

Great South Coast Major Projects Cumulative Impacts Study April 2011

GREAT SOUTH COAST
Healthy Lifestyle ■ Victoria



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Project Statement

The Great South Coast Cumulative Impacts Study 2011 has been prepared specifically for the six municipalities that form the Great South Coast Region and Executive.

The Great South Coast Major Projects Cumulative Impact Study 2011 and its contents are not to be referred to, quoted or used by any party in any statement or application, other than by the Great South Coast municipalities, without written approval from SED Consulting. Any such act will be regarded as plagiarism.

The information contained in this document has been gained from anecdotal evidence and research. It has been prepared in good faith and in conjunction with the Great South Coast member councils. No attempt has been made to assume proposed values and employment figures. When not supplied, this detail has been left blank.

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Executive Summary

Projects Summary

The Great South Coast [GSC] Cumulative Impact Study 2011 has identified 60 major investment and development projects across the GSC region, equating to \$11.6 billion dollars of investment.

The individual projects identified all have their own challenges and rewards for the proponents and the communities spread across the GSC region. The dominant industry sector is “energy production and processing” harnessing the natural resources and environs of the region – wind, wave, gas, geothermal and topography. One key component of this energy drive is the presence of the 550kva power grid that traverses the western region of Victoria. The energy industry in its various forms will dominate the future development of projects in the GSC region over the foreseeable future and position the GSC region as Victoria’s main alternate energy producing region. This outlook will be influenced by final investment decision by investors, Victorian and Federal Government policy in relation to alternate forms of energy production and carbon pricing and importantly the decision made by local government and the communities they represent.

There is a very positive outlook for major investment in the region across the study period continuing the trend quantified in the earlier GSC Economic Snapshots prepared in 2005 and 2008.

	2005		2008		2011	
	No.	Total Value (\$m)	No.	Total Value (\$m)	No.	Total Value (\$m)
Colac-Otway	5	\$596	8	\$780	7	\$797
Corangamite	4	\$1,213	11	\$926	7	\$838
Glenelg	11	\$3,030	14	\$1,784	8	\$2,304
Moyne	6	\$2,460	14	\$4,527	17	\$6,370
Southern Grampians	1	\$270	6	\$285	11	\$478
Warrnambool	7	\$269	10	\$330	8	\$700
Regional					2	\$130
Total	34	\$7,838	63	\$8,632	60	\$11,617

Table 1. Project number and value comparison 2005, 2008, 2011

The following table shows the number of and associated value of projects completed from the 2005 and 2008 snapshot reports and the projects identified in this updated outlook.

Municipalities	2005 - Completed		2008 - Completed		2011 -- Outlook	
	No.	Assessed Value (\$m)	No.	Assessed Value (\$m)	No.	Indicative Value (\$m)
Colac-Otway	1	\$29	4	\$52	7	\$797
Corangamite	2	\$1,000	2	\$175	7	\$838
Glenelg	5	\$315	8	\$209	8	\$2,304
Moyne	1	\$1,000	2	\$900	17	\$6,370
Southern Grampians	1	\$270	2	\$40	11	\$478
Warrnambool	5	\$58	9	\$321	8	\$700
Regional	-	-	-	-	2	\$130
Total	15	\$2,672	27	\$1,697	60	\$11,617

Table 2. Comparison of the number and assessed value of projects 2005, 2008, 2011

The following graph shows that 34% of the value of projects identified in the 2005 report were completed and 20% in 2008. A more favourable outlook is forecast in the current outlook with 52% of the value projects classed as 'definite' and 'likely'.

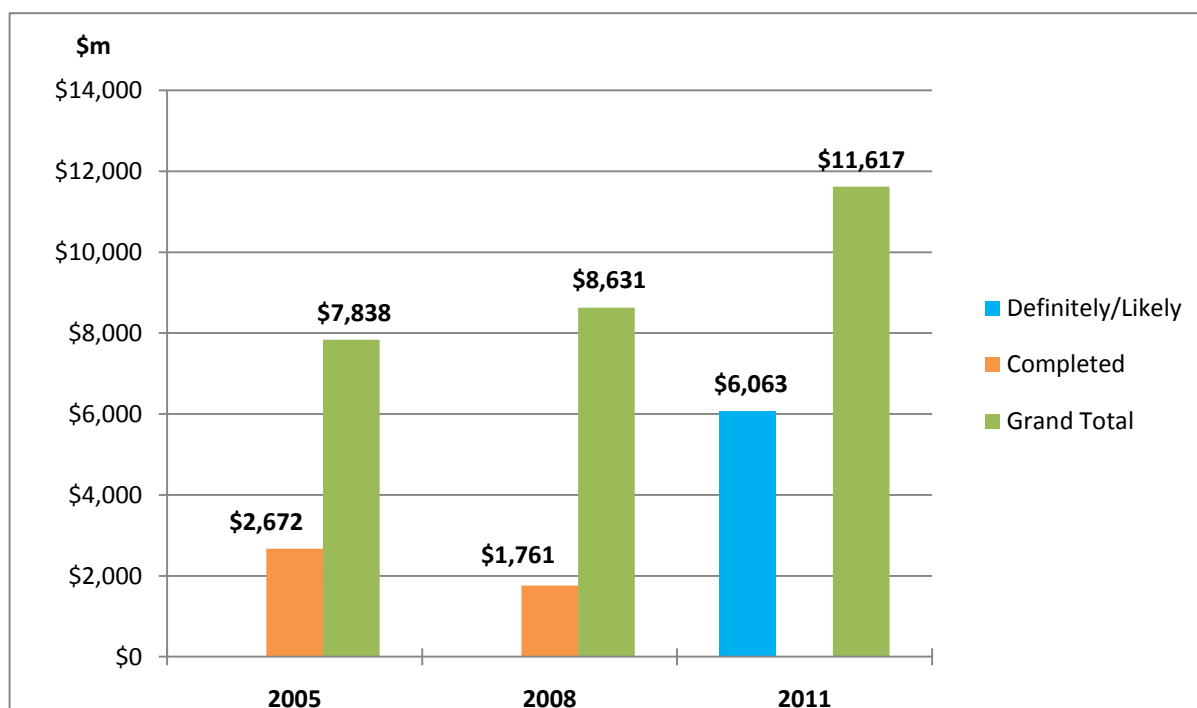


Figure 1. Value of 2005 and 2008 completed projects and Value of Definite/Likely projects of 2011

PART A – The Great South Coast Region

1. Introduction

The Great South Coast (GSC) region is located in South West Victoria, and is comprised of six municipalities in; Colac Otway, Corangamite, Glenelg, Moyne and Southern Grampians Shires and Warrnambool City (see map below). The region boasts strong agricultural and tourism industries, supported by vibrant regional centres with established health, education and community services.



Figure 2. Great South Coast Region

In 2005 and 2008 the GSC member councils commissioned a snapshot of investment and development, both proposed and commenced, within the region.

These studies highlighted the significant investment potential and the flow on economic benefits to impact the region in the short and long term.

This third edition of the update quantifies the latest major development outlook. The nature and scale of these investments creates significant strategic planning and resourcing challenges.

This report also investigates and analyses the cumulative impacts of four key challenges – workforce, accommodation, social infrastructure and the freight transport network.

As with the previous studies, this document highlights the opportunities for the region in terms of investment and development within the next five years.

The threshold value for project inclusion in the study is \$4 million. This was the minimum level of investment identified by the project steering committee as being appropriate for this study.

This study contains both primary and secondary research. Project information has been collected from member council representatives, particularly economic development and planning units, industry bodies and private companies.



2. Regional Overview

2.1 Population

Current

The GSC region has experienced an increase in population from 2004 to 2010. All of the municipal areas show a positive population movement throughout the years and an overall total regional population increase of 5.4% between 2004 and 2010.

Municipality	Population 2004	Population 2007	Population 2010	2004 - 2010 Pop. Change %
Colac-Otway	20,990	21,270	22,092	0.5
Corangamite	17,180	17,241	17,514	0.2
Glenelg	20,266	20,705	21,249	0.4
Moyne	15,798	16,192	16,856	0.7
Southern Grampians	17,091	17,393	17,531	0.3
Warrnambool	30,655	32,254	33,922	10.6
	121,980	125,055	129,164	5.9

Table 3. Regional Population Trends¹

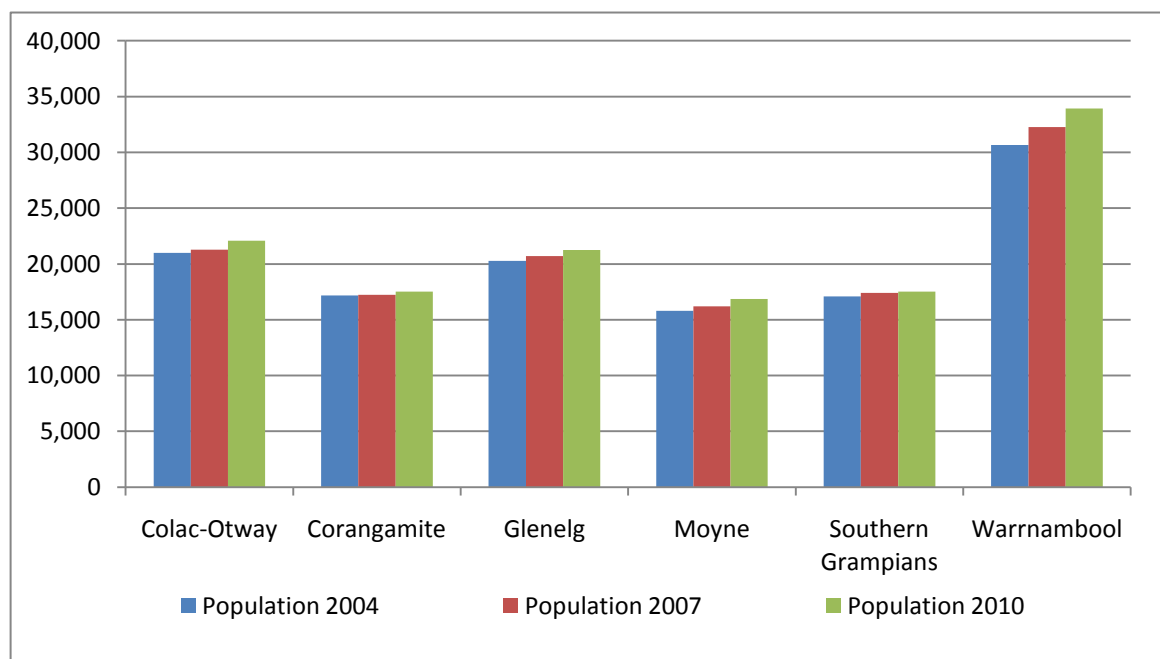


Figure 3. Regional Population Trends

¹ ABS Source: Regional Populations Growth. Australia, 2010 (cat no. 3218.0)

Forecast

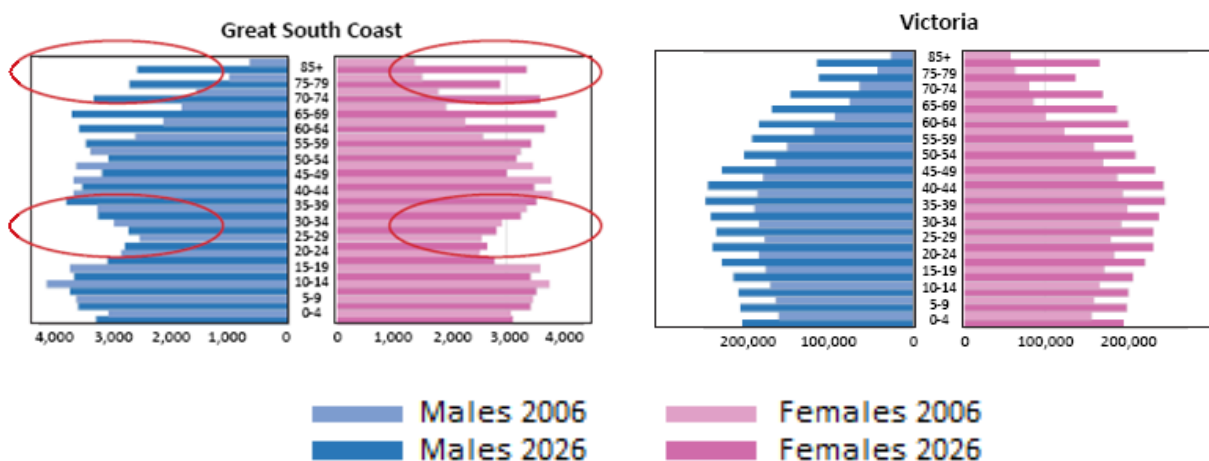
The following population forecasts show a range of variation in population growth performance across the region with Warrnambool City expected to experience strong levels of growth. Moyne and Colac-Otway indicate moderate growth levels.

Location	2006	2011	2016	2021	2026	2006-2026 % increase
Colac-Otway	21,036	21,616	22,113	22,613	23,116	10%
Corangamite	17,171	17,479	17,608	17,696	17,884	4%
Glenelg	20,525	21,081	21,405	21,670	21,961	7%
Moyne	16,002	16,509	16,921	17,390	17,958	12%
Southern Grampians	17,181	17,348	17,423	17,563	17,709	3%
Warrnambool	31,501	33,321	35,223	37,267	39,229	25%
Great South Coast	123,416	127,354	130,693	134,199	137,857	12%
Rural Victoria	1,383,318	1,466,224	1,545,205	1,627,247	1,710,327	12%
Victoria	5,128,300	5,549,799	5,942,900	6,332,765	6,711,178	31%

Table 4. Population Forecast - total estimated resident population²

Based on the 2006 population table and the labour force figures for the same year (54,936), the region had a workforce participation rate of 45% in 2006. Using this percentage against the forecast population above, the region will need to generate 1,502 new jobs by 2016, a further 1,578 by 2021 and further 1,646 by 2026. Over the 15 year period to 2026, this equates to the creation of over 4,700 new jobs. Warrnambool alone will need to provide over 2,600 new jobs over the 2011-2026 period.

The age range of the GSC population is highest in the 10-19 years and 40-59 years age groups. There is a sharp decrease in residents aged between 20-29 years, which is consistent with regional trends.



² ABS 2006 Census of Population and Housing, Community Profile Series, X38 industry of employment(a) by hours worked by sex

2.2 Work Force

Employment Data

The GSC region is traditionally, and still is, reliant on the agriculture industry. The highest employing industries in the shires are the agriculture, retail, health and manufacturing sectors. Retail and health are the largest employers for Warrnambool City, which is consistent with its size and infrastructure.

Industry of Employment - Count of employed persons aged 15 years and over							
	Colac-Otway	Corangamite	Glenelg	Moyne	Southern Grampians	Warrnambool	Total GSC
Agriculture, forestry, fish	1,323	2,509	1,316	2,347	1,649	325	9,469
Retail trade	1,024	710	931	693	881	2,080	6,319
Health & social services	1,010	638	942	716	967	1,864	6,137
Manufacturing	1,011	570	1686	620	435	1,540	5,862
Construction	672	492	560	465	560	1,221	3,970
Education & training	558	464	523	409	608	1,247	3,809
Accommodation. & food services	748	341	497	412	453	1,162	3,613
Public admin. & safety	526	236	350	310	474	693	2,589
Transport, post, warehouse	406	322	477	265	217	533	2,220
Wholesale trade	395	307	229	218	215	527	1,891
Other services	310	181	268	161	259	507	1,686
Professional. scientific, tech services	223	149	229	170	251	528	1,550
Not stated	241	204	247	185	205	258	1,340
Admin. support services	414	115	179	112	125	373	1,318
Financial, insurance	110	76	110	94	136	316	842
Electricity, gas, water, waste	76	56	104	42	58	187	523
Information media & telecommunications	107	43	52	40	85	176	503
Real estate services	90	33	90	44	48	184	489
Arts & recreation services	99	47	73	57	48	152	476
Mining	21	47	32	24	156	50	330
TOTAL	9,364	7,540	8,895	7,384	7,830	13,923	54,936

Table 5. Industry of Employment³

³ ABS 2006 Census of Population and Housing, Community Profile Series, X38 industry of employment(a) by hours worked by sex

Unemployment rates within the GSC region remain low and below state wide rates.

	Unemployment			Unemployment Rate (%)		
	Sep-09	Mar-10	Sep-10	Sep-09	Mar-10	Sep-10
Colac-Otway	599	596	586	4.6	4.5	4.5
Corangamite	328	328	325	3.4	3.4	3.4
Glenelg	835	862	799	6.8	6.9	6.6
Moyne	329	326	316	3.8	3.7	3.6
Southern Grampians	544	505	468	5.4	5.0	4.6
Warrnambool	1,067	997	931	6.0	5.5	5.2
Total/Average	3,702	3,614	3,425	5.0	4.8	4.6
Victoria				5.5	5.6	6.0

Table 6. Unemployment rates from September 2009 to September 2010⁴

While Victoria's economy is experiencing low employment rates, regional areas (in particular) are facing critical skills and people shortages.

Workforce Analysis

In 2010 SED Consulting completed a Workforce Development Strategy for the GSC region⁵.

The objective of the study was to focus on existing and established industries and not the emerging or new industries to the region. Agribusiness was selected as the overall focus for the project. Extensive consultation was undertaken with businesses in these industries and some of the region's key and/or larger employers, representing 16% of the total regional workforce.

The research highlighted some unique future workforce challenges for the GSC. The impact of unprecedented growth in the region and the emergence of new industry in the region will create additional demand for labour in a market where current demand is not being met.

Businesses in the GSC will be challenged in areas of attracting and retaining their future labour force as well as increasing their investment in training and developing their labour force. Industry will also require support with whole of region intervention strategies to attract labour and improve industry image and awareness of the opportunities in the region.

⁴ Australian government department of education, employment and workplace relations. September 2010.

⁵ SED Consulting 2010 Workforce Analysis

The significant findings from the research presented some clear messages:

1. Almost 40% of GSC businesses currently report job vacancies representing approximately 2.7% of the regional workforce
2. Further, 62% of businesses in the region expect to increase their workforce in the next 3 years as compared with State wide data of 35%.
3. Average annual employment growth in all areas within the GSC region is forecast to outstrip population growth over the next decade, a rate higher than any other region in the state,
4. Recruitment is currently problematic with 77% of businesses who have attempted to recruit in the past 2 years having experienced difficulty.
5. The focus industries researched are encumbered with poor industry image, and 53% of businesses highlighted it a key issue in attracting employees.
6. Businesses have not adequately adjusted to the new workforce reality with employers still predominantly using traditional recruitment methods that are limited to seeking staff only from the local area.
7. This approach, combined with increased demand from new industry to the region is creating competitive labour cost pressures and will ultimately be at the expense of traditional and established industries without an increase in the labour pool.
8. Retention of employees is not perceived to be a problem generally, however the retention of employees relocated to the area was reported as a significant issue. Given the growth trends, this problem will be magnified in future unless the barriers to retention are resolved.
9. Businesses are taking greater responsibility for training their workforce but perceive that a gap exists in the provision of industry responsive training.

A Regional Skills Shortage Survey, Victoria report (2006), commissioned by the Department for Victorian Communities (Victorian Government) summarised the following occupations that employers are having the greatest difficulty filling. This data was cross referenced to the findings from the GSC Workforce Development Strategy Project.

Victoria State wide DVC Regional Skills Shortage Survey 2006		Great South Coast SED Consultation 2009/2010	
Professionals and Associated Professionals			
<i>Registered Nurses</i>	<i>Real Estate Associate Professionals</i>	<i>Welfare Associate Professionals</i>	<i>Registered Nurses, Allied Health Professionals</i>
Trades			
<i>Metal fitters and machinists</i> <i>Roof slaters and tilers</i> <i>Structural steel and welding</i> <i>Plumbers</i>	<i>Bakers and pastry cooks</i> <i>Bricklayers</i> <i>Electricians</i>	<i>Cabinetmakers</i> <i>Motor mechanics</i> <i>Carpenters</i>	<i>Motor Mechanics</i> <i>Fitter & turners (hydraulics)</i> <i>Dairy Technicians and herd testers</i>
Labourers and related Workers			
<i>Cleaners</i> <i>Kitchen hands</i>	<i>Farm hands</i> <i>Road and rail transport drivers</i>	<i>Mobile construction plant operators</i>	<i>Farm Hands</i> <i>Forklift drivers</i> <i>Food Factory Hands</i> <i>Meatworks labourers</i>
Other Occupations			
<i>General clerks</i> <i>Sales representatives</i> <i>Dental assistants</i>	<i>Sales assistants</i> <i>Truck drivers</i> <i>Receptionists</i>	<i>Chefs</i> <i>Waiters</i>	<i>Road Transport (drivers)</i> <i>Office Administration</i> <i>Transport dispatch clerks</i> <i>Farm (and Dairy) Managers</i>

Table 7. Regional Skills Shortage

2.3 Economic Profile

Economic Output

The economic output of the GSC region's economy for 2011 is estimated at \$14.1bn and it will be dominated by the manufacturing sector at \$4.6bn. For the purposes of this report economic output is defined as gross revenue generated by businesses and organisations in the Great South Coast Region.

Other key contributing sectors are agriculture \$1.7bn, construction \$1.1bn and rental, hiring and real estate services sector at \$974m. The economic output profile of the region is presented below.

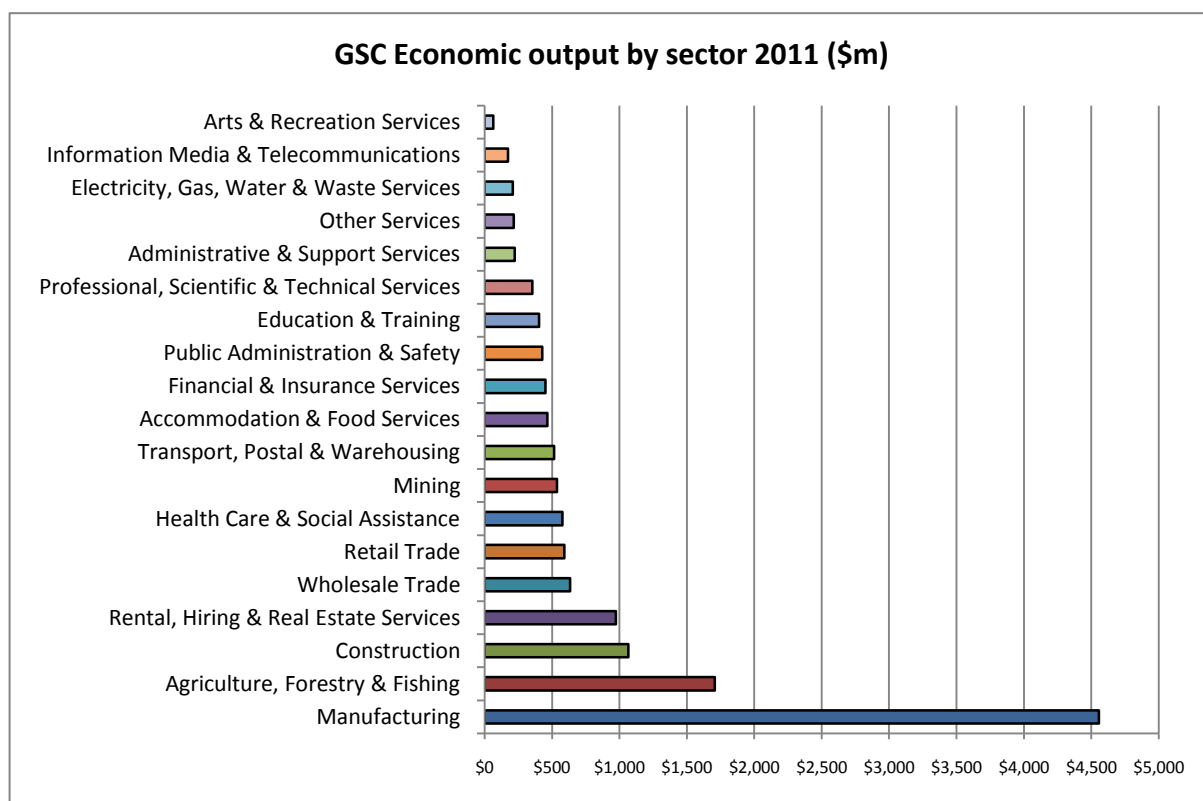


Figure 4. GSC economic profile by sector

The region's output of \$14.1bn represents around 4.8% of Victorian GSP of \$293bn.

Wages and Salaries

For 2011 it is estimated that wages and salaries will contribute \$2.9bn to the GSC economy with manufacturing, health, education, retail and public administration being the key sectors.

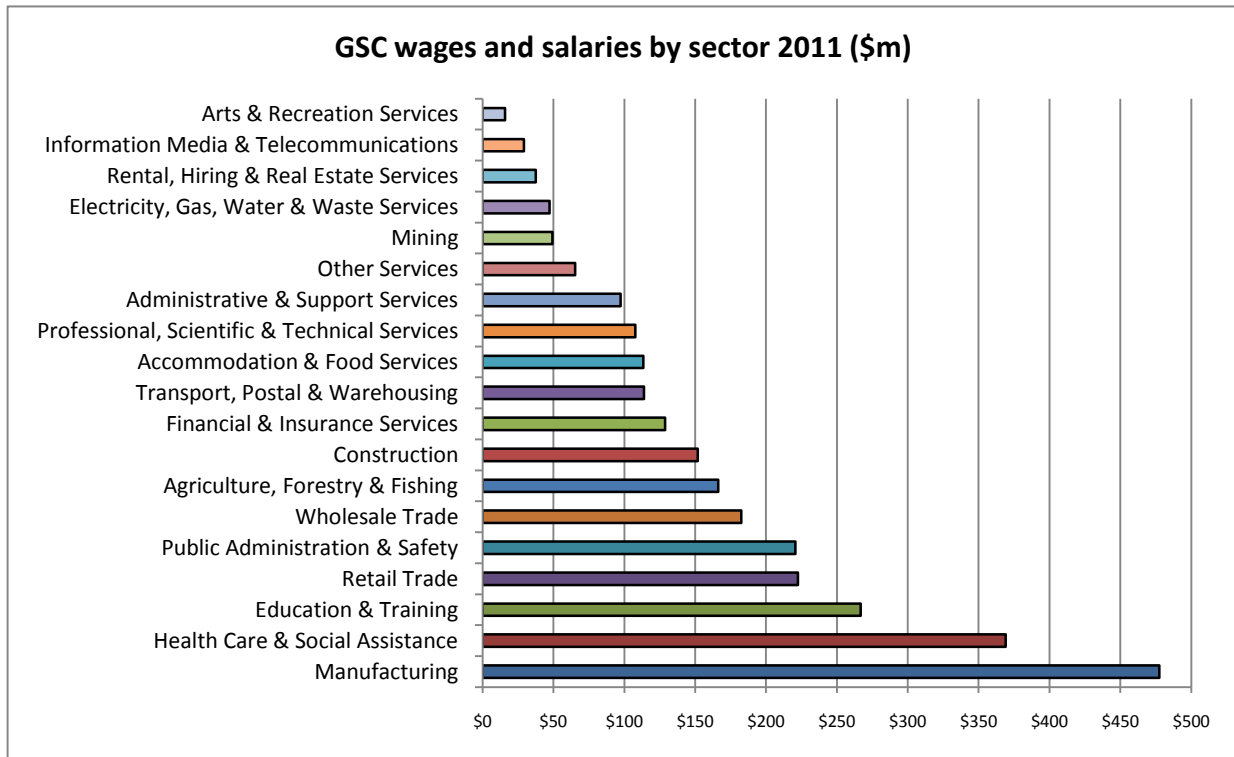
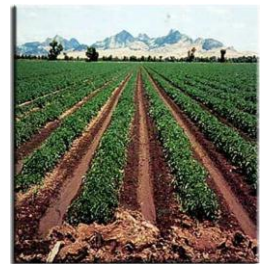


Figure 5. GSC wages and salaries by sector



Sales and Exports

When a comparison is made of the sales made by sectors it can be seen that the economy is relatively reliant on local sales with minimal export activity occurring outside of the manufacturing, agriculture and mining sectors. Although this indicates a fairly robust local economy, it does present some risk to the economy should local conditions change. Both manufacturing and agriculture export more than they sell locally which provides some protection from local economic changes.

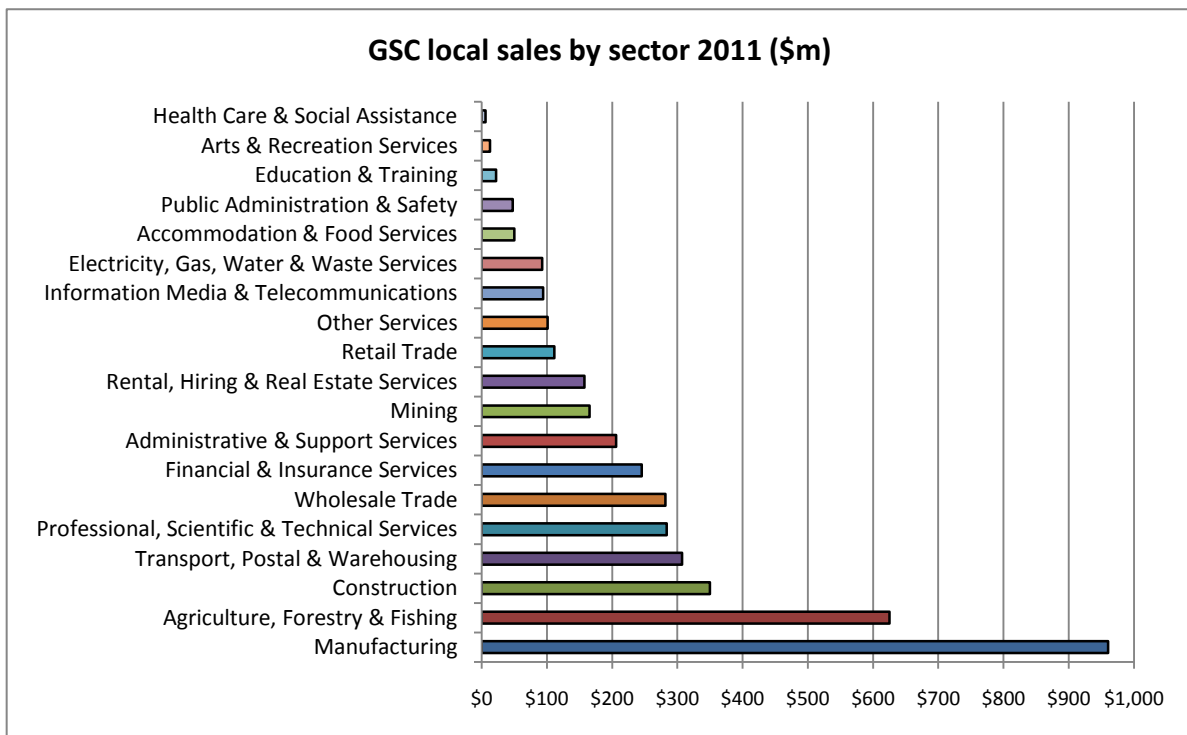


Figure 6. GSC local sales by sector

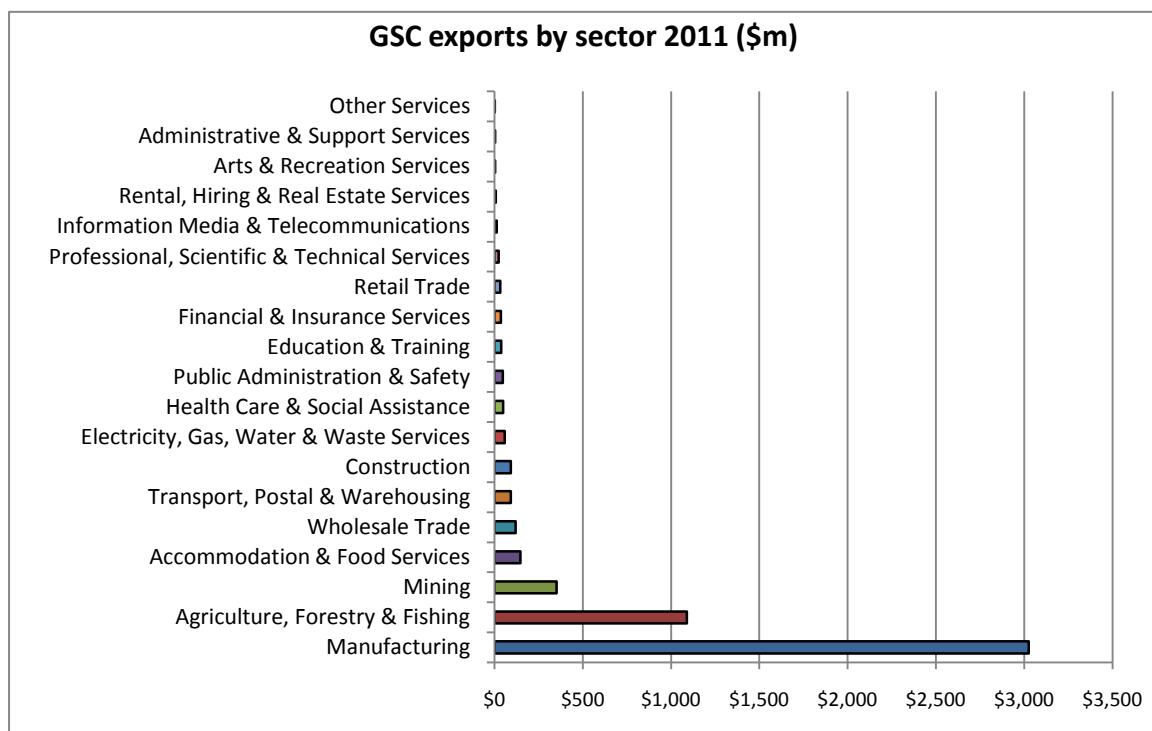


Figure 7. GSC exports by sector

Expenditure and Imports

When analysis is made of the purchasing patterns of GSC business and industry, imports are relatively low across the economy which is reflected in the level of local sales and correspondingly the level of local expenditure. This would indicate a fairly self-reliant local economy.

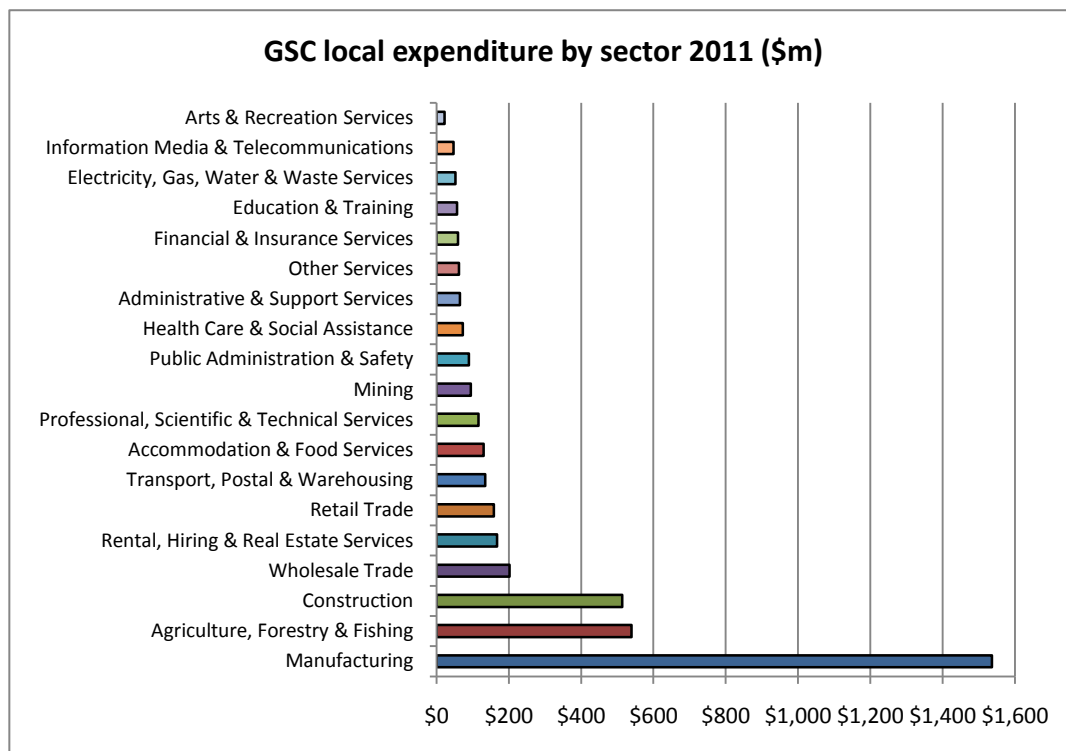


Figure 8. GSC local expenditure by sector

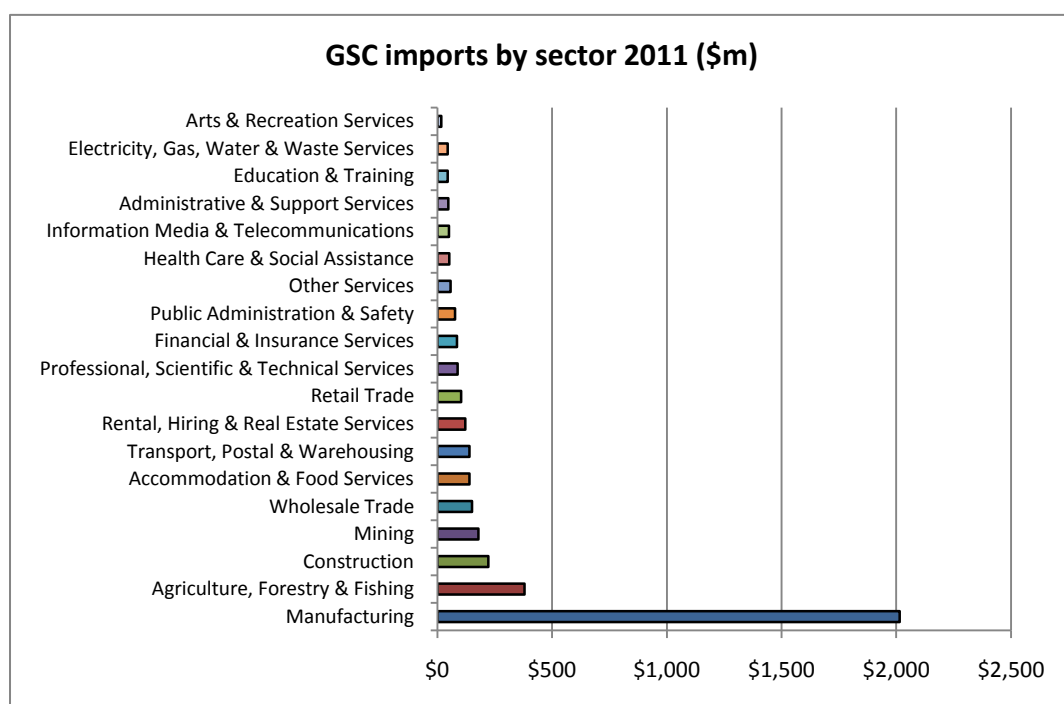


Figure 9. Imports by sector

2.4 Building Activity

Building permits and the value of development assists in assessing growth throughout the region. A comparison from 2005 to 2009 reveals that the number of approved building permits has increased in Moyne, and Warrnambool. But there is a decrease in Colac-Otway, Glenelg, Corangamite, and Southern Grampians. Over the entire region, there has been a 7% decrease in the number of building permit approvals.

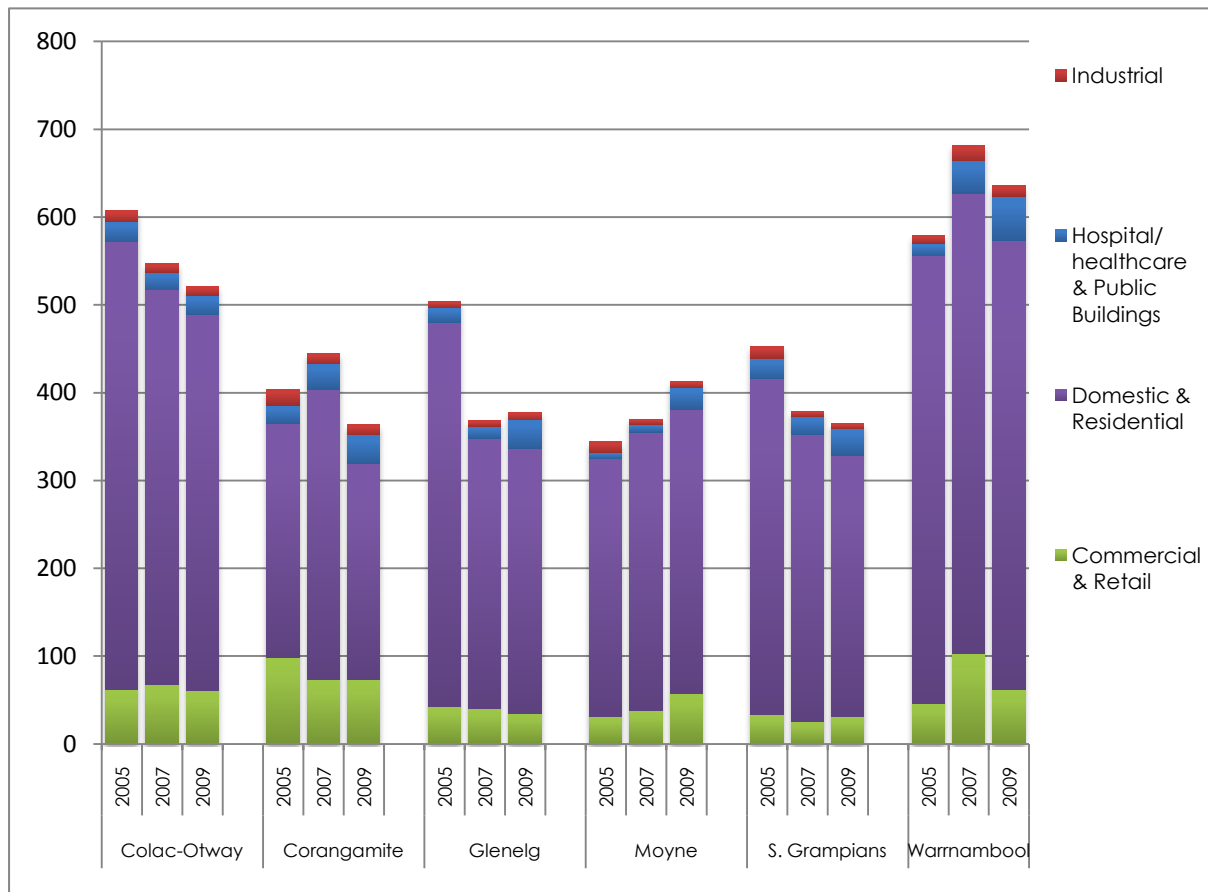


Figure 10. Number of building permits across the GSC - comparing 2005, 2007 and 2009⁶

⁶ <http://www.pulse.buildingcommission.com.au>

Despite the decline in the number of approvals the overall value of the permits has increased by 60% compared to 2005 to \$4.6bn in 2009.

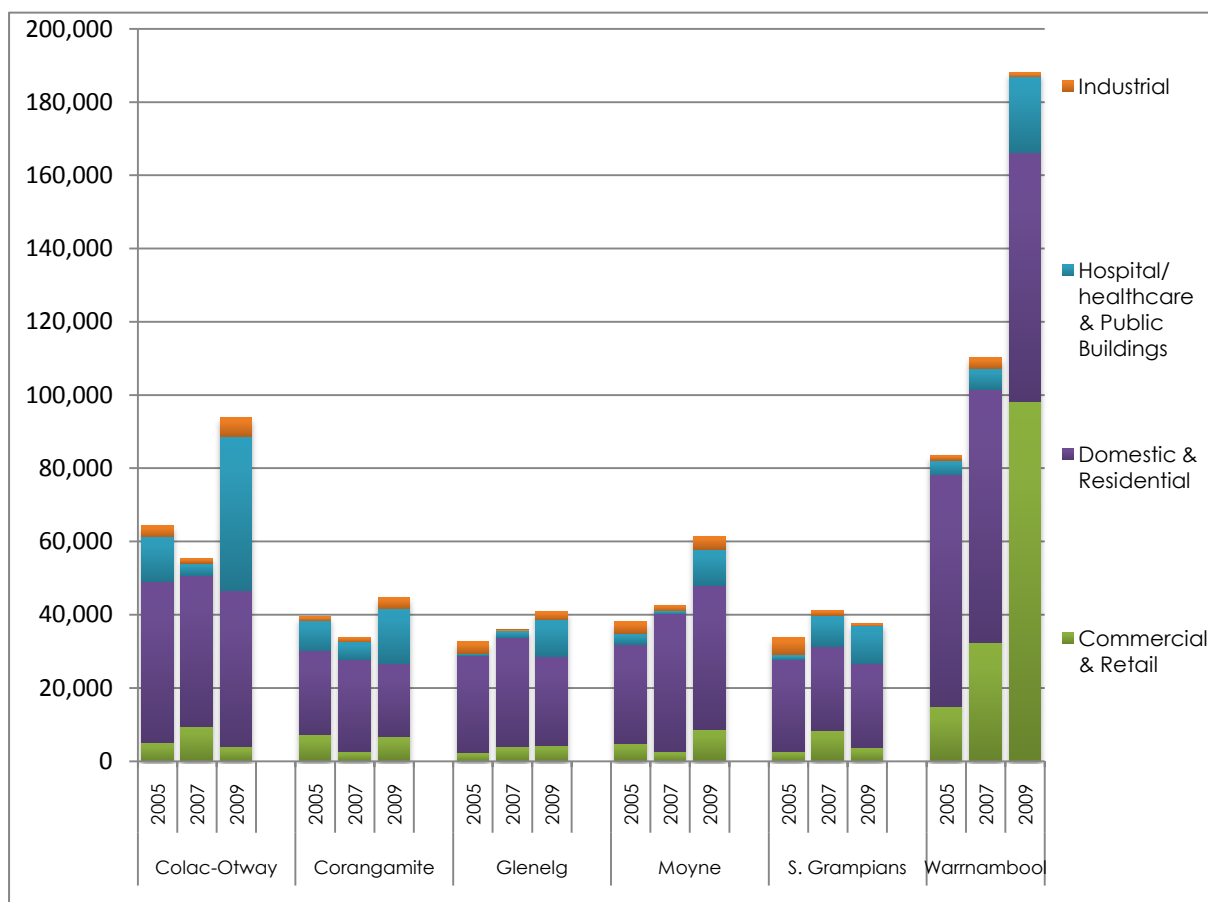


Figure 11. Value (\$,000) of building permits across the GSC – 2005 to 2009⁷

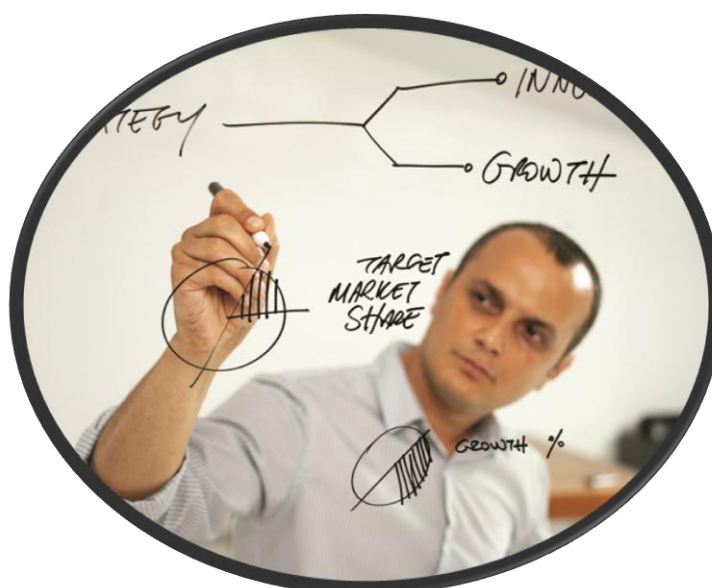
The increase in the value of permits is principally due to large increases in commercial and retail (239%) and hospital/healthcare (266%). These increases reflect large scale builds such as the Warrnambool Hospital (\$80m) and Colac Hospital (\$30m).

⁷ <http://www.pulse.buildingcommission.com.au>

2.5 Key Findings

Regional Overview

- The region has experienced solid population growth over the past 5 years [5.4%] and the projections to 2026 show a continuation of this trend.
- Growth is strongest in Warrnambool City
- The potential for jobs growth within the existing economy is solid – over 1,500 new jobs in the next 5 years
- A 2010 workforce study found that 62% of businesses surveyed in the region expected to increase their workforce in the next 3 years as compared with State wide data of 35%.
- Unemployment within the region is below the State wide average
- Average annual employment growth in all areas within the GSC region is forecast to outstrip population growth over the next decade, a rate higher than any other region in the state,
- The region is facing critical skills and people shortages
- The economic output for the region for 2011 is estimated at \$14.1bn and is dominated by the manufacturing at \$4.6bn
- Wages and salaries will contribute \$2.9bn to the GSC economy in 2011 with manufacturing, health, education, retail and public administration key sectors
- The economy is relatively reliant on local sales with minimal export activity occurring outside of the manufacturing, agriculture and mining sectors. Although this indicates a fairly robust local economy, it does present some risk to the economy should local conditions change
- A large increase in the value of building approvals over the past 5 years reflects increases in large scales builds such as the Warrnambool Hospital



PART B – Investment Portfolio 2011- 2016

3. Investment Outlook

3.1 Summary

This study has identified sixty major investment projects that are planned for the region over the next five years. The combined value of the projects is estimated at \$11.6 bn.

The projects identified for the region are summarized below:

Municipalities	2011-2016	
	No.	Total Value (\$m)
Colac-Otway	7	\$797
Corangamite	7	\$838
Glenelg	8	\$2,304
Moyne	17	\$6,370
Southern Grampians	11	\$478
Warrnambool	8	\$700
Regional	2	\$130
Total	60	\$11,617

Table 8. Identified number and value of projects for the region

The very positive outlook for major investment in the region continues the trend quantified in the earlier Snapshots prepared in 2005 and 2008.

	2005 Snapshot		2008 Snapshot		2011 Snapshot	
	No.	Total Value (\$m)	No.	Total Value (\$m)	No.	Total Value (\$m)
Colac-Otway	5	\$596	8	\$780	7	\$797
Corangamite	4	\$1,213	11	\$926	7	\$838
Glenelg	11	\$3,030	14	\$1,784	8	\$2,304
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Southern Grampians	1	\$270	6	\$285	11	\$478
Warrnambool	7	\$269	10	\$330	8	\$700
Regional	-	-	-	-	2	\$130
Total	34	\$7,838	63	\$8,631	60	\$11,617

Table 9. Comparison of 2005, 2008 and 2011 snapshot

3.2 Project List

Major Projects Portfolio

The major projects portfolio is listed below, sorted by probability and value:

No.	Project Name	Location	Project Probability Within next 5 yrs	Project Value \$M	Workforce	
					Construction	Ongoing
					Peak	
1	Macarthur Wind Farm	East of Macarthur	Definitely	1,000	300	25
2	Mortlake Power Station	Mortlake	Definitely	505	430	10
3	Residential Growth Areas – Investment in Housing Lots	Warrnambool	Definitely	404	660	20
4	Oaklands Hill Windfarm	Glenthompson	Definitely	200	150	10
5	South West Healthcare – Warrnambool Campus Stage 2	Warrnambool	Definitely	195	200	40
6	Dairy Farming	Regional	Definitely	100	100	100
7	Lakes Edge Housing Development	Hamilton	Definitely	80	20	-
8	New Retail and Commercial Office Outlets	Warrnambool	Definitely	50	30	300
9	Timber Harvesting ⁸	Regional	Definitely	30	50	-
10	Grampians Walk	Dunkeld	Definitely	26	10	15
11	Morton's Lane Windfarm	Woodhouse	Definitely	24	150	10
12	Coleraine Hospital Redevelopment	Coleraine	Definitely	20	40	20
13	Koroit Geothermal Project	Willatook/Warrong districts	Definitely	10	50	2
14	Commercial & Retail Development	Hamilton	Definitely	9	10	30
15	Warrnambool Entertainment Centre Redevelopment	Warrnambool	Definitely	9	20	10
16	Colac Trade Training Centre (TTC)	Colac	Definitely	6	30	-
17	Chicken Farm	Beeac	Definitely	6	5	5
18	Portland Multi Unit Development	Portland	Definitely	5	10	
19	GP Super Clinic	Portland	Definitely	5	20	10
20	Harbour Infrastructure	Portland	Definitely	5	15	1
21	Trade Training Centre	Portland	Definitely	4	35	6
22	CFA Building Upgrade	Hamilton	Definitely	4	20	2
23	Rail Siding - Iluka	Hamilton	Definitely	4	12	-
24	Relocation of school	Hamilton	Definitely	4	15	-
25	Willatook Wind Farm	Willatook	Likely	1,000	300	20
26	Tarrone Power Station	Tarrone	Likely	500	430	7
27	Shaw River Power Station	Orford	Likely	500	430	7
28	Berrybank Windfarm	Berrybank	Likely	484	240	25
29	Mt Gellibrand Wind Farm	Mt Gellibrand	Likely	460	116	20
30	BCD Resources NL – Copper Project	north of Glenthompson	Unsure	100	50	5
Subtotal				\$ 5,749	3,454	695

Table 10. Major projects portfolio

⁸ Timber Industry will create additional 1,000 contract positions during harvesting over the five years

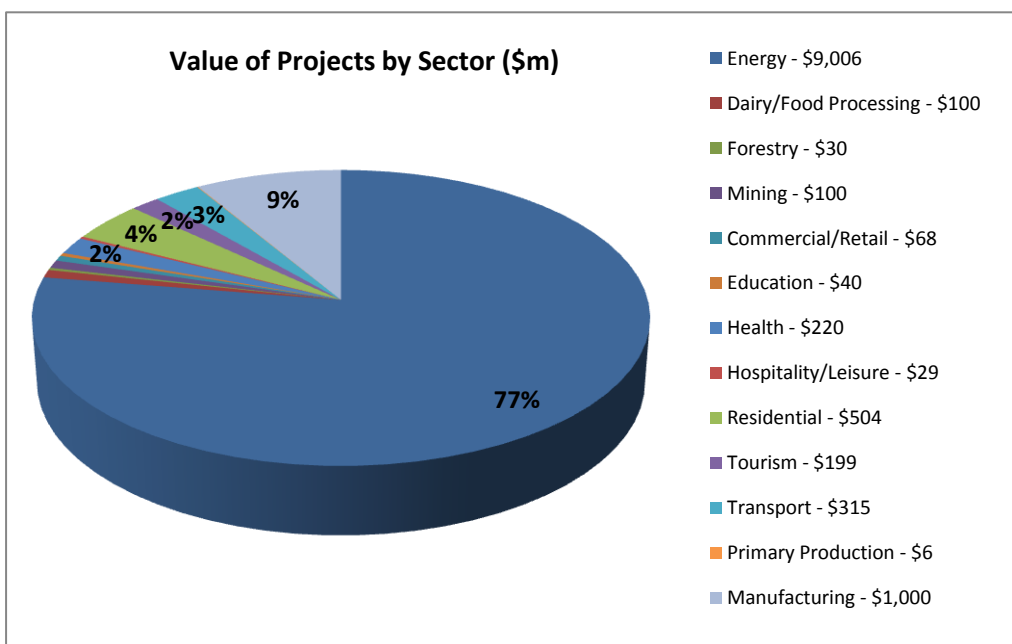
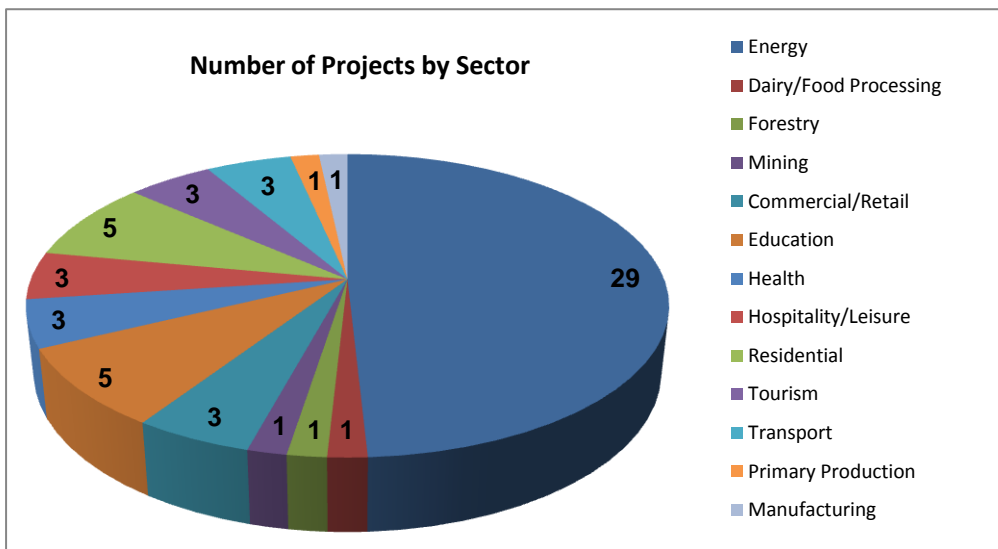
No.	Project Name	Location	Project Probability Within next 5 yrs	Project Value \$M	Workforce	
					Construction	Ongoing
					Peak	
31	Stockyard Hill Wind Farm and Terminal Station Facility	Skipton	Likely	50	240	30
32	Deakin University – campus accommodation	Warrnambool	Likely	13	16	10
33	Colac Secondary College - Stage 3	Colac	Likely	13	20	-
34	Warrnambool Regional Airport	Mailors Flat	Likely	11	15	-
35	Lyndoch Aged Care – Waterside Redevelopment	Warrnambool	Likely	8	10	10
36	Biogas - Renewable Energy Plant (Waste Conversion to energy)	Colac	Likely	7	20	3
37	Residential development	Hamilton	Likely	7	30	-
38	Bluewater Fitness centre	Colac	Likely	5	25	2
39	Penshurst Wind Farm	south/ south west of Penshurst	Unsure	1,000	300	20
40	Casterton & adjoining Shires Windfarm	Casterton and adjoining shires	Unsure	1,000	300	25
41	Darlington Wind Farm	East and south of the Darlington	Unsure	720	240	15
42	Princes Highway Duplication - Winchelsea to Colac	Colac	Unsure	300	100	5
43	Ryans Corner Wind Farm	10 km north west of Port Fairy	Unsure	300	180	10
44	Mortlake Wind Farm - South	South of Mortlake	Unsure	200	240	15
45	Tarrone Wind Farm	Tarrone	Unsure	200	180	10
46	Wave Energy Power Station	Portland	Unsure	165	150	30
47	Loch Ard Interpretive Centre	Port Campbell	Unsure	150	50	10
48	Hawkesdale Wind Farm	South and east of Hawkesdale	Unsure	130	180	10
49	Portland Wind Energy Project –Stage 4 Cape Sir William Grant Wind Farm	Portland	Likely	120	150	10
50	Woolsthorpe Wind Farm	West of Woolsthorpe	Unsure	85	180	10
51	Drysdale Wind Farm	North of Purnim	Unsure	70	180	10
52	Salt Creek Wind Farm	North of Mortlake	Unsure	70	180	10
53	Naroghid Wind Farm	Naroghid	Unsure	66	150	10
54	Newfield Wind Farm	Newfield	Unsure	50	150	10
55	The Sisters Wind Energy Project	The Sisters	Unsure	50	150	10
56	Port Fairy Wave Energy Project	Port Fairy	Unsure	30	20	2
57	Moonlight Head Eco-Hotel	Wattle Hill	Unsure	23	80	75
58	Southern Ocean Beach House [97 unit motel]	Port Campbell	Unsure	15	50	10
59	Biodiesel Project	Warrnambool	Unsure	10	10	8
60	Portland Aluminium	Portland	Unlikely	1,000	300	150
Subtotal				\$ 5,868	2,136	323
TOTAL				\$ 11,617	5,593	1,118

Table 11. Major projects portfolio part 2

3.3 Project Analysis

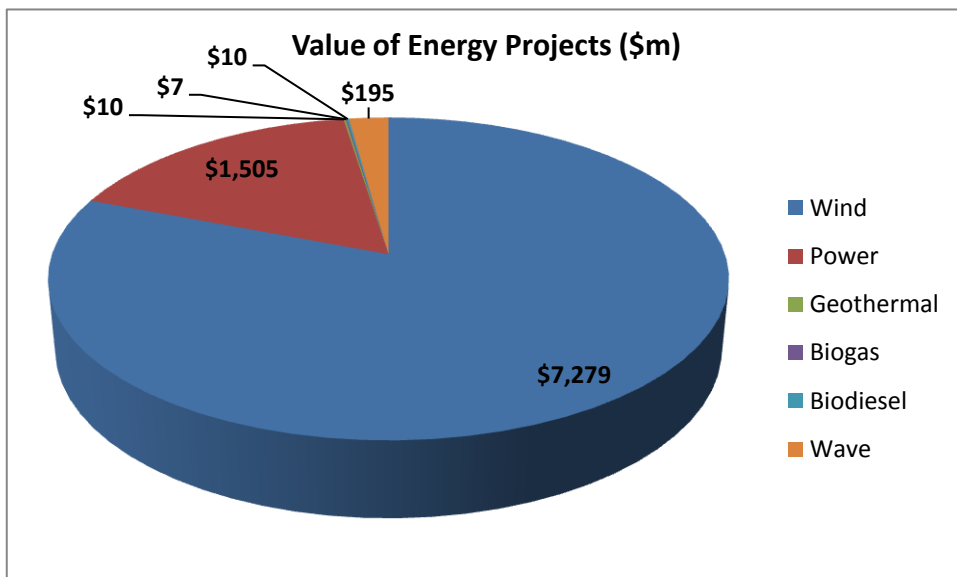
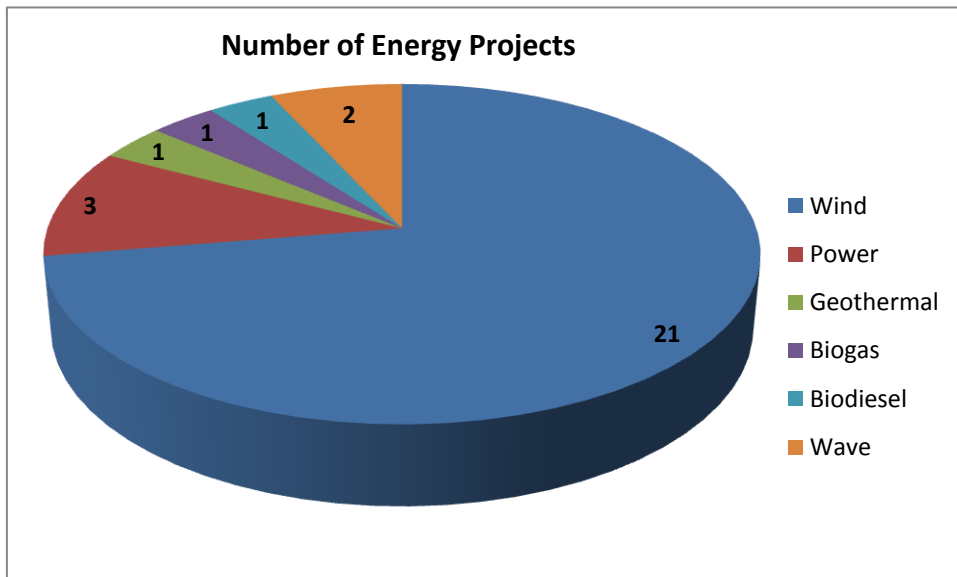
All Projects

The projects are dominated, in value, by energy related developments. The energy projects cover a range of technologies, including wind power, geothermal power, gas fired power, biodiesel and wave energy.



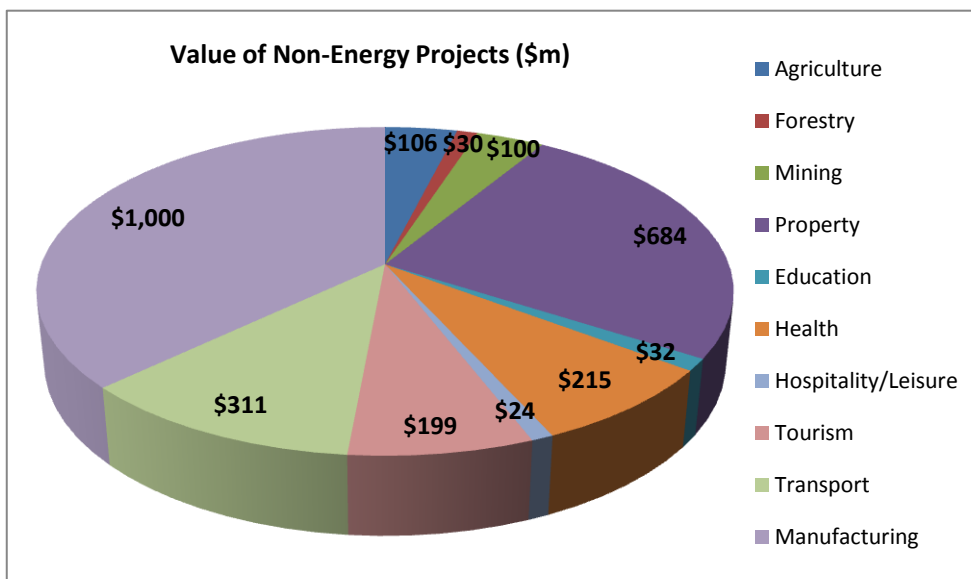
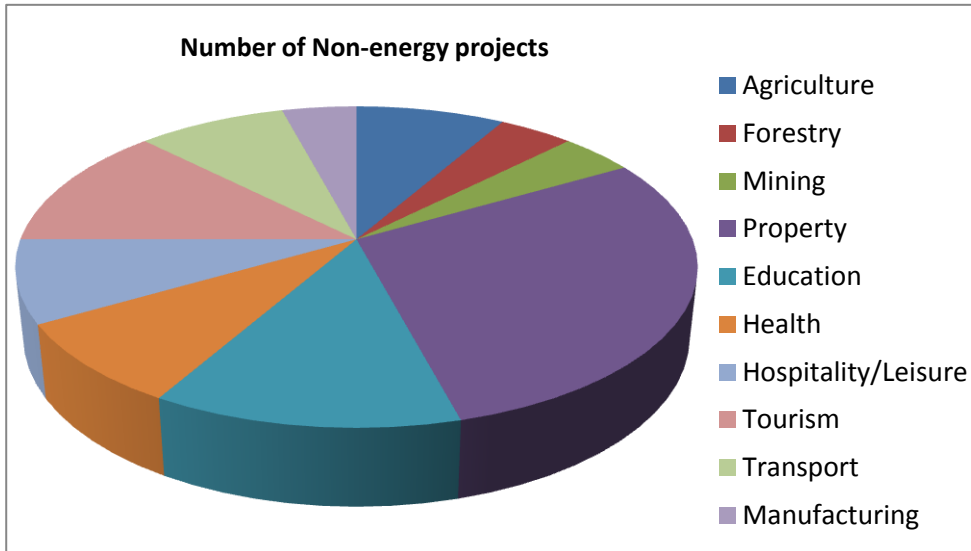
Energy Projects

The energy projects cover a range of technologies, including wind power, geothermal power, gas-fired power, bio-diesel and wave energy totalling 29 projects and \$9bn in value. Wind projects represent 68% by number and 80% by value of total energy projects.



Non-energy related projects

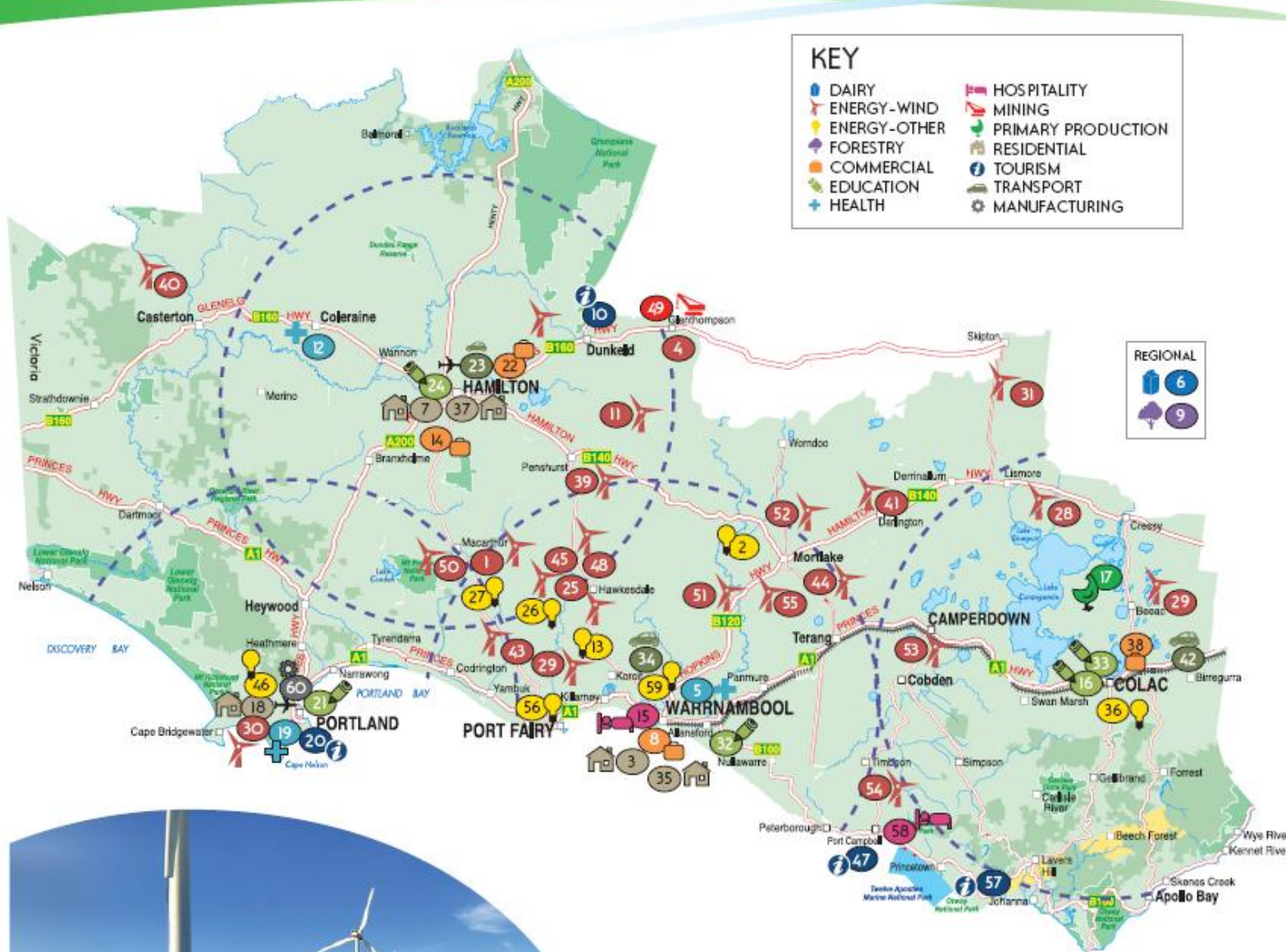
The non-energy related projects are dominated by property developments, which include residential, retail and commercial investments, primarily in the region’s major centres.



Project locations

The following maps show the location of the projects throughout the GSC by category and by value

PROJECTS & SECTOR



KEY

- DAIRY
- ENERGY-WIND
- ENERGY-OTHER
- FORESTRY
- COMMERCIAL
- EDUCATION
- HEALTH
- HOSPITALITY
- MINING
- PRIMARY PRODUCTION
- RESIDENTIAL
- TOURISM
- TRANSPORT
- MANUFACTURING

REGIONAL

- 6
- 9

--- 50 km radius around major centres

NO	PROJECT NAME
1	MacArthur Wind Farm
2	Mortlake Power Station
3	Residential Growth Areas - Investment in Housing Lots
4	Oaklands Hill Windfarm
5	South West Healthcare - Warrnambool Campus Stage 2
6	Dairy Farming
7	Lakes Edge Housing Development
8	New Retail and Commercial Office Outlets
9	Timber Harvesting
10	Grampians Walk
11	Morton's Lane Windfarm
12	Coleraine Hospital Redevelopment
13	Koroit Geothermal Project
14	Commercial & Retail Development
15	Warrnambool Entertainment Centre Redevelopment
16	Colac Trade Training Centre (TTC)
17	Chicken Farm
18	Portland Multi Unit Development
19	GP Super Clinic
20	Harbour Infrastructure
21	Trade Training Centre
22	CFA Building Upgrade
23	Rail Siding - Iluka
24	Relocation of School
25	Willatook Wind Farm
26	Taronee Power Station
27	Shaw River Power Station
28	Berrybank Windfarm
29	Mt Gillbrand Wind Farm
30	Cape Sir William Grant Wind Farm
31	Stockyard Hill Wind Farm and Terminal Station Facility
32	Deakin University - campus accommodation
33	Colac Secondary College - Stage 3
34	Warrnambool Regional Airport
35	Lyndoch Aged Care - Waterside Redevelopment
36	Bigas - Renewable Energy Plant (Waste Conversion to energy)
37	Residential development
38	Bluewater Fitness Centre
39	Penshurst Wind Farm
40	Casterton & adjoining Shires Windfarm
41	Darlington Wind Farm
42	Princes Highway Duplication - Windhills to Colac
43	Ryan Corner Wind Farm
44	Mortlake Wind Farm - South
45	Taronee Wind Energy Facility
46	Wave Energy Power Station
47	Loch Ard Interpretive Centre
48	Hawkesdale Wind Farm
49	BCD Resources NL - Copper Project
50	Woolthorpe Wind Farm
51	Drysdale Wind Farm
52	Salt Creek Wind Farm
53	Naroghid Wind Farm
54	Newfield Wind Farm
55	The Sisters Wind Energy Project
56	Port Fairy Wave Energy Project
57	Moonlight Head Eco-Hotel
58	Southern Ocean Beach House [97 unit motel]
59	Biodiesel Project
60	Portland Aluminium



PROJECTS & SECTOR

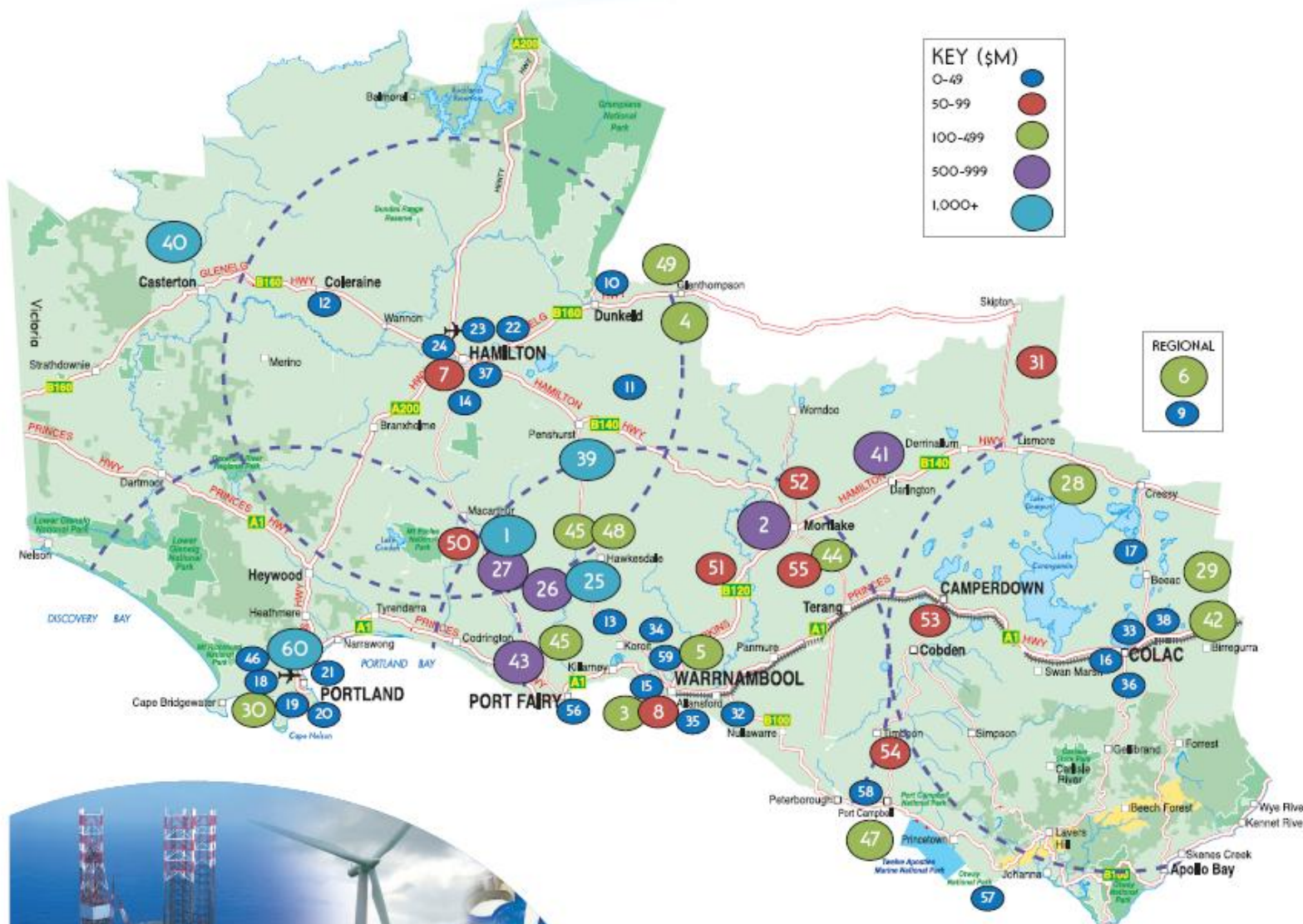
DATA

NO.	PROJECT NAME	SECTOR	LOCATION
1	Macarthur Wind Farm	Energy	East of Macarthur
2	Mortlake Power Station	Energy	Mortlake
3	Residential Growth Areas – Investment in Housing Lots	Residential	Warrnambool
4	Oaklands Hill Windfarm	Energy	Glenthompson
5	South West Healthcare – Warrnambool Campus Stage 2	Health	Warrnambool
6	Dairy Farming	Dairy	Regional
7	Lakes Edge Housing Development	Residential	Hamilton
8	New Retail and Commercial Office Outlets	Commercial	Warrnambool
9	Timber Harvesting	Forestry	Regional
10	Grampians Walk	Tourism	Dunkeld
11	Morton's Lane Windfarm	Energy	Woodhouse
12	Coleraine Hospital Redevelopment	Health	Coleraine
13	Koroit Geothermal Project	Energy	Willatook/Warrong districts,
14	Commercial & Retail Development	Commercial	Hamilton
15	Warrnambool Entertainment Centre Redevelopment	Hospitality	Warrnambool
16	Colac Trade Training Centre (TTC)	Education	Colac
17	Chicken Farm	Primary Production	Beecac
18	Portland Multi Unit Development	Residential	Portland
19	GP Super Clinic	Health	Portland
20	Harbour Infrastructure	Tourism	Portland

NO.	PROJECT NAME	SECTOR	LOCATION
21	Trade Training Centre	Education	Portland
22	CFA Building Upgrade	Commercial	Hamilton
23	Rail Siding - Iluka	Mining	Hamilton
24	Relocation of School	Education	Hamilton
25	Willatook Wind Farm	Energy	Willatook
26	Tarrone Power Station	Energy	Tarrone
27	Shaw River Power Station	Energy	Orford
28	Berrybank Windfarm	Energy	Berrybank
29	Mt Gellibrand Wind Farm	Energy	Mt Gellibrand
30	Cape Sir William Grant Wind Farm	Energy	Portland
31	Stockyard Hill Wind Farm and Terminal Station Facility	Energy	Skipton
32	Deakin University – campus accommodation	Education	Warrnambool
33	Colac Secondary College - Stage 3	Education	Colac
34	Warrnambool Regional Airport	Transport	Mailors Flat
35	Lyndoch Aged Care – Waterside Redevelopment	Residential	Warrnambool
36	Biogas - Renewable Energy Plant (Waste Conversion to energy)	Energy	Colac
37	Residential development	Residential	Hamilton
38	Bluewater Fitness Centre	Commercial	Colac
39	Penshurst Wind Farm	Energy	south/ south west of Penshurst.

NO.	PROJECT NAME	SECTOR	LOCATION
40	Casterton & adjoining Shires Windfarm	Energy	Casterton and adjoining shires
41	Darlington Wind Farm	Energy	East and south of the Darlington
42	Princes Highway Duplication - Winchelsea to Colac	Transport	Colac
43	Ryan Corner Wind Farm	Energy	10 km north west of Port Fairy
44	Mortlake Wind Farm - South	Energy	South of Mortlake
45	Tarrone Wind Farm	Energy	Tarrone
46	Wave Energy Power Station	Energy	Portland
47	Loch Ard Interpretive Centre	Tourism	Port Campbell
48	Hawkesdale Wind Farm	Energy	South and east of Hawkesdale
49	BCD Resources NL - Copper Project	Mining	north of Glenthompson
50	Woolsthorpe Wind Farm	Energy	West of Woolsthorpe
51	Drysdale Wind Farm	Energy	North of Purnim
52	Salt Creek Wind Farm	Energy	North of Mortlake
53	Naroghid Wind Farm	Energy	Naroghid
54	Newfield Wind Farm	Energy	Newfield
55	The Sisters Wind Energy Project	Energy	The Sisters
56	Port Fairy Wave Energy Project	Energy	Port Fairy
57	Moonlight Head Eco-Hotel	Tourism	Wattle Hill
58	Southern Ocean Beach House [97 unit motel]	Hospitality	Port Campbell
59	Biodiesel Project	Energy	Warrnambool
60	Portland Aluminum	Manufacturing	Portland

PROJECTS & VALUE



NO	PROJECT NAME
1	Macarthur Wind Farm
2	Mortlake Power Station
3	Residential Growth Areas - Investment in Housing Lots
4	Oaklands Hill Windfarm
5	South West Healthcare - Warrnambool Campus Stage 2
6	Dairy Farming
7	Lakes Edge Housing Development
8	New Retail and Commercial Office Outlets
9	Timber Harvesting
10	Grampians Walk
11	Morton's Lane Windfarm
12	Coleraine Hospital Redevelopment
13	Koroit Geothermal Project
14	Commercial & Retail Development
15	Warrnambool Entertainment Centre Redevelopment
16	Colac Trade Training Centre (TTC)
17	Chicken Farm
18	Portland Multi Unit Development
19	GP Super Clinic
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21	Trade Training Centre
22	CFA Building Upgrade
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25	Willatook Wind Farm
26	Taronee Power Station
27	Shaw River Power Station
28	Berrybank Windfarm
29	Mt Gillbrand Wind Farm
30	Cape Sir William Grant Wind Farm
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32	Deakin University - campus accommodation
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36	Bigas - Renewable Energy Plant (Waste Conversion to energy)
37	Residential development
38	Bluewater Fitness Centre
39	Penshurst Wind Farm
40	Casterton & adjoining Shires Windfarm
41	Darlington Wind Farm
42	Princes Highway Duplication - Windhills to Colac
43	Ryan Corner Wind Farm
44	Mortlake Wind Farm - South
45	Taronee Wind Energy Facility
46	Wave Energy Power Station
47	Loch Ard Interpretive Centre
48	Hawkesdale Wind Farm
49	BCD Resources NL - Copper Project
50	Woolthorpe Wind Farm
51	Drysdale Wind Farm
52	Salt Creek Wind Farm
53	Naroghid Wind Farm
54	Newfield Wind Farm
55	The Sisters Wind Energy Project
56	Port Fairy Wave Energy Project
57	Moonlight Head Eco-Hotel
58	Southern Ocean Beach House [97 unit motel]
59	Biodiesel Project
60	Portland Aluminium



PROJECTS & VALUE

DATA

NO.	PROJECT NAME	INDUSTRY	PROJECT VALUE \$M
1	Macarthur Wind Farm	Energy	1,000
2	Mortlake Power Station	Energy	505
3	Residential Growth Areas – Investment in Housing Lots	Residential	404
4	Oaklands Hill Windfarm	Energy	200
5	South West Healthcare – Warrnambool Campus Stage 2	Health	195
6	Dairy Farming	Dairy	100
7	Lakes Edge Housing Development	Residential	80
8	New Retail and Commercial Office Outlets	Commercial	50
9	Timber Harvesting	Forestry	30
10	Grampians Walk	Tourism	26
11	Morton's Lane Windfarm	Energy	24
12	Coleraine Hospital Redevelopment	Health	20
13	Koroit Geothermal Project	Energy	10
14	Commercial & Retail Development	Commercial	9
15	Warrnambool Entertainment Centre Redevelopment	Hospitality	9
16	Colac Trade Training Centre (TTC)	Education	6
17	Chicken Farm	Primary Production	6
18	Portland Multi Unit Development	Residential	5
19	GP Super Clinic	Health	5
20	Harbour Infrastructure	Tourism	5

NO.	PROJECT NAME	INDUSTRY	PROJECT VALUE \$M
21	Trade Training Centre	Education	4
22	CFA Building Upgrade	Commercial	4
23	Rail Siding - Iluka	Mining	4
24	Relocation of School	Education	4
25	Willatook Wind Farm	Energy	1,000
26	Tarrone Power Station	Energy	500
27	Shaw River Power Station	Energy	500
28	Berrybank Windfarm	Energy	484
29	Mt Gellibrand Wind Farm	Energy	460
30	Cape Sir William Grant Wind Farm	Energy	120
31	Stockyard Hill Wind Farm and Terminal Station Facility	Energy	50
32	Deakin University – campus accommodation	Education	13
33	Colac Secondary College - Stage 3	Education	13
34	Warrnambool Regional Airport	Transport	11
35	Lyndoch Aged Care – Waterside Redevelopment	Residential	8
36	Biogas - Renewable Energy Plant (Waste Conversion to energy)	Energy	7
37	Residential development	Residential	7
38	Bluewater Fitness Centre	Commercial	5
39	Fenshurst Wind Farm	Energy	1,000

NO.	PROJECT NAME	INDUSTRY	PROJECT VALUE \$M
40	Casterton & adjoining Shires Windfarm	Energy	1,000
41	Darlington Wind Farm	Energy	720
42	Princes Highway Duplication - Winchelsea to Colac	Transport	300
43	Ryan Corner Wind Farm	Energy	300
44	Mortlake Wind Farm - South	Energy	200
45	Tarrone Wind Farm	Energy	200
46	Wave Energy Power Station	Energy	165
47	Loch Ard Interpretive Centre	Tourism	150
48	Hawkesdale Wind Farm	Energy	130
49	BCD Resources NL - Copper Project	Mining	100
50	Woolsthorpe Wind Farm	Energy	85
51	Drysdale Wind Farm	Energy	70
52	Salt Creek Wind Farm	Energy	70
53	Naroghid Wind Farm	Energy	66
54	Newfield Wind Farm	Energy	50
55	The Sisters Wind Energy Project	Energy	50
56	Port Fairy Wave Energy Project	Energy	30
57	Moonlight Head Eco-Hotel	Tourism	23
58	Southern Ocean Beach House [97 unit motel]	Hospitality	15
59	Biodiesel Project	Energy	10
60	Portland Aluminum	Manufacturing	1,000

3.3 Project Probability

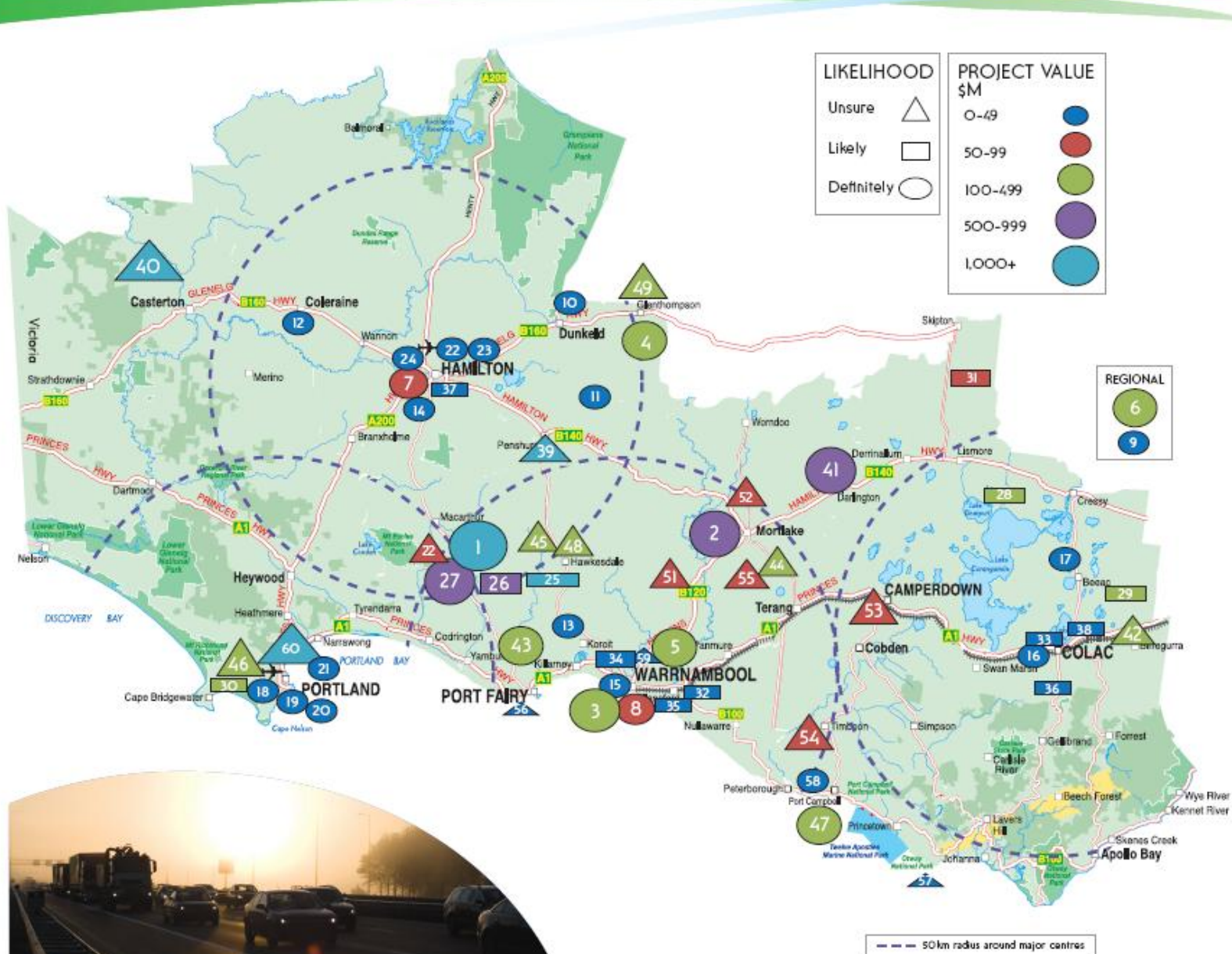
The prediction for the identified investment proposals to be delivered is very positive. Some 40% of the projects (valued at \$2.7 billion) are classed as 'definite' for delivery within the next five years. A further 23% (value \$3.4 billion) are seen as 'likely' to be completed within the same time frame.

	PROBABILITY WITHIN NEXT 5 YEARS					
	Definitely		Likely		Unsure	
	No.	Total Value (\$m)	No.	Total Value (\$m)	No.	Total Value (\$m)
Colac-Otway	2	\$12	5	\$785	0	\$0
Corangamite	0	\$0	2	\$534	5	\$304
Glenelg	4	\$19	0	\$0	4	\$2,285
Moyne	3	\$1,515	3	\$2,000	11	\$2,855
Southern Grampians	9	\$371	1	\$7	1	\$100
Warrnambool	4	\$658	3	\$32	1	\$10
Regional	2	\$130	0	\$0	0	\$0
Total	24	\$2,705	14	\$3,358	22	\$5,554
Total Percentage	40%	23%	23%	29%	37%	48%

Table 12. Probability of projects within 5 years

The following map plots the probability scenario for projects across the region and cross-references the projects by value.

LIKELIHOOD & VALUE



NO	PROJECT NAME
1	MacArthur Wind Farm
2	Mortlake Power Station
3	Residential Growth Areas - Investment in Housing Lots
4	Oaklands Hill Windfarm
5	South West Healthcare - Warrnambool Campus Stage 2
6	Dairy Farming
7	Lakes Edge Housing Development
8	New Retail and Commercial Office Outlets
9	Timber Harvesting
10	Grampians Walk
11	Morton's Lane Windfarm
12	Coleraine Hospital Redevelopment
13	Koroit Geothermal Project
14	Commercial & Retail Development
15	Warrnambool Entertainment Centre Redevelopment
16	Colac Trade Training Centre (TTC)
17	Chicken Farm
18	Portland Multi Unit Development
19	GP Super Clinic
20	Harbour Infrastructure
21	Trade Training Centre
22	CFA Building Upgrade
23	Rail Siding - Iluka
24	Relocation of School
25	Willatook Wind Farm
26	Taronee Power Station
27	Shaw River Power Station
28	Berrybank Windfarm
29	Mt. Gellibrand Wind Farm
30	Cape Sir William Grant Wind Farm
31	Stockyard Hill Wind Farm and Terminal Station Facility
32	Deakin University - campus accommodation
33	Colac Secondary College - Stage 3
34	Warrnambool Regional Airport
35	Lyndoch Aged Care - Waterside Redevelopment
36	Bigas - Renewable Energy Plant (Waste Conversion to energy)
37	Residential development
38	Bluewater Fitness Centre
39	Pershurst Wind Farm
40	Casterton & adjoining Shires Windfarm
41	Darlington Wind Farm
42	Princes Highway Duplication - Windhills to Colac
43	Ryan Corner Wind Farm
44	Mortlake Wind Farm - South
45	Taronee Wind Energy Facility
46	Wave Energy Power Station
47	Loch Ard Interpretive Centre
48	Hawkesdale Wind Farm
49	BCD Resources NL - Copper Project
50	Woolthorpe Wind Farm
51	Drysdale Wind Farm
52	Salt Creek Wind Farm
53	Naroghid Wind Farm
54	Newfield Wind Farm
55	The Sisters Wind Energy Project
56	Port Fairy Wave Energy Project
57	Moonlight Head Eco-Hotel
58	Southern Ocean Beach House [97 unit motel]
59	Biodiesel Project
60	Portland Aluminium



LIKELIHOOD & VALUE

DATA

NO.	PROJECT NAME	PROJECT VALUE \$M	PROJECT PROB. WITHIN NEXT 5 YRS
1	Macarthur Wind Farm	1,000	Definitely
2	Mortlake Power Station	505	Definitely
3	Residential Growth Areas – Investment in Housing Lots	404	Definitely
4	Oaklands Hill Windfarm	200	Definitely
5	South West Healthcare – Warrnambool Campus Stage 2	195	Definitely
6	Dairy Farming	100	Definitely
7	Lakes Edge Housing Development	80	Definitely
8	New Retail and Commercial Office Outlets	50	Definitely
9	Timber Harvesting	30	Definitely
10	Grampians Walk	26	Definitely
11	Morton's Lane Windfarm	24	Definitely
12	Coleraine Hospital Redevelopment	20	Definitely
13	Koroit Geothermal Project	10	Definitely
14	Commercial & Retail Development	9	Definitely
15	Warrnambool Entertainment Centre Redevelopment	9	Definitely
16	Colac Trade Training Centre (TTC)	6	Definitely
17	Chicken Farm	6	Definitely
18	Portland Multi Unit Development	5	Definitely
19	GP Super Clinic	5	Definitely
20	Harbour Infrastructure	5	Definitely

NO.	PROJECT NAME	PROJECT VALUE \$M	PROJECT PROB. WITHIN NEXT 5 YRS
21	Trade Training Centre	4	Definitely
22	CFA Building Upgrade	4	Definitely
23	Rail Siding - Iluka	4	Definitely
24	Relocation of School	4	Definitely
25	Willatook Wind Farm	1,000	Likely
26	Tarrone Power Station	500	Likely
27	Shaw River Power Station	500	Likely
28	Berrybank Windfarm	484	Likely
29	Mt Gellibrand Wind Farm	460	Likely
30	Cape Sir William Grant Wind Farm	120	Likely
31	Stockyard Hill Wind Farm and Terminal Station Facility	50	Likely
32	Deakin University – campus accommodation	13	Likely
33	Colac Secondary College - Stage 3	13	Likely
34	Warrnambool Regional Airport	11	Likely
35	Lyndoch Aged Care – Waterside Redevelopment	8	Likely
36	Biogas - Renewable Energy Plant (Waste Conversion to energy)	7	Likely
37	Residential development	7	Likely
38	Bluewater Fitness Centre	5	Likely
39	Penshurst Wind Farm	1,000	Unsure
40	Casterton & adjoining Shires Windfarm	1,000	Unsure

NO.	PROJECT NAME	PROJECT VALUE \$M	PROJECT PROB. WITHIN NEXT 5 YRS
41	Darlington Wind Farm	720	Unsure
42	Princes Highway Duplication - Winchelsea to Colac	300	Unsure
43	Ryan Corner Wind Farm	300	Unsure
44	Mortlake Wind Farm - South	200	Unsure
45	Tarrone Wind Farm	200	Unsure
46	Wave Energy Power Station	165	Unsure
47	Loch Ard Interpretive Centre	150	Unsure
48	Hawkesdale Wind Farm	130	Unsure
49	BCD Resources NL - Copper Project	100	Unsure
50	Woolsthorpe Wind Farm	85	Unsure
51	Drysdale Wind Farm	70	Unsure
52	Salt Creek Wind Farm	70	Unsure
53	Naroghid Wind Farm	66	Unsure
54	Newfield Wind Farm	50	Unsure
55	The Sisters Wind Energy Project	50	Unsure
56	Port Fairy Wave Energy Project	30	Unsure
57	Moonlight Head Eco-Hotel	23	Unsure
58	Southern Ocean Beach House [97 unit motel]	15	Unsure
59	Biodiesel Project	10	Unsure
60	Portland Aluminum	1,000	Unsure

3.4 Economic Analysis

A high level economic analysis of the impact of those projects identified as 'definite' has been undertaken. The analysis focuses on 3 elements:

1. Regional output;
2. Employment; and
3. Value chain analysis

The analysis has been undertaken using REMplan economic modeling software. Consistent with the scope of this report, the analysis has been conducted over a 5 year timeframe

1. Peak employment numbers from each project identified as definite to proceed during the construction or build phase; and
2. Using project information, the likely ongoing employment resulting from the project after the completion of the initial construction or build phase;

The modeling has been summarised to provide:

1. The direct and indirect economic benefit and employment created from the projects during the construction phase of the projects;
2. The direct and indirect economic benefit and employment that will flow from the direct project investment after the construction phase; and
3. A value chain analysis of the impacts of the projects on the other sectors of the GSC economy



Regional output

Ref	Name	Construction phase			Ongoing phase		
		direct	indirect	total	direct	indirect	total
1	Macarthur wind farm	1,000	1,025	2,025	11	7	18
2	Mortlake power station	505	518	1,023	5	3	7
3	Warrnambool residential growth	404	413	817	3	1	4
4	Oaklands Hill Wind farm	200	205	405	5	3	7
5	Southwest Healthcare - S2 Campus	195	200	395	4	3	7
6	Regional dairy sector	100	103	203	10	6	16
7	Lake Edge Housing Development	80	82	162	-	-	-
8	Retail and commercial development [W]	50	52	102	1	1	2
9	Regional timber harvesting	30	32	62	-	-	-
10	Grampians Walk	26	27	53	2	1	3
11	Morton Lanes Wind Farm	24	25	49	5	3	7
12	Coleraine Hospital redevelopment	20	21	41	2	2	4
13	Koroit geothermal	10	10	20	1	1	1
14	Retail and commercial development [H]	9	9	18	1	-	1
15	Warrnambool entertainment centre	9	9	18	2	1	3
16	Colac trade training centre	6	6	12	-	-	-
17	Beeac chicken farm	6	6	12	1	1	2
18	Portland multi-unit development	5	4	9	1	-	1
19	GP Super Clinic	5	5	10	1	1	2
20	Harbour Infrastructure	5	5	10	-	-	-
21	Trade training centre	4	4	8	1	1	1
22	CFA Building upgrade	4	4	8	-	-	-
23	Rail Siding - Iluka	4	4	8	-	-	-
24	Relocation of school	4	4	8	-	-	-
		\$2,705	\$2,773	\$5,478	\$56	\$35	\$86

Table 13. Regional output during the construction and ongoing phase

The analysis indicates the following:

Construction phase

- The expected \$2.7bn worth of initial investment will generate an additional \$2.8bn worth of indirect investment;
- This expenditure is of a project nature, it is not reoccurring;
- The inherent multiplier across all projects over the region is 2.03, with the highest project being the Regional Timber Industry development with a multiplier of 2.06, and the lowest the Portland Multi-unit development with a multiplier of 1.8
- If the multiplier could be increased by 10% to 2.23, through for example, increased use of local firms, improvement in local supply chains, greater local spend then economic output would increase to \$6.0b, and an additional 1,840 jobs would be created over the 5 year period of this study.

Ongoing phase

- After the initial construction phase, the definite projects will result in an additional \$86m worth of economic output per annum
- Several projects result in no or very little ongoing economic benefit to the region. These projects have typically been involved in building infrastructure that of itself is not productive, for example housing



Employment

		Construction Phase			Ongoing Phase		
		direct	indirect	total	direct	indirect	total
1	Macarthur wind farm	330	441	771	25	27	52
2	Mortlake power station	430	574	1,004	10	11	21
3	Warrnambool residential growth	660	860	1,520	7	6	13
4	Oaklands Hill Wind farm	150	200	350	10	11	21
5	Southwest Healthcare - S2 Campus	100	133	233	40	13	53
6	Regional dairy sector	50	67	117	50	17	67
7	Lake Edge Housing Development	20	27	47	1	-	1
8	Retail and commercial development [W]	30	40	70	4	3	7
9	Regional timber harvesting	50	67	117	-	-	-
10	Grampians Walk	10	13	23	15	6	21
11	Morton Lanes Wind Farm	150	200	350	10	11	21
12	Coleraine Hospital redevelopment	40	52	92	20	7	27
13	Koroit geothermal	50	67	117	2	2	4
14	Retail and commercial development [H]	10	13	23	2	1	3
15	Warrnambool entertainment centre	20	27	47	10	5	15
16	Colac trade training centre	30	40	70	-	-	-
17	Beeac chicken farm	5	7	12	5	2	7
18	Portland multi-unit development	10	5	15	2	1	3
19	GP Super Clinic	20	27	47	10	3	13
20	Harbour Infrastructure	15	20	35	1	-	1
21	Trade training centre	35	47	82	6	2	8
22	CFA Building upgrade	20	27	47	2	-	2
23	Rail Siding - Iluka	12	16	28	-	-	-
24	Relocation of school	15	20	35	-	-	-
		2,262	2,990	5,252	232	128	360

Table 14. Employment during construction and ongoing phase

The analysis indicates the following:

Construction phase

- During the construction phase 2,262 new jobs are directly created with an additional 2,990 created as a result of the flow on effects of the project construction

Ongoing phase

- Subsequent to the construction phase, the projects will be responsible for an additional 360 jobs
- The low level of ongoing jobs resulting from the initial projects reflects the capital intensive nature of the projects and the low ongoing operating costs associated with their operations.

Value chain analysis

Table 15. Value Chain (as shown below), highlights the impact of the projects at both a direct and ongoing basis on the sectors of the GSC economy. This analysis has been carried out on a jobs basis so the number of new jobs that will be required in each sector is highlighted.



		Construction phase														Ongoing												
		Construction		Construction	Retail	Manufacturing	PSTS	AFS	ASS	Transport	Other services	Health	Wholesale trade	Other	TOTAL	Construction	Retail	PSTS	AFS	ASS	Elec, Gas	Transport	Other services	Health	Agriculture, forestry & fishing	Other	TOTAL	
1	MacArthur wind farm	330		133	57	47	26	24	22	19	18	16	16	63	771		4	5			26						17	52
2	Mortlake power station	430		174	74	60	33	32	30	25	23	22	20	81	1,004											21	21	
3	Residential growth [W]	660		265	110	90	50	50						295	1,520			3	3	1	1					5	13	
4	Oaklands Hill Wind farm	150		61	26	21	11	11	10					60	350			2			10					9	21	
5	Southwest Healthcare - S2	100		41	18	14								60	233			3		2			41		7	53		
6	Regional dairy sector	50		20	9	7	4	4						23	117									55	12	67		
7	Lake Edge Housing [H]	20		8	3	3								13	47										1	1		
8	Retail and commercial [W]	30		12	5	4								19	70			2	2	1	1				1	7		
9	Regional timber harvesting	50		20	9	7	4	4						23	117										0	0		
10	Grampians Walk	10		4	2									7	23			6		10	1				4	21		
11	Morton Lanes Wind Farm	150		61	26	21	11	11	10					60	350			2			10				9	21		
12	Coleraine Hospital	40		16	4									32	92			2					21		4	27		
13	Koroit geothermal	50		20	9	7	4	4						23	117					2					2	4		
14	Retail and commercial [H]	10		4	2									7	23			1	1						1	3		
15	Entertainment centre [W]	20		8	4	3								12	47			1				10			3	15		
16	Colac trade training centre	30		12	5	4								19	70										0	0		
17	Beeac chicken farm	5		2	1	1								3	12								6	1	1	7		
18	Unit development [P]	10												5	15			1	1						1	3		
19	GP Super Clinic	20		8	4	3								12	47			1					10		2	13		
20	Harbour Infrastructure	15		6	3	2								9	35										1	1		
21	Trade training centre	35		14	6	5	3	3						16	82										8	8		
22	CFA Building upgrade	20		8	3	3								13	47										2	2		
23	Rail Siding - Iluka	12		5	2	2								7	28										0	0		
24	Relocation of school	15		6	3	2								9	35										0	0		
		2,262		908	385	306	146	143	72	44	41	38	36	871	5,252		4	29	7	14	4	48	0	10	72	61	111	360

Table 15. Value Chain

The analysis highlights:

- In addition to needing 3,170 construction workers over the next 5 years, other sectors that will need capacity to support these projects include:- retail 385 staff, manufacturing 306 new jobs, professional, scientific and technical service sectors 146 new jobs, and the accommodation and food sector needing 143 new staff
- This increase represents significant growth in the GSC economy over the construction phase, however they are not sustainable unless other projects are secured in addition to those identified as definite
- Subsequent to construction, the sectors that benefit include health, requiring an additional 72 workers, agriculture, forestry and fishing requiring an additional 61 workers and the electricity and gas sector requiring an additional 48 staff
- The 360 ongoing jobs represent sustainable economic growth. These new jobs are required to support the ongoing operations of the projects we have identified as definite.



3.5 Key Findings

Investment Outlook

- Significant increase in the value of future investments in the region in the five year horizon
- Sixty major projects with an estimated value of \$11.6bn
- The projects combined will create 7,800 jobs during the construction periods.
- Ongoing employment creation whilst at a much lower level is still significant with an estimated 1,000 new jobs.
- The projects are dominated, in value, by energy related developments, totalling 29 projects and \$9bn in value.
- The energy projects cover a range of technologies, including wind power, geothermal power, gas-fired power, bio-diesel and wave energy.
- Wind projects represent 68% by number and 80% by value of total energy projects.
- Future investments in new energy projects will depend on government policy in relation to alternate energy production and carbon pricing.
- The prediction for the identified investment proposals to be delivered is very positive. Some 40% of the projects (valued at \$2.7bn) are classed as 'definite' for delivery within the next five years.
- Definite projects will generate indirect economic support of around \$2.8bn, bringing total output over 5 years to \$5.5bn.
- The definite projects have a multiplier effect of 2.03x. This could be increased by 10% and additional \$560m worth of economic output and 1,840 jobs would be created over a 5 year period.
- Around 5,250 jobs will be created during the construction phase of the definite projects.
- Ongoing annual economic output from definite projects will be around \$86m and employment of 360 jobs.
- A further 23% (value \$3.4bn) are seen as 'likely' to be completed within the same time frame.
- The projects also have a considerable multiplier effect on local and regional economies.
- The region faces numerous challenges to effectively manage, implement and support the effects the projects will have on the region's infrastructure and communities.

Key Issues and impacts

Workforce

- Educators and community's understanding of emerging career opportunities
- Minimal communication between industry and educators for career paths
- Local employment and engagement policy very beneficial
- Local work practice and skills need to reflect the project requirements
- Established regional employers require access to additional labour
- Project workforce demands impacts of local industry employment pool and increases wage competition

Accommodation

- Rapid increase in demand during construction period 1-3 years within 30/40 minutes travel time of projects
- High impact due to demand on residential rents and later the purchase of selected permanent housing
- Competition between local demand and construction workