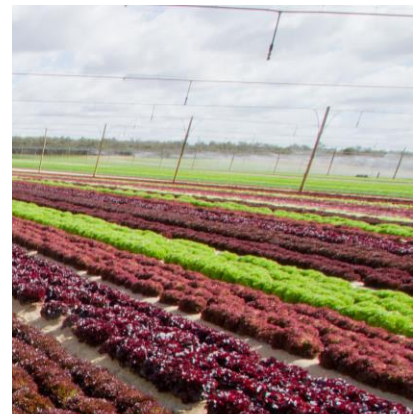


RPS

# Central Coast Sub-Regional Economic Strategy

Prepared by RPS in collaboration with the Wheatbelt Development Commission

Funded by Royalties for Regions, State Government of Western Australia





***Valuable support and input to the project was provided by the Central Coast local governments including:***

- Shire of Dandaragan
- Shire of Gingin
- Shire of Chittering
- Shire of Coorow
- Shire of Moora

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## SUMMARY

The Central Coast Sub-Region is the Wheatbelt's coastal economy. Home to 16,288 people in 2011, the Central Coast is a diverse economic region with strong opportunities in food production and processing, tourism, retirement and lifestyle and light industry and construction. The key findings of this Strategy, developed by collaboratively RPS and the Wheatbelt Development Commission and in consultation with the Central Coast LGAs, are illustrated below.

# CENTRAL COAST SUB-REGIONAL ECONOMIC STRATEGY

## THE WHEATBELT'S COASTAL ECONOMY

### GLOBAL DRIVERS



Accelerating global food consumption is not only increasing demand for broad acre crops but also protein (aquaculture and livestock) and intensive horticulture.



Domestic day trip and international overnight tourism activity is a core driver of the Central Coast economy and the sub-region has the strong potential to support further development.



Global and Australian energy demands continue to grow as does the need for greater diversity of energy mix. This includes increased renewable energy production from wind, solar and biofuels.

#### RESULT:

Global drivers present considerable economic opportunities for the Central Coast sub-region, to leverage existing competitive advantages and establish new industries.

### ECONOMIC PROFILE



#### POPULATION GROWTH

Conservative population projections from WAPC suggest a further 3,500 residents will call the Central Coast home by 2021.

2011  
16,288



2021  
20,000



#### Peri-Urban and Coastal Living

The sub-region includes both peri-urban towns such as Bindoon and Gingin and coastal nodes such as Cervantes, Lancelin, Leeman and Jurien Bay.

#### Food Production

Broadacre agriculture, animal husbandry and intensive horticulture represent primary drivers of the local economy, with coastal locations also supported by crayfishing.





## KEY ECONOMIC OPPORTUNITIES FOR THE CENTRAL COAST ECONOMY



### AQUACULTURE, HORTICULTURE & FOOD PROCESSING

Leveraging robust water supplies, natural competitive advantages and favourable domestic and global market conditions to make the Central Coast the premier 'food bowl' of WA.



### RENEWABLE ENERGY

Continue to promote the sub-region's natural assets to attract State significant renewable energy projects. Leverage branding and marketing opportunities from sector profile.



### RETIREMENT & LIFESTYLE

Provide services to ageing population while leveraging coastal and peri-urban lifestyle to attract new residents.



### MINING, CONSTRUCTION & LIGHT INDUSTRY

Providing housing, business accommodation and infrastructure for the growing economy and population. Leveraging niche mining activities and broader supply chains.



### TOURISM

Continue to develop sub-region's established domestic day trip, family leisure and international overnight markets, leveraging the coastal, environment and food based-opportunities.

The diversity of geographical, economic and industry drivers of the Central Coast, including its peri-urban and coastal lifestyle and recent transport infrastructure investments, present considerable opportunities for major growth in local economic activity and prosperity.



This Sub-Regional Economic Strategy for the Central Coast provides economic analysis and evidence based guidance to assist in investment and decision making and can therefore make a major contribution to sub-regional and whole-of-region planning. This Strategy also establishes a framework for the promotion and facilitation of economic and population growth across all towns in the sub-region.



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## **1.0 INTRODUCTION**

### **1.1 Background**

The Wheatbelt Development Commission sees merit in researching regional centres and their sub-regions in context to each other, highlighting how the Central Coast functions as a distinct economic unit. Detailed investigation at the sub-regional level is fundamental given the spatially-dispersed population and industry profile of the Wheatbelt region.

A sub-regional plan is to be prepared by the Wheatbelt Development Commission for the Central Coast. This plan is to provide regional context and strategic planning supporting economic and population growth in the sub-region.

This Strategy complements and builds upon the SuperTowns planning activity undertaken in Jurien Bay in 2011 and 2012 under the Royalties for Regions Regional Centres Development Plan. The SuperTowns program was established to assist, diversify and decentralise Western Australia's projected population growth by providing attractive alternative residential locations outside of metropolitan Perth. The Jurien Bay SuperTowns Growth Plan has been endorsed by the Department of Regional Development, WA Planning Commission and the Infrastructure Coordinating Committee.

The findings in the sub-regional economic strategies undertaken in the Wheatbelt will significantly contribute to the inaugural Regional Blueprint Investment Plan that the Wheatbelt Development Commission is completing in 2014. The Blueprint Investment Plan will outline strategies, areas for intervention and investment that will drive growth in the Wheatbelt region.

### **1.2 Project Purpose**

RPS was engaged by the Wheatbelt Development Commission to prepare a Sub-Regional Economic Strategy for the Central Coast. This Strategy is to provide economic analysis and evidence based guidance to assist in investment and decision making and will therefore make a major contribution to sub-regional and whole-of-region planning. This Strategy also establishes a framework for the promotion and facilitation of economic and population growth across all towns in the sub-region.

### **1.3 Central Coast Sub-Region**

The Wheatbelt Development Commission defines the Central Coast Sub-Region as the Local Government Areas of Gingin and Dandaragan. This is illustrated in the following Figure 1.

However, for the purpose of this report, the sub-region boundaries have been expanded to include the Local Government Areas of Coorow, Moora and Chittering. Coorow is located within the Mid West Development Commission boundaries, however, the coastal towns of Leeman and Green Head often use Jurien Bay for goods and services. Moora has traditionally held the sub-regional centre role for this geographic region. This role has changed in prominence as the economies of the coastal communities have evolved. The statistical profiles in this analysis demonstrate distinct economic variance between the coastal and inland communities of the Central Coast. The inclusion of these additional areas, however, is necessary to allow for statistical analysis to be undertaken for a consolidated economic unit. It also allows for the existing and potential economic diversity of the broader region to be more appropriately

reflected in the indicators and analysis. These areas may also be represented in future economic strategies for other adjoining sub-regions.



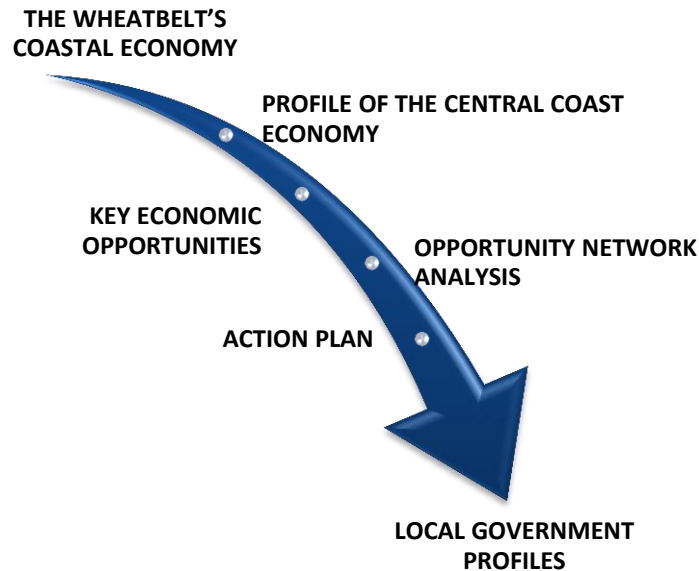
**Figure 1: Sub-Regions, Wheatbelt - overlaid with Local Governments included in this study**

## 1.4 Strategy Structure

This Strategy comprises the following key sections:

- **The Wheatbelt's Coastal Economy** – an overview of key global and national macro-economic drivers relevant to the Central Coast sub-region.
- **Profile of the Central Coast Economy** – detailed profile of the Central Coast sub-regional economy including population and socio-demographics, labour force and skills, employment and industry, housing and affordability and community services and facilities. Analysis covers each Local Government Area (LGA) and the broader sub-region.
- **Key Economic Opportunities** – identification and summary of key economic opportunities for the sub-regional strategy including rationale, drivers and trends and sub-regional characteristics.
- **Opportunity Network Analysis** – identification and analysis of the distribution of economic competitive advantages and opportunities across towns and LGAs in the Central Coast.
- **Action Plan** – plan of the actions required to facilitate regional economic development in the Central Coast sub-region.

In addition, concise Local Government profiles, distilling the results of the Strategy for each local area have been developed and are included in the Appendix. The Strategy's structure is illustrated in the following diagram.



**Figure 2: Economic Strategy Structure**

This structure ensures the flexibility of the Strategy, recognising the various roles and audiences of the document. These include:

- Providing an overall strategy for the economic development of the sub-region;
- Informing sub-regional and regional land use and strategic planning activities;
- Providing an evidence base for investment prospectuses and funding business cases;
- Providing content for marketing and branding material for the sub-region; and
- Informing and guiding all levels of Government in major investment and expenditure decisions.

To meet the requirements of these various audiences, this Strategy has been structured to allow key sections and analysis to be read and utilised independently of the broader document.

## 1.5 Approach

This Sub-Regional Economic Strategy has been developed by RPS in partnership with the Wheatbelt Development Commission. This project has applied the principles of “collaborative consulting” where the project client is actively involved in the development of the report including data collection, strategic overview and stakeholder consultation tasks.

This approach is highly advantageous for a number of reasons:

- Draws upon the resources of the Development Commission and Local Government to support data collection and consultation tasks;
- Allows the Commission's unique understanding of the region to be incorporated into the Strategy;

- Ensures value for money for the client by allowing RPS to concentrate on more detailed modelling and strategic analysis tasks; and
- Enables strategic and objective analysis to be undertaken by RPS, ensuring the Strategy's evidence base is rigorous, independent and suitable to inform investment decision and funding business cases.

## 1.6 Glossary and Abbreviations

<b>ABS</b>	Australian Bureau of Statistics
<b>ABARES</b>	Australian Bureau of Agricultural and Resource Economics and Services
<b>BREE</b>	Bureau of Resource and Energy Economics
<b>BOM</b>	Bureau of Meteorology
<b>CRC</b>	Community Resource Centre
<b>GFC</b>	Global Financial Crisis
<b>GRP</b>	Gross Regional Product
<b>LGA</b>	Local Government Area
<b>Median Multiple</b>	Ratio measure of housing affordability. Represents the number of years of median household income required to equate to median house prices in an area.
<b>RBA</b>	Reserve Bank of Australia
<b>Separation</b>	An episode of care for an admitted patient, which can be a total hospital stay (from admission to discharge, transfer or death), or a portion of a hospital stay beginning or ending in a change of type of care (for example, from acute to rehabilitation).
<b>T/Ha</b>	Tonnes per Hectare
<b>WAPC</b>	Western Australian Planning Commission
<b>WDC</b>	Wheatbelt Development Commission



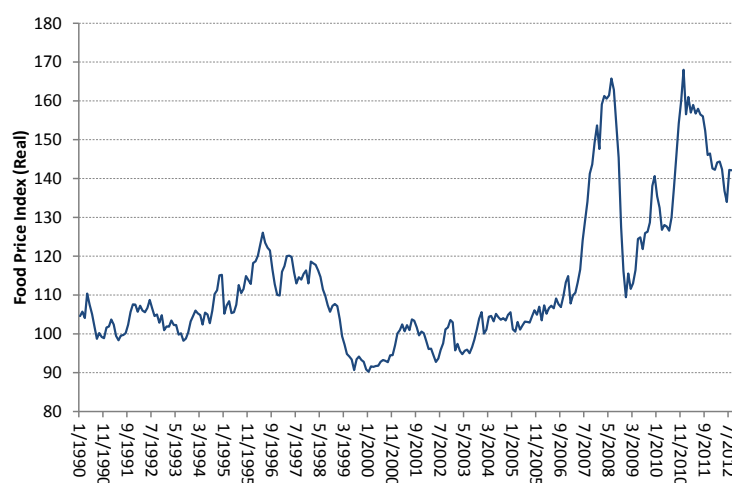
## 2.0 THE WHEATBELT'S COASTAL ECONOMY

The Central Coast Sub-Region of the Wheatbelt is diverse. It is characterised by a unique combination of coastal, agricultural and historical natural and urban environments that underpin a diverse economic base including international and domestic tourist attractions, broadacre agriculture, horticulture and commercial fisheries and non-core mineral mining. This diversity of activity means that the future economic development of the Central Coast economy will be influenced by a wide range of global socio-economic trends including but not limited to;

- Agriculture, Seafood and Food Consumption
- Tourism
- Renewable Energy

### 2.1 Agriculture, Seafood and Food Consumption

The Central Coast Sub-Region is a diverse agricultural region, producing a wide range of base and premium food products for local and global markets. It possesses unique natural coastal/oceanographic and land characteristics that have the potential to support significant increases in local production. Global food production will need to increase by 60% by 2050 to meet projected demand levels<sup>1</sup>. At the same time, global food production is projected to grow at only 1.7% per annum over the next 10 years, as a combination of increased resource competition from biofuel sectors and increased environmental protections constrain production. Demand is already outpacing supply in international markets, with food price volatility increasing dramatically since 2006 and prices trending upwards from 2000 lows, after decades of real food price declines resulting from increased productivity. These spikes were associated by a combination of factors including increased competition for food stuff in the production of biofuels and the impact of weather events on global production. This is illustrated below.



**Figure 3: Food Price Index, Real, 1990 to 2012<sup>2</sup>**

Net food exporters like Australia are therefore uniquely positioned to meet the needs of domestic and international markets, through continued and increased production of agriculture, horticulture and aquaculture products.

<sup>1</sup> FAO (2012), OECD-FAO Agricultural Outlook 2012, Food and Agriculture Organisation, Rome Italy

<sup>2</sup> FAO (2012), Food Price Index – August 2012, Food and Agriculture Organisation, Rome Italy

Currently the Central Coast Sub-Region's coastal strip is most recognised for its crayfish capture sector, which exports its product to USA, Japan and other markets. The coastal environment has also been recognised as a highly attractive environment for fish farming and other forms of intensive aquaculture. Fish and seafood is a major component of global food consumption and is particularly favoured in many emerging Asian economies. The increased need for protein in developing countries, driven by increases in both population and income levels, has underpinned this growth and is expected to support a 15% growth in seafood consumption over the next 10 years<sup>3</sup>. However, aquaculture production is expected to grow by 33% over the period, with aquaculture now projected to surpass capture fisheries as the primary source of fish for human consumption by 2018<sup>4</sup>. This transition is being supported by stronger price rises in aquaculture products than capture fisheries products, reflecting greater certainties of product supply and quality. The proximity of Western Australia to key markets provides the State with a distinct competitive advantage over other parts of Australia and the existence of world-recognised fisheries management, licensing and quality control regimes reinforces Australia's position as a high quality aquaculture supplier.

Non-coastal areas in Gingin, Dandaragan, Chittering, Moora and Coorow produce a wide mixture of products including broadacre grains, animal husbandry (including horses, sheep and cattle all on pasture), fruit crops and horticulture. Currently, broadacre grains are experiencing considerable price growth on international markets due to seasonal volatility in major producers (such as the USA and Australia) and continued declines in stock-to-use ratios (illustrated in the following diagram). This is expected to continue in the medium term, despite the emergence of new production regions in Russia, Ukraine and other central Asian countries.



**Figure 4: Wheat Stock-to-Use Ratio, 2002/2003 to 2012/12<sup>5</sup>**

Comparatively strong water supply security in the Central Coast's agricultural areas is a key advantage of the region. This presents opportunities, not only for increased base agricultural production, but also water intensive processing value adding, drawing on production across the

<sup>3</sup> FAO (2012), OECD-FAO Agricultural Outlook 2012, Food and Agriculture Organisation, Rome Italy

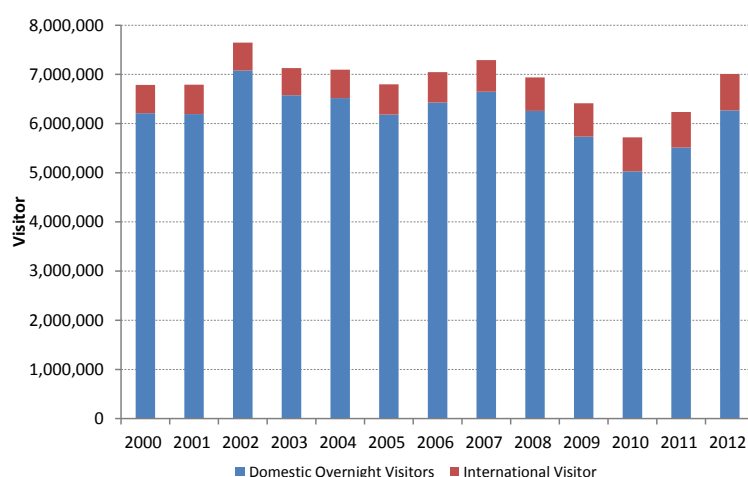
<sup>4</sup> FAO (2012), OECD-FAO Agricultural Outlook 2012, Food and Agriculture Organisation, Rome Italy

<sup>5</sup> FAO (2012), Grain Supply and Demand, Food and Agriculture Organisation, Rome Italy. The Stock to Use ratio is a convenient measure of the short-term supply and demand position of commodity markets. The higher the ratio of stock to use, the more wheat there is in storage to meet demand.

entire Wheatbelt region. The future of this industry in the sub-region will be heavily reliant on future draw down and licence allocation for the underground water aquifers<sup>6</sup>.

## 2.2 Tourism

Long recognised as the Wheatbelt's "Playground", the Central Coast Sub-Region has a wide variety of domestic day-trip, overnight and international tourism destinations that underpin local tourism activity. Tourism has experienced a challenging decade, with domestic overnight visitation depressed by increased attractiveness of outbound overseas travel (due to higher Australian Dollar and increased outbound flights) and recent domestic and global economic uncertainty and associated consumer caution<sup>7</sup>. Additionally, difficulties nationally, and in particular in Western Australian markets, regarding the feasibility of tourism establishment development and operation are constraining potential diversification and growth of overnight visitor numbers.



**Figure 5: Overnight Visitor, by Source, June 2000 to June 2012<sup>8</sup>**

As illustrated in the figure above, domestic overnight visitation in WA declined considerably between 2007 and 2010, though has recently rebounded from GFC lows. However, despite global uncertainty and volatility, international visitation to WA grew rapidly, albeit off a smaller base. The emergence of middle classes in major emerging and developing countries, particularly in greater Asia, more than offset declines in visitor numbers from existing, now economically depressed markets of Europe and the US.

The tourism sector can have a positive multiplier effect by:

- Providing employment opportunities, both skilled and unskilled being a labour intensive industry;
- Increasing local income and creates increased gross national product;
- Growth in this sector requires the development of new infrastructure that will also help to stimulate local commerce and creative industry;
- Creating new facilities that can be used by the local population also;

<sup>6</sup> Department of Water (2013) Gingin Groundwater Allocation Plan [draft], Water Resource Allocation and Planning Report Series, report no. 53, Perth; Department of Water (2010) Jurien Groundwater Allocation Plan, Water Resource Allocation Planning Series, report no. 27, Perth.

<sup>7</sup> Tourism Australia (2011) Tourism 2020 Strategy, Tourism Australia, Canberra

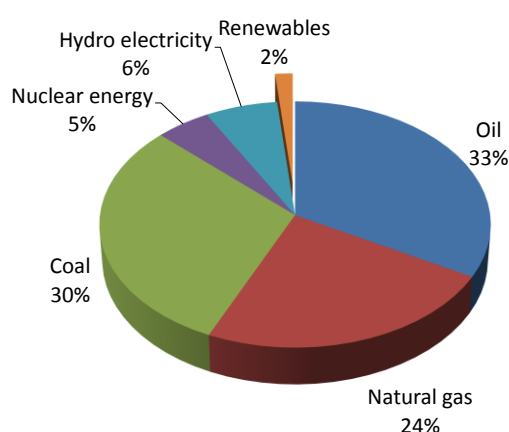
<sup>8</sup> TRA (2012), Online NVS and IVS Data, Tourism Research Australia, Canberra

- Justifying environmental protection and improvement due to the rise of nature-based tourism

The Central Coast sub-region is a diverse tourism market. Locations such as Gingin and Bindoon townships, with their peri-urban location and agrarian/natural amenities are major destinations for day-trip visitors from metropolitan Perth. Conversely, coastal nodes of Lancelin, Guilderton, Cervantes, Jurien Bay and surrounding areas have very high concentrations of holiday and second homes, acting as peak period holiday destinations for intra and inter-state visitors. This reflects the combination of coastal, historical and natural amenities. The region also contains a major international tourism attraction in the form of the Pinnacles rock formation. This does not however, appear to underpin strong international overnight visitation to the region, with its relative accessibility from metropolitan Perth and a lack of high quality, internationally oriented tourism accommodation constraining overseas visitor capture.

## 2.3 Renewable Energy

Australia has one of the highest rates greenhouse gas emissions per capita in the world<sup>9</sup>. This reflects a combination of the country's high standard of living and the fossil fuel dominance of our base load electricity generation mix. Renewable energy production is increasing globally, in response to both climate change and energy security concerns. While per capita energy production in OECD countries has declined in recent years, due to depressed economic activity and enhancements in energy efficiency, this has been more than offset by rapid increases in energy usage in developing regions including the Middle East, China, South East Asia, Central Europe and Latin America<sup>10</sup>. Like Australia, global energy consumption is dominated by fossil fuels, with a market share in 2011 of 87%. This includes both base load power and transport fuel energy use. In contrast, renewable energy contribution is at 2%, or some 194.8 of 12,274.4 million tonnes of oil equivalent. This increases to 8% when hydroelectricity is included, as illustrated in the figure below.



**Figure 6: Global Energy Usage Mix, 2011** <sup>11</sup>

The adoption and incorporation of renewable energy resources into energy mixes varies dramatically across the world. Countries such as Germany, Spain, China, India, Brazil and the US

<sup>9</sup> AGO (2012), Australian Greenhouse Office website accessed at <http://www.climatechange.gov.au/> on 13/09/2012

<sup>10</sup> BP (2012) Statistical Review of World Energy, June 2012, BP, London

<sup>11</sup> BP (2012) Statistical Review of World Energy, June 2012, BP, London

have and continue to invest heavily in renewable energy resources, which is reflected in above average shares of renewable energy in North American, European and Central Asian markets<sup>12</sup>. Even within renewable energy, there are regional variations within the US. This is primarily in the form of wind power and biofuels, while Germany's production is dominated by solar energy.

In contrast, Australia's share of global renewable energy markets is only 1.1%, despite having a wide range of latent natural renewable energy resources. The Central Coast sub-region has been recognised as a major potential producer of renewable energy in Australia, with its coastal orientation underpinning wind power generation capacity. Emu Downs Wind Farm opened in the Shire of Dandaragan in 2006 and is now owned by the APA Group. The success of the project and associated demonstration of the local resource's consistency and alignment with peak power usage periods has underpinned plans for three further wind farms in the area<sup>13</sup>.



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<sup>12</sup> BP (2012) Statistical Review of World Energy, June 2012, BP, London

<sup>13</sup> Shire of Dandaragan (2012), Development Update (as at April 2012), Shire of Dandaragan, Jurien Bay



### 3.0 PROFILE OF THE CENTRAL COAST

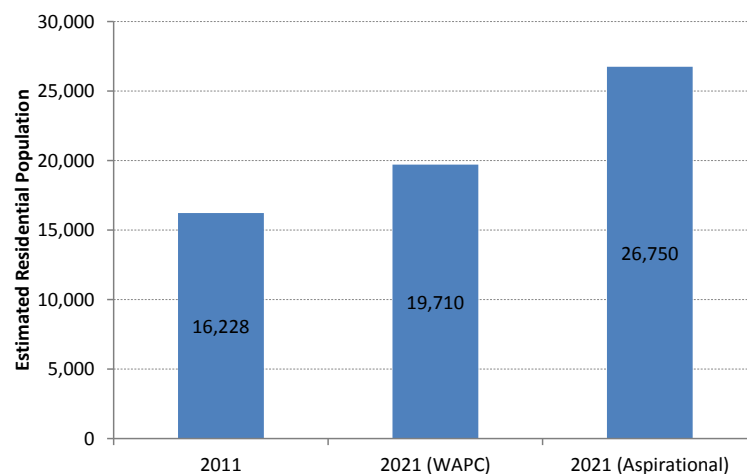
#### 3.1 Population and Socio-Demographics

The Central Coast Sub-Region was home to 16,228 people in 2011 across the five LGAs<sup>14</sup>. This population is primarily concentrated in the major townships of Gingin, Jurien Bay, Moora, Bindoon, Cervantes and Lancelin and locality of Lower Chittering.

The sub-region has experienced only moderate population growth over the past decade, averaging 1.3% per annum compared to 2.1% for Western Australia as a whole. The strongest growth over this period was in the Chittering LGA, which grew 54% during the decade to 2011 at 4.4% per annum. This is more than three times faster than the sub-region as a whole.

The WA Tomorrow Population Estimates from the Western Australian Planning Commission project that this growth will accelerate, with another 3,500 residents predicted to call the Central Coast home by 2021<sup>15</sup>, with the majority of this growth expected to continue to be located in Chittering. However, this likely understates the population and residential growth potential of the region for a range of factors:

- Recent identification of Jurien Bay as a SuperTown by the Department of Regional Development and the associated planning and funding support designed to facilitate increased residential population in the town;
- The potential of the Central Coast Sub-Region to attract employment-yielding investments, coupled with a low unemployment rate, has the potential to accelerate in-migration-based population growth; and
- Affordability and proximity factors make the Central Coast Sub-Region highly attractive to Baby Boomers seeking to cash-out their equity to fund their retirement and relocate to a more rural setting. This is assisted with the availability of significant areas of zoned residential land.



**Figure 7: Current and Future Residential Population, Central Coast**

<sup>14</sup> ABS (2011), Estimated Residential Population, Cat No 3218.0, Australian Bureau of Statistics, Canberra

<sup>15</sup> WAPC (2012), WA Tomorrow Population Estimates, Western Australian Planning Commission, Perth

Instead, population target of 26,750 by 2021 is regarded as more aspirational and suitable for this Strategy. This would involve accelerated growth across all LGAs, reversing the decline projected by the WAPC for Coorow LGA and reinforcing Chittering's role as the largest LGA in the sub-region. Individual aspirational population targets are outlined in the table below.

**Table 1: Current, Projected and Aspirational Population, Central Coast LGAs**

Population	Dandaragan	Gingin	Moora	Coorow	Chittering
2011	3,277	4,801	2,550	1,091	4,509
2021 (WAPC)	4,000	5,400	2,400	710	7,200
2021 (Aspirational)	5,000	6,500	3,500	2,250	9,500

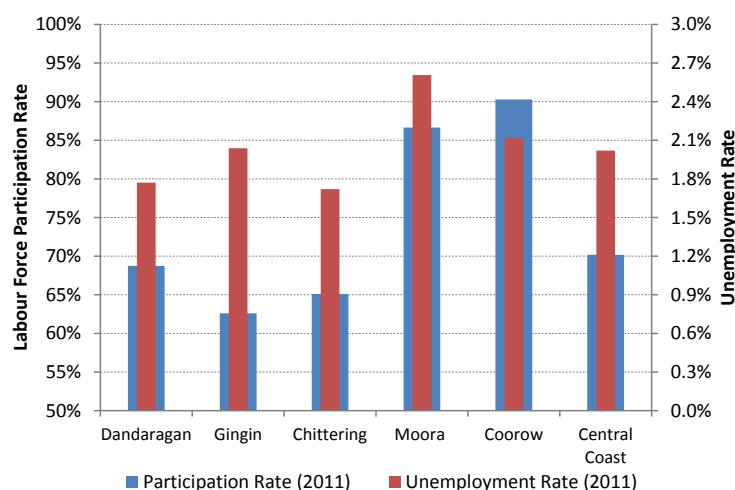
It is important to recognise that theoretical residential land supplies in the Central Coast are less than would be indicated by the region's spatial size. The dominance of national and state parks and A Class reserves along the coastal strip means that, north of Guilderton, there is a clear spatial break in potential residential growth north of metropolitan Perth until reaching Jurien Bay (with local expansion in Cervantes constrained by national park, reflecting its historical origins). In contrast, Jurien Bay and rural areas adjacent to the metropolitan area (e.g. Gingin and Chittering) appear to have substantial areas of freehold land, either developed or planned for development. It is accepted that coastal and high amenity rural lifestyle areas will continue to be desirable to retirees. There is also a mixture of zoned and development ready residential land in the townships of Moora, Leeman and Bindoon.

The population of the Central Coast Sub-Region is expected to age rapidly over the next decade. This reflects the fact the sub-region and associated population centres already possess older population profiles compared to the rest of the Wheatbelt and Western Australia. According to the results of the 2011 Census of Population and Housing, the residential populations of coastal LGAs in the Central Coast sub-region have higher proportions of people aged 65+ than the State Average (12.2%), with more than one sixth of their current populations aged 65 and over. However, inland LGAs are decidedly younger, with Moora and Chittering having current 65+ population shares comparable with the State Average (at 12.7%)<sup>16</sup>.

### 3.2 Labour Force and Skills

A significant driver of current and future residential population growth in the Central Coast is the increasingly constrained nature of local labour markets. In 2011, the Central Coast region had an average annual unemployment rate of 2.0%, below the comparative state average of 4.1% in 2011. In fact, all LGAs in the sub-region had an unemployment rate below 2.6% in 2011.

<sup>16</sup> ABS (2012), Census of Population and Housing, 2011, Australian Bureau of Statistics, Canberra



**Figure 8: Unemployment and Participation Rate, Central Coast Sub-Region LGAs, 2011<sup>17</sup>**

This low unemployment has supported strong labour force participation rates compared to the State average (67.7%). The Moora and Coorow LGAs' participation rates were significantly higher in 2011 (86.7% and 90.3% respectively), while the LGAs of Dandaragan, Gingin and Chittering have rates more comparable with the State average (68.7%, 62.6% and 65.1% respectively). This reflects the concentration of the sub-region's population and labour force in these areas, meaning local labour markets have normalised. Given the low unemployment rates of the sub-region, the combination of employment opportunities and coastal and lifestyle amenity means accelerating sub-regional population growth and migration should not be a difficult task.

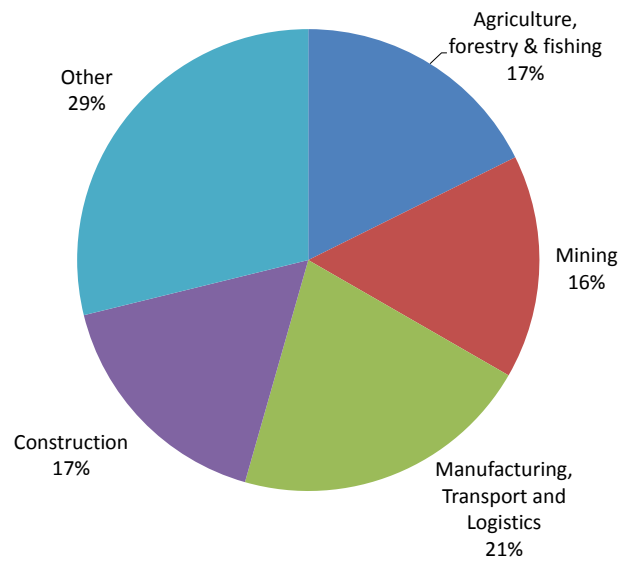
### 3.3 Employment, Industry and Investment

The Central Coast Sub-Region had a Gross Regional Product<sup>18</sup> in 2012/13 of approximately \$684m<sup>19</sup>. The major drivers of this economic activity are agriculture and fishing activities and associated transport, logistics and manufacturing, which accounts for 40% of the local economy. Construction and Mining activity accounts for a further quarter. This is illustrated in the figure below.

<sup>17</sup> DEEWR (2012), Small Area Labour Market Model, Commonwealth Government, Canberra

<sup>18</sup> Gross Regional Product is the value of the economic activity produced in the region, discounting for inputs produced in other regions. It aligns with measures such as Gross State Product and Gross Domestic Product for States and Territories.

<sup>19</sup> RPS (2012), RPS Economics Gross Regional Product Model, RPS, Gold Coast



**Figure 9: Share of Industry Value Add<sup>20</sup>, Central Coast Sub-Region, 2012/13**

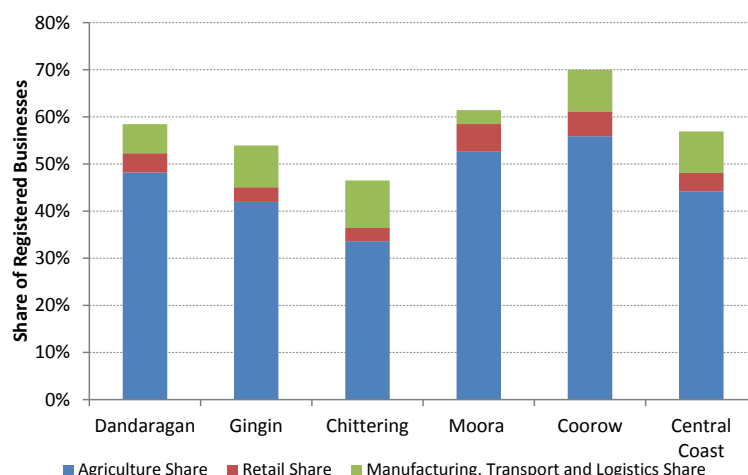
This economic activity has underpinned local employment and business activity. In 2011, there were 5,497 jobs in the Central Coast Sub-Region, representing an employment self-sufficiency rate (ESS - ratio of local jobs to local workers) of 76%<sup>21</sup>. This is a strong ESS rate for a region located directly adjacent the metropolitan Perth area with its associated economic gravity. Employment in the Central Coast is relatively distributed across major centres with between 1,000 and 1,500 jobs in each of Chittering, Dandaragan, Gingin and Moora LGAs. Interestingly, this more even employment distribution does not mirror the population distribution of the region, reflecting concentrations of older population cohorts (not in the labour force) in the coastal LGAs of Dandaragan and Gingin.

A review of business registrations data for the sub-region reveals a significantly different industry composition than indicated by Gross Regional Product analysis. In 2009, agriculture and fisheries businesses accounted for 44% of locally registered businesses, despite accounting for 17% of industry value add<sup>22</sup>. In contrast, the Transport, Logistics and Manufacturing sector accounts for 8.8% of locally registered businesses but collectively contributes 21% of sub-regional value add.

<sup>20</sup> Industry value added is the primary component of Gross Regional Product, excluding only the Ownership of Dwellings, Taxes and Subsidies and Statistical Discrepancies. It represents the component of GRP associated with production and value added by businesses and industries within the economy excluding inputs to product imported from other regions. Refer to Appendix B for the Industry breakdown of Value Add in the Central Coast economy.

<sup>21</sup> ABS (2012), Census of Population and Housing 2011, Australian Bureau of Statistics, Canberra

<sup>22</sup> ABS (2010), Count of Businesses, Cat No 8165.0, Australian Bureau of Statistics, Canberra



**Figure 10: Share of Locally Registered Businesses, Agriculture, Retail and Manufacturing, Transport and Logistics, Central Coast Sub-Region LGAs, 2009**

This relationship between business registrations and industry value added reflects a number of factors:

- Agricultural and fisheries businesses tend to be registered locally, reflecting the predominance of family businesses, while larger manufacturing, transport and retail businesses tend to be registered centrally (in capital cities) with local operations not captured as part of the data;
- Manufacturing and transport businesses tend to be larger and therefore contribute more per business to industry value add; and
- Per worker industry value added varies across industry types. For example, value added per worker in the agricultural and fisheries sector in the Central Coast in 2010/11 was \$66,591 while for manufacturing was \$111,623<sup>23</sup>.

More recent data reveals that Moora has the highest propensity for business creation. In 2012, there were 450 small businesses (0-19 employees) in Moora. This is less than Gingin (680), Chittering (540) and Dandaragan (460), though when adjusted for population size, Moora ranks highest. Moora has 176 small businesses per 1,000 residents, significantly ahead of Coorow (147) and Dandaragan (138). This is outlined in the table below.

**Table 2: Current, Projected and Aspirational Population, Central Coast LGAs<sup>24</sup>**

LGAs	Small Business Population	Small Businesses Per 1,000 Residents
Chittering	540	115
Coorow	160	147
Dandaragan	460	138
Gingin	680	137
Moora	450	176

<sup>23</sup> ABS (2012), State Accounts, Cat No 5206.0, Australian Bureau of Statistics, Canberra

<sup>24</sup> DIISRTE (2013) Australian Small Business Key Statistics and Analysis, December 2012, Commonwealth Government, Canberra

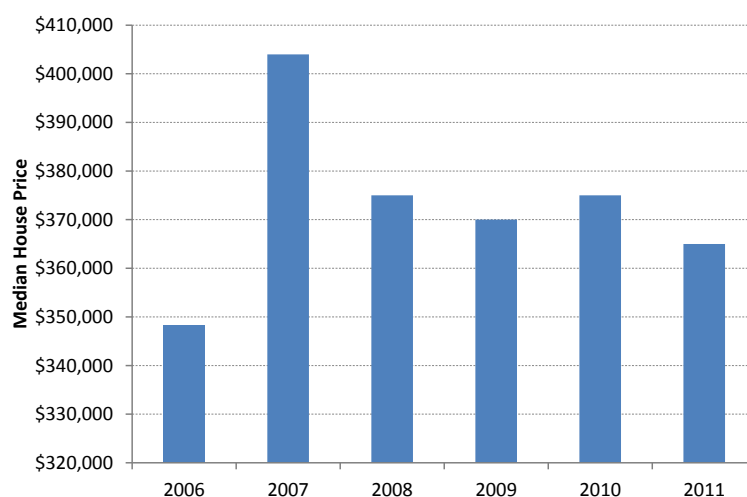


### 3.4 Housing and Affordability

The Central Coast Sub-Region housing market is comprised of over 10,000 dwellings. However, the defining feature of the sub-region's housing market is the share of unoccupied dwellings, which represent 41.8% of stock in 2011. This is considerably more than the unoccupied share of dwellings in Western Australia (12.1%), reflecting the predominance of second and/or holiday homes and residences in the coastal LGAs of Dandaragan, Gingin and Coorow<sup>25</sup>. In contrast, the housing stock in Moora and Chittering LGAs have a more traditional occupancy rate, with only 14.7% and 17.6% unoccupied on Census night respectively.

Over the past five years, the Central Coast Sub-Region and the broader Western Australian housing market has experienced volatile conditions, with prices both rising and falling during the period. This reflects the impact that the GFC and subsequent depressed level of consumer confidence has had on housing market activities and therefore prices. House price growth has been slow over the past five years, growing only 5% since 2006. This is below Perth and WA growth levels (16% and 15% respectively)<sup>26</sup>. This reflects a combination of factors.

Firstly, the entirety of price growth in the sub-region since 2006 was experienced in 2007 and was partly reversed in 2008. Since then, prices have been broadly flat. This is illustrated in the figure below.



**Figure 11: Median House Prices, Central Coast Sub-Region, 2006 and 2011**

Secondly, price levels and movements have varied across the LGAs that comprise the Central Coast. Price points are generally higher and have experienced greater levels of volatility in the coastal LGAs of Gingin and Dandaragan, and to a lesser extent in Coorow. Prices have fallen in Gingin LGA (12% between 2006 and 2010); while prices have increased in Moora LGA by 46% over the same period (though off a base less than a quarter of that of Dandaragan and Gingin LGAs). These spatial variations in prices are outlined in the following table.

<sup>25</sup> ABS (2012), Census of Population and Housing 2011, Australian Bureau of Statistics, Canberra

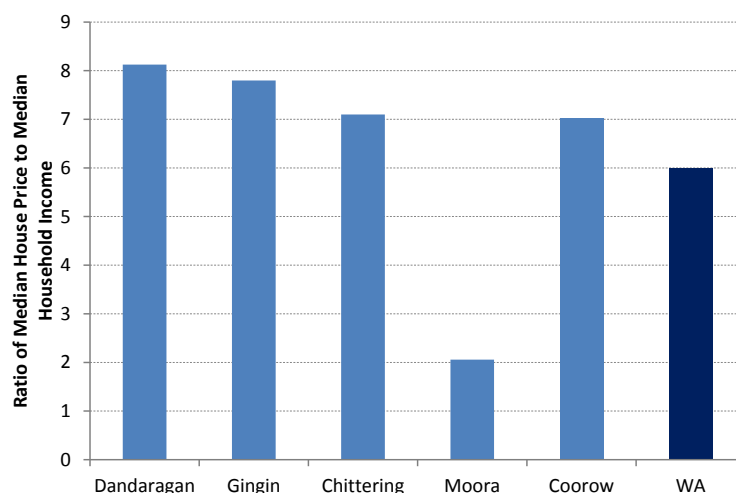
<sup>26</sup> RPData (2012), Online Data Subscription, RPData, Brisbane

**Table 3: House Prices and Growth, Central Coast Sub-Region, 2006 and 2011<sup>27</sup>**

Indicators	Dandaragan	Gingin	Chittering	Moora	Coorow	Central Coast	Perth	WA
2006	\$382,500	\$430,000	\$380,000	\$86,500	\$327,500	\$348,250	\$406,000	\$382,000
2011	\$420,000	\$380,000	\$505,000	\$126,250	\$335,000	\$365,000	\$469,000	\$440,000
Growth	\$37,500	-\$50,000	\$125,000	\$39,750	\$7,500	\$16,750	\$63,000	\$58,000
Growth (%)	10%	-12%	33%	46%	2%	5%	16%	15%

Prices have moved again since 2011 with slight falls in Dandaragan, Chittering and Coorow and growth in Gingin. This highlights the volatility in annual house prices in the area.

This combination of factors highlights the fact that the Central Coast housing markets generally, and the coastal towns of Lancelin, Cervantes, Jurien Bay and Green Head in particular, have strong exposures to national trends in holiday homes, second homes and holiday rentals. House markets with such exposure – usually in high amenity coastal locations – experienced robust price growth during the mid 2000's on the back of increased debt availability and the attractiveness of such locations to “empty nesters” (older couples without children households) and Baby Boomers (people born 1946 to 1964) as overnight leisure destinations. However, with the onset of the GFC and the retirement of the early parts of the Baby Boomer generation, such holiday/leisure nodes have experienced decreased housing demand and flat or even negative price growth.

**Figure 12: Median Multiple, Central Coast Sub-Region, 2011**

Moderate price growth is generally regarded as positive as it contributes to the wealth and affluence of a region. However, for the Central Coast Sub-Region, with its relative proximity to Perth, offering affordable housing options is critical to underpinning employment and lifestyle based migration required to increase local population critical mass. A simple and effective measure of whole-of-market affordability is the Median Multiple – the ratio of median house prices to median household income<sup>28</sup>. In other words, the Median Multiple illustrates the number of years of household income required to equal current prices. This approach is effective in that it

<sup>27</sup> RPData (2012), Online Unpublished Data, RPData, Brisbane

<sup>28</sup> Demographia (2012), International Affordable Housing Report 2012, Demographia, USA

allows for differences in local income levels within a region – like the Central Coast – to be considered, ensuring that variations in purchasing power and relative affordability are determined.

RPS calculated the Median Multiple for each LGA in the Central Coast sub-region and found that, with the exception of Moora LGA, all Shires have Median Multiple ratios well above the WA average of 6.0. These markets are regarded as some of the most severely unaffordable in the State, in spite of moderately high incomes compared to other locations in the Wheatbelt. Interestingly, Chittering has only a slightly lower ratio than Gingin and Dandaragan, despite having a substantially higher income. Moora LGA on the other hand is regarded as highly affordable, with low house prices and the highest household incomes in the region supporting a Median Multiple ratio of 2.1.

A major driver of this trend is the fact that the Central Coast is a recognised retirement destination. As such, older households, mostly living in Perth, seek to cash out of the family home and relocate to coastal towns north of the city. This has the dual effect of bidding up local house prices (because of the higher home values in Perth), and decreasing average incomes (due to the asset rich cash poor nature of older Baby Boomers).

### 3.5 Community Services and Facilities

The growth in the residential population in the Central Coast has and will continue to underpin demand for community services and facilities in the sub-region. This includes, but is not limited to:

- Child care services;
- Primary, secondary and tertiary education;
- Libraries and Community Resource Centres;
- Aged Care and retirement villages; and
- Hospitals and health services.

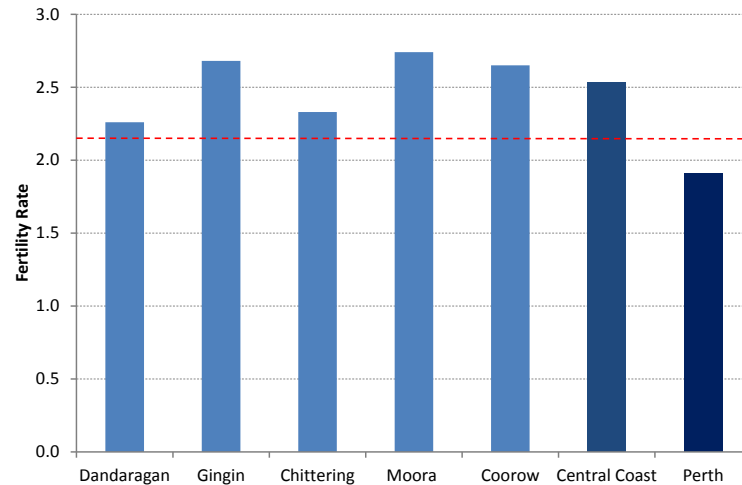
The current offering and drivers of these community services and facilities are examined below.

#### 3.5.1 Child Care

Fertility rate data is an effective leading indicator of the level of demand for child care services. In 2010, all towns in the Central Coast Sub-Region had fertility rates above replacement levels (2.1 children) and were well above the average for Greater Perth (1.9<sup>29</sup>). This is illustrated in the figure below.

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<sup>29</sup> ABS (2011), Births Australia, Cat No 3301.0, Australian Bureau of Statistics, Canberra

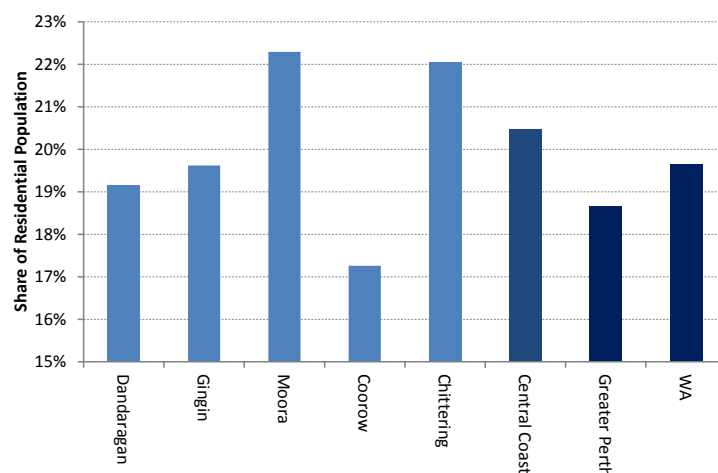


**Figure 13: Fertility Rate, Central Coast Sub-Region and Greater Perth, 2011**

This moderately high fertility rate, coupled with low unemployment and moderate labour force participation, will generate demand for child care services. There are currently 5 child care centres in the Central Coast sub-region, located in Dandaragan (1), Chittering (2), Moora (1) and Gingin (1). This distribution is more spread than the concentration of population, reflecting the more even distribution of young children compared to the total population with the Central Coast (due to higher concentrations of older residents in coastal LGAs).

### 3.5.2 Primary, Secondary and Tertiary Education

Despite the ageing of the population in the Central Coast, many towns in the sub-region also have above average shares of residents aged 0-14. This reflects the long-term impact on the Central Coast's demographic profile of structurally high fertility rates, as well as migration to the region of young families. A review of the results of the recent Census reveals that, with the exception of Coorow, all other LGAs in the sub-region have 0-14 shares equal to or above the average for Greater Perth.



**Figure 14: Share of Residential Population Aged 0-14, Central Coast Sub-Region, Greater Perth and WA, 2011**

There are currently 11 primary schools in the Central Coast sub-region. Primary school distribution is relatively dispersed, with all LGAs having a number of primary schools, though student numbers vary considerably (total of 1,008 primary school students in the Central Coast Sub-Region)<sup>30</sup>.

Secondary school distribution is more concentrated with district high schools located in Jurien Bay (320 students) and Gingin (438 students), and a senior high school and residential college in Moora (183 students). There is one private secondary school in the sub-region, being Catholic Agricultural College Bindoon (149 students). The provision of secondary schooling in the Central Coast is critical to the attraction and retention of working age families necessary to support local economic development. Increased residential population will underpin demand for increased size and diversity of local secondary education provision. Students from towns with a close proximity to the metro area in the Shires of Chittering and Gingin (e.g Gingin, Lancelin, Bindoon) are accessing high school education at public and private schools in the northern and eastern suburbs, commuting daily on privately chartered buses.

The labour force in the Central Coast Sub-Region is characterised by an expected concentration of applied tertiary education qualifications (i.e. formal training and TAFE). This is reflected both in the local employment mix but also local tertiary education provision. The C.Y. O'Connor Institute is the primary tertiary education and training facility in the Wheatbelt region with locations in Northam, Merredin, Moora, Narrogin and Muresk<sup>31</sup>. A wide range of practical courses are offered with a strong focus on administration, tourism, health, agricultural and manufacturing related qualifications. Opportunities exist to strategically diversify offerings into mining-related occupations to support increased cross-industry mobility of the Central Coast labour force, in response to macro-economic opportunities and decreased unemployment levels.

### 3.5.3 Libraries and Community Resource Centres

In 2011 in metropolitan Perth, there was one library for every 22,582 residents equating to a total supply of 77 libraries. The provision of libraries and associated facilities in the Central Coast is more considerable with one library for every 1,475 residents. There are a number of potential explanations for this apparent over-provision:

- The decentralised and distributed population of the Central Coast has required a more dispersed library network than in metropolitan Perth;
- The number of libraries doesn't comment on the size and service capabilities of those libraries. Metropolitan libraries tend to be larger and therefore have the capacity to service larger population catchments; and
- Libraries are most often provided by local governments. Every LGA in Central Coast is home to at least one library.
- Libraries are often collocated with Community Resource Centres in regional areas.

Growth in the Central Coast's population over the next decade will therefore not necessitate increased numbers of libraries. However, it will necessitate expansions in the size and diversity of service offering of existing libraries. This will include the increased utilisation of library and CRC facilities to anchor improvements in local technology and communication networks and provision of support for local community groups and associations and small businesses.

<sup>30</sup> Department of Education student numbers as at Semester 2 2013 accessed via <http://www.det.wa.edu.au/schoolsonline/> on 17 December 2013

<sup>31</sup> C.Y. O'Connor Institute accessed via <http://www.cyoc.wa.edu.au> on 23 August 2012



### 3.5.4 Aged Care, Hospitals and Health Services

Despite the older age profile of the sub-region, there is currently only one aged care facility located in Moora. Moora currently has 22 inpatient beds. Of these 13 are acute (overnight and same day beds) and 9 are residential aged (high) care. In addition there are 10 residential aged (low) care beds in the Moora frail aged lodge which is operated by a local community group. Around 5 acute beds per day are occupied currently.<sup>32</sup> The lack of hospital services in the remaining areas of the sub-region represents a major gap in community facility provision. This is despite the concentrations of older populations in the coastal LGAs.

Health service provision has the potential to be a major contributor to medium term economic activity in local economies. This is reflected in the fact that 7.2% of Moora's employment is in the Health Care and Social Assistance sector, double that of the sub-regional average of 3.7% and well above that of Coorow (1.2%) and Chittering (1.9%).

This distribution of health and medical facilities in the sub-region is influenced by the Moora/Dandaragan Multi-Purpose Services (MPS). Verso Consulting's investigation into aged care services in the Wheatbelt highlight that while the demographically driven demand for new residential and community aged care services has increased significantly (and it will grow at an increasing rate over the next five years), growth in funding from the Commonwealth to MPSs in WA has not. There is an increasing gap between funding and demand<sup>33</sup>. The bundled funding arrangements in the MPS model does rely on negotiations between WA Country Health Service and the Federal Department of Health and Ageing to accurately fix a number to the quantity and type of residential aged care beds being offered through the relevant MPS. Additionally, there is a growing misalignment between the location of health facilities and the emergence of high demand population cohorts (i.e. population ageing), resulting in local under-supply of key services. Improving the governance model and funding inequity will be integral to addressing aged care service demand in the Central Coast Sub-Region.

The level of health and medical services in Moora explains the current concentration of aged care services in the town. However, current hospital bed distribution and accelerated population ageing present opportunities for aged care bed capacity to be increased in locations such as Jurien Bay and Bindoon.



<sup>32</sup> WA Country Health Service (2013) Coastal Wheatbelt and Moora Service Plan 2012 – 2022, pg. 50.

<sup>33</sup> Verso Consulting (2012) Central East Wheatbelt Aged Support and Care Regional Solution/s, pg. 19.

## 4.0 KEY ECONOMIC OPPORTUNITIES

RPS has identified a series of key economic themes, which will define the future economic growth and dynamism of the Central Coast Sub-Region. These themes represent areas where the Central Coast has a distinct competitive advantage or where socio-demographic, investment or infrastructure-based drivers underpin current and future demand.

The key themes identified for the Central Coast Sub-Regional Economic Strategy include:

- Aquaculture, Horticulture & Food Processing;
- Renewable Energy;
- Retirement & Lifestyle;
- Mining, Construction & Light Industry; and
- Tourism.

These themes and associated actions and locations are explored in the sections below.

### 4.1 Aquaculture, Horticulture and Food Processing

#### 4.1.1 Rationale

The Central Coast has an historical and future competitive advantage in the production of a wide variety of food stuffs. This includes temperate-ocean aquaculture, horticulture, broadacre agriculture and water-intensive food processing. Growing international requirement for food, in response to population and income growth, will underpin structural increases in demand, supporting long-term economic sustainability in the sector. The Central Coast Sub-region is in a very strong position to become a major future agri-industry processing centre due to:

- Its proximity to a wide range of raw food production ranging from grain, fruit and vegetable, meat and seafood
- Potentially unhindered land in close proximity to major transport and services infrastructure (including fresh water, power, gas and telecommunications)
- Ability to access and leverage export ports at both Fremantle and (in the future) Geraldton
- Potential strategic role in movement of goods northwards to growth areas of the State
- Potential access to major critical inputs for both raw production and secondary processing. This includes climatic advantages, productive ocean and land resources and fresh water

#### 4.1.2 Drivers and Trends

Global demand for food is expected to increase by 60% by 2050. However, in recent years, the failure of global production to keep pace with both population and prosperity based drivers of food demand has caused considerable price spikes and volatility, impacting accessibility to affordable food for many parts of the globe. Underlying population growth in Asian, Middle East and Latin American regions is expected to underpin both broadacre grains and capture fish demand. However, it is increased affluence and prosperity, particularly in developing countries that is expected to underpin growth in aquaculture, animal husbandry, and horticulture.

### 4.1.3 Sub-Regional Characteristics

Western Australia has an established commercial fisheries industry focused on low volume, high value products targeting major exports markets of China, Japan, USA, Taiwan and Singapore. A major product is the Western Rock Lobster, which, in the Central Coast, has its primary industry hub in Cervantes. This is supplemented by a range of smaller commercial fishing activities in other coastal centres in the sub-region.

In recent decades however, commercial fishing has undergone considerable structural change in order to address issues of local resource depletion and overall operational environmental sustainability. While current industry activity has never been more sustainable, growth in capture-based seafood production is likely to slow considerably (in line with global trends). However, the simultaneous acceleration in global aquaculture production projected for the next several decades presents a considerable opportunity for the Central Coast Sub-Region. The proximity of Western Australia to key markets provides the State with a distinct competitive advantage over other parts of Australia and the existence of world-recognised fisheries management, licensing and quality control regimes reinforces Australia's position as a high quality aquaculture supplier.

Previous attempts to leverage the Central Coast's natural competitive advantage and establish export oriented aquaculture product have failed for a number of commercial and operational reasons, namely relating to inadequate availability of timely working capital and therefore higher exposure to stock health risks. However, such commercial issues do not reflect the character of the economic and commercial opportunity and instead raise the potential for experienced global interest to be garnered in the realisation of the Central Coast's aquaculture potential.

There are currently over 470 licensed aquaculture producers across the State<sup>34</sup>. However, when South Sea pearl production is removed, the industry is very small, with yabbies/marron, barramundi and marine algae representing the main products. In 2010, the value of non-pearl aquaculture production in WVA was more than \$10m – less than a tenth of the size of the pearling industry but up 40% over the past 5 years<sup>35</sup>.

Although the coastal towns in the sub-region do not currently conduct any aquaculture or large scale food processing (beyond crayfish) the area is well positioned to take advantage of its ability to expand local economies into these new industries. An industry hub north of the metropolitan area supports a number of accelerating trends:

- Asia's urbanisation and income growth has accentuated changes in lifestyle and consumption patterns, bolstering demand for semi-processed and ready-to-eat foods. This aligns with global demand for better quality, higher protein and more diverse diets;
- Shift of the agri-food sector and allied industries (e.g. transport/logistics) out of Perth's northern suburbs to areas in the Central Coast for land affordability, suitable soil, transport infrastructure and available ground water;
- Growth of offshore aquaculture and mariculture activities in the sub-region, owing to the current, water depth and temperature advantages of the Indian Ocean off Central Coast towns;
- Producers are looking for opportunities to expand producing capability and secure more of the supply chain;
- Population growth in urban and peri-urban areas in Perth's north as well high coastal amenity areas will require a diversified employment mix;

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<sup>34</sup> DoF (2012), Department of Fisheries Website accessed at <http://www.fish.wa.gov.au> on 13/09/2012

<sup>35</sup> DoF (2012), Department of Fisheries Website accessed at <http://www.fish.wa.gov.au> on 13/09/2012

- Department of Agriculture and Food WA (DAFWA) supports the industry clustering model and multi-purpose facilities<sup>36</sup>. This agency also acknowledges the benefits of an industry hub north of Perth to meet a long term demand trajectory beyond current facilities in the South West and Muchea. Further investigation is subject to a funding application.

Beyond unique exposure to competitive aquaculture characteristics, it is the capacity of the Central Coast Sub-Region to produce both base and premium food products which differentiates it from other single agricultural commodity regions. The sub-region is predominately located within the temperate West Midlands and Central Midlands regions of the greater Northern Agricultural Region (NAR). Deep sand is the major soil group in the West Midlands regions with medium- heavy textured soils inland.

Historical rainfall levels range from over 625mm in the southern central area of the West Midlands region to 300- 400mm in the Central Midlands region as indicated in the above image<sup>37</sup> however rainfall levels are becoming increasingly volatile, particularly inland. The sub-region also benefits from considerable underground water reservoirs that are routinely, though not extensively drawn upon to supplement rainfall.

In the Central Coast there is 94.6 GL available to be taken annually from the Jurien groundwater area. The volume of licensed entitlements as measured in April 2010 was 18.7 GL for general consumption and 1.5 GL for public water supply. 7 GL has been reserved for public water supply to meet demand until 2040 and there is approximately 64.4 GL from all resources available for new users. Extension or upgrading infrastructure accessing this water supply would be required with growth and increasing demand<sup>38</sup>. The recently released draft Gingin Groundwater Allocation Plan identifies that water is still available for licensing in 16 out of the 25 subarea in the Gingin plan<sup>39</sup>. Currently, agricultural and horticultural industries are the main groundwater uses in the plan area, accounting for about 85% of licensed entitlements (entitlements have increased to 141 GL/year).<sup>40</sup>

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<sup>36</sup> Agri-industry processing hub is defined as a centrally located facility with a business management system that facilitates the aggregation, storage, processing, distribution and/or marketing of locally or regionally produced food and agricultural products.

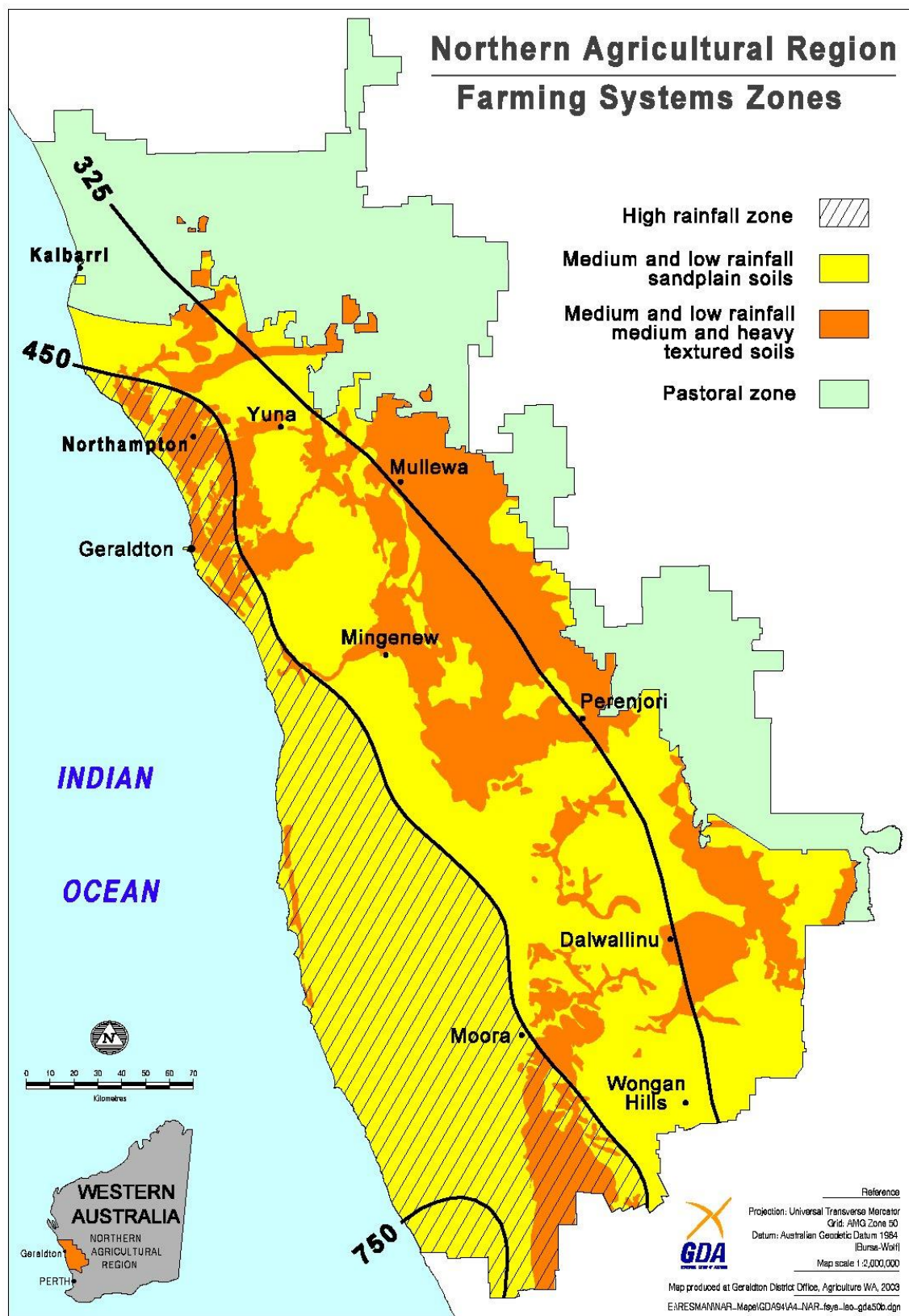
<sup>37</sup> DAFWA (2007) West Midlands Region Catchment Appraisal 2007 Department of Agriculture and Food, Perth

<sup>38</sup> Pracsys (2012), Unpublished Analysis for Jurien Bay SuperTown Growth Plan, Perth; Department of Water (2010) Jurien Groundwater Allocation Plan, Water Resource Allocation Planning Series, report no. 27, Perth.

<sup>39</sup> The plan area covers most of the Gingin proclaimed groundwater area; 6,000 km<sup>2</sup> and extends between Guilderton and Bindoon in the south, to Grey and Moora in the north.

<sup>40</sup> Department of Water (2013) Gingin Groundwater Allocation Plan [draft], Water Resource Allocation and Planning Report Series, report no. 53, Perth.





**Figure 15: NAR Farming System Zones (DAFWA 2009)**

These water supplies along with climatic and environmental characteristics underpin the Central Coast sub-region's comparative advantage in agriculture and horticulture production. These advantages include:

- Higher rainfall supports higher grain yields and pasture growth rates in central and southern parts of the NAR compared to other parts of the greater Wheatbelt, supporting both **broad acre agriculture** (particularly non-wheat cereal grains) and **animal husbandry** (including, but not limited to sheep, cattle, pigs, chickens, deer and horses)<sup>41</sup>;
- The sub-region is located within the southern hemisphere **olive growing** band (equidistant from the equator to southern Europe and the middle east), which supports increased production and investment<sup>42</sup>;
- Soil quality, water availability and temperate climatic conditions support increased and diverse **fruit and vegetable-based horticulture**. This includes base citrus fruits and vegetables, though potential also exists for production of some sub-tropical fruits and greenhouse-based produce (e.g. tomatoes)<sup>43</sup>. Major current and potential projects will confirm the Central Coast as one of the major fruit producing regions of Western Australia, catering to both domestic and international markets.

The following products are particularly prominent in the sub-region with high gross production values, supplying both the domestic and international market in 2011-12<sup>44</sup>:

- Eggs \$24.4 million
- Carrots \$19.3 million
- Cut flowers \$11.3 million
- Lettuce \$8 million
- Citrus \$8.4 million
- Olives \$7.3 million

Part of the driver of activity in this area has been the progressive relocation of market garden and horticultural production from the City of Wanneroo, which is undergoing significant residential development as part of the expanding North West growth corridor of Greater Perth. Both Gingin and Chittering also have emerging boutique wine industries which have increasingly close connections with local tourism activities. Labour force needs are being met through temporary migrants into the area.

The Shires of Moora and Dandaragan are characterised by strong animal production capacities. In 2010/11;

- Moora was home to over 225,000 sheep with a further 316,000<sup>45</sup> located within Dandaragan
- Dandaragan and Gingin are also strong beef producers with 47,841 and 30,696 head of meat cattle respectively
- The Gingin and Chittering Shires are also significant producers of pigs with 7,785 in Chittering and an additional 73,138 in Gingin<sup>46</sup>

<sup>41</sup> DAFWA (2012) NAR AgTactics August 2012, Department of Agriculture and Food, Perth

<sup>42</sup> Shire of Dandaragan (2012), Development Update (as at April 2012), Shire of Dandaragan, Jurien Bay

<sup>43</sup> Shire of Dandaragan (2012), Development Update (as at April 2012), Shire of Dandaragan, Jurien Bay

<sup>44</sup> ABS (2012) Agricultural Commodities, Cat No 7121.0 Australian Bureau of Statistics, Canberra

<sup>45</sup> ABS (2012) Agricultural Commodities, Cat No 7121.0 Australian Bureau of Statistics, Canberra

<sup>46</sup> ABS (2012) Agricultural Commodities, Cat No 7121.0 Australian Bureau of Statistics, Canberra



The Western Australian Meat Industry Authority (WAMIA) sale yards relocated to Muchea in 2011. The proximity to the major northern transport corridors (Great Northern Highway and Brand Highway) allows livestock from the northern agricultural and pastoral regions to be sold at this facility. It also supports the surrounding Wheatbelt and Mid West towns that do not access the other major sale yards in the south west of the State. There are also a number of livestock feed lots in the Lower Chittering and Gingin area. The scale and scope of these operations are currently limited by global cattle price fluctuations and trade relations and are usually operated to supplement other farm operations such as intensive horticulture.

The Shire of Coorow has two main economic drivers due to its coastal and inland environments; broadacre agriculture and fishing. Coorow is a broadacre farming community, relying on cropping and livestock. Since 1996/97, Wheat production in Coorow has produced in excess of 100,000 tonnes of Wheat per year, at an average 2.04 tonnes per hectare<sup>47</sup>. This is second only to Moora in the Central Coast sub-region which produced an average over 160,000 tonnes per year at a comparable yield (2.22 t/ha).

The businesses located in the Coorow township itself are heavily reliant and related to the agriculture industry and are therefore volatile to economic fluctuations related to poor seasons. Beyond mining and retirement driven development, the towns of Leeman and Green Head have historically been driven by the crayfishing industry. The restructuring of the crayfishing industry, through catch and season limitations, has impacted the strength of this industry and associated ancillary operations.

An opportunity exists to create a **dedicated, multi-purpose food processing precinct** in the region, with integrated infrastructure and service management and capture of processing chain and industrial ecology benefits. The realisation of such an opportunity will not only create local employment and value adding – capture downstream benefits of food production for the local economy – but increase the attractiveness of the region as a major globally-oriented diversified food bowl.

There is also an opportunity to coordinate the diverse food production activities of the Central Coast sub-region through a **single food council or marketing body**. Production in the region is already export oriented, reflecting the low volume/high value nature of many products. Regional branding in international markets can capitalise on this export focus to assist establish location-based premiums, coordinate marketing activity and establish and maintain strong connections with major overseas buyers.

This internationalisation of the sub-region's agricultural production will also facilitate attraction of overseas investors to help address funding shortages that have historically undermined the implementation of otherwise viable projects.

This combination of aquaculture, broad acre agriculture, animal husbandry activities and fruit and other horticultural production raises the potential opportunity for the creation of a food processing hub in the Central Coast Sub-Region. The comparable availability of water also means such capacity could not only service local production, but also realise value-adding and processing opportunities from the broader Wheatbelt. This opportunity is currently being realised in a piecemeal fashion, with expansions in the Indian Ocean Rock Lobster Processing Facility, the establishment of the Joanna Plains Abattoir and onsite fruit packing facilities proposed for new fruit horticulture projects demonstrating a narrower, commodity specific approach to processing.

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<sup>47</sup> CBH (2013) Unpublished Data, CBH, Perth

## 4.2 Renewable Energy

### 4.2.1 Rationale

The proximity of the Central Coast Sub-Region to the metropolitan Perth power network and its consistent sunlight and coastal winds underpins significant opportunities in renewable energy generation. Energy security and carbon footprint concerns underpin current national and global expansion. While local employment opportunities from renewable energy are limited – due to the passive nature of most renewable energy production facilities – there is an opportunity to leverage increased local renewable investment to enhance the national and international economic profile of the Central Coast.

### 4.2.2 Drivers and Trends

Global growth in renewable energy is not only assisting to diversify energy supplies and address the carbon intensity of economic and population growth, but is also generating knowledge intensive employment opportunities. Research and development activity in wind power in the USA and solar/photovoltaic energy in Germany has established both countries as international leaders in renewable energy technology and expertise. Additionally, large developing countries, such as China, India and Brazil are investing heavily in renewable energy to assist address pollution and energy security concerns arising from their rapid industrialisation.

Australia, as one of the largest per capita emitters of carbon emissions, has been a comparatively slow adopter of renewable energies, in spite of the country's considerable natural advantages in the sector. Additionally, issues of population remoteness and the isolation of the Western Australian power grid from the National Electricity Network are increasingly being addressed through investment in renewable energy production.

### 4.2.3 Sub-Regional Characteristics

The renewable energy production industry in the Central Coast is currently very small although there is significant generating capacity potential. The initial stages of industry development, particularly in terms of wind power, have now passed with select investments demonstrating economic and financial feasibility. This is incentivising a range of new and recent major investments in the Central Coast region including:

- **Emu Downs Wind Farm (Completed)** - now owned by APA Group. The 80MW project cost \$180 million, with construction taking 16 months. The project comprises 48 turbines (each with 1.65 MW generating capacity), a substation, interconnection to the main 132kV grid, an administration / stores building and a network of access roads.
- **Badgingarra Wind Farm (Planned)** - located approximately 200km north of Perth and is approximately 5km to the north of the Emu Downs Wind Farm. The site comprises six landholders with a total land area of some 8000 ha. The land is currently used for grazing predominantly sheep and beef cattle, with some small areas of remnant vegetation. The proposed generating capacity of the project is 129MW, comprising between 38 and 57 turbines depending on the wind turbine generator manufacturer and the size of the turbine selected.
- **Joanna Plains Wind Peaker Project (Planned)** - a proposal to construct and operate a 106MW "Wind Peaking" dual fuel gas turbine power station, which will efficiently supplement electricity generation from the Emu Downs Wind Farm at times of transit

wind availability. It is envisaged that the operating times would be a maximum of 200hrs per annum. Council has granted planning approval.

- **Dandaragan Wind Farm (Planned)** - received planning approval for two wind farm sites. The Waddi site would contain up to 57 wind turbines and it is located approximately 12km north west of Dandaragan. The Yandin site starts about 4km south of Dandaragan and would have up to 94 wind turbines. Council formally considered the applications at its December 2011 meeting and granted conditional approval. The two wind farms combined will generate 513MW. Each wind turbine will be up to 152m high comprising 80m - 100m tower and 45m - 60m blades.<sup>48</sup>
- **Warradarge Wind Farm** - a Verve energy project that will be operating on a site situated in both the Shire of Coorow and the Shire of Carnamah. Once fully operational, the project will run up to 100 wind turbines.
- **Emu Downs Solar Photovoltaic (SPV) Proposed**- APA group is proposing to establish a 5 megawatt solar power facility at the covering 10-12ha at the existing Emu Downs wind farm site, in the Shire of Dandaragan. The facility will make use of and connect to the existing substation infrastructure established for the wind farm. If approved, this will be sufficient to power approximately 1500 homes per year. .
- **Solar Farm Moora (underway)** – Energy Made Clean (EMC) are in the final stages of developing a solar farm on 10ha of cleared land in the shire of Moora. The farm will generate 8.76 gigawatt hours per annum. EMC have also developed a solar energy trail at the CBH grain handling facility in Moora as a clean energy solution for the facility. EMC also have similar a project under investigation to be located in Jurien Bay.

In the report *Site Options for Concentrated Solar Power Generation* prepared for the Wheatbelt Development Commission in 2010 by Dr Julian Clifton and Dr Bryan Boruff (University of Western Australia), it is noted that the region is highly suitable for Concentrated Solar Power generation (CSP). CSP generation offers a means to potentially supply solar electricity in line with demand, value-adding to the current system of photovoltaic solar power, which is suited towards supplementing existing electricity supplies in on-grid areas or in conjunction with other electricity sources in more remote locations.

Recent research into potential areas to generate concentrated solar power and photovoltaic projects identifies a number of sites along the coastline as being highly suitable given their proximity to transmission and transportation infrastructure, limited agricultural production potential and high levels of incoming solar radiation. These areas include the stretch between Guilderton and Ledge Point, directly north of Cervantes and north of Jurien Bay. Other potential sites are between Muchea and Gingin and further north along the Midland Road between Moora and Watheroo. These areas offer close proximity to utility infrastructure, being close to one of two transmission lines stretching from Perth to Geraldton.

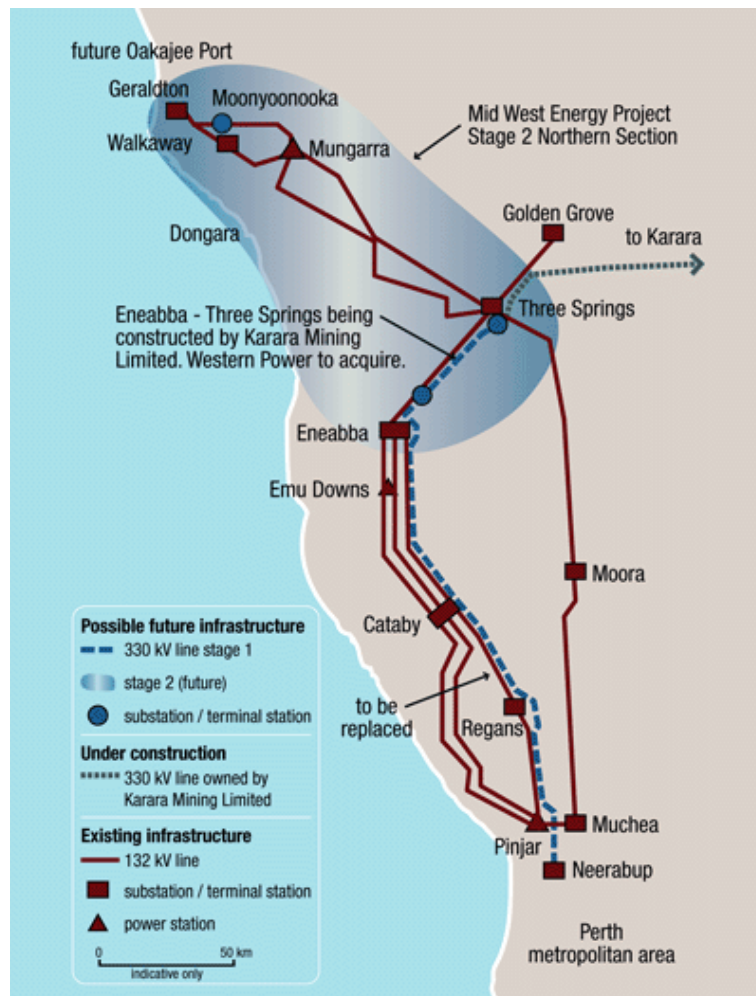
The capacity of coastal areas of the sub-region to further provide renewable power options is significant and will assist in supporting a critical mass of renewable power generation necessary to increase local research, technology and employment opportunities in the sector.

The economic impact of these projects is expected to be limited, particularly in terms of ongoing employment opportunities. The benefit of major renewable energy projects is in the enhanced investment profile that is associated with the projects. The provision locally of green, renewable energies is highly attractive to climate sensitive industry and the use of renewable energy is highest among agriculture production and food processing sectors.

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<sup>48</sup> Shire of Dandaragan (2012), Development Update, Jurien Bay

The network and whole-of State benefits of sub-regional renewable energy production will be enhanced with the development of the Mid West Energy Project by Western Power. The project seeks to enhance connections between the Mid West and Greater Perth electricity networks, providing energy capacity to major mining and resource projects in the Mid West region as well as capturing existing and emerging energy load generators. Stage 1 of the project connects Neerabup (Perth) to Three Springs with a 330kV double circuit transmission line. This will enable the connection of a number of mining projects in the Mid West (including Karara Mine) and provides additional support to the existing 132kV network in the region by establishing a new 330/132 kV Terminal substation at Three Springs<sup>49</sup>. This includes mains renewable energy production within the sub-region. The construction of this infrastructure connectivity will further enhance the attractiveness of the sub-region to further investment in renewable energy by improve access to major sources of both metropolitan and industrial demand.



**Figure 16: Mid West Energy Project**

<sup>49</sup> Western Power (2013) access at [http://www.westernpower.com.au/networkprojects/region/midwest/Mid\\_West\\_Energy\\_Project.html](http://www.westernpower.com.au/networkprojects/region/midwest/Mid_West_Energy_Project.html) on 2 June 2013.

## 4.3 Retirement and Lifestyle

### 4.3.1 Rationale

The population of Australia is projected to age over the next several decades, with the share of residents aged 65+ to increase from one in eight in 2010 to one in five in 2040<sup>50</sup>. The ageing of the population presents economic opportunities in the health, retirement and lifestyle services. Health recently overtook retail as the largest employing sector in the WA economy, generating tertiary qualified and knowledge intensive employment opportunities in primary, general and acute health care and social service delivery.

### 4.3.2 Drivers and Trends

In 2011 people aged 65+ accounted for 16.0% of the Central Coast population<sup>51</sup>. This is above the average in metropolitan Perth (11.9%) and Western Australia (12.1%), highlighting the older population profile of the region. This ageing is in line with trends in the western world, reflecting the impending retirement of the Baby Boomer generation (1946 to 1964).

There exists a strong correlation between population ageing and health services demand. For example, in 2010/11 there was an average hospital separation rate in Western Australia of 431 per 1,000 residents. However, the hospitalisation rate of people aged 65-74 is almost 250% that of the average, while people aged 75-84 have a hospitalisation rate 350% of the average. This is illustrated in the following table.

**Table 4: Hospital Separations and Population, Western Australia, 2010/11<sup>52/53</sup>**

Age	Separations	Population	Separations per 1,000 Pop
0-4	38,315	151,262	253
5-14	27,918	288,810	97
15-24	66,318	307,219	216
25-34	94,056	324,098	290
35-44	107,573	328,257	328
45-54	130,301	310,224	420
55-64	164,159	254,423	645
65-74	157,804	152,541	1,035
75-84	129,606	88,115	1,471
85+	49,982	34,221	1,461
<b>Total</b>	<b>966,032</b>	<b>2,239,170</b>	<b>431</b>

<sup>50</sup> Treasury (2010), Intergenerational Report 2010, Commonwealth Government, Canberra

<sup>51</sup> ABS (2012), Census of Population and Housing, Australian Bureau of Statistics, Canberra

<sup>52</sup> ABS (2012), Census of Population and Housing, 2011, Australian Bureau of Statistics, Canberra and AIHW (2012), Hospital Statistics 2010/11, Australian Institute of Health and Welfare, Canberra.

<sup>53</sup> A separation is episode of care for an admitted patient, which can be a total hospital stay (from admission to discharge, transfer or death), or a portion of a hospital stay beginning or ending in a change of type of care (for example, from acute to rehabilitation) .

In addition to general and acute hospitalisation, population ageing also increases the intensity of local demand for pharmacy, radiation oncology, cardiology, pathology and other primary and ancillary support services.

There is also a requirement for both care and lifestyle based accommodation options, with aged care facilities and retirement and lifestyle village demand expected to increase with population ageing.

#### 4.3.3 Sub-Regional Characteristics

Health and aged care service provision in the Central Coast is currently poor, despite the older age profile of residents, particularly in coastal LGAs. Moora presently plays a central role in the provision of both public hospital and aged care. However, the growth of aged care accommodation is increasing with RSL Homes currently constructing Stage One of the Jurien Bay Lifestyle Village. The establishment is proposed to include 98 aged care units comprising 28, two bedroom units and 70 three bedroom units all of which will be single story villas. There are 30 caravan / boat trailer bays and 33 visitor car bays proposed as part of the development.

Health was identified by the Shire of Dandaragan as a major issue and opportunity with a multi-stage Health Precinct proposed as part of SuperTown Growth Plan funding. Whilst yet unfunded, the proposed precinct will include:

- 1) Stage 1 Development approvals and site preparation for a future Residential Aged Care facility
- 2) Stage 2 (a) Aged Care – feasibility and construction of a Residential Aged Care facility
- 3) Stage 2 (b) Integrated Health Plan:
  - a) Health Centre Expansion and Renovation
  - b) Wellness/Community Health Centre Construction.

The development of such a precinct would assist greatly in the effective provision of age-specific health care as well as the capture of economic and employment benefits of ageing in the Central Coast economy.

Health and Aged Care has also been recognised as a priority for the Shire of Chittering. Currently primary health service options are limited therefore the shire identified and funded the following actions to address growing demand;

- 1) A 16 hectare lot subdivision of council owned land in Bindoon to create a Health Precinct incorporating Independent Living Units and an Aged Care respite Centre, Respite Housing and relocation of the St John Ambulance sub-centre, with the remaining land to be used for a longer term residential development.
- 2) Construction of a Multi- Purpose Medical/Health Centre (construction to commence February 2014).
- 3) Preparation of a Local Health Plan to identify and support further health initiatives.

Moora Frail Aged Lodge Incorporated have gained funding to build a further 6 bedrooms with ensuites at the existing facility. This project will bring The Lodge up to a total of 16 suites. Verso Consulting has identified that there is a current shortage of approximately 70 beds in the Central Coast and Central Midlands sub-regions in respect to Residential Care when compared with Commonwealth planning ratios. To meet planning ratios around 160 further operational beds would be needed by 2027 to cover current and future demand<sup>54</sup>. Significant variability and

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<sup>54</sup> Verso Consulting (2013), Wheatbelt Integrated Aged Care Plan [draft], pg. 89



deficiencies were also evident when it came to older people being able to readily access services in all parts of the sub-region. Little interest exists in travelling 'cross country' for services, limiting the potential use of central service locations in the sub-region<sup>55</sup>. Stakeholders acknowledged a preference for north-south travel that is centred on Perth. Planning for home support, respite and residential care that facilitates better geographical coverage and population growth is essential in the Central Coast Sub-Region.

There exists a strong nexus between retirement/lifestyle and tourism attractors for the Central Coast sub-region, as reflected in the large number of holiday and second homes in the current dwelling stock. This is also reflected in the availability away from the coast of rural residential developments, the supply of which in the metropolitan area is increasingly constrained due to the implementation of Directions 2031 and beyond. The amenity of the Central Coast sub-region, both coastal and rural, is a strong competitive advantage that requires both public and private sector investment to realise. This includes leveraging public investment in health care to attract private retirement and lifestyle village investment.

There are currently 16 residential estates in the town of Bindoon and Lower Chittering, with a number of these subdivisions still being developed and others in the intermediate to advanced land release stages. One such residential estate is the Maryville Heights Estate in Lower Chittering, which consists of 2 hectare lots and is underway with stage 11 and 12 land releases. This estate is one of the more expensive estates in the Shire with lot prices starting at \$265,000.

In order to provide a more diverse housing market, the Shire of Chittering Council is undertaking a residential development for the elderly, with plans to construct an 80 unit 'retiree precinct'. The units are planned for independent aged living, with a medical centre included. With an ageing population in the area creating demand for nursing care level services, there is opportunity for private development of low and high aged care residential facilities.

Population on the coast is expected to grow due to the natural amenity, and proximity to Perth. Jurien Bay and Cervantes offer an attractive retiree destination, and already have a significant number of Western Australian retirees making the sea change to the area. The Shire of Dandaragan has prioritised improving Aged Care and Health facilities in Jurien Bay to service the town and surrounding areas. As listed above, this plan includes a residential Aged Care facility and an integrated Health plan which includes expansion and renovation of the Medical Centre and the construction of a Wellness/ Community Health Centre.

The towns of Leeman and Green Head offer an attractive lifestyle for retirees who are able to live independently, and as such, the town of Green Head has a growing retiree population. There is access to health services from the Silver Chain nurse in Leeman and higher level care available nearby in Jurien Bay. The town of Coorow relies on health services in Moora. There is a gap in general health and aged services in the Shire of Coorow which has resulted in a reliance on surrounding towns. This is exacerbated by Coorow's position between the Wheatbelt and Mid West regions and therefore is distant from major health nodes and service centres.

There are currently no specific retiree developments in the Shire of Gingin, however there is a proposal for a private development of a 219 Independent Living Unit Complex within the Gingin town site for over 55's. Configuration is still undetermined and a town planning scheme amendment is required for this development to go ahead. There is also potential for increased health services catering towards high care nursing care to reflect the ageing of the population. As such, there is significant opportunity for the development of the towns within the Shire of Gingin

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<sup>55</sup> Verso Consulting (2013), Wheatbelt Integrated Aged Care Plan [draft], pg. 82



to develop a competitive advantage for retirement and lifestyle. The shire currently has land available within the town site for aged care development.

With the completion of the Indian Ocean Drive providing more direct access to northern metropolitan Perth, there is less of a tendency for residents of Central Coast to frequent Moora as a service centre. This needs to be taken into consideration when designing health and aged care services for the sub-region. Improving telecommunications in the Wheatbelt including NBN roll out will allow for more options when it comes to diagnostics, specialists and follow up appointments for Wheatbelt patients, carers and health professionals. So far all Western Australian Country Health Service (WACHS) Wheatbelt hospitals have been upgraded to high speed broadband. This will enable faster and better diagnostic and follow-up procedures plus connection to any hospital in the Wheatbelt and Perth. The Southern Inland Health Initiative has E-Health as one the six priority areas it plans to invest in. Considering the increased focus and reliance on telehealth delivery in rural areas to access specialist and other health services, investment in telecommunications infrastructure will be important.



## 4.4 Mining, Construction and Light Industry

### 4.4.1 Rationale

The growth of the population and economy projected for the Central Coast sub-region will underpin demand for construction related activity. Additionally, the Central Coast sub-region possesses a range of non-ferrous mineral resource deposits and extraction activities that supply to local and overseas markets. Both construction and mining activities, along with existing and emerging agriculture and horticulture production and processing, will support demand for light industry activity in the State.

### 4.4.2 Drivers and Trends

Structurally higher resource demand in the medium and long-term from Asian countries (particularly China and India and increasingly ASEAN countries), due to urbanisation and industrialisation, is currently and will continue to underpin investment in a wide range of mineral extraction and processing projects in Australia. WA is blessed with an abundance of economic demonstrated resources and is currently the home to over half of all committed projects located in the Australia<sup>56</sup>.



**Figure 17: Share of Mining Projects by Stage, As At April 2013**

While iron ore and gold have historically dominated Western Australia's resource development profile, this has diversified in recent years, with offshore LNG, mineral sands, rare earths and construction-related materials. Such resources reflect both Western Australia's diverse resource base as well as the increased demand for novel resources as part of increasingly complex technological and manufacturing processes.

Additionally, Western Australia's strong growth in population and economic activity over the past decade has generated considerable demand for domestically oriented mineral and energy production as well as construction and light industry activity. This includes both the metropolitan Perth and mining regions as well as local markets. This activity will continue to strengthen as WA's historical small population and economy matures and expands, reaching a critical mass that underpins the domestic market.

<sup>56</sup> BREE (2013) Major Developments – Mining and Energy Projects April 2013, Commonwealth Government, Canberra

#### 4.4.3 Sub-Regional Characteristics

The Central Coast benefits from a combination of mineral sands and domestic energy deposits as well as the increased regionalisation of residential and commercial construction and industrial activity demand.

The sub-region possesses a number of commercially viable mineral sands deposits, concentrated primarily in the Dandaragan and Gingin LGAs but located across the whole of the Central Coast. Mineral sands include rutile ( $\text{TiO}_2$ ), ilmenite ( $\text{FeTiO}_3$ ), zircon ( $\text{ZrSiO}_4$ ) and monazite ( $[\text{Ce,La,Th}]\text{PO}_4$ ). Such sands are used predominantly in the production of titanium dioxide pigment, titanium metals for the aerospace industry and in the manufacture of welding rods. Zircon is used as an opacifier for glazes on ceramic tiles, in refractories and for the foundry industry. Recently there has been renewed interest in monazite as a source of thorium for possible use to generate electricity in thorium nuclear reactors<sup>57</sup>. Western Australia is home to a full spectrum of mineral sands, and accounts for over 45% of Australia's economically demonstrated resources in ilmenite. Australia is the largest supplier of rutile and zircon with over half of global supply, while it is third behind South Africa and Canada in terms of ilmenite production.

Companies which produced heavy mineral sands during 2011 were Iluka Resources Ltd, Bemax Resources Ltd, Tronox, all in WA, and Sibelco Australia Ltd in Qld. Iluka Resources' heavy mineral sand operations in WA are located in two regions, the mid-west region north of Perth and in the State's southwest region south of Perth.

A significant Bauxite deposit has been identified in the North Darling Range which extends north of Bindoon into the Shire of Moora. Extractive industry of gravel, clay and sand are strong local industries that have developed within the Shire of Chittering.

Major operators include;

- Boral Bricks –in operation since 2000 and currently operate 2 pits – extracting 100,000 tonnes of clay per annum at Lot 6 and 100,000 cubic metres of clay per annum
- Austral Bricks - in operation since 2003 and currently operate 2 pits and are extracting approximately 70,000 (up to 110,000 previous financial year) tonnes of clay per annum

Quartz mining for production of silicon has been carried out at the Simcoa quarry in Coomberdale (Shire of Moora). It has been identified to have over two million tonnes of quartzite and over four million tonnes of quartzite in the 'indicated and inferred resources'<sup>58</sup> category. The quartz is quarried and transported by truck to Bunbury for processing.

There have been 8 onshore natural gas basins identified in Western Australia with potential to produce natural gas. Research shows that there is roughly twice as much gas available onshore, as there is offshore. Shale and tight rock formations need to undergo hydraulic fracture stimulation (also known as fracking) to release the natural gas and enable recovery. Hydraulic stimulation has been used in the oil and gas industry in Western Australia for the past 50 years. Exploration activities have been carried out in the Central Coast region however no operations have yet to begin. Despite the high cost of operating in remote locations, exploration companies have identified significant potential for oil production and commercial shale and tight gas operations. The process of fracking will undergo a parliamentary enquiry which will assess impact on current and future land use and ground water supplies.

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<sup>57</sup> Geosciences Australia (2013), Mineral Sands, Commonwealth Government, Canberra.

<sup>58</sup> Simcoa Company website, accessed 26 March 2013, available from: <http://www.simcoa.com.au/company-2.html>

International company, Murphy Oil Corporation has been active in mapping exploration wells off the coast of Leeman. The company is expected to announce the locations of the wells in mid 2014 with drilling to commence late 2014.

The Red Gully Gas plant in Gingin is currently the only gas production plant in the Central Coast. The plant, commissioned in 2013, will produce gas and condensate from the Red Gully 1 and Gingin West 1 gas wells. It is predicted that the plant will enhance the State's gas supplies for more than 20 years<sup>59</sup>

The Warro gas field is located 200km north of Perth in the Perth Basin and is only 31km east of both the Dampier-Bunbury Natural Gas Pipeline and the Dongara-Perth Parmelia Pipeline. It is one of the largest undeveloped onshore gas fields in Australia. Development thus far has included drilling, stimulation and flow testing. Fraccing will be required to extract the gas. Analysis has confirmed there is significant gas held in the field with the potential to flow at high rates. The next stages of the project are currently being planned. Transerv Energy is the operator with a 57% stake. With a buoyant gas market and strong demand and prices, there is confidence in the future development of the Warro Field.

Iluka Resources activity in the broader coastal/mid-west region of WA comprises mines of Eneabba (two wet concentrators, five mining units), the company's Narngulu facility at Geraldton comprising mineral separation, zircon finishing and two synthetic rutile kilns (SR kilns 3 and 4) as well as port operations and storage facilities at Geraldton. During 2013 Iluka Resources made the decision to idle mining activity at Eneabba at the Twin Hills and Hill North deposits. The proposed Iluka Cataby mine, approximately 150km from Perth, is in detailed feasibility stage. If mining is to go ahead there will be approximately 70 employees with an onsite camp and mess facilities. Iluka has indicated that there will be a preference to source local employees where required skill sets are available. The mine has a predicted life of 3-4 years. The Gingin mine was closed in 2010 and was undergoing rehabilitation in 2011<sup>60</sup>.

There is a well-established transport network connecting the sub-region in all directions with the heavy haulage routes of Brand Highway, Great Northern Highway and the Lime Routes supporting mining and industrial activity outside of the sub-region as well as within. Local and regional mining activity, as well as agriculture and population-serving transport logistics are expected to continue to increase demand for local industrial land. The planned development of industrial subdivisions at Muchea by the State Government combined with Muchea's strategic location at the intersection of Brand Highway and Great Northern Highway affords the node the opportunity to establish a highly accessible industrial park. It will be important that the supply of serviced light industrial land keeps pace with mining, transport and construction demand.

Construction is a major industry in the Central Coast, supporting residential and non-residential building and infrastructure development. At 10%, Construction is the second highest employing sector in the sub-region behind Agriculture, Forestry and Fishing. Unlike other sub-regions in the Wheatbelt, the Central Coast also benefits from the presence of larger private land developers investing in the area.

In 2012/13 there was over \$200 m in building approvals in the Central Coast sub-region<sup>61</sup>. This value flows through to the construction sector, supporting significant employment. The successful acceleration of sub-regional population growth will generate considerable demand for owner-occupier housing and supporting infrastructure, while the enhancement of the tourism sector will

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<sup>59</sup> Prospect (June 2013), Department of State Development, Government of Western Australia, Perth

<sup>60</sup> Geosciences Australia (2013), Mineral Sands, Commonwealth Government, Canberra.

<sup>61</sup> ABS (2013) Building Approvals, Australia, Cat No 8731.0 Australian Bureau of Statistics, Canberra



underpin demand for holiday-homes, tourist accommodation and facilities. These sectors will underpin the continued importance of construction in the Central Coast economy.

## Major Resource Projects — June 2013

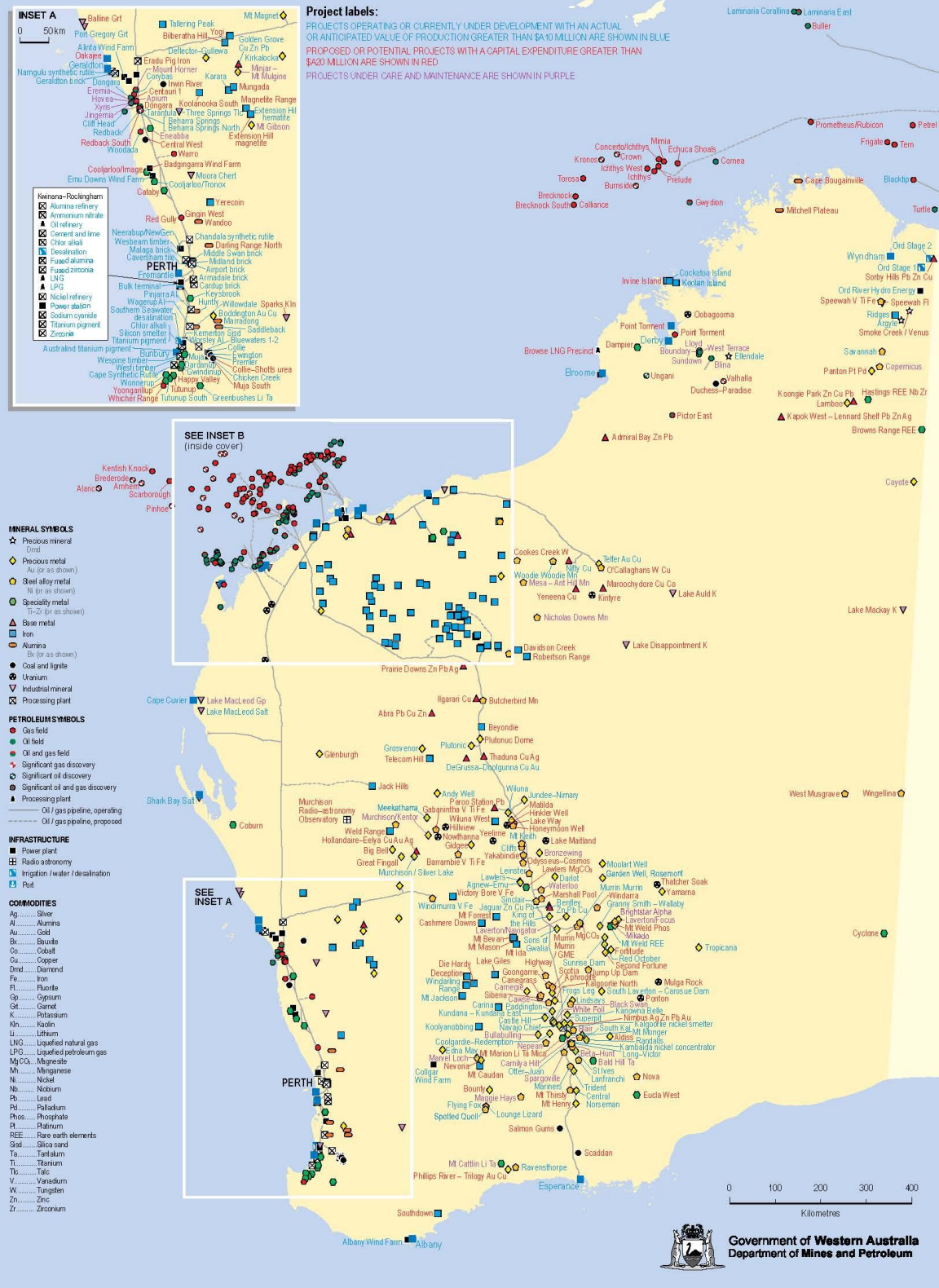


Figure 18: Major Resource Projects, Western Australia

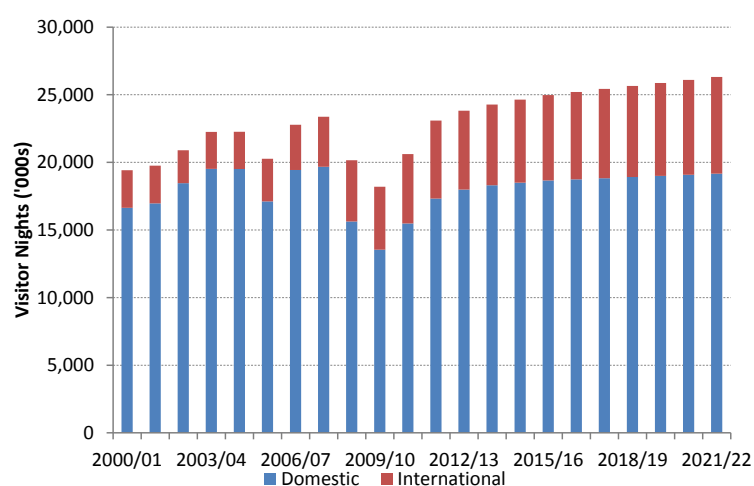
## 4.5 Tourism

### 4.5.1 Rationale

Tourism activity can provide economic benefits to a local community by leveraging existing infrastructure and amenity and subsidising a higher quality of retail, accommodation and public infrastructure that would not otherwise be supported by local residential expenditure alone.

### 4.5.2 Drivers and Trends

Tourism activity in Australia has been depressed over the past decade. A high Australian Dollar, coupled with increased labour cost and a volatile global economic environment, has impacted domestic travel levels. This trend has improved in recent months however, and Tourism Research Australia forecasts for tourism visitation activity indicate almost flat growth in domestic overnight visitation in regional WA over the next decade<sup>62</sup>. The exception to this domestic visitation is likely to be that related to older populations, referred to as “Grey Nomads”. The Central Coast sub-region, with its proximity to metropolitan Perth and coastal and rural-based tourism offering is ideally positioned to capture a proportional share of this growing market.



**Figure 19: Visitor Nights, Domestic and International, Regional WA, 2000/01 to 2021/22**

Domestic daytrip activity is expected to grow at a stronger rate than overnight, as households manage their expenditure and seek lower cost experiences. This will benefit peri-urban locations around major capital cities, providing daytrip destinations and activities. In the case of the Central Coast, this role and function is already fulfilled by the towns of Gingin and Bindoon.

International tourism visitation is expected to continue to grow strongly, as structural increases in affluence in Asian economies and improved connectivity underpins overseas visitation. The Central Coast already possesses internationally recognised tourism activities – namely the Pinnacles. A visitor survey of the Pinnacles, conducted in 2002, revealed that over half of all visitors to the attraction were from overseas<sup>63</sup>. Currently, this market is catered for primarily through organised tours from Perth. Capturing more expenditure locally will necessitate quality (4 and 5 star) accommodation and structured and packaged experiential tourism activities in the

<sup>62</sup> TRA (2011), Tourism Projections, Tourism Research Australia, Canberra

<sup>63</sup> Colbar Brunton (2002), Nambung National Park – Visitor Survey, Colbar Brunton, Perth

broader region. Improved multi-lingual skills among workers and culturally-sensitive practices will also facilitate increased international visitation.

#### **4.5.3 Sub-Regional Characteristics**

The proximity of the Central Coast to metropolitan Perth, its primary domestic market, means the predominance of day trip visitation is likely to continue in the future. This is particularly the case for peri-urban local governments of Gingin and Chittering which are already major domestic day trip destinations. The geography of the sub-region (distance from Perth to major centres, due to the predominance of national and state parks/reserves) means coastal tourism nodes are primarily overnight destinations with Lancelin, Jurien Bay and Cervantes currently providing the largest concentrations of formal tourist accommodation.

There is however, a considerable informal tourism market in the Central Coast. This is reflected in both the number of holiday, second homes and holiday rentals in the sub-region, along with clusters of informal coastal accommodation (beach shacks, shanties etc.). Additionally, visitation to holiday homes and rentals are regularly not fully captured by tourism statistics, meaning the impact of expenditure by this segment is likely understated. This market has had significant impacts on the Central Coast's housing market, increasing prices in the early part of last decade and maintaining them at levels above that which is affordable to the local population.

Significant opportunities exist to leverage the natural and manmade assets of the Central Coast to promote more and higher value tourism activity. The predominance of national and state parks/reserves, coupled with the coast, provides a high amenity environment for domestic and international tourists alike. This includes continued leveraging of the Pinnacles as a major international attraction. Supporting this activity will require considerable increases in the quality and capacity of formal tourism accommodation, particularly resort style developments.

There is also an opportunity to leverage agriculture and aquaculture activities in the tourism sector. This is already being captured through festivals and events associated with the Western Rock Lobster season (e.g. Indian Ocean Festival and the industrial tourism investment at the Lobster Shack in Cervantes) as well as rural product and farm-stay based activities in the areas of Chittering, Gingin and Moora. Moora is also well placed on the wildflower and New Norcia route.

The Shire of Chittering has potential to expand its tourism sector, which currently consists predominately of day trips to the area. To capitalise on this day trip tourism market a focus on further development of events and attractions could enhance tourists' experience. There is also the potential identified for increased tourist activities based around fresh food and capitalising on the horticulture and viticulture in the area and linked with operations in neighbouring Gingin and Moora LGAs (e.g. wine and olive drives/tours). There is a bed and breakfast and farm stay style accommodation market in the Shire of Chittering and Shire of Gingin, however, there is still a need for further diversity in accommodation options.

Eco and farm tourism has been identified as a possible growth area around the towns of Badgingarra and Dandaragan due to the well-established agricultural industry and wildflower displays. Adventure and nature-based tourism activity is a significant economic opportunity for the coastal areas of the Shire of Dandaragan (e.g. skydiving, 4WD, quad bikes, fishing, diving, wind/kite surfing, activities experiencing the national parks etc).

Natural amenity and proximity to Perth, combined with the development of horticulture in the area provide the opportunity for food based tourism and events in the inland areas. The town of Gingin's proximity to Perth makes it an attractive day trip destination and there is potential for the Gingin Observatory and Gravity Discovery Centre to facilitate growth in the



knowledge/science based tourism sector. Lancelin is a popular water sport destination and home to the international windsurfing event the Lancelin Ocean Classic. There is potential for increased adventure tourism development in this area however seasonality of tourist numbers and the cost of insurance is a current barrier for attracting businesses of this kind. The promotion of the area as a tourist destination is currently done by the Gingin Coast to Country Tourism Association, and Tourism WA's Experience Perth campaigns. In early 2013 a \$70 million dollar investment into 'The Maze' in Bullsbrook was announced, stage I (Outback Water Park development) has begun. This development will potentially have spin off benefits for tourism operators in the other Experience Perth areas, Chittering and Gingin, through the opportunity for package and/or tours.

With a growing tourism industry in the Central Coast sub-region, a coordinated approach to marketing and promotion of activities, accommodation, destinations and events would be highly beneficial to attracting both day trip and overnight visitors.

The recent completion of the Indian Ocean Drive does provide opportunities for the attraction of "Grey Nomad" and family-oriented holiday visitation to the sub-region. The town of Leeman is one of the few towns that is located directly on the drive which has the potential to be a major benefit to businesses. There is also an on flow of visitors who are coming from the Pinnacles, Cervantes. Leeman and Green Head attract a large amount of domestic holiday makers who own or rent a house in the summer months. The town of Leeman currently has two boat ramps, with a third to be constructed by December 2013 in order to sufficiently provide for recreational fisherman and boaters. There is a general need for improved accommodation and food services on the coast to attract tourists to the towns.

Tourism in this area has a secondary benefit of increasing the turnover of retail and service businesses that are essential for servicing the growing aged population.

## 5.0 OPPORTUNITY NETWORK ANALYSIS

### 5.1 Outline and Definition

The Central Coast sub-regional economy possesses a range of competitive advantages and opportunities. However, these advantages and opportunities manifest themselves differently across the towns and Local Government Areas of the sub-region with each major town possessing a unique set of demographics, business and infrastructure characteristics and therefore playing a different role in the sub-regional economy.

RPS has reviewed and analysed the characteristics of each LGA to develop a Network Matrix. This Network Matrix illustrates the spatial distribution of the Key Economics Opportunities in the Strategy across the major Towns/LGAs of the sub-region.

Each town can have three possible relationships with the whole-of-sub-region opportunities:

- The town already has an above average competitive advantage in the relevant industry/sector and/or has existing activity leveraging this opportunity (represented as a solid circle in the matrix);
- The town has the **potential** to have an above average competitive advantage in the relevant industry/sector (due to either changing or emerging drivers) over the next decade (represented as a dotted circle in the matrix); or
- The town does not have an above average competitive advantage in the relevant sector.

### 5.2 Network Matrix

The Network Matrix results are illustrated in the diagram below.

Jurien Bay, Cervantes, Gingin, Moora and Bindoon/ Muchea all exhibit strong diversity of current and potential economic drivers, though the mix and composition of these drivers varies considerably between these towns.

In contrast, the towns of Dandaragan, Lancelin and Leeman have more specialised competitive advantages, mostly reflecting small residential populations. While Dandaragan has and will continue to have a foundation in agriculture and non-ferrous mineral extraction, the towns of Lancelin and Leeman will continue to be predominantly domestic tourist destinations with opportunities in aquaculture, renewable energy and retirement/lifestyle associated with their coastal orientation.

































RPS	AQUA., HORT. & FOOD PROCESS.	RENEWABLE ENERGY	RETIREMENT & LIFESTYLE	MINING & CONSTRUCT.	TOURISM
Jurien Bay					
Cervantes					
Bindoon/Muchea					
Dandaragan					
Gingin					
Moora					
Lancelin					
Leeman					

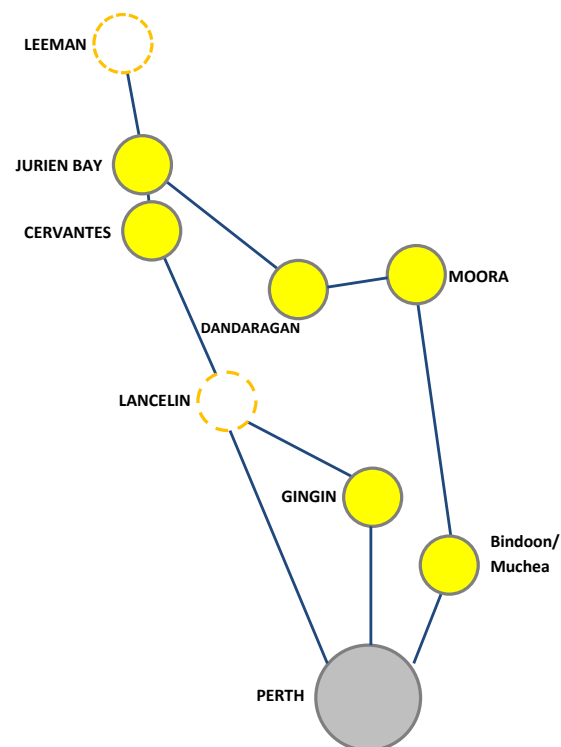
Figure 20: Opportunity Network Matrix, Central Coast Sub-Region

### 5.3 Spatial Analysis

The results of the Network Matrix can also be analysed for the spatial distribution of economic opportunities across the Central Coast sub-region.

#### 5.3.1 Aquaculture, Horticulture and Food Processing

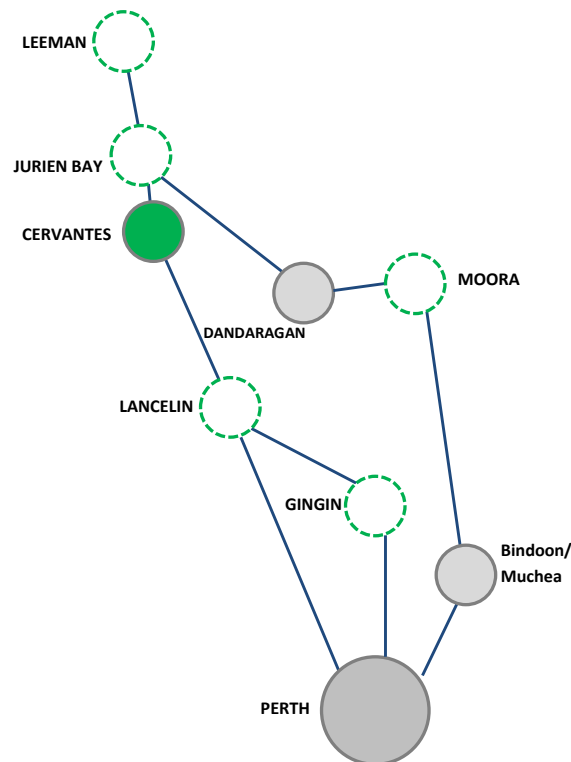
As expected, food-related industries are the most distributed economic opportunity in the Central Coast, though the nature of the opportunity varies considerably across the sub-region. While coastal towns possess existing and potential opportunities in aquaculture, inland towns and areas are more oriented towards horticulture, broad acre agriculture and animal husbandry.



**Figure 21: Spatial Distribution, Aquaculture, Horticulture and Food Processing, Central Coast Sub-Region**

### 5.3.2 Renewable Energy

Renewable energy production, in the form of wind power, is currently concentrated around Jurien Bay, though opportunities exist along the coast for similar developments. Muchea, Gingin, Moora and Watheroo, as well as the coastal towns from Guilderton to north of Jurien Bay, have been identified as potential locations for solar energy production (CSP and photovoltaic), while Moora has potential opportunities in crop-based biofuels owing to its broad acre agricultural strengths.



**Figure 22: Spatial Distribution, Renewable Energy, Central Coast Sub-Region**

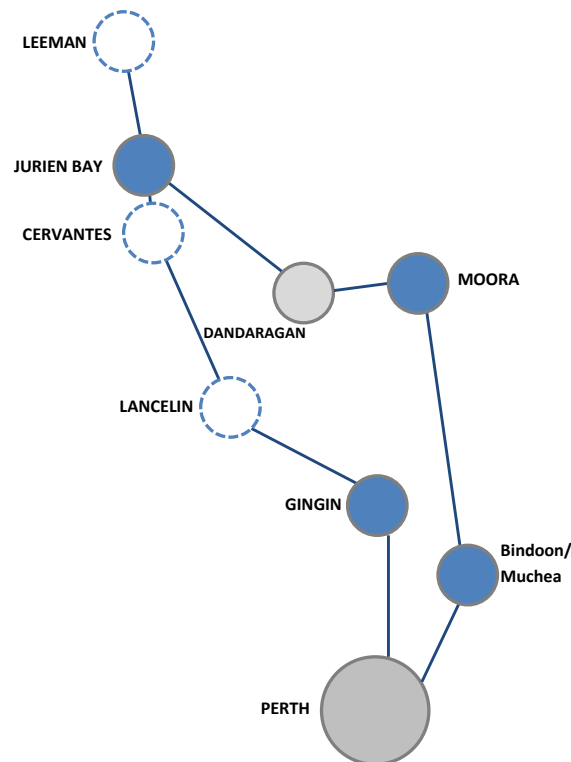
### 5.3.3 Retirement and Lifestyle

The Central Coast sub-region is comprised of three distinct lifestyle regions:

- Coast – the towns along the coast currently have high levels of holiday and second homes and older populations;
- Peri-Urban – Gingin and Bindoon/Muchea are established peri-urban towns expected to support outward migration from Greater Perth of older households; and
- Rural – areas to the east and north of the sub-region.

Moora is currently the only retirement and aged care node in the Central Coast sub-region, though there are developments in Jurien Bay, including the proposed Aged Care and Health Precinct and new independent living units in Jurien Bay, which will increase the region's attractiveness to this sector.

Opportunities for lifestyle-based residential and retirement communities, and associated services and facilities, exist in the towns of Cervantes, Jurien Bay and Moora, with Gingin and Bindoon/Muchea likely to continue to play a critical peri-urban rural residential role in the sub-region.

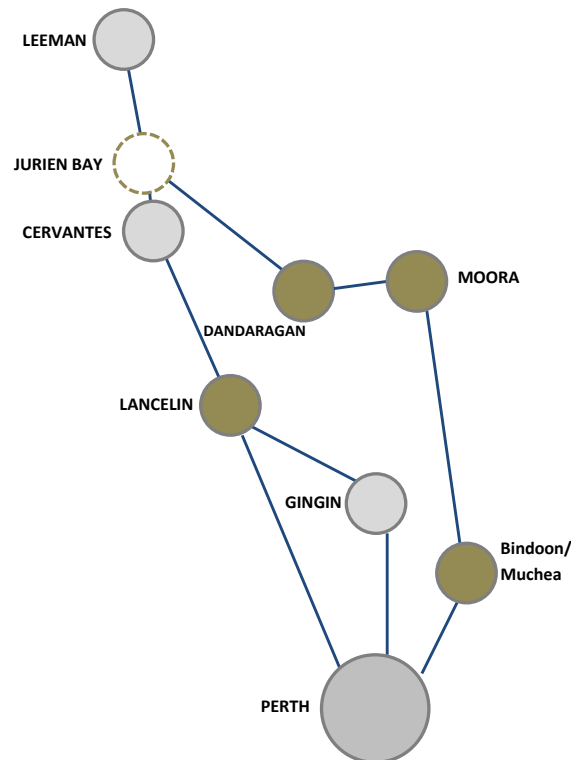


**Figure 23: Spatial Distribution, Retirement & Lifestyle, Central Coast Sub-Region**

#### 5.3.4 Mining, Construction and Light Industry

The sub-region possesses a range of mineral sands deposits which are currently being exploited at various levels of intensity in the central and east parts of the sub-region and exported through Geraldton Port. Demand for this resource base is likely to continue, given the role of mineral sands in both technology and consumer goods production in China and India.

Population growth, mining activity, agricultural product and construction will drive demand for industrial land and precincts. This includes potential Food Processing/Agri-Industry Precincts, providing value adding opportunities for local and whole-of-Wheatbelt production. Additionally, serviced light industry lots, particularly those supporting construction and transport and logistics activities will be required, with the Indian Ocean Drive and Brand Highway providing effective north-south freight route between metropolitan Perth and Geraldton and the Pilbara. From a State development perspective, there is opportunity to further enhance this with the potential development of a peripheral heavy haulage route connecting Great Eastern Highway (Avon) with Great Northern Highway and across to Brand Highway. This addresses current constraints associated with heavy haulage travelling through congested urban areas of Mundaring and the Swan Valley with products (e.g. large machinery, pre-fabricated housing, and livestock) for the north and east of the State.



**Figure 24: Spatial Distribution, Mining & Construction, Central Coast Sub-Region**

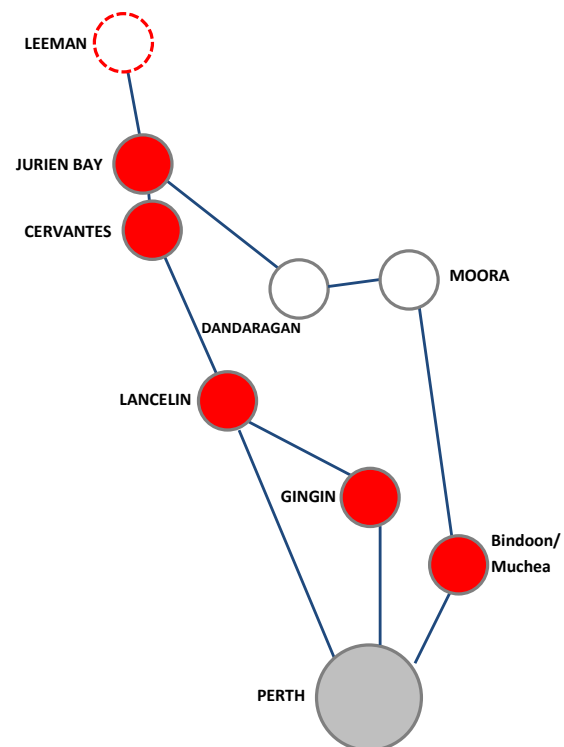
### 5.3.5 Tourism

Similar to the Retirement & Lifestyle opportunities, the Central Coast's tourism offering is split into coastal and peri-urban markets. The coastal towns currently have strengths in informal domestic overnight tourism activity in the form of second and holiday homes. The formalisation of this activity, through increased provision of hotel, resort and service chalet accommodation is essential to enhance the local economic contribution of this market segment.

The peri-urban local governments of Gingin and Chittering have established day-trip tourism roles and perform well compared to other peri-urban locations adjacent to metropolitan Perth. The historical nature of these towns and agri-tourism opportunities of the area is likely to underpin tourism activity growth in the future.

The Indian Ocean Drive has the potential to formalise the sub-region's attractiveness to "Grey Nomad" travellers, so long as a coordinated branding and marketing efforts are undertaken and a suite of quality experiential tourism activity is provided to the market. The capacity of major destinations on the drive to accommodate recreational vehicles with quality facilities will support the uptake of this activity by the market.





**Figure 25: Spatial Distribution, Tourism, Central Coast Sub-Region**

## 6.0 ECONOMIC DEVELOPMENT ACTIONS

RPS, in collaboration with the WDC, has compiled a list of actions and initiatives required to facilitate, support and underpin the realisation of key economic opportunities for the Central Coast identified in section 4.0 of this Strategy. These Actions have been identified through consultation with Local Government, and refined within the Spatial Distribution Framework outlined in section 5.3.

The Actions identified represent a short-list of initiatives for which business cases should be prepared for funding applications. This includes both State and Federal Government funding opportunities as well as potential private sector investment.

Further details on the individual Actions are contained in the Local Government Area Profiles, included in Appendix A of this Strategy.

Note that the identified Actions have been categorized under individual Economic Opportunities. However, it is acknowledged that some Actions will have enabling and supporting effects for a range of opportunities and for the Central Coast economy generally.



Table 5: Economic Development Actions, Central Coast Sub-Region

LOCAL GOVERNMENT AREA	AQUACULTURE, HORTICULTURE & FOOD PROCESSING	RENEWABLE ENERGY	RETIREMENT & LIFESTYLE	MINING & CONSTRUCTION	TOURISM	OTHER
Chittering	<ul style="list-style-type: none"><li>The Shire of Chittering, Water Corporation and Department of Water to develop water infrastructure investment plans.</li></ul>	Continue to support and facilitate private and public sector investment in renewable energy production and supporting infrastructure, particularly wind power.  Leverage this investment to build the sub-region's national and international profile and “green” credentials.	<ul style="list-style-type: none"><li>Establish a sustainable water supply to support future development</li><li>Upgrade of the Bindoon main street to create a central and compact space to act as a 'town centre'.</li><li>Construction of the Shire of Chittering multi-purpose Medical Centre in Bindoon to accommodate a range of health services for the Shire into a single area.</li><li>Planning of a Civic Precinct in Lower Chittering</li></ul>	<ul style="list-style-type: none"><li>Develop light industrial lots in Bindoon to address current lack of supply. The development of these lots will address a number of current land use conflicts arising from light industrial activity occurring in residential areas.</li><li>Continue to support of development at the Muchea Employment Node. Planning has been completed in conjunction with the Department of Planning and Western Australian Planning Commission to produce the Chittering-Muchea Employment Node Structure Plan which outlines short, medium and long term staged developments which require funding plans to develop the site.</li><li>Construction of a bypass road in Bindoon to redirect Great Northern Highway heavy haulage traffic and alignment with the Perth-Darwin Highway upgrades.</li></ul>	<ul style="list-style-type: none"><li>Development of a Local Tourism and Events Strategy</li></ul>	
Coorow			<ul style="list-style-type: none"><li>Encourage the residential infill of the vacant residential land developed by LandCorp that is available in Leeman and Green Head.</li><li>Continue to liaise with the Shire of Carnamah to annex the existing Shire boundary further north of the Leeman town site.</li><li>Increase the number of aged care units in Coorow.</li></ul>	<ul style="list-style-type: none"><li>Investigate the expansion of the light industrial area in Coorow.</li></ul>	<ul style="list-style-type: none"><li>Construction of a boat ramp facility and improved parking and public amenities in Leeman to facilitate growth in tourism and recreation activity.</li></ul>	<ul style="list-style-type: none"><li>Create a commercial precinct in Leeman as current commercial properties are ad hoc though out the town (consolidation of zoning in the town centre is required)</li></ul>
Dandaragan	Refer to Jurien Bay SuperTown Growth Plan					
Gingin	<ul style="list-style-type: none"><li>Development of a plan for staged public utility infrastructure upgrades mirroring projected population increases and horticultural production.</li><li>Increase awareness of the 'food bowl' branding for the Shire of Gingin in order to increase investment in horticulture and intensive agriculture ventures and associated ancillary processing facilities.</li></ul>		<ul style="list-style-type: none"><li>Construction of a boat ramp in Ledge Point to facilitate greater recreational and tourist use.</li></ul>		<ul style="list-style-type: none"><li>Development of a diversity of accommodation options to capture an increased share of overnight visitors vacationing along the coast.</li><li>Development of 'luxury camping' accommodation to increase overnight visitation</li><li>A collaborative approach towards the promotion of tourist attractions in the Shire and neighbouring LGAs, which are currently only operating on a small scale and using ad-hoc promotional strategies.</li></ul>	

LOCAL GOVERNMENT AREA	AQUACULTURE, HORTICULTURE & FOOD PROCESSING	RENEWABLE ENERGY	RETIREMENT & LIFESTYLE	MINING & CONSTRUCTION	TOURISM	OTHER
Moora	<ul style="list-style-type: none"> <li>Completion of water capability assessment in terms of aquifers in the Shire/region that could facilitate the expansion of intensive horticulture initiatives</li> <li>Investigate the possibilities in the development the food processing activities in Moora, linking in with the existing intensive horticulture industry occurring surrounding area.</li> </ul>		<ul style="list-style-type: none"> <li>Development of the West End land owned by the Shire of Moora into a rural / residential precinct outside of the flood zone within the main part of Moora.</li> <li>Facilitate confirmation of investment from State Government for infill development.</li> <li>Development of aged care housing to address local and sub-regional demand for high and low care residential.</li> <li>Expansion of residential land in the Moora town site out of the flood zone.</li> </ul>	<ul style="list-style-type: none"> <li>Bypass - ring road to the east of the Moora town site to act as a heavy traffic diversion and flood levy</li> <li>Expansion of industrial land to the north, south and south east of the Moora town site out of the flood zone.</li> <li>Potential for occasional utilisation of water as a result of de-watering from Silicon mine operation between Moora and Coomberdale</li> <li>Continued enhancement of the Great Northern Highway.</li> </ul>	<ul style="list-style-type: none"> <li>Development of Administration Community/Cultural and Visitors Precinct in Moora.</li> <li>Acquisition and development of the Moora Airfield into a regional emergency service asset and recreational aviation hub away from the Pearce airspace.</li> </ul>	

## APPENDIX A – LOCAL GOVERNMENT PROFILES

### Shire of Chittering

#### Context

The Shire of Chittering covers an area of approximately 1,220 km<sup>2</sup> and has a population of 4,509 people (28% of the Central Coast population). The Shire contains the towns and localities of Bindoon, Lower Chittering, Mooliabeenee, Muchea and Wannamal. The administrative centre of the Shire is the town of Bindoon, which is located approximately 90 km north of Perth. Historically, agriculture has been the primary land use within the Shire of Chittering.

The Shire of Chittering sees its advantage in the sub-region as its proximity to Perth and the provision of rural residential lifestyle lots for those seeking a 'tree change'. The Shire of Chittering's success with residential developments has stemmed from new residents being able to have the 'best of both worlds' where the rural lifestyle of the area is contrasted with the availability of high quality goods and services close by in Perth.

Long term growth potential of the Shire of Chittering is recognised through renewed focus on the New Town future urban area and the Muchea Employment Node contained in the newly released Draft Local Planning Strategy. New Town will allow the Shire to provide housing choice to the future workforce in the nearby Muchea Employment Node and cater for spill over growth from Perth. New Town could provide around 16,000 lots accommodating over 41,000 residents when fully developed without losing its rural ambience. The Shire views the Muchea employment node currently in development as a significant contributor towards the local economy. The proposed Muchea employment node is located along major transport routes, and is currently being developed for service-based uses such as transport, livestock, fabrication, and warehousing, wholesaling and general commercial use<sup>64</sup>. A further large scale industrial lot subdivision is planned to increase the development of light industry within the Muchea employment node.

#### Characteristics

The Shire of Chittering LGA has the following characteristics:

- An estimated residential population of 4,509 persons in 2011 – 53.6% higher than the estimated 2,936 residents in 2001. The WA Planning Commission forecasts this trend to accelerate over the next decade, growing a further 53.2% to 6,900 people in 2021. This is substantially greater than the predicted growth for the State as a whole for the same period.
- A significant proportion of the population (22%) is aged 14 years or younger – greater than the Perth Metropolitan Region (18.6%) and the WA (19.7%) average. However, 12.9% of Chittering's population is aged over 65 years, which is not dissimilar than that of the WA average (12.3%). Chittering had a fertility rate of 2.3 children in 2010 – above replacement levels (2.1) but below the sub-regional average (2.53). The higher proportion of people in the younger age profiles may be attributed to the proximity of Chittering to the metropolitan area and therefore increased accessibility to secondary education and recreational activities without having to migrate (i.e to boarding school) out of the area.

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<sup>64</sup> WAPC, 2011, Muchea Employment Node Structure Plan

- Median personal income levels for Chittering (\$40,364) are significantly greater than the sub-regional average (\$35,347), and above the Perth (\$34,788) and WA (\$34,424) averages.
- Median house price growth (% 2006 to 2011) for the Shire of Chittering was 33% over the 5 year period. Although there was considerable variation in the sub-region, this growth was significantly higher than the sub-regional average (5%). When income levels are compared with median house prices, the Shire of Chittering's local housing market is unaffordable, with a median multiple of 7.1 (unaffordable 5.1, WA average 5.98).
- Agriculture is the Shire of Chittering's primary economic contributor, accounting for 33.6% of businesses and some 71,690.5 ha of land. This accounts, however, for only 6.0% of the total area of agricultural land holdings in the sub-region and the share of agricultural businesses is significantly lower than other LGA's in the Central Coast.
- Manufacturing, Transport and Logistics, along with Retail, are secondary industries in the Shire of Chittering with each accounting for 10.1% and 2.8% of local businesses respectively.
- Chittering's economy is also underpinned by an employment self-sufficiency rate of 64% (in 2011). This, coupled with a low unemployment rate of 1.3% indicates that there are fewer jobs in the LGA than employed persons, highlighting a drive-in/drive-out interconnectedness with neighbouring coastal communities and Perth.
- The Shire of Chittering has one public primary school (208 students) in Bindoon, a private primary school in Lower Chittering and a Catholic agricultural college (149 students) north of Bindoon.

### **Economic Opportunities**

The following economic opportunities have been identified:

#### ***Aquaculture, Horticulture and Food Processing***

Food related industries make up a large proportion of the Shire of Chittering's local economy and as such is likely to remain one of the primary economic drivers. For the Shire of Chittering, horticulture is an already established industry, however there is potential for significant expansion of production and food processing given its current agricultural production levels, proximity to the large food producer of Gingin, domestic markets and export terminals. The major barrier to this development is the lack of security of water supply and capacity of current reticulated potable water infrastructure. This issue affects not only the expansion of heavy water use industries but also the development of smaller residential lots. The latter has resulted in many new rural residential lots not being connected to reticulated potable water services. While this is allowable due to the zoning of these rural residential lots, they are often unnecessarily larger in size and inefficient for local government servicing. Additional to this issue is the stipulation of water traders, whom currently operate in a tripartite water trade with the Water Corporation, Department of Water and the Shire of Chittering. Access to water needs to be addressed as water allocations are held by private stakeholders.

The Western Australian Meat Industry Authority (WAMIA) sale yards relocated to Muchea in 2011. The proximity to the major northern transport corridors (Great Northern Highway and Brand Highway) allows livestock from the northern agricultural and pastoral regions to be sold at this facility. It also supports the surrounding Wheatbelt and Mid West towns that do not access the other major sale yards in the south west of the State. There are also a number of cattle feed lots in the Lower Chittering area. The scale and scope of these operations are currently limited by global cattle price fluctuations and trade relations and are usually operated to supplement other farm operations such as intensive horticulture.



### ***Retirement and Lifestyle***

The Shire of Chittering fits into the lifestyle category of a 'peri-urban' settlement and is attracting permanent residents seeking a high amenity rural but highly accessible residential area. As such, there are opportunities for residential development to include retiree lifestyle villages given the existing age profile, prevalence of a number of large residential establishments and the close proximity to Perth for specialist health services. There are currently 16 residential estates in the town of Bindoon and Lower Chittering, with a number of these subdivisions still being developed and others in the intermediate to advanced land release stages. One such residential estate is the Maryville Estate in Lower Chittering, which consists of 2 hectare lots and is underway with stage 11 and 12 land releases. This estate is one of the more expensive estates in the Shire with lot prices starting at \$265,000. Water connection is often a costly exercise in this area for residential land development for any densities higher than rural residential zoning.

In order to provide a more diverse housing market, the Shire of Chittering Council is undertaking a residential development for the elderly, with plans to construct an 80 unit 'retiree precinct'. The units are planned for independent aged living, with a medical centre included. With an aging population in the area creating demand for nursing care level services, there is opportunity for private development of low and high aged care residential facilities. Chittering residents have access to a recently upgraded Silver Chain service located in Bindoon which offers nursing services as well as home care and respite facilities,

### ***Mining, Construction and Light Industry***

The planned development of industrial subdivisions at the Muchea Employment Node combined with the location of Muchea at the intersection of Brand Highway and Great Northern Highway affords the node the opportunity to establish a highly accessible industrial park to service multi-sectors including agriculture and mining. Detailed staging plans and infrastructure requirements can be found in the Muchea Employment Node Structure Plan<sup>65</sup>.

The emerging industries in the area include transport companies (often supporting the livestock industry) as well as earth moving and small scale construction (e.g. sheds and transportable buildings). With the rising cost of industrial land in the metropolitan area, Muchea presents a great option for these operations. To facilitate further investment at the Muchea employment node, improved utility services to the industrial land is required.

The Tronox run Chandala Mineral Sands processing plant is located in Muchea. This is a processing plant for the Cooljarloo Mineral Sands mine located in Cataby. The plant located in the area again due to the proximity to Perth ports as the majority of the product is exported overseas. The extractive industry is also well developed with several quarries in operation in the shire as mentioned in the strategy.

### ***Tourism***

The Shire of Chittering has potential to expand its tourism sector, which currently consists predominately of day trips to the area. To capitalise on this day trip tourism market, a focus on further development of events and attractions could enhance tourists' experience. There is also the potential identified for increased tourist activities based around fresh food and capitalising on the horticulture and viticulture in the area and linked with operations in neighbouring Gingin and Moora LGAs (e.g. wine and olive drives/tours). There is a maturing bed and breakfast and farm

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<sup>65</sup> Available at: <http://www.planning.wa.gov.au/publications/6684.asp>

stay style accommodation market in the Shire of Chittering, however, there is still a need for further diversity in accommodation options.

### **Actions**

A series of actions require implementation for the Shire of Chittering LGA to effectively leverage the economic opportunities identified above. The actions listed below are related to increasing the Shire of Chittering's attractiveness to permanent residents and attracting commercial and industrial businesses.

- The Shire of Chittering, Water Corporation and Department of Water to develop water infrastructure investment plans.
- Establish a sustainable water supply to support future development
- Develop light industrial lots in Bindoon to address current lack of supply. The development of these lots will address a number of current land use conflicts arising from light industrial activity occurring in residential areas.
- Continued support of development at the Muchea Employment Node. Planning has been completed in conjunction with the Department of Planning and Western Australian Planning Commission to produce the Chittering-Muchea Employment Node Structure Plan which outlines short, medium and long term staged developments requiring funding plans to develop the site.
- Upgrade of the Bindoon main street to create a central and compact space to act as a 'town centre'.
- Construction of a bypass road in Bindoon to redirect Great Northern Highway heavy haulage traffic and alignment with the Perth-Darwin Highway upgrades.
- Construction of the Shire of Chittering multi-purpose Medical Centre in Bindoon to accommodate a range of health services for the Shire into a single area.
- Development of a Local Tourism and Events Strategy
- Planning of a Civic Precinct in Lower Chittering

## Shire of Coorow

### Context

The Shire of Coorow covers an area of approximately 4193.9 km<sup>2</sup> and has a population of 1,091 people (7% of the Central Coast population). The Shire contains the towns and localities of Coorow, Green Head, Gunyidi, Leeman, Marchagee, Waddy Forest and Warradarge. The administrative centre of the Shire is the town of Coorow, which is located approximately 270 km north of Perth. The Shire also has an administration building in the coastal town of Leeman.

Three major towns of Coorow, Leeman and Green Head, support the majority of the Shire's economic activity. Each of the distinct towns have a natural environment offering opportunities suited to the development of different economic drivers. Coorow is primarily a farming town and is largely focused on broad acre agricultural production. Although Leeman has been closely linked with mining in the past, it now relies on crayfishing and deep sea fishing as its primary industries. In Green Head, tourism and retirement based in-migration provides much of the town's economic stimulation, with its beaches and relaxed atmosphere.

The Shire of Coorow's vision for the future is to improve existing facilities in all three towns, establish aged care accommodation in Coorow and Leeman, and also to expand the towns of Green Head and Leeman.

### Characteristics

The Shire of Coorow LGA has the following characteristics:

- An estimated residential population of 1,091 persons in 2011 – a 20.6% decrease in population relative to the estimated 1,375 residents in 2001. The WA Planning Commission forecasts this trend to accelerate over the next decade, declining a further 34.9% to 710 people in 2021.
- 17.3% of the population is aged 14 years or younger – lower than the Perth Metropolitan Region (18.6%) and the WA (19.7%) average. 19.4% of Coorow's population is aged over 65 years, which is significantly greater than that of the WA average (12.3%). Coorow had a fertility rate of 2.65 children in 2010 – above replacement levels (2.1) and the sub-regional average (2.53).
- Median personal income levels for the Shire of Coorow (\$36,400) are above the sub-regional average (\$35,347), and above the Perth (\$34,788) and WA (\$34,424) averages.
- The Shire of Coorow has a low level of occupation of its housing stock, with 52% dwellings within the Shire unoccupied at the time of Census collection. This is largely related to second home owners, holiday homes and seasonal workforce.
- Median house price growth (% 2006 to 2011) levels for the Shire of Coorow were low, with an increase of 2% over the 5 year period. Although there was considerable variation in the sub-region, this growth was below the sub-regional average. Coorow experienced significant increases in income levels, though when combined with median house prices, this still resulted in an unaffordable local housing market (Median multiple of 7, WA average of 5.98).
- Broadacre Agriculture is Coorow's primary economic contributor, accounting for 55.9% of businesses and some 323416 ha of land (representing 26.9% of the Central Coasts' total area of agricultural holdings).
- Manufacturing, Transport and Logistics, along with Retail, are secondary industries in Coorow with each accounting for 8.8% and 5.3% of local businesses respectively.
- Coorow's economy is also underlined by an employment self-sufficiency rate of 70.9% (in 2011). This combined with an unemployment rate of 2.1% indicates that there are fewer

jobs in the local government area than there are employed persons highlighting a drive-in-drive-out interconnectedness with neighbouring coastal communities, Geraldton, and Perth.

### **Economic Opportunities**

The following economic opportunities have been identified:

#### ***Aquaculture, Horticulture and Food Processing***

The Shire of Coorow has two main economic drivers due to its coastal and inland environments; broadacre agriculture and fishing. Coorow is a broadacre farming community, relying on cropping and livestock. The businesses located in the town itself are heavily reliant and related to the agriculture industry and are therefore volatile to economic fluctuations related to poor seasons. The towns of Leeman and Green Head are driven by the crayfishing industry. The restructuring of the crayfishing industry, through catch and season limitations, has impacted the strength of this industry and associated ancillary operations.

The availability of more industrial land in Coorow would allow for industry growth, however, the Shire is currently challenged by the cost of head works for utilities. There are no identified significant barriers to gradual industrial development appropriate to Leeman and Green Head.

Crayfishing and broadacre agriculture will remain major industries in these towns, however, they are both export based industries so will remain volatile to the world market, value of the Australian dollar, and global demand.

#### ***Renewable Energy***

The Shire of Coorow is well positioned for wind power generation due to its coastal proximity and also the ability to connect to the upgraded infrastructure associated with Mid West Energy project. An example of the Shire's capacity for renewable energy production is the Warradarge Wind Farm, a Verve energy project that will be operating on a site situated in both the Shire of Coorow and the Shire of Carnamah. Once operational the project will run up to 100 wind turbines.

#### ***Retirement and Lifestyle***

The towns of Leeman and Green Head offer an attractive lifestyle for retirees who are able to live independently, and as such, the town of Green Head has a growing retiree population. Both Leeman and Green Head have residential land (Landcorp) development ready. There is access to health services from the Silver Chain nurse in Leeman and higher level care available nearby in Jurien Bay. The town of Coorow relies on health services in Moora. There is a gap in general health and aged services in the Shire of Coorow which has resulted in a reliance on surrounding towns.

Water and power supplies are sufficient for slow growth in residential land in Leeman and Green Head however the current supplies would not support large, rapid growth due to the age and capacity of the infrastructure. Currently the local government boundary is too close to the town of Leeman for further development to the north. Negotiations are taking place between the Shire of Carnamah and Shire of Coorow in relation to extending the Shire of Coorow boundary further north.

### **Tourism**

The opening of the Indian Ocean Drive has increased tourism to the coastal towns in the Shire of Coorow. The town of Leeman is one of the few towns that is located directly on the drive which has the potential to be a major benefit to businesses. There is also an on flow of visitors who are coming from the Pinnacles, Cervantes. Leeman and Green Head attract a large amount of domestic holiday makers who own or rent a house in the summer months. The town of Leeman currently has two boat ramps, with a third to be constructed by April 2014 in order to sufficiently provide for recreational fisherman and boaters. There is a general need for improved accommodation and food services on the coast to attract tourists to the towns.

Tourists are attracted inland towards Coorow in the wildflower season with potential for increased eco-tourism activities in the State and National Parks in the area. Tourist information for both the coast and inland is coordinated by the Shire.

### **Mining, Construction and Light Industry**

The mineral sands mine located in Eneabba has been a significant site for mineral sand production since the 1970's. The town of Leeman has had a long association with the mine as many residents of the town have been employed there. In recent years however, the mine has reduced productivity and has announced that it will be operating in 'idle' as of April 2013 due to lack of demand for production in 2012. This has had a negative impact on the town as residents who were engaged at the mine have moved elsewhere for employment which has subsequently impacted local businesses with reduced demand for their services. There has been exploration for other resources in the area, however to-date no major operations have begun as a result.

Currently light industrial land in the Shire is occupied by a range of businesses, however mostly on a small or personal scale. The Shire has investigated the potential for more serviced light industrial land to be developed in the town of Coorow though the cost of head works is an impediment to this development occurring. The availability of serviced light industrial land in Greenhead and Leeman is currently adequate.

### **Actions**

A series of actions require implementation for the Shire of Coorow LGA to effectively leverage the economic opportunities identified above. The actions listed below are related to increasing Coorow's attractiveness to new permanent residents and retirees, commercial/ light industrial businesses and tourists:

- Encourage the residential infill of the vacant residential land developed by LandCorp that is available in Leeman and Green Head.
- Create a commercial precinct in Leeman as current commercial properties are ad hoc throughout the town (consolidation of zoning in the town centre is required)
- Increase the number of aged care units in Coorow.
- Investigate the expansion of the light industrial area in Coorow.
- Shire of Coorow to construct quality housing in Coorow for Shire staff.
- Construction of a boat ramp facility and improved parking and public amenities in Leeman to facilitate growth in tourism and recreation activity.
- Continue to liaise with the Shire of Carnamah to annex the existing Shire boundary further north of the Leeman town site.

## Shire of Dandaragan

### Context

The Shire of Dandaragan covers an area of approximately 6716 km<sup>2</sup> and has a population of 3,277 people (20% of the Central Coast population). The Shire contains the towns and localities of Jurien Bay, Dandaragan, Cervantes and Badgingarra. The administrative centre of the Shire is the town of Jurien Bay, which is located approximately 220 km north of Perth.

The development of the towns within the Shire has been historically based upon both fishing and broadacre agriculture. The complementing seasonality of the farming and fishing seasons allowed for both of these industries to develop together, and to provide work for residents year round. While these two activities still act as the backbone of the local economy, a restructuring of the fishing industry has seen a reduction in fishing due to reduced catchment allowances, tightened regulations and lower supply of fishing licences.

The Shire of Dandaragan sees its future in developing its tourism industry, in order to further capitalise on the Shire's current recreational development, coastal location and natural amenity. The Shire is also seeking to further expand its fishing industry, with an increase in the amount of processing of locally caught rock lobster. Jurien Bay seeks to develop a greater residential population through improving community services, and through the introduction of retiree lifestyle units and aged care facilities.

### Characteristics

The Shire of Dandaragan LGA has the following characteristics:

- An estimated residential population of 3,277 persons in 2011 – 11.5% higher than the estimated 2,940 residents in 2001. The WA Planning Commission forecasts this trend to continue over the next decade, growing to 4,000 people in 2021.
- A significant proportion of the population (19.1%) is aged 14 years or younger – not dissimilar to the Perth Metropolitan Region (18.6%) and the WA (19.7%) averages. However, 17.5% of Dandaragan's population is aged over 65 years, which is significantly greater than that of the WA average (12.3%). Dandaragan had a fertility rate of 2.26 children in 2010 – marginally above replacement levels (2.1) but below the sub-regional average (2.53).
- The Shire of Dandaragan has a low level of occupation of its housing stock, with 44% of the Shire's dwellings unoccupied at the time of Census collection. This is largely related to second home owners, holiday homes and seasonal workforce.
- Median personal income levels for Shire of Dandaragan (\$33,874) are below the sub-regional average (\$35,347), and below the Perth (\$34,788) and WA (\$34,424) averages.
- Median house price growth (% 2006 to 2011) levels for the Shire of Dandaragan were 10% over the 5 year period. Although there was considerable variation in the sub-region, this growth was significantly above the sub-regional average (5%). When income levels are compared with median house prices, the Shire was found to be the least affordable housing market in the sub-region (median multiple of 8.1, Sub-regional average 6.4, WA average 5.98).
- Agriculture is Dandaragan's primary economic contributor, accounting for 48.2% of businesses and some 384,601 ha of land (representing 32.03% of the Central Coasts' total area of agricultural holdings).
- Manufacturing, Transport and Logistics, along with Retail, are secondary industries in Shire of Dandaragan, with each accounting for 6.2% and 4.1% of local businesses respectively.



- Shire of Dandaragan's economy is also underlined by an employment self sufficiency rate of 90.9% (in 2011). This, coupled with a low unemployment rate of 1.20%, indicates that the majority of residents reside and work within the Shire.
- The Shire has a District High School in Jurien Bay (320 students) and primary schools in each of the other three communities (Cervantes, Badgingarra and Dandaragan).

### **Economic Opportunities**

The following economic opportunities have been identified:

#### ***Aquaculture, Horticulture and Food Processing***

The Shire of Dandaragan has a strong association to food production through the agricultural, horticultural and fishing industries. The town of Dandaragan supports a strong farming community. The area has traditionally been associated with broad acre cropping and livestock production however in recent times there has been some diversification into intensive horticulture. There are several citrus orchards located within the Shire of Dandaragan as well as stone fruits and some vegetable production. This growth has been driven largely by the availability of underground water. The growth of intensive horticulture is expected to continue with the current producers planning to expand their operations from just growing to processing and packaging. The current market has a domestic focus (e.g. Western Australia has the second highest market price for Navel oranges in Australia), however there is potential for the products to be exported. Entering international markets is currently challenged by the high Australian Dollar. Intensive horticulture is becoming a significant employer in the area and the job opportunities are expected to grow as the operations increase.

The Western Rock Lobster industry has played a significant part in shaping the local economy and its population structure. In addition to direct employment, the industry contributes to employment in ancillary activities, including processing, transport, boat-building and repair, and public services. As mentioned earlier in this document, the industry is undergoing significant restructuring with policy changes and technological advances. The industry as a whole remains profitable, however individual operators have experienced an ongoing cost-price squeeze. These trends extend to the Shire of Dandaragan where the fishery still has an important place but its role as a major employer is diminishing.

The potential to develop a considerable aquaculture industry in the area has been identified by the coastal local governments, regional bodies and investors both national and international. There are few places in the southern hemisphere where sea cage farming of firm white fleshed finfish is undertaken in temperate waters, yet global demand for edible sea foods from aquaculture and mariculture is increasing. The Central Coast sub-region, and the coastline of the Shire of Dandaragan in particular, has a natural competitive advantage for marine farming and sea cage management in terms of water flow, water temperature, water quality, established commercial fishing industry and access to markets. Furthermore, planning documents for the Department of Fisheries and the Shire of Dandaragan have identified suitable sites and species for both land and sea based aquaculture operations.

While operations are currently stalled, the potential to cultivate a variety of species of fish and crustaceans in the area remains and is backed by considerable research. Developing an aquaculture industry also has the opportunity for the establishment of associated ancillary industries, particularly grains and processing units for the production of fishfeed alternatives.

Although the Shire of Dandaragan does not currently conduct any aquaculture or large scale food processing (beyond crayfish) the town is well positioned to take advantage of its ability to expand its local economy into these new industries. While food processing is not a new industry in the

area, there is limited processing currently being undertaken, with a favouring of trucking out unprocessed produce to Perth along the Indian Ocean Drive and Brand Highway. While this practice has become ingrained into the industry, there is significant scope to develop food processing businesses in the area which will not only provide a value-add to the town's current industry, but reduce trucking volumes of produce, thus providing a more ecologically sustainable product.

### ***Renewable Energy***

Several areas within the Shire of Dandaragan have been identified to have great potential for renewable energy production, particularly wind and solar generation. There are already several renewable energy projects underway in the Shire of Dandaragan including the Emu Downs Wind farm as well as the first WA utility scale solar photovoltaic farm developed inland of Cervantes. Further development and investment in renewable energy will require significant upgrades in the transmission and distribution infrastructure

### ***Retirement and Lifestyle***

Population on the coast is expected to grow due to the natural amenity, and proximity to Perth. Jurien Bay and Cervantes offer an attractive retiree destination, and already have a significant number of Western Australian retirees making the sea change to the area. The Shire of Dandaragan has prioritised improving Aged Care and Health facilities in Jurien Bay to service the town and surrounding areas. This plan includes a residential Aged Care facility and an integrated Health plan which includes expansion and renovation of the Medical Centre and the construction of a Wellness/ Community Health Centre. Once completed, these services will facilitate the growth of the retiree population and greater retention of the aged population. This approach will complement the aged friendly and/or independent living accommodation options in the recently released RSL development in Jurien Bay.

### ***Mining, Construction and Light Industry***

There is potential for increased mining and mining support activity in the Shire of Dandaragan. There is a mineral sands mine currently in operation in Cataby, which employs up to 300 people who live locally or work on a drive-in/drive-out arrangement. There is scope to expand mineral sand mining however the viability of extraction is often determined by global prices and demand. Oil and gas deposits have been identified on and off shore, but again the commencement of mining works is dependent on global market conditions and the viability of the scale of deposits available for processing.

The construction industry in this area will continue to be driven by residential and industrial growth on the coast. Construction has the potential to be a large employer for the towns experiencing this growth; however it is dependent of the attraction and retention of local workforce skills and enterprise to provide the trades, equipment and materials to develop houses, commercial buildings and infrastructure.

### ***Tourism***

The significance of tourism in the economies of the coastal towns in the Shire of Dandaragan is forecast to increase with the improved awareness and accessibility to the area with the opening of the Indian Ocean Drive.

The Pinnacles, located 17kms from Cervantes, is an international tourist destination, visited by over 200,000 people annually. Visitor numbers remain consistent despite a decline experienced in many other domestic destinations. The Pinnacles does not underpin a strong overnight visitation

to the region as tour companies offer day trip services. The Lesueur and Stockyard National Park visitor numbers have been increasing in the past ten years with the Department of Parks and Wildlife indicating that there are now over 10,000 visitors to each annually. Eco and farm tourism has been identified as a possible growth area around Badgingarra and Dandaragan town due to the well-established agricultural industry and wildflower displays. Adventure and nature-based tourism activity is a significant economic opportunity for the coastal areas of the Shire of Dandaragan (e.g. skydiving, 4WD, quad bikes, fishing, diving, wind/kite surfing, activities experiencing the national parks etc).

The Jurien Bay Boat Harbour is a strategic infrastructure asset that is currently underutilised. There are large areas of undeveloped and underutilised land at the harbour which have significant potential to create a vibrant commercial, tourist and recreational precinct to contribute to the development of Jurien Bay as a future regional city. The Department of Transport has continued to investigate opportunities that could activate sale and/or development of vacant lots at the marina and stimulate greater use and development of the wider marina precinct. The Master Planning Report – Jurien Bay Boat Harbour Southern Precinct – May 2012 (subject to public consultation) examines the development potential of an approximately 6ha area vested with the Department of Transport. The study recommends staged development of the site. Key elements of the proposal centre on tourism and mixed use development (e.g. tourist chalet park, retail small business, markets, food and beverage venues). Tourist and recreation use are the principal drivers of aviation traffic in Jurien Bay. Skydive Jurien Bay is a significant user of the airport with 71.2% of recorded landings between April 2011 and March 2012 (1,749 counts). There has also been interest in developing airfield accommodation hangars aimed at meeting the recreation pilot demand for coastal holiday visitation. As part of forward planning, the Shire of Dandaragan is investigating a new site for a future expanded airport in Jurien Bay. This master plan will consider the costs and implications of the relocation of the existing airport and development of a regional airport based on considerations for the needs of industry, emergency services, recreation and tourism as Jurien Bay develops.

The increase in day trips, international visitation and adventure tourism activities provides opportunities for the expansion and diversification of holiday accommodation, hospitality offerings and retail sector. The area however, does experience seasonal fluctuations and the economic contribution associated with a high concentration of holiday and second home owners located in Jurien Bay and Cervantes is often hard to measure.

### **Actions**

A series of actions require implementation for the Shire of Dandaragan LGA to effectively leverage the economic opportunities identified above. There are a large range of projects highlighted in the Jurien Bay SuperTowns Growth Plan (available from: [www.dandaragan.wa.gov.au](http://www.dandaragan.wa.gov.au)). The first two funded through this process relate to developing a Visitor and Civic Precinct adjacent to the existing Shire offices and developing stage one of an Infill Sewerage system. The development of the Jurien Bay foreshore area will continue as well as a focus on attracting investment in the Aged Care and Health project. The continuation of horticulture precinct planning is a priority for the agricultural area of the Shire. The Shire of Dandaragan priority projects are consistent with the economic analysis, resulting from extensive local and regional planning.

## Shire of Gingin

### Context

The Shire of Gingin covers an area of approximately 3,325 km<sup>2</sup> and has a population of 4,801 people (30% of the Central Coast population). The Shire contains the towns and localities of Gingin, Lancelin, Seabird, Ledge point and Guilderton. The administrative centre of the Shire is the town of Gingin, which is located approximately 84 km north of Perth.

Peri-urban growth and associated pressure on market gardening has resulted in the Shire of Gingin broadening its focus from a traditional broadacre to intensive horticulture. The area is recognised for its high productivity, producing fruits, vegetables, eggs and meats for domestic and overseas markets. Consequently the Shire of Gingin sees itself as the 'food bowl' of the Wheatbelt. The Shire of Gingin also capitalises on its close proximity to Perth, exporting produce through the metropolitan's ports.

### Characteristics

The Shire of Gingin LGA has the following characteristics:

- An estimated residential population of 4,801 persons in 2011 – 12.8% higher than the estimated 4,257 residents in 2001. The WA Planning Commission forecasts this trend to continue over the next decade, growing a further 1.2% to 5,400 people in 2021.
- A significant proportion of the population (19.6%) is aged 14 years or younger – not dissimilar to the Perth Metropolitan Region (18.6%) and the WA (19.7%) average. However, 18.8% of the Shire of Gingin's population is aged over 65 years, which is significantly greater than that of the WA average (12.3%). The Shire of Gingin had a fertility rate of 2.68 children in 2010 – above replacement levels (2.1) and above the sub-regional average (2.53).
- Median personal income levels for the Shire of Gingin (\$32,128) are below the sub-regional average (\$35,347), and below the Perth (\$34,788) and WA (\$34,424) averages.
- The Shire of Gingin experienced a decrease of 12% in median house prices between 2006 and 2011 (compared to a 5% growth in the sub-region for the same 5 year period). House prices in the Shire of Gingin both on the coast and inland declined significantly during the GFC and have not made the same recovery as prices in other LGAs. When income levels are compared with median house prices, the result remains an unaffordable local housing market (Median multiple of 7.8, WA average 5.98)
- The Shire of Gingin has a low level of occupation of its housing stock, with 49% dwellings within the Shire unoccupied at the time of Census collection in 2011.
- Agriculture is the Shire of Gingin's primary economic contributor, accounting for 41.9% of businesses and some 137,145 ha of land (representing 11.42% of the Central Coasts' total area of agricultural holdings).
- Manufacturing, Transport and Logistics, along with Retail, are secondary industries in Gingin, with each accounting for 8.9% and 3.1% of local businesses respectively.
- The Shire of Gingin's economy is also underlined by an employment self-sufficiency rate of 83% in 2006 and dropping to 75% in 2011. This, coupled with a low unemployment rate of 1.6%, indicates that there are more jobs than employed residents in the LGA highlighting a drive-in/drive-out interconnectedness with neighbouring coastal communities and Perth.
- The Gingin District High School (438 Students) provides important educational services for local residents.

## **Economic Opportunities**

### ***Agriculture, Horticulture and Food Processing***

Horticulture is already a very strong driver of the local economy, producing very large volumes of fresh vegetables, fruits, olives, meat and eggs to Perth, Western Australian and overseas markets. Below are the highest value products grown in the Shire of Gingin and their contribution to the WA total gross value;

- Olives \$7.3 million (61% of total WA value)
- Lettuce \$8 million (58% of total WA value)
- Carrots \$19.2 million (43% of total WA value)<sup>66</sup>

The Shire of Gingin is well placed for horticultural production and first and second order food processing (particularly for highly perishable products such as lettuce and tomatoes for daily delivery to Perth) as it is close to major transport corridors to the vegetable markets located in Perth, quality soil and rainfall and availability of underground water. The ability to access these water supplies for horticultural use will need to be resolved to secure growth in this sector. Accessing power is also an issue as the existing infrastructure does not support large increases in consumption.

### ***Renewable Energy***

There are currently several wind turbines in operation to the east of the Lancelin town site. They are operated by independent participants and feed into the South West Interconnected system. Similar to other LGAs in the sub-region there are significant opportunities to expand the renewable energy industry with upgraded distribution infrastructure.

### ***Retirement and Lifestyle***

There is a need for the upgrading of utilities in the Shire in order to cater to increased future resident numbers, with water (Guilderton, Lancelin, Ledge Point, Seabird), power (Ledge Point, Seabird) and sewerage (Gingin, Guilderton, Ledge Point, Seabird) upgrades required. Native title issues in Lancelin will need to be resolved to facilitate further retail expansion and the presence of Crown reserves in Ledge Point and Seabird will restrict significant residential expansion.

There are currently no specific retiree developments in the Shire, though there is demand for such investments. There is also potential for increased health services catering towards high care nursing care. As such, there is significant opportunity for the development of the towns within the Shire of Gingin to develop a competitive advantage for retirement and lifestyle.

### ***Mining, Construction and Light Industry***

Availability of land in the Shire of Gingin provides the opportunity for expansion of industrial activity within the Shire. The location of Gingin on major transportation routes further enhances the opportunity for the development of affordable industrial sites to service the mining industry outside of the Perth metropolitan area.

### ***Tourism***

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<sup>66</sup> ABS 2012, Value of Agricultural Commodities produced 2011-2012 (75030), Canberra

Natural amenity and proximity to Perth, combined with the development of horticulture in the area provide the opportunity food based tourism and events in the inland areas. The town of Gingin's proximity to Perth makes it an attractive day trip destination and there is potential for the Gingin Observatory and Gravity Discovery Centre to facilitate growth in the knowledge/science based tourism sector. The opening up of the Indian Ocean Drive and the proximity to Perth has lead to increased accessibility to the coastal towns of Ledge Point, Guilderton and Lancelin that are now popular with domestic holiday makers particularly over the summer months.

There is potential for development of quality, diversified accommodation however the proximity to Perth and popularity of day trips could limit the tourists choosing to stay overnight. Lancelin is a popular water sport destination and home the international windsurfing event the Lancelin Ocean Classic. There is potential for increased adventure tourism development in this area however seasonality of tourist numbers and the cost of insurance is a current barrier for attracting businesses of this kind. The promotion of the area as a tourist destination is currently done by the Gingin Coast to Country Tourism Association and Tourism WA's Experience Perth campaigns.

### **Actions**

A series of actions require implementation for the Shire of Gingin LGA to effectively leverage the economic opportunities identified above. The actions listed below are related to increasing the attractiveness to tourists visiting the area, retirees and the elderly, and removing constraints to population expansion.

- Development of a plan for staged public utility infrastructure upgrades mirroring projected population increases and horticultural production.
- Development of a diversity of accommodation options to capture an increased share of overnight visitors vacationing along the coast.
- Development of 'luxury camping' accommodation to increase overnight visitation
- Increase awareness of the 'food bowl' branding for the Shire of Gingin in order to increase investment in horticulture and intensive agriculture ventures and associated ancillary processing facilities.
- A collaborative approach towards the promotion of tourist attractions in the Shire and neighbouring LGAs, which are currently only operating on a small scale and using ad-hoc promotional strategies.
- Construction of a boat ramp in Ledge Point to facilitate greater recreational and tourist use.



## Shire of Moora

### Context

The Shire of Moora covers an area of approximately 3767 km<sup>2</sup> and has a population of 2,550 people (16% of the Central Coast population). The Shire contains the towns of Moora, Miling and Watheroo, as well as the localities of Bindi Bindi, Coomberdale, Koojan, Walebing and Round Hill. The administrative centre of the Shire is the town of Moora, which is located approximately 177km north of Perth.

Moora is historically a broadacre farming area and has maintained its reliance on this industry. Approximately 6000 people within a radius of 100km visit the town regularly to utilise the services offered in Moora. These services include health, social, education, recreation and community.

Moora's vision for the future is to provide a regional service role for its surrounding population of 6000. It has aspirations for its local economy to grow with the advent of fibre to the premises which will allow for greater information service based businesses to operate in the town.

### Characteristics

The Shire of Moora LGA has the following characteristics:

- An estimated residential population of 2,550 persons in 2011 – a 5.3% decrease in population relative to the estimated 2,694 residents in 2001. The WA Planning Commission forecasts this trend to continue over the next decade, declining a further 5.9% to 2,400 people in 2021.
- A significant proportion of the population (22.3%) is aged 14 years or younger – higher than the Perth Metropolitan Region (18.6%) and the WA (19.7%) average. 12.7% of Moora's population is aged over 65 years, which is not dissimilar than that of the WA average (12.3%). Moora had a fertility rate of 2.74 children in 2010 – above replacement levels (2.1) and the sub-regional average (2.53).
- Median personal income levels for Moora (\$33,969) are below the sub-regional average (\$35,347), and below the Perth (\$34,788) and WA (\$34,424) averages.
- Median house price growth (% 2006 to 2011) levels for the Shire of Moora were 46% over the 5 year period. Although there was considerable variation in the sub-region, this growth was very high, and almost 3 times greater than the sub-regional average (16%). Whilst displaying the largest increase in housing price in the sub-region, Moora remained the most affordable out of the 5 Shires, with a median multiple of 2.1 (sub-regional average 6.4, WA average of 5.98), making it a very affordable local housing market.
- Agriculture is Moora's primary economic contributor, accounting for 52.6% of businesses and some 355,560 ha of land (representing 29.6% of the Central Coasts' total area of agricultural holdings).
- Manufacturing, Transport and Logistics, along with Retail, are secondary industries in Moora, with each accounting for 2.9% and 5.9% of local businesses respectively.
- Moora's economy is underlined by an employment self sufficiency rate of 92.3% (in 2011), indicative of a large proportion of people that live and work within the Moora Shire.
- The Moora hospital (22 beds) and the Central Midlands Senior High School (183 students) provide important health and educational services for local and sub-regional residents.
- Indigenous people make up 12.3% of the Shire of Moora's population, which is a significantly higher proportion of the population than of Western Australia which has a 3.1% Indigenous population.

## **Economic Opportunities**

The following economic opportunities have been identified:

### ***Agriculture, Horticulture and Food Processing***

There is a well-established broad acre agriculture and livestock industry in the Shire which is very well supported in the town of Moora by agricultural related businesses ranging from finance and accounting to machinery sales. The area is climatically reliable but still volatile to poor seasons and global price fluctuations.

Intensive horticulture is an emerging industry in the area surrounding Moora and is predicted to be a significant employer. There are two well established citrus orchards and one stone fruit orchard located within 30km of the Moora townsite. These businesses have been able to overcome limitations posed by insufficient rainfall levels for this type of production by supplementing orchards with water from the Leederville-Parmelia Aquifer. There is significant scope for the intensive horticulture industry to further expand if access to these underground water supplies is secured. The sustainable use of the aquifers needs to be planned with this in mind and not solely linked to providing security for Perth metropolitan growth.

Further population attraction strategies could be implemented in Moora to alleviate labour shortages in the agricultural and supporting sectors.

### ***Renewable Energy***

The area surrounding Moora has great potential for the generation of renewable energy, particularly solar which can be at peak production during the peak usage times. A solar photovoltaic farm has been proposed by company 'Energy Made Clean', which has identified potential for the installation of a 5 megawatt solar farm which will cover an area of 10 hectares. The development will see a power generation of 8.76 giga watts hours per annum, equivalent to the yearly power needs of approximately 1500 homes each year. The construction of the farm has not yet been confirmed, with infrastructure requirements from Western Power slowing the development of the project. Wind energy also has potential for development however growth in this area seems to be occurring more to the west and closer to the coast.

### ***Retirement and Lifestyle***

Moora has the opportunity for significant housing development, with a deep sewerage system allowing for high density, and large areas of land within close proximity to the town for possible expansion of the urban centre of the Shire. The Moora Multi-Purpose Service provides a wide range of health services to the Shire of Moora and the larger midlands sub-region. The Shire of Moora is currently developing a master plan for a lifestyle village aged care facility, with a 30-40 bed capacity and additional health care services. This will allow for local ageing populations to be retained and potential for increased retiree in-migration.

There is capacity for the development of residential blocks within the Shire, although the costs of development of the lots are an obstacle to development. Significant head works costs and a lack of interest in the existing blocks for sale in the town has prevented further development of residential infill in the Moora town site.

### ***Mining, Construction and Light Industry***

Currently the major industry within the Shire is agriculture, with recent developments of a rapid rail loading system for CBH developed in 2012 allowing for increased grain handling capacity. Large scale projects in the mining sector include the Warro gas project (construction of a gas pipeline) and expansion of the Simcoa Company's quartz mining operations. The Simcoa quarry in Moora has been identified to have a over two million tonnes of quartzite (rock from which silicon is derived), and over four million tonnes of quartzite in the 'indicated and inferred resources'<sup>67</sup> category. The Simcoa mining company's operations are therefore anticipated to continue to provide economic stimulus in the form of local employment in the area in the medium-term future. There is potential for industrial expansion outside of the agricultural industry, with a number of serviced industrial lots available, and with an extension of Moora's industrial park currently underway. These lots may be of use to businesses seeking to capitalise on spin-off ventures inspired by the Warro and Simcoa developments.

### **Actions**

A series of actions require implementation for the Shire of Moora to effectively leverage the economic opportunities identified above. As Moora is considered the regional centre for the Central Midlands and its economic profile is closely aligned to that sub-region, the priority projects and actions are listed in both this report and the Central Midlands Sub-Regional Economic Planning Strategy.

- Bypass - ring road to the east of the Moora town site to act a heavy traffic diversion and flood levy
- Expansion of industrial land to the north, south and south east of the Moora town site out of the flood zone
- Potential for occasional utilisation of water as a result of de-watering from Silicon mine operation between Moora and Coomberdale
- Continued enhancement of the Great Northern Highway
- Development of Administration Community/Cultural and Visitors Precinct in Moora
- Acquisition and development of the Moora Airfield into a regional emergency service asset and recreational aviation hub away from the Pearce airspace.
- Completion of water capability assessment in terms of aquifers in the Shire/region that could facilitate the expansion of intensive horticulture initiatives
- Investigate the possibilities in the development the food processing activities in Moora, linking in with the existing intensive horticulture industry occurring surrounding area.
- Development of the West End land owned by the Shire of Moora into a rural / residential precinct outside of the flood zone within the main part of Moora.
- Facilitate confirmation of investment from State Government for infill development
- Development of aged care housing to address local and sub-regional demand for high and low care residential
- Expand and increase the sustainability of childcare in Moora in order to attract and retain working families

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<sup>67</sup> Simcoa Company website, accessed 26 March 2013, available from: <http://www.simcoa.com.au/company-2.html>

## APPENDIX B – INDUSTRY VALUE ADDED

**Table 6: Industry Value Added and Gross Regional Product, Central Coast, 2010/11 to 2012/13**

Industry	2010/11	2011/12	2012/13
Agriculture, forestry & fishing	\$152,908,374	\$216,010,001	\$120,706,171
Mining	\$80,597,333	\$102,370,837	\$107,051,137
Manufacturing	\$58,705,888	\$66,196,068	\$66,694,044
Electricity, gas, water & waste services	\$20,926,399	\$23,768,564	\$23,083,670
Construction	\$94,690,980	\$116,001,084	\$114,453,238
Wholesale trade	\$28,161,828	\$32,107,206	\$33,567,455
Retail trade	\$21,847,617	\$24,454,979	\$25,832,327
Accommodation & food services	\$11,561,424	\$13,546,431	\$13,658,696
Transport, postal & warehousing	\$39,688,462	\$43,078,589	\$43,983,164
Information media & telecommunications	\$3,396,729	\$3,459,556	\$3,252,469
Financial & insurance services	\$12,498,701	\$13,314,625	\$13,503,213
Rental, hiring & real estate services	\$5,769,772	\$6,773,784	\$7,375,835
Professional, scientific & technical services	\$10,885,605	\$11,898,199	\$12,523,814
Administrative & support services	\$11,554,312	\$11,865,011	\$12,847,911
Public administration & safety	\$26,314,172	\$28,305,946	\$28,595,895
Education & training	\$26,177,599	\$27,996,573	\$28,452,356
Health care & social assistance	\$13,535,315	\$14,656,610	\$15,595,142
Arts & recreation services	\$2,011,164	\$2,183,028	\$2,199,622
Other services	\$9,272,713	\$10,712,340	\$10,215,096
<b>Industry Value Added</b>	<b>\$630,504,384</b>	<b>\$768,699,431</b>	<b>\$683,591,255</b>
Ownership of Dwellings	\$41,793,601	\$50,953,996	\$45,312,517
<b>Gross Value Added</b>	<b>\$672,297,986</b>	<b>\$819,653,427</b>	<b>\$728,903,771</b>
Taxes Less Subsidies	\$23,801,765	\$29,018,677	\$25,805,813
Statistical Discrepancy	\$203,136	\$247,659	\$220,239
<b>Gross Regional Product</b>	<b>\$696,302,886</b>	<b>\$848,919,763</b>	<b>\$754,929,823</b>

## **APPENDIX C – SOCIO-ECONOMIC INDICATORS MATRIX**

**Attached**

Theme	Indicator	Source	Dandaragan	Gingin	Chittering	Moora	Coorow	Central Coast
Population and Demographics	Population (2001)	ABS3218.0 (2001)	2940	4257	2936	2694	1375	14202
	Population (2011)	Census 2011	3185	4685	4428	2476	1067	15841
	Population (2011)	ABS3218.0 (2011)	3277	4801	4509	2550	1091	16228
	Population Growth (No. 2001 to 2011)	ABS3218.0 (2011)	337	544	1573	-144	-284	2026
	Population Growth Rate (% 2001 to 2011)	ABS3218.0 (2011)	11.46%	12.78%	53.58%	-5.35%	-20.65%	14.00%
	Compound Annual Growth Rate (% 2001 to 2011)	ABS3218.0 (2011)	1.10%	1.20%	4.40%	-0.50%	-2.30%	1.30%
	Projected Population (2021)	WAPC (Medium)	4000	5400	6909	2400	710	19710
	Population Growth (No. 2011-2021)	calc	723	599	2400	-150	-381	3482
	Population Growth Rate (% 2011 to 2021)	calc	22.06%	12.48%	53.23%	-5.88%	-34.92%	21.46%
Demographics and Socio-Economics	Annual Population Growth Rate (% 2011-2021)	calc	2.01%	1.18%	4.36%	-0.60%	-4.20%	1.96%
	Share of Population Aged 0-14 (% 2010)	ABS3235.0	21%	19%	22%	20%	18%	20%
	Share of Population Aged 0-14 (% 2011)	Census 2011	19%	20%	22%	22%	17%	20%
	Share of Population Aged 65+ (% 2010)	ABS3235.0	17%	17%	12%	13%	19%	14%
	Share of Population Aged 65+ (% 2011)	Census 2011	18%	19%	13%	13%	19%	16%
	Male Share of Population (% 2010)	ABS3235.0	53%	52%	52%	53%	57%	53%
	Fertility Rate (2010)	ABS3301.0	2.26	2.68	2.33	2.74	2.65	2.53
	Baby Bonus Recipient (2010)	ABS National Regional Profile	28	48	31	36	12	155
	Average Individual Wage and Salary Income (2006)	ABS5673	\$32,084	\$34,041	\$38,129	\$31,583	\$35,668	
	Average Individual Wage and Salary Income (2009)	ABS5673	\$41,326	\$40,850	\$47,783	\$38,486	\$45,205	
	Median Personal Income (weekly)	Census 2011	\$29,796	\$24,544	\$29,380	\$30,680	\$25,636	
	Median Individual Wage and Salary Income (2009)	ABS5673	\$33,874	\$32,128	\$40,364	\$33,969	\$36,400	
	Median Individual Income (2009)	ABS6524.0.55.003	\$33,874	\$32,128	\$44,458	\$33,969	\$36,400	
	SEIFA Score	ABS Census (2006)	957	942	983	943	955	
	Number of Newstart Allowance Recipients (2010)	ABS National Regional Profile	72	83	68	73	35	331
Housing and Affordability	Total Dwelling Stock	ABS Census (2011)	2577	3457	1827	1048	819	9728
	Unoccupied Dwellings	ABS Census (2011)	1439	1758	321	154	397	4069
	Occupied Dwelling Stock	ABS Census (2011)	1,138	1,699	1,506	894	422	
	Dwelling Occupancy Rate 2011	calc	44%	49%	82%	85%	52%	
	Unoccupied Share of Dwelling Stock	ABS Census (2011)	55.80%	50.90%	17.60%	14.70%	48.50%	41.80%
	Attached Housing Share of Occupied Dwelling Stock No. 2006	ABS Census 2006	21	41	9	42	14	
	Attached Housing Share of Occupied Dwelling Stock No. 2011	ABS Census 2011	29	59	12	43	9	
	Attached Housing Share of Occupied Dwelling Stock (%) 2011	Calc	2.50%	3.50%	0.66%	4.80%	2.10%	
	Attached Housing % Share of Dwelling Stock	ABS Census (2011)	1.16%	1.71%	2.85%	4.20%	0.98%	1.98%
	Residential Building Approvals (No 2006/07 to 2010/11)	ABS8731.0	370	359	394	79	43	1245
	Attached Housing Share of Residential Building Approvals (% 2006/07 to 2010/11)	ABS8731.0	33.20%	5.60%	0.00%	39.20%	4.70%	14.90%
	Median House Price (2006)	RPData	\$382,500	\$430,000	\$380,000	\$86,500	\$327,500	\$345,000
	Median House Price (2011)	RPData	\$420,000	\$380,000	\$505,000	\$126,250	\$335,000	\$362,500
	Median House Price Growth (% 2006 to 2011)	RPData	10%	-12%	33%	46%	2%	5%
	Average Household Size	Census 2011	2.3	2.5	2.3	2.5	2.2	2.5
	Median Household Income	Census 2011	\$51,688	\$48,724	\$71,136	\$61,360	\$47,684	
	Median Multiple (Median House Price as ratio to Median Household Income) (2009)	Calc	8.1	7.8	7.1	2.1	7	
Labour Force and Skills	Working Age Population - 15-64 (% 2010)	ABS3235.0	61.90%	63.60%	66.60%	67.10%	62.80%	63.80%
	Annual Labour Force Size 2012	DEEVR	1837	2436	2307	1731	1060	9371
	Annual labour force size 2011	DEEVR	1821	2416	2288	1717	815	9057
	Unemployment Rate (March 2012)	DEEVR	1.20%	1.60%	1.30%	1.80%	1.30%	
	Participation Rate (2011)	calc	68.70%	62.60%	63.20%	86.70%	90.30%	70.20%
	Unemployment Rate (2011)	DEEVR	1.77%	2.04%	1.90%	2.61%	2.12%	2.12%
	Tertiary Education Attainment as Share of Population (2006)	Census 2006	6.7	5.4	6.5	8.5	6.1	
Employment and Industry	Employment by Place of Work	Census 2006	1,315	1,432	1,056	1,197	345	5,345
	Employment by Place of Work	Census 2011	1,315	1,476	1,205	1,158	343	5,497
	Employment by Place of Residence 2011	Census 2011	1,447	1,961	2,106	1,255	484	7,253
	Employment by Place of Residence 2006	Census 2006	1,292	1,720	1,646	1,229	578	6,465
	Employment Self-Sufficiency	Calc	102.0%	83.0%	64.0%	98.0%	60.0%	111.0%
	Agriculture Location Quotient	Census 2006	9.161	12.47	8.685	10.243	15.733	
	Retail Location Quotient	Census 2006	0.743	0.474	0.492	0.803	0.897	
	Health and Social Welfare Location Quotient	Census 2006	0.188	0.266	0.216	0.645	0	
	Count of Businesses (2009)	ABS8165.0	438	677	533	407	170	2225
	Agriculture Share	ABS8165.0	48.20%	41.90%	33.60%	52.60%	55.90%	44.20%
	Retail Share	ABS8165.0	4.10%	3.10%	2.80%	5.90%	5.30%	3.90%
	Manufacturing, Transport and Logistics Share	ABS8165.0	6.20%	8.90%	10.10%	2.90%	8.80%	8.80%
Business and Investment	Value of Non-Residential Building Approvals: Total (2006/07 to 2010/11) (\$m)	ABS8731.0	\$21,635,000	\$21,437,400	\$57,447,900	\$19,312,000	\$3,862,300	\$123,694,600
	Value of Non-Residential Building Approvals: Average (2006/07 to 2010/11) (\$m)	ABS8731.0	\$4,327,000	\$4,287,480	\$11,489,580	\$3,862,400	\$772,460	\$3,312,335
	Amount of Retail Land (sq/m) zoned	Primary	460,475	334,436	NA	175,955	82,904	
	Amount of Retail Floorspace (sq/m)	Primary	8,929	4,072	3,979	18,084	5,367	
	Zoned Industrial land (ha)	Primary	4,693,100	2,310,314	NA	1,688,555	478,939	
	Occupied Zoned Industrial Land	Primary	491,096	406,074	NA	1,046,258	200,055	
	Additional Industrial Land sqm (unzoned)		46,010	1,387	536,448	NA	71,088	
	Light Commercial Vehicles per Resident (2010)	NRP	0.31	0.05	0.08	0.35	0.32	0.21
	Trucks per Resident (2010)	NRP	0.1	0.02	0.06	0.16	0.15	0.08
Economy	Area of Agricultural Land Holdings	NRP	384,602	137,145	71,691	355,561	323,417	1,272,415
	% of subregion total	Calc	30.23%	10.78%	5.63%	27.94%	25.42%	
	Total Gross Value of Agricultural Production (\$m)	NRP	113.1	114.6	32.7	93.8	80.7	434.9
	% of subregion total	Calc	26.01%	26.35%	7.52%	21.57%	18.56%	
Community Services and Facilities	Aged Care Places	<a href="http://www.agedcareguide.com.au/">http://www.agedcareguide.com.au/</a>	0	0	1	1	0	2
	Number of dedicated aged care beds	<a href="http://www.agedcareguide.com.au/">http://www.agedcareguide.com.au/</a>	0	0	12	30	0	42
	Number of Hospital Beds (Public)	AIHW	0	0	0	33	0	33
	Number of F/T Eligible Year 12 Students	School Curriculum and Standards Authority	12	6	0	33	0	51
	Number of Public Primary Schools	Schools Online	4	2	1	3	2	12
	Number of Private Primary Schools	Schools Online	0	0	1	1	0	2
	Number of Public Primary School students	Schools Online	370	433	189	148	71	1211
	Number Public Secondary Schools	Schools Online	1	1	0	1	0	3
	Number of Private Secondary Schools	Schools Online	0	0	1	0	0	1
	Number of Public Secondary Students	Schools Online	96	141	0	194	0	431
	Number of Libraries	SLWA	4	2	1	1	3	11
	Number of Child Care Centres	Primary	2	1	2	0	0	5