Table 3 Industry overview (14; 15)

Major sectors	Riverina region	Murray region
Agribusiness	<ul style="list-style-type: none"> ■ Heavily reliant on the Murrumbidgee and Coleambally Irrigation areas and dryland farming ■ Key products include rice, maize, canola, fruit and vegetable, citrus products, grape / wine, and meat ■ Produces \$1 billion annually in gross value of agricultural and horticultural production, and represents nearly 20% of all NSW crop production and two thirds of its total value ■ One of Australia's major wine grape production regions 	<ul style="list-style-type: none"> ■ Dependent on the region's sophisticated irrigation system and close proximity to major domestic markets ■ Key products include rice, cereals, dairy farming, fruits, vegetables and wool ■ Typically over half of Australia's rice crop is produced in the Murray region
Forestry	<ul style="list-style-type: none"> ■ Softwood plantations owned by major companies such as Hyne, Visy, Weyhauser and CHH ■ South West Slopes area: softwood plantations near Tumut produce over \$1 billion for the region 	<ul style="list-style-type: none"> ■ Significant timber industry centred on mills such as Norske Skog Newsprint Mill ■ South West Slopes area: timber industry produces over \$1 billion annually ■ Irrigation area: research and early plantings of eucalypts

Major sectors	Riverina region	Murray region
Food processing and manufacturing	<ul style="list-style-type: none"> ■ Includes food research; production of vegetable, meat and fruit products; fibre processing and wine making ■ Food processing accounts for 20% of the Gross Regional Product 	<ul style="list-style-type: none"> ■ Includes dairy products, wine, bread, pet foods, paper, plastics, specialist engineering and wool processing ■ Manufacturing sector accounts for 21% of the Gross Regional Product, 12% of the region's employment and 58% of its exports

The Riverina region is also a major national centre for defence, with both the Australian Army and Royal Australian Airforce having a significant presence. The region also contains some of world's most advanced communication technology through the \$200 million Royal Australian Navy Defence Communications Station (14).

The NSW Government strongly supports development of the Defence Industry in the State. In August 2009, it announced a vision to secure 30 per cent of Australia's in-country defence spend within a decade. This would deliver close to \$3.9 billion per annum in expenditure in NSW and create at least 1,500 new jobs in defence related industries over the following four years. To this end it is developing a strategy to achieve this. Consideration will be given to the implications of this strategy in terms of regional opportunities.

Tourism is particularly important to the Murray region, which attracts tourists with landmarks such as the Murray River and Lake Mungo National Park, as well as historic towns and nearby ski slopes (15). The traditional transport hub for the Hume Highway is Albury, which has recently provided significant growth in transport, warehousing and logistics, such as the Ettamogah Intermodal Hub and expansion of Border Express (3).

Dryland and irrigated agricultural industries have been declining over recent years due to the effects of the “Big Dry” drought. This has resulted in businesses closing or diversifying to survive. Introducing new industries and expanding or modifying existing ones will be crucial for both of the regions in the future. The strategic location of the regions between Sydney, Melbourne, Adelaide and Canberra, provides a basis for the continuing expansion of industries such as transport and tourism.

Agriculture and water use

In the Riverina region, water use for agriculture accounted for approximately 30% of total agricultural water use in NSW (4). This was mostly due to the Riverina having a high proportion of irrigated agriculture compared with the rest of NSW (Riverina – 4.7%, NSW – 1.6%).

Both of the regions are highly dependent on water. For example, the agriculture and forestry sector in the Murray region accounts for 18% of the area’s Gross Regional Product, 20% of its employment and 34% of its exports (15).

Industry value

Table 4 Murray Riverina Businesses 2007 (16)

Murray Riverina	Zero to less than \$25k	\$25k to less than \$50k	\$50k to less than \$75K	\$75k to less than \$100k	\$100k to less than \$150k	\$150k to less than \$200k	\$200k to less than \$500k	\$500k to less than \$1m	\$1m to less than \$2m	\$2m to less than \$5m	\$5m to less than \$10m	\$10m and over	Total	Percent
	no.	no.	no.	no.	no.	no.	no.	no.	no.	no.	no.	no.	no.	%
Agriculture Forestry and Fishing	1176	903	843	549	1047	747	1950	1002	387	153	27	18	8802	33.64%
Mining	6	6	3	0	0	3	3	6	0	3	3	3	36	0.14%
Manufacturing	108	90	102	57	105	45	210	117	66	54	36	42	1032	3.94%
Electricity Gas and Water Supply	3	6	3	3	0	0	6	3	9	0	0	0	33	0.13%
Construction	222	282	417	357	447	264	693	276	186	129	36	15	3324	12.70%
Wholesale Trade	66	72	36	60	75	48	123	117	111	108	21	30	867	3.31%
Retail Trade	186	189	138	126	246	177	624	378	273	168	54	27	2586	9.88%
Accommodation Cafes and Restaurants	39	27	57	60	96	75	285	177	63	36	15	9	939	3.59%
Transport and Storage	150	141	84	120	186	120	300	123	69	60	33	9	1395	5.33%
Communication Services	36	39	24	18	33	15	27	9	0	0	0	0	201	0.77%
Finance and Insurance	276	165	132	96	87	63	159	72	57	18	9	24	1158	4.43%
Property and Business Services	654	516	486	360	495	249	570	312	117	114	15	6	3894	14.88%
Education	30	9	15	9	9	9	36	3	3	0	0	0	123	0.47%
Health and Community Services	84	75	36	54	57	63	198	180	84	15	0	3	849	3.24%
Cultural and Recreational Services	96	39	33	15	24	24	51	15	3	12	3	0	315	1.20%
Personal and Other Services	93	81	84	60	81	75	90	30	21	0	0	0	615	2.35%
Total	3225	2640	2493	1944	2988	1977	5325	2820	1449	870	252	186	26169	100.00%
Percent	12.32%	10.09%	9.53%	7.43%	11.42%	7.55%	20.35%	10.78%	5.54%	3.32%	0.96%	0.71%	100.00%	

Most of the businesses in the Murray Riverina region are relatively small with nearly 90% of businesses with a turnover of less than \$1m and less than 2% with a turnover of \$5m or more. Despite this, there are some 440 businesses with \$5m or over turnover and over 180 with turnover of \$10m or more with 18 with turnovers of \$50m or more. The total business turnover for the region is, based on these data, likely to be in excess of \$20billion per annum.

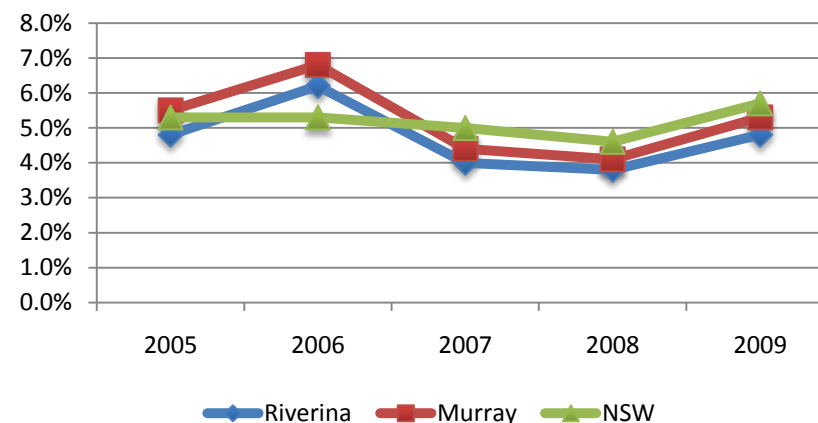
The high proportion of small businesses provides a potential challenge to developing new opportunities, although in some cases small businesses can be innovative and include companies with new technology products that have significant growth potential. In these cases the challenge will be to identify any of these opportunities and provide the management and financial “infrastructure” to support them. The larger companies may provide opportunities for further growth and/or diversification including possibly supply chain opportunities for other regional businesses, or the basis to develop appropriate industry clusters.

The top seven industries in terms of proportions of all companies with turnover of \$1m or more are in order agriculture, forestry and fishing (21.2%), retail (18.9%), construction (13.3%), wholesale (9.8%), property and business services (9.1%), manufacturing (7.2%) and transport and storage (6.2%). Companies in these industries comprise nearly 86% of companies with turnover over \$1m.

Labour market and employment

The unemployment rates shown in Figure 12 demonstrate that although unemployment has been slightly higher in the Murray region, the two regions have experienced relatively similar trends in unemployment and on average have had about the same level of unemployment as NSW more broadly over the last five years. Considering regional population trends, the peak in unemployment in 2006 suggests that some of the people who lost their jobs leading up to 2006 subsequently left the region. This is reinforced by the declining populations in rural areas, which is where the majority of the agricultural jobs have been lost.

Figure 12 Unemployment rates (8; 9; 7)



Again the regional figures mask differences across the region with unemployment in March 2010 varying from 3.1% in Greater Hume to 8.1% in Wentworth across the Murray region. In addition, given that low unemployment rates in rural areas may mean that unemployed people have left the region, have ceased looking for work or are working informally in rural occupations, a low unemployment rate may not be beneficial.

Figure 13 and Figure 14 illustrate the total employment by industry for the Murray and Riverina region. These show that a large proportion of employment in both of the regions is dependent on the agriculture, forestry and fishing industry (14% of total employment for Murray and 13% for Riverina). Together, agriculture, forestry and fishing, retail trade, manufacturing, and the health care and social assistance industries account for almost half of the total employment in both of the regions.

With an agriculture industry highly dependent on water, increasing emphasis placed on replacing labour with capital, and people moving from rural to urban areas, agriculture has declined over the last decade. For example, in the Riverina region the total employment of the agriculture, forestry and fishing industry has decreased by 18% from 1996 to 2006 (4). While this is likely to be a continuing trend for the agriculture industry, there are other industries such as mining, transport, postal and warehousing, and information media and telecommunications which could have potential to absorb some of the unemployment caused by the decline in the agriculture industry.

A shift share analysis of the Murray region (including the NSW and Victorian parts of the Murray region) concluded that the major contributor to growth in the Murray region was general growth across the entire regional NSW and Victorian economies, which accounted for an increase of 10,294 of the 11,346 new jobs in the region between 2001 and 2006 (17). Local factors specific to the Murray region (such as an attractive economic environment or access to infrastructure) accounted for an increase of 36% employment in the Murray region. Local factors had the greatest positive impact on construction, retail trade, manufacturing and agriculture, forestry and fisheries. The industry mix of the industries in the Murray region however, had a negative effect, reducing employment by 3,036 jobs.

Given that the industry employment structures of the regions look similar, it is likely that a shift share analysis of the Riverina region will have similar key findings, however further work will be conducted to test this assumption.

Figure 13 Murray region total employment by industry 2010 (18)

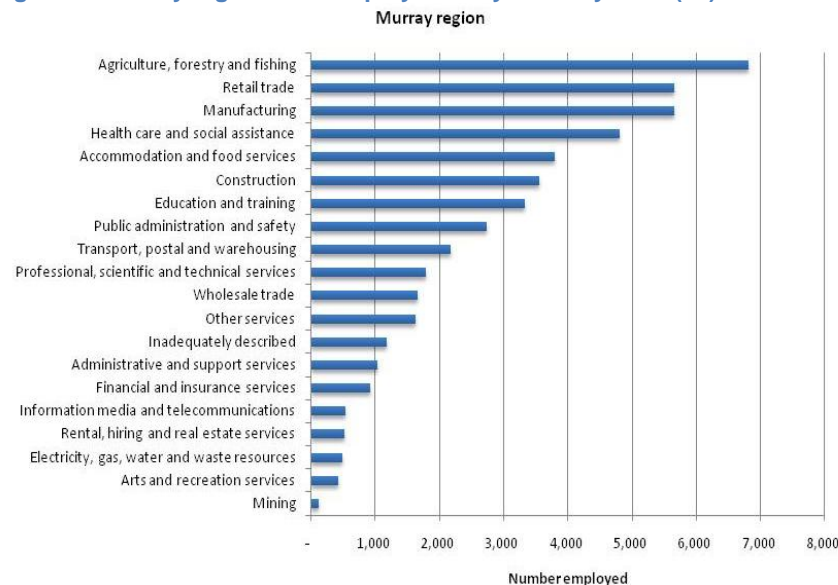


Figure 14 Riverina region total employment by industry 2010 (4)

that the top five industries are likely to account for over two thirds of the new jobs expected (4). These are:

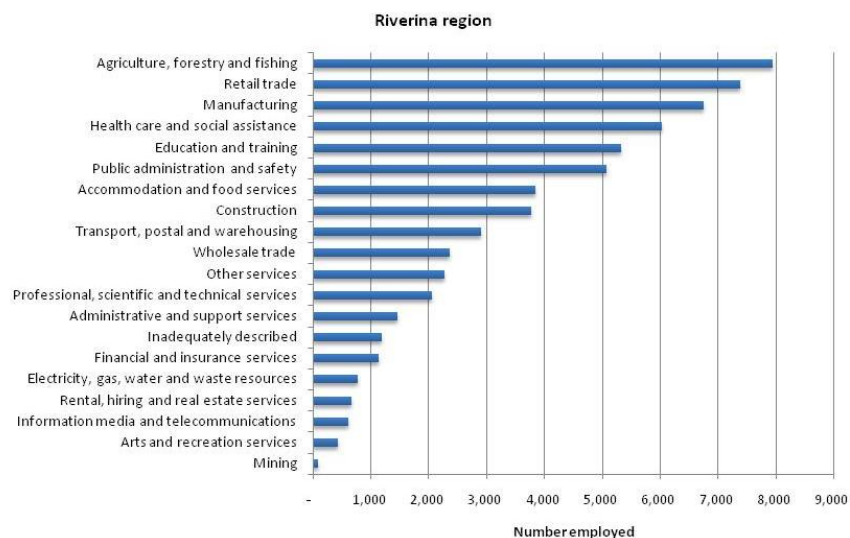
- Health and community services
- Property and business services
- Retail trade
- Construction
- Education

Of these industries, four depend heavily on skilled workers, particularly those with a high level of post school education. Yet as illustrated in the post school qualifications section of this report, the Murray Riverina region has a significantly low proportion of population with this level of education. Therefore encouraging the local population to obtain relevant post school qualifications and remain in the region is likely to assist in addressing this skills shortage.

Another approach to addressing the shortage of skilled workers is to attract and sponsor skilled migrants. There are a number of government programs and schemes to support this, such as the Regional Sponsored Migration Scheme, which enables regional employers to sponsor skilled migrants for skilled positions which the local labour market is unable to fill (4).

Key occupations experiencing shortages include health care professionals, teachers, trades, truck drivers, child care workers and agricultural labourers (5). According to the shift share analysis of the Murray region (which includes NSW and Victoria), industries which are growing at a faster rate than state and industry averages in the Murray region and are likely to encounter a skill shortage problem in the future include:

- Government administration
- Property services
- Services to finance and insurance
- Storage
- Services to transport
- Personal and household good retailing
- Food retailing
- Construction trade services
- General construction
- Electricity and gas supply



Skills

There is a skills shortage in a range of occupations and industries across the Murray Riverina region. The national employment growth predictions to 2012 – 13 show

- Road transport

Key environmental and cultural assets

The region has a diverse range of landscapes, including a significant and growing number of national parks, the foothills of the Great Dividing Range in the east, vast floodplains, irrigation areas and flat, semi-arid land in the west (19). The region’s environmental assets are largely focused around the Murray and Darling Rivers which is the largest river system in Australia. It supports the River Red Gum forests, an abundance of threatened flora and fauna, migratory birds and internationally significant wetlands. Thus protecting the riverine environment of the Murray region is vital to ensuring the environmental assets are sustained.

The Riverina region environment is also centred on water, with the Murrumbidgee and Lachlan Rivers playing key roles in sustaining significant wetlands such as the Mid-Murrumbidgee Wetlands, Lowbidgee Wetlands and Ramsar listed Fivebough and Tuckerbil Swamps (4). The region also contains two major irrigation areas, the Coleambally Irrigation Area and Murrumbidgee Irrigation Area, and supports River Red Gum forests which were declared National Parks as of 1 July 2010.

Both of the regions have significant indigenous and non-indigenous cultural heritage. In particular, the Murray River has been very important for trade over the years and the surrounding region hosted some of the early European settlers and explorers of inland Australia such as Hume, Hovell and Sturt. The Murray region contains numerous indigenous cultural assets, including the Willandra Lakes World Heritage site, ancient burial sites at Lake Victoria and the earliest site of evidence of human occupation of Australia at Lake Mungo. The Riverina region forms part of the Wiradjuri nation, and contains many carved trees around the Lachlan River in the north.

Infrastructure

Table 5 provides an overview of major road, rail and airport infrastructure located in the two regions. Both are in strategic locations in terms of receiving plenty of through traffic with parts of the regions easily accessible from key economies such

as Sydney, Melbourne, Brisbane, Canberra and Adelaide. In particular, both regions are serviced by the Hume Highway. This is Australia’s busiest inter-capital road corridor, providing freight and passenger flows between Sydney, Canberra, Melbourne, regional centres and interstate traffic from Queensland to South Australia. Over the next 20 years, interstate freight between Melbourne and Sydney is expected to increase by 70 percent which should provide opportunities through transport and warehousing as well as general through-traffic business for both of the regions.

Rail and bridges (both road and rail) require further investment in some areas. Parts of the regions are not easily accessed by rail and towns poorly connected by rail (freight and passenger) and road freight within and across each of the regions. Although there are 30 bridges on the Murray River, many of them are low quality or very narrow and have weight restrictions. This is a particular disadvantage to communities on the NSW side of the Murray River, as a lot of the infrastructure and market opportunities are located on the Victorian side of the river.

Table 5 Overview of transport infrastructure (15; 14; 4; 3)

Infrastructure	Riverina region	Murray
Roads	Major roads: <ul style="list-style-type: none"> ■ Hume Highway (Sydney – Melbourne) ■ Newell Highway (Melbourne – Brisbane) ■ Sturt Highway (Sydney – Adelaide) ■ Mid Western Highway ■ Cobb Highway 	Major roads: <ul style="list-style-type: none"> ■ Hume Highway (Sydney – Melbourne) ■ Newell Highway (Melbourne – Brisbane) ■ Sturt Highway (Sydney – Adelaide) ■ Riverina Highway
Rail	<ul style="list-style-type: none"> ■ North south rail line from Melbourne to Sydney ■ Network of feeder lines spread across the region, but several 	<ul style="list-style-type: none"> ■ North south rail line from Melbourne to Sydney ■ Inland route from Melbourne to Brisbane being considered

Infrastructure	Riverina region	Murray
	need upgrading <ul style="list-style-type: none"> ■ Inland route from Melbourne to Brisbane being considered by the Commonwealth 	by the Commonwealth <ul style="list-style-type: none"> ■ Ettamogah Rail Hub – increasing capacity to handle over 100,000 tonnes of freight annually ■ Standardised rail link from Benalla to Oaklands
Airports	<ul style="list-style-type: none"> ■ Major regional airports: <ul style="list-style-type: none"> ■ Wagga Wagga (REX and QantasLink) ■ Griffith (REX) ■ Narrandera (REX) ■ Smaller airports/airfields: <ul style="list-style-type: none"> ■ Cootamundra ■ Temora ■ Hay ■ Coleambally ■ Hillston ■ Lockhart 	<ul style="list-style-type: none"> ■ Major regional airports: <ul style="list-style-type: none"> ■ Albury (REX, QantasLink and Virgin Blue) ■ Smaller airports/airfields: <ul style="list-style-type: none"> ■ Balranald ■ Deniliquin ■ Tocumwal ■ Corowa

It should also be noted that there is accessible transport infrastructure that services centres on the Victorian side of the Murray River, such as rail to Swan Hill and Mildura and the Mildura airport.

Education

The Riverina region recorded a significant reduction in the number of schools from 2004 to 2009, with 3% fewer schools operating (compared with 0.3 percent fewer in NSW overall) (4).

The regions have major tertiary educational facilities, including (14):

- Charles Sturt University – Wagga Wagga and Albury
- Riverina Institute of TAFE
- La Trobe University (Wodonga, Mildura)

Wodonga and Sunraysia (Vic) TAFE colleges also service the region. The differential in education opportunity across the region is illustrated by the information in Figure 15 and Figure 16, where Albury has more teachers per 1000 population in most categories of education than the Murray region or regional NSW, while Jerilderie only employs primary school teachers. Clearly there are a range of issues that drive this difference including the demand for the different educational levels and the more regional educational servicing provided by the major Albury centre. While changing this may not be possible, some consideration as to whether it offers any longer term opportunities may be worthwhile.

Figure 15 Number of professional working in the locality per 1000 resident population- Albury 2006 (10)

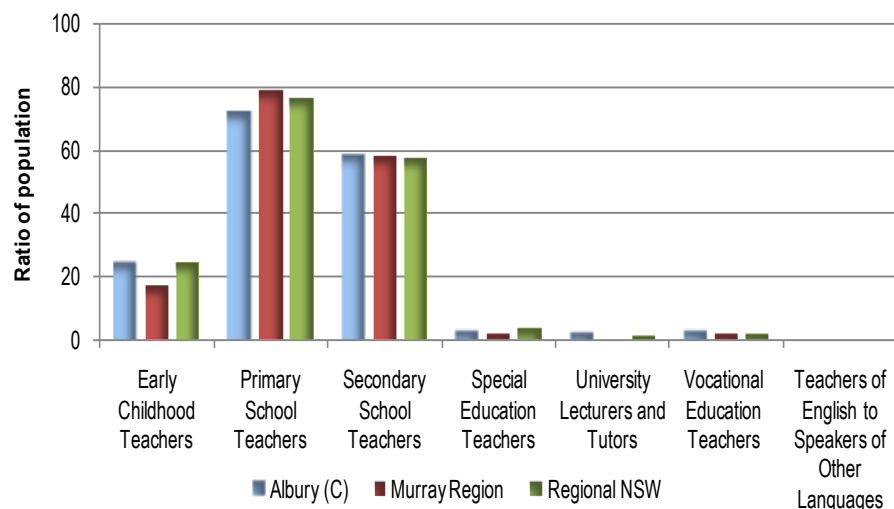
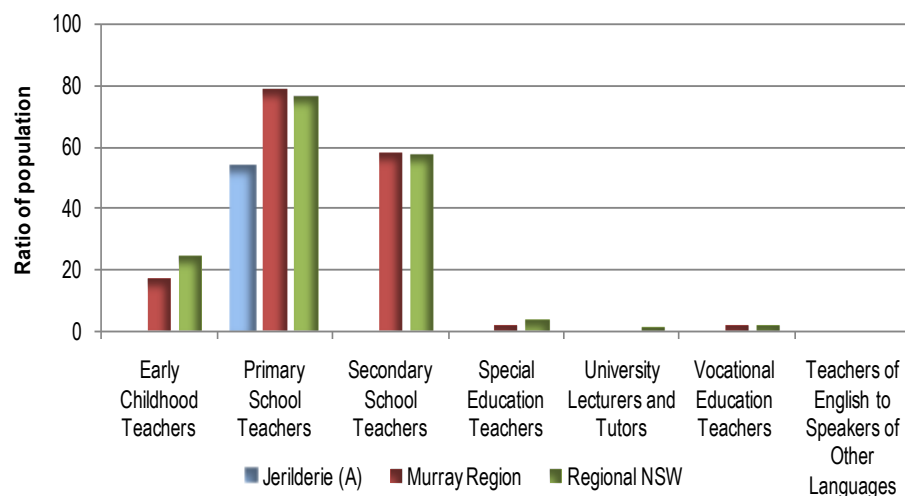


Figure 16 Number of professional working in the locality per 1000 resident population- Jerilderie 2006 (10)



Health

Generally people living in rural and remote areas have worse health than people living in metropolitan areas (4). They generally have poorer access to health care providers and higher exposure to health risks due to geographic isolation. The size and relatively low density of population combined with a shortage of regional medical professionals in the two regions also makes it difficult to provide comprehensive and timely services to all who require them (3). This is something which needs to be addressed as the population of older people continues to grow and has the potential to create a competitive advantage for the region to attract retirees.

The Murray region is predominantly serviced by the Greater Southern Area Health Service, with Balranald and Wentworth covered by Greater Western Area Health Service. The Riverina region is covered by the Greater Southern Area Health Service. In the Greater Southern Area Health Service in 2009, 28 percent of people reported difficulties getting health care when needing it, compared to 17 percent in NSW (14).

The Albury-Wodonga Health service was established on 1 July 2009. It is the first cross-border public health service in Australia and now the largest regional health services facility between Sydney and Melbourne. Additionally, Ramsay Health Care owns and operates the Albury Wodonga and Murray Valley Private Hospitals, which service an area of over 300,000 people from North East Victoria to South East NSW.

The Riverina region is serviced by 10 public hospitals, 2 aged care centres, 7 community health service centres, 7 mental health service centres and 3 sexual assault health service centres (14).

The relative differences across the region is again illustrated in Table 6 with Albury in general having more health professional living in the locality than Murray and Regional NSW and also more than Sydney in some categories. Conversely, Jerilderie's health professionals are restricted to registered nurses.

Similar to education, the reasons for these differences and the implications are varied. In addition there is likely to be a range of innovative service options provided to mitigate the impact of less professional staff on the ground. Again, some further work to understand these differences, their implications and the current approaches to address them may be useful and possibly suggest additional opportunities.

Table 6 Number of Health Professionals working in the Locality per 1000 population 2006 (10)

Number of professionals working in locality per 1,000 resident population	Albury (C)	Jerilderie (A)	Murray Region	Regional NSW	Sydney SD
Generalist Medical Practitioners	1.32	-	0.98	1.38	1.94
Psychiatrists	0.06	-	0.03	0.06	0.12
Surgeons	0.45	-	0.12	0.13	0.21
Registered Nurses	11.98	5.86	8.67	8.52	7.17
Midwives	0.06	-	0.59	0.50	0.50
Dental Practitioners	0.43	-	0.22	0.30	0.54
Physiotherapists	0.83	-	0.40	0.48	0.62
Optometrists and Orthotists	0.19	-	0.11	0.14	0.23
Pharmacists	0.72	-	0.57	0.56	0.77
Dieticians	0.25	-	0.09	0.12	0.13
Occupational and Environmental Health Professionals	0.39	-	0.41	0.47	0.42
Chiropractors and Osteopaths	0.25	-	0.18	0.13	0.17
Occupational Therapists	0.60	-	0.27	0.30	0.31
Podiatrists	0.21	-	0.09	0.07	0.09
Speech Professionals and Audiologists	0.41	-	0.18	0.19	0.22

Tourism

Tourism is an important industry in the Murray Riverina region which attracted nearly 1.8 million domestic overnight visitors in the year to June 2010. These visitors stayed some 4.7 million nights at an average of some 2.7 nights each visit. Domestic overnight visitation to the region has been declining a little over the past five years or so from some 2.15million visitors and just over 6million nights at an average of 2.8 nights per visit in the year to June 2005. The fall in visitors seems to have reversed a little in the past two years while visitor nights have been broadly static in a band from some 4.5 – 5 million nights per annum since early 2006.

It should be noted that the average stay in Murray has been between two thirds and one and a third days longer than in Riverina. This difference has only been evident in the last two years and previously did not favour either region consistently. The difference largely reflects an increased length of stay in the Murray region and to a lesser extent a smaller reduction in the average stay in Riverina. This may offer scope to increase the stay in the region as a whole based on increasing the number and strength of the regional attractions.

Figure 17 Origin of domestic overnight visitors to the region

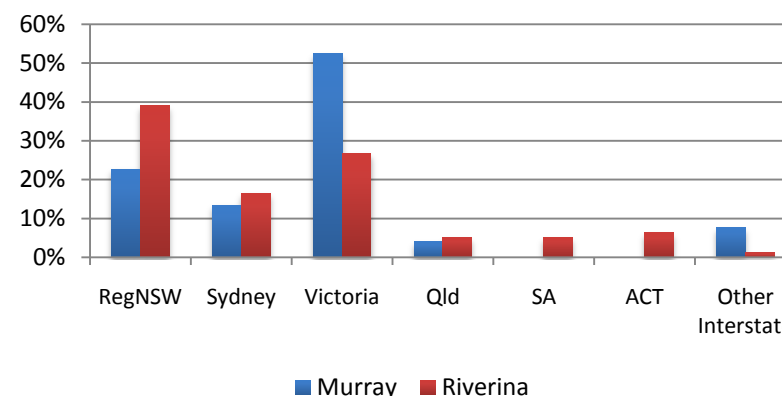


Figure 17 indicates the strong visitation from Victoria to the NSW Murray region and to a lesser but still significant extent to Riverina with regional NSW the next highest provider of visitors to the region. Although Victoria and regional NSW provide the majority of visitors to both regions (around 75% in Murray and 65% in Riverina) there is a reasonable spread of interstate visitation to both regions.

The region also attracted just over 2 million day trippers in the year to June 2010 although some of these could involve trips within the region by overnight visitors, so that some double counting of visitors is possible. In addition, the region attracted around 40,000 international visitors although again some of these could be visitors who visited both Murray and Riverina. This number of international visitors is similar to the number of international visitors to the Victorian Murray region, again with high likelihood that this includes some multiple counting.

In the year to the end of June 2010, overnight visitors were estimated to have spent some \$321 million in the Murray region at an average per visitor night spend of some \$126. Corresponding figures for Riverina were \$297 million in total at an average of \$137 per night. While this suggests the total regional expenditure could be nearly \$620 million there may be some overlap in the figures.

The main purpose of travel to the Murray region is for holiday or leisure (45% of visits and 55% of nights). However, there is also a strong Visiting Friends and Relatives (VFR) motivation (32% of both visits and nights). The main purpose for travel to the Riverina region in the year end to June 2010 was VFR (nearly 38% of visits and 47% of nights) followed by holiday and leisure (31% visits and 28% nights). Riverina have a successful Ambassador program to encourage extra visits and longer visits to friends and relatives. They have done a lot of things to educate locals and encourage them to participate in the program. There may be an opportunity to extend this program including providing similar and/or additional incentives to local residents and their friends and relatives to encourage visitors to stay longer or make more visits.

The main transport to the region is by private or company vehicle estimated at over 85% of trips in both Murray and Riverina. Air travel accounted for some 5-6% of trips. The use of camper vans or motor homes was third most used travel option

in some periods indicating the growing popularity of this form of transport and significance of the 'grey nomad' market. There is also a backpacker segment, including both domestic and international travellers.

The Long Paddock Trail from Moama to Wilcannia has recently been developed to attract the touring market including grey nomads. We understand that this has been very successful so far. It employs a project manager, provides a CD for the car to provide information and interpretation en route and includes interpretive panels along its length. They also undertook a program to develop additional support product such as accommodation and attractions along the route. The program led to 11 new businesses including accommodation places and a boutique abattoir.

Tourism NSW recognises this market but notes that that there is a range of segments within the market and that there is a need to recognise this and differentiate and target products for the separate segments.

There may be opportunities to develop other themed trails. Jerilderie has just introduced a product based on Ned Kelly's Jerilderie letter. There is a range of Kelly product in North Eastern Victoria and Southern NSW including interpretive centres, guided and self guided tours and individual buildings and sites of greater or lesser authenticity. Efforts have been made to develop this collateral into a more formal Kelly trail but with limited leadership to date. While potentially expensive to develop and with cross border connotations it offers the advantage of strong national and international recognition and potential support from NSW, Victoria and the Commonwealth Governments. Other opportunities could include drives that link existing tourism, heritage and other attractions across the region.

Other opportunities suggested included the:

- Development and/or expansion of Aboriginal cultural tourism based on the internationally recognised sites such as Lake Mungo and existing Aboriginal arts and crafts and tourism enterprises. There are successful operations currently in the region with one at Lake Mungo which operates in conjunction with Parks NSW and that provides a mature interpretive experience of the site,

its historical context and the story of Mungo Man. This tour is well established and well run. There is also one at Tumut with a good tourism manager that offers a bush food experience with men going with men and women with women. These could provide examples for other developments

- Development of ecotourism/nature based tourism based on the region's environmental assets including the recently designated Red Gum National Parks. This development offers opportunities to develop environmentally friendly accommodation as well as walking tracks, guided walks and possibly in some areas cycling trails and drives. Accommodation could include ecolodges, temporary ecotents, camp sites etc. Victoria and Western Australia and possibly other states are identifying suitable sites for eco-lodges in natural areas close or adjacent to national parks or areas of similar natural values. These sites are being included in "land banks" and can be offered to investors as investment ready sites reducing some of the risks of new developments in regional areas
- Potential to redevelop disused railway lines and easements into rail trails providing short to very long horse and bicycle rides across relatively flat terrain. The development of rail trails and similar trails are a good idea with some very successful examples. Issues include the need for a lot of preliminary work including good consultation prior to publicising any development. Specific concerns include stock security, weeds, dogs, feral animals, fires etc. The Department of Transport has identified Bike trails along the Murray as an opportunity. Albury City Council is promoting a multi-purpose trail based on an Aboriginal theme along the Murray and Lake Hume)
- Potential to facilitate the development of farm stay and similar accommodation businesses to provide incremental non-agricultural income to farmers. Southern Cross University has a very good program to facilitate the development of farm stay accommodation
- Development of themed events and festivals. There are a number of current events in the region that host around 20,000 visitors that could provide useful examples.

Water policy

Water is a critical area of government policy that has contributed to changes in social and economic conditions across the region over the last decade and is expected to continue to do so. Water policy in the region is driven by several forces, including the National Water Initiative, Commonwealth *Water Act 2007* and Australian Government investment in water savings and environmental water buy back. Some of the major influences are discussed below.

National Water Initiative

The 2004 National Water Initiative (NWI) was a key outcome of the Coalition of Australian Government's (CoAG's) water reform framework. The Initiative sought to make water use more efficient and sustainable, leading to greater certainty for investors, producers, communities and the environment. Its objectives included ensuring: effective water planning, resolution of over-allocation and overuse, conjunctive management of surface water and groundwater, clear and secure water access entitlements, open water markets, smooth structural adjustment and water use efficiency and innovation (20). The NWI recognises the environment as a legitimate water user

The Basin Plan

The Australian Government's integrated plan for addressing water in the basin is based on the Basin Plan, and investment through the Water for the Future program in both water buybacks and investment in infrastructure. The Commonwealth Water Act 2007 creates the requirement for the Murray–Darling Basin Authority (MDBA) to prepare and oversee a Basin Plan. This plan provides for the integrated management of all the Basin's water resources, but will not commence until mid 2011.

A central element of the Basin Plan includes defining Sustainable Diversion Limits (SDL) which are enforceable environmentally sustainable limits on the extraction of

surface water and groundwater from Basin water resources. The SDL will replace the existing limit on the amount of surface water that can be taken for consumptive use in the Basin (referred to as 'the Cap'). The MDBA has already indicated that given the stresses on the Basin environment, it is likely that the basin-wide SDL for both groundwater and surface water will be set at a level below the current level of use. The recently released *Guide to the Proposed Basin Plan* (21) indicated a reduction in the SDL of a range between 3,000 – 4,000 GL/year. For the project area, the range of reduction in current diversion limit is 26-35% for the Murrumbidgee (ex ACT) and the NSW Murray. This figure may however change prior to the finalisation of The Basin Plan, with more recent government announcements favouring reassessment with greater consideration of regional social and economic impacts.

The impact on consumptive users is uncertain at this stage, both in the magnitude of the impact and at a geographical level. In the broadest sense however, the likely reduction in water availability for irrigators will impact on farm profitability and therefore negatively impact regional economies. Importantly for the Murray and Riverina, the SDLs are likely to impact irrigated broadacre agriculture (encompassing rice, cotton, hay and irrigated pasture) significantly.

Water trade

Secure and clear property rights to water have been established in NSW under the *Water Management Act 2000*. Title to land and water has been separated and, under rules established in legislation and water resource plans, permanent water entitlement and annual allocation to both surface water and groundwater may be traded.

Water sharing plans for both the Murrumbidgee and Lachlan Rivers and the trading rules they specify have been suspended due to severe water shortages. A moratorium on the temporary trade of water from the Murrumbidgee Valley to the Murray Valley, including interstate trades was initiated in 2009. The moratorium was introduced because of potentially high transmission losses that would occur if

the volumes of trades into the Murray Valley via the Murrumbidgee were to continue throughout the year (22).

Trade in surface water in the Lachlan valley and groundwater is only possible within valley or groundwater management area. Prior to the 2009 moratorium, there had been significant trade of water within, to and from Murrumbidgee surface water sources. Water trading remains an important means for irrigators to manage risk and allowing flexibility in the face of highly variable seasonal allocations.

The latest *Australian Water Markets Report* (20) for the year 2008-09 shows there was significant water trade particularly in the Murrumbidgee and Murray systems. While there was no interstate entitlement trade, water allocation trade out of NSW totalled some 559 GL, most of which would have originated from the Murray and Murrumbidgee systems.

While revenue from trade in allocation or sale of water to the Commonwealth Environmental Water Holder (CEWH) is significant, anecdotal evidence suggests that much of it is used to retire debt or invest elsewhere and does not necessarily circulate in the local and regional economy in the same ways as revenue from agricultural products. Over time, trade in both entitlement and allocation has potential to weaken the broader economy in agriculturally dependent regions.

Environmental water buyback

As part of the Australian Government's Water for the Future initiative, it committed \$3.1 billion over 10 years to purchase water to restore environmental flows in the Murray-Darling Basin. The Commonwealth Environmental Water Holder (CEWH), established under the *Water Act 2007*, manages buybacks and environmental watering actions. Total secured purchases as of 31 October 2010 included 86 GL of General Security (GS) and 21 GL of Supplementary water entitlements in the Murrumbidgee and 86 GL of GS entitlements in the Lachlan catchment. While in the Murray, 191 GL of GS entitlements have been purchased (22).

Other policy influences

Several other government policy influences have emerged recently and shape the way in which the region develops, including those outlined below:

- National parks – In July 2010, the NSW Government announced that about 100,000 ha of River Red Gum forest in the Riverina would be reserved as National or Regional Parks. This included most of the previous State Forests along the Murrumbidgee River downstream of Narrandera (23) and would significantly affect the regional forestry and forest products industry, which employs about 100 people (24). The NSW government committed \$97 million (www.riverredgums.nsw.gov.au) to supporting affected timber workers and their communities (across all NSW River Red Gum communities) and help them develop alternative employment and economic opportunities.
- Renewable energy – as part of the Australian and NSW government's response to climate change, there is increasing investment in solar and other forms of renewable energy. The region's dry and sunny climate means that it is, in common with large areas of inland Australia, well-suited to solar power generation.
- The Australian Government will soon invest in up to four (pilot) large scale, grid connected solar power stations as part of its Solar Flagships program (25). Eight projects have been shortlisted under this program, with several in NSW. While not all of the potential sites have been identified, none of the known sites are located within the region. With most commercial renewable energy investment in wind, this program represents the main short-medium term opportunity in large scale solar energy generation. If the region does not participate in such a project, it may take considerable time before new, large scale opportunities emerge.
- Regional development – the *Murray and Riverina Regional Business Growth Plans* (26) outline how the NSW Government will work with local governments, businesses and other stakeholders to further develop the region's economic strengths and address some of its challenges. Its key

strategies address water efficiency, key infrastructure gaps, developing manufacturing opportunities, workforce development and provision of land for industrial development.

- The NSW and Commonwealth Government have a range of business assistance programs that may be relevant during this project. Information on these programs and funds is provided by the RDAs. A short selection of possibly relevant grants is set out below:
 - Trade & Investment NSW-Local Infrastructure Support Fund to fund eligible infrastructure projects that are directly linked to economic development
 - Community Broadband Development Fund for funding community based high speed broadband network facilities
 - Community Economic Development Program sponsored by Trade and Investment NSW, that provides funding to increase business and economic activity through strategic planning. This program provides one stream of funding for initiatives in smaller towns with less than 2000 population
 - Renewable Energy Development Program that funds projects that promote renewable energy technologies and will produce large scale greenhouse gas emission savings
 - Regional Economic Transition Scheme sponsored by Trade and Investment NSW, which provides restructuring support to communities hit by economic shocks as a result of business closure, industry restructuring and global economic change
 - Country Passenger Transport Infrastructure Grants.

As funding programs change over time, specific programs and relevant sources of funds will be identified that relate to the opportunities identified by this project.

Key regional development drivers

This section discusses a range of regional trends and drivers and the implications of these in terms of diversification opportunities. It also considers the challenges and limitations that may need to be addressed in developing identified opportunities. The section draws on initial discussion with the project steering committee and selected key informants and on regional plans, reports and other relevant documents and statistics. Further development of this section is expected based on the interview program.

Trends and drivers

The following recent trends and the current drivers in the region were discussed in a workshop with the project Steering Committee. They have been categorised into social, technological, economic, environmental and political trends and drivers and are to be further explored in the next stage of the project – *Market Assessment*.

Social

Demographic issues

Demographic issues affecting employment including aging of population, loss of young people and declining population in smaller towns. This in part reflects consolidation in the agricultural sector leading to fewer larger farms, fewer families and a reduced service function for the town. This trend has been accelerated by the recent drought conditions and declining prices for traditional commodities. Employment in small towns tends to offer lower average wages compared with those in large towns and regional centres which reduces the attraction of the smaller towns for new employees. This trend is reinforced by reduction in local services as the population and the demand for services reduce. This includes the potential loss of employment due to the withdrawal of key services such as banking, medical and educational services based on reduced

demand and the loss due to some residents needing to move to receive essential services such as aged care cost effectively.

International education

There has been a substantial reduction in the number of international students studying at CSU, La Trobe and other institutions in the region, with the high AUD a major issue. There have also been substantial amounts of informal educational service provision, particularly from specialist businesses, without real recognition of payment for the IP transmitted.

Skilled migration

The New South Wales state migration plan is currently under development, aiming to increase the range of occupations for which temporary or specialist visas will be granted.

Technological

National Broadband Network

The roll out of the national broadband network particularly linked with community broadband networks using wi-max technology for remote centres, will provide high capacity broadband coverage within approximately 30 kilometres of towers. Trial sites for the community networks are planned and include Delegate, Dalgety and Balranald.

e-Health

Access to broadband offers the ability to provide access to e-Health services, which can improve the quality of health care across the region including to the smaller towns, particularly if the ability to attract health and other professionals to regional and rural areas remains difficult. Access to e-health and to quality health care professional development through both the regional tertiary education providers and via distance education could provide an incentive to attract and

retain appropriate professionals. The generally aging population is also increasing the demands on health service provision and e-health using broadband technology to access diagnostic and other specialists in capital cities represents a real opportunity to improve their health and wellbeing outcomes. This demographic trend also offers opportunities to provide additional and innovative aged care services. The availability of such services could be an attraction for “tree change” and early retirees moving into the region.

Tourism

Improved use of broadband and wireless communication for tourism is relevant in two areas:

- Provision of marketing information, online booking and similar facilities to potential visitors to the area
- Provision of online connectivity to visitors while in the area. Evidently the Murray tourism collaboration project is examining this, and one town in the Towong – Corryong area has provided free wi-fi access throughout the town. It was thought that availability of adequate spectrum could be a constraint issue. Other opportunities include the ability to use mobile phones and similar personal communication devices to search online for particular tourism attractions/services (for example to look for the nearest appropriate food services outlet around lunch time), navigation or other location-based services.

Major businesses and Shires need to be shown potential return on investment to put in such systems through charging users for access

This can also result in value add in capacity for service suppliers in the area in installing and maintaining such equipment. The internet is overtaking local and regional Visitor Information Centres (VICS) as sources of information, which may mean that the VICS will need to review their role and the services they offer.

Education and training

Broadband also offers a range of improved learner managed education and training options including additional distance education and training options including improved video links and interactive and simulation learning, improved on-line networking for professional development and access to more complex on-line practical examples.

Other

Other opportunities from Broadband access will be investigated during the next stage of the project. These could include but not be limited to home working opportunities that are knowledge and/or IT intensive that become possible to undertake from more remote locations with access to broadband.

Economic

Diversification

There has been a trend towards diversification in economic activity – away from reliance on any one industry, particularly irrigated agriculture. Examples of this include:

- A business which formally repaired and upgraded farm agricultural equipment diversifying into fitting LPG for automotive uses. With this transfer, the question arises whether their former business activities will be resumed when demand returns, and whether such services will be available in required capacity.
- Increase in niche manufacturing capability such as Screwfix in Finley, manufacturing bedding systems for racehorses
- A business that processes agricultural waste for other agricultural uses that is looking at building product opportunities.

There are also examples of regional companies that have developed a more generic product into a specialised service with a larger geographic market.

Industry clusters

More generally there has been increased development of collaborative business arrangements including the development of a number of business and industry clusters. A number of business clusters have been established. One focuses on lean manufacturing, another on upmarket home construction and one in retail. T&I NSW have a program to facilitate the development of clusters. Other collaborative business examples quoted included a co-operative grain handling and marketing organisations and co-operatives to buy electricity on behalf of groups of consumers. Potential additional cluster areas could include among others Defence and Timber.

Financing

Banks have become much more conservative in financial lending – generally requiring 30% of project funding to be already held. This has been exacerbated by a less resilient economy where failure of one major customer can have a domino effect if payment is not made to their suppliers, which puts those businesses under added pressure. This can be a particular issue for agricultural businesses where failure of a processing operation after delivery of the growers produce may mean that financial recovery is not possible until at least the next season. This impact could affect a whole locality depending on the processor's supplier catchment. If new projects are under development, the inability to hold required cash deposits can jeopardise achieving bank financing.

Lower business set up and operating costs

Water and sewer availability can be much cheaper in regional areas than in capital cities. Quoted examples suggested water supply at 50 cents per kilolitre in regional areas compared with \$2 in capital cities, with sewer \$1 against \$2-3 in capital cities. Other costs including land, general compliance and planning issues can be cheaper as well. This was highlighted by the Norske Skog paper mill which is still profitable, although many other similar mills worldwide are not.

Increasing globalisation

International issues affecting the region include the high \$AUD, which is particularly hard on exporters, and has also impacted on the international education market. Demand for regional products from China and India continues, although consumption of paper, wood panels and similar products in the Indian market were seen as being some 5 years behind that in Japan.

Off shoring of production for high volume manufacturing has also been increasing. An example was quoted of a disc brake manufacture which manufactures high volume commonly required products in China, but manufactures speciality higher quality and lower tolerance units in Australia.

Property aggregation

Overseas and broader corporate ownership of agricultural land and forestry plantations is driving property aggregation and reducing connection of landownership to local communities. This is reinforced by a trend towards individual landowners getting bigger through the purchase of neighbour's properties and in some cases larger land owners developing a geographic spread of land ownership (portfolio) to reduce risks associated with climate change and water availability in one area.

Environmental

Rain and climate change

The 2010 rains promised greatly increased grain harvests, only to have these dashed by widespread rain and flooding during the ideal harvesting period. This delayed harvest and resulted in widespread downgrading and some total crop losses. Concerns about expected capacity constraints in harvesting and transport and storage infrastructure and services in the region did not eventuate. There were also concerns that a wet year and good harvest could reduce focus on economic diversification strategies. The previous period of drought has led to a range of water use including changing practices to reduce the water used, to use

water more efficiently and to recycle and reuse water. These initiatives offer scope not only to retain production and productivity in periods of lower water availability but also provide possible new business opportunities.

Energy costs

Energy costs are likely to rise if, as expected, a carbon pricing mechanism is introduced. This could make regional energy projects more attractive including larger renewable energy projects such as solar, wind, geothermal etc. as well as energy from waste including biomass energy generation, the use of land fill gas and business specific and community generation gas and renewable projects. Energy could include the production of electricity but could also include heat. These projects could be stand alone, grid connected or offer some local/community reticulation system subject to the regulatory framework and energy marketing arrangements. Local electricity generation projects with sale to the grid and local area reticulation have proceeded, but have been undermined by low sale prices, and concern about the impact of a carbon price if and when instituted. Potential drivers for these projects include increased costs of disposal to landfill including a possibility of charging for land fill that could create emissions (biomass disposed of in landfills), carbon price and renewable energy certificates.

Availability of natural gas

Availability of natural gas is an economic development driver for the region. Deniliquin has been seeking to achieve natural gas connection for some time (existing pipelines terminate at Moama and Finley). Deniliquin as a pilot solar town seems to have more potential. Examples were quoted of other industrial parks where few businesses used natural gas despite good capacity reticulated supplies. Local interests may argue that “get natural gas and industry will follow”, but this experience suggests that this is not necessarily the case. A potential alternative is to provide local area LNG reticulation for areas where it is not yet economic to provide a piped supply for both domestic and industrial users. Tumut has been connected to the natural gas grid for the Visy plant via a pipeline from June.

Political

Clean, green and stable

The general region is perceived as being clean, well regulated, with reliable stable government and generally a compliant business environment. This has encouraged specialist business such as export of fertilised sheep ova, and specialty and preserved food products. Australian agricultural land is becoming increasingly attractive to multi-national corporations.

Challenges

Limitations and challenges in the region indicated have also been categorised as social, technological, economic, environmental or political.

Social

Employment

Highly skilled jobs and those requiring leadership are the hardest to fill, particularly CEO, general manager and similar positions. The average wage in the Murray region has been quoted at \$43,000 per annum. Regional skills requirements are often not identical to the overall national ones and as such skills migration policies based on national targets may disadvantage regional areas.

However there is a lack of leadership capacity, particularly for general manager and CEO type positions, and the regions have relatively low educational standards with less than 5% having obtained a degree. However, as noted earlier there are significant regional differences, mainly between the major cities and towns and the smaller towns.

Furthermore, while the general attractiveness of the region for relocation is quite high, there is a lack of choice in employment compared with capital cities, particularly in smaller centres and rural areas. This issue flows on to access to employment for the partners of potential skilled employees. The decision to move

could reflect the ability for both partners to obtain suitable work from a financial and/or life satisfaction point of view. In the case of employment in smaller centres access to childcare, schools, health care and other community services could also impact on a decision to take up employment.

Demographics

There is a 'hollowing out' of the work force, with fewer people in the 18 – 35 year range. Overall, there are fewer tax system contributors compared with tax system recipients than in other regions and capital cities. Retention of people in the late secondary tertiary education years can be an issue, with desired return to the region. Visy and Heinz evidently have had difficulty awarding offered scholarships due to lack of application from suitable candidates. Overall the population is ageing.

In rural areas, the overall low population density can be a challenge to ensuring a vibrant and healthy economy and community.

Technological

Infrastructure

Road infrastructure can be a limitation, particularly load limits on secondary roads and local arterial roads, generally caused through specific bridge limitations. Regional load limits on local access roads in Sydney can also impact on the whole journey. Rail and port access is also a major issue and could be difficult to change. However, we understand that P&O Trans Australia (POTA, to be rebranded Cube logistics from mid next year) will be commencing a three times a week container train service between Deniliquin and Melbourne (Dybon / north Dybon) from mid February.

Economic

Globalisation and the growing economies

A key issue in providing services to growing economies such as China and India is to establish an appropriate and enforceable means of reimbursement for IP. Unless there is confidence that the Australian provider can remain in front of the overseas client in terms of technological edge or has access to intrinsically higher quality raw materials so that the local supplier retains a sustainable competitive advantage there is the danger that the provision of these services only provides a short term window of opportunity rather than a sustainable business.

It could be argued that this situation has happened in the agricultural and food processing sectors where Australian wine makers have provided advice to businesses in new wine developing countries with similar climate advantages which has led to loss of market share. While not the same, the development of new types of citrus that meet consumer preferences such as seedless or low seed, larger, sweeter mandarins is accepted as providing an export market window with improved returns prior to emulation by competitor countries with lower cost structure. On this basis, continued research and development is necessary.

Tradeoffs between business competitiveness and innovation

Increasing costs of inputs and services in the short run reduces business competitiveness but in the longer term may provide a catalyst for innovation that increases productivity and could lead to new products/services.

Exchange rates

Increase in the dollar against trade partner currencies reduces the competitiveness of regional exports.

Environmental

Water

There is a greatly variability of water availability by location and over seasons. In addition, overall flat terrain with a regional wide fall of 1:10,000 means water has to be either pumped through pipes or gravity fed through channels.

Carbon price

The possibility and viability of most carbon capture projects will be dependent upon carbon price.

Political

Cross-jurisdictional governance across three spheres of government

The three tiers of government can be a challenge, with cross border anomalies also adding complications. Local government in the regions tend to lack resourcing and capability.

Planning

The planning process with the LEP system can be challenging to achieve outcomes desired. A number of shires have now achieved an LEP, however for the vast majority LEP is still a work in progress.

Regulation of utilities

Costs of augmentation of electricity networks for new customers are generally required to be paid upfront under Country Electricity policies, rather than being amortised over a number of years as in Victoria. Similar difficulties occur with water and sewerage services. There are often limitations on what council waste water systems will accept, compared with Victorian systems where most things are accepted, but additional costs imposed according to type and quantity of material.

Opportunities

A number of opportunity areas were indicated in the discussion. These have been sorted by industry and reflect the trends and drivers above.

Agriculture

Reduction in traditional markets related to agriculture such as agricultural equipment manufacturers and support services and transport companies have led, as noted, to changes in business focus including use of skills and equipment capability to provide services to non agricultural customers and to produce new products. Cooperative arrangements including purchasing arrangements to obtain the benefits of bulk purchase and marketing arrangements that also offer economies of scale offer productivity benefits. Cooperative activities and shared resources such as the collation and dissemination of market research, shared transaction costs, shared experienced marketing personnel etc have also had some successes.

Education

Building opportunities on the region's demographics including services related to aged care, educational opportunities for targeted demographics and employment opportunities, for example post experience primary and secondary teaching, professional development for health care specialists. Access to high speed broadband offers significant new opportunities for distance and learner managed education.

Electricity, gas, water and waste resources

Plants to sort and process recyclables may represent an opportunity, as most recyclables have to be transported to Melbourne for processing.

The renewable energy sector, both solar and biomass, may be a source of opportunities in the region, given the number of hours of sunlight per annum, and availability of agricultural bi-products such as grape marque, rice stalks and similar.

There has also been an interest in CNG and LNG projects to supplement or replace diesel for vehicles. The Wodonga garbage collection fleet was reported as running on CNG. There is also a project to establish an ethanol plant at Coleambally.

Potential increases in costs of factors of production, such as water and energy, offers scope for opportunities to reduce costs associated with water reuse/recycling, more efficient use of water through reduction of evaporation, and new energy generation approaches including energy from waste (which may have the advantage of providing a cheaper form of waste management as well as generation of heat and/or power for processing). Further opportunities include multiple uses of energy such as heating water to generate electricity, providing heat for industrial processing, providing hot water for cleaning processes and potentially providing a number of additional community uses such as heating swimming pools and public buildings, and using innovative energy/power generation like gas, solar, biomass etc.

Government administration

Indigenous cooperative developments: The example of Balranald where an indigenous development project has provided a huge capacity increase to local government services etc.

Health care and social assistance

Medical facilities for overseas patients: The region has good private medical sector facilities, and opportunities may exist to sell medical services to overseas full fee paying patients, similarly to that offered from Singapore.

Regional development of and access to new or improved services and technologies that may improve the productivity of existing industries and/or provide new business opportunities such as NBN, community broadband, new energy sources etc.

International markets

Growth of the Chinese and Indian economies are likely to open or expand export opportunities, including the direct supply of food and beverages, supply of relevant plant and equipment. Supply of skills and training for Chinese and Indian workers including training programs and products that could be licensed for delivery overseas, development and implementation of appropriate quality assurance systems, provision of consultancy and other specialist advice in building an industry in China and India are also opportunities.

Tourism

There may be a niche business for food and wine tourism and other niche businesses more generally including house boating and other boating, nature based tourism, Aboriginal and European cultural heritage tourism, manufacturing and agri-business tourism.

The proclamation of additional Murray River / Red Gum national parks by the New South Wales National Parks and Wildlife Service, and the Office of Environment and Heritage opens a significant new opportunity to build on and extend existing ecotourism and nature based offerings in both Victoria and NSW Murray and Riverina. This has meant that there is an increased need for marketing and development of national parks as tourism and eco-tourism destinations. NSW has recognised that a greater revenue stream is necessary for better park management, and this can come from specific commercial and private sector developments within parks. As noted earlier this will include appropriate accommodation options as well as tours, walks, trails and drives. These are also providing opportunities for indigenous employment within parks. As noted above, the region has relatively high proportions of indigenous population although the numbers and density of this population is not uniform across the region.

There are other potential opportunities to build on existing major events such as the Deniliquin Ute Muster and the key horse racing meetings and to develop new regional events.

Professional and financial services

These opportunities are dependent on the ability of the region to attract/develop local higher value innovative businesses offering higher wages. Traditional industries have tended to reduce output with lower employment and lower wages. This suggests broad opportunities to develop and/or expand business that offer synergies with existing regional businesses, vertical integration, collaborative business structures (clusters, supply chain alliances etc.) to support the development of new businesses. Development of these businesses is also likely to require business assistance and advisory services including business planning, advice and mentoring.

Changes in access to finance offers scope for collaborative arrangements for finance including the ability to tap into regional resources, retain funds and returns in the region, build and retain regional financial skills and businesses etc.

Co-operative and partnership funding ventures: To assist in providing project capital in the face of the greater conservatism from traditional funders a partnership program has been established with Johnson MME, a local accounting firm, for establishing locally funded venture capital consortia for particular projects. Some of the firms to benefit from this include occupants of the business park in Deniliquin and irrigation based companies. The NSW government can provide funding to bridge gaps but often not enough and it may not be available when required. The Government also has other industry and regional support initiatives including a specific Red Gum fund to support the restructuring of the industry. This funding has allowed new businesses to be attracted to the region. NSW also has an infrastructure fund similar to Victoria.

Key regional contacts

Further work in fleshing out this status report will be based on discussion with key regional contacts provided by the two RDAs including but not limited to:

- T&I NSW
 - Regional Director- Jouls Butler
 - Assistant regional Director Peter Whitehead
 - Industry expertise resident in Sydney
- The RDA Board members and management
- The regional local government people with responsibility for economic development
- Paul Marr Forestry Risk Management
- Regional Director of Planning Lois Gray
- David Hicks Albury Cluster
- Industry Riverlea Pork, Uncle Tobys/Nestle, North Skog? Bill Hardy Visy
- Tom Murphy Western Institute
- Katrina Tehan business diagnostic
- Stephen Joyce Economic Development Griffiths
- Johnson M & E Accountants
- Margaret Dwyer Regional Tourism manager
- Lynda Summers Executive Consultant to RDA, Chair Rural Communities Consultative Committee, Chair Regional Health Service.

Regional SWOT

Perceived strengths, weaknesses and challenges

Each of the two RDA 's regional plans 2010-2015 provide an assessment of the strengths, weaknesses, opportunities and threats (SWOT) for their region. The level of detail provided differs but while not identical, the key strengths and weaknesses of the Riverina and Murray regions cover similar areas and appear to have significant overlap. As such they offer a basis to develop a common regional SWOT including indicating sustainable development opportunities for the region. We propose to use a collation of the two as a basis for discussion with the Steering Committee and other relevant stakeholders as appropriate to understand the current two regional SWOTs, the similarities and differences and the opportunities they offer as a basis to develop an agreed SWOT for the combined region. Because of the size of the region and the variations across it noted in this document, it is likely that some opportunities will be identified that build on more specific local strengths. The regional SWOT and any necessary local variation will be developed further and agreed as part of the *Market Assessment* stage of this project.

References

1. **Department of Infrastructure, Transport, Regional Development and Local Government.** *Map of NSW RDAs.* 2009.
2. **Australian Bureau of Statistics.** Regional Population Growth, Australia, 2008-09 (cat. no. 3218.0). [Online] 2009. www.abs.gov.au.
3. **Regional Development Australia Murray.** *Regional Plan 2010-2015.* 2010.
4. **Regional Development Australia Riverina.** *Regional Plan 2010-2015.* 2010.
5. **Department of Planning (NSW).** *Draft Murray Regional Strategy.* 2009.
6. **Mackintosh, M. & Parr, A. (NSW Department of Infrastructure Planning and Natural Resources).** *New South Wales state and regional population projections 2001 - 2051.* s.l. : Australian Population Association, 2004.
7. **Australian Bureau of Statistics.** 1379.0.55.001 National Regional Profile, New South Wales, 2005-2009. [Online] 2010.
8. —. *1379.0.55.001 National Regional Profile, Murray, 2005-2009.* 2010.
9. —. *1379.0.55.001 National Regional Profile, Murrumbidgee, 2005-2009.* 2010.
10. **Murray Now.** *Murray region - economic and social indices.* nd.
11. **NSW Parliament Legislative Assembly: Standing Committee on Broadband in Rural and Regional Communities.** *Are you connected? Inquiry into telecommunications availability in rural and regional communities.* 2010.
12. **Australian Bureau of Statistics.** *2006 Census Community Profile Series: Murrumbidgee.* 2007.
13. —. *2006 Census Community Profile Series: Murray.* 2007.
14. **Department of State and Regional Development.** *Riverina: Food basket of Australia.* 2008.
15. —. *Murray region: Growing Australia's business.* 2008.
16. **Australian Bureau of Statistics.** *Counts of Australian Businesses, including Entries and Exits, Jun 2003 to Jun 2007.* 2007.
17. **Western Research Institute Ltd.** *Murray region shift share.* s.l. : RDA Murray, 2009.
18. **Western Research Institute Ltd .** *Regional Profile 2010 - Murray Now.* s.l. : RDA Murray, 2010.
19. **Department of Planning (NSW).** *Fact sheet: Draft Murray Regional Strategy.* 2009.
20. **National Water Commission.** *Australian Water Markets Report 2008 - 2009.* 2009.
21. **Murray Darling Basin Authority.** *Guide to the proposed Basin Plan. Volume 1.* 2010.
22. **Department of Environment, Water, Heritage and the Arts.** *Water purchasing by catchment in the Murray-Darling Basin.* 2010.
23. **Natural Resources Commission.** *Riverina bioregion regional forest assessment. River Red Gums and woodland forests: Recommendations report.* 2009.
24. **AEC Group.** *Strengthening basin communities input-output analysis.* s.l. : Griffith City Council, 2010.
25. **Department of Resources, Energy and Tourism.** *Solar flagships program.* 2010.
26. **Innovation and Investment NSW.** *State plan: supporting business and jobs. Riverina region - regional business growth plan.* 2010.

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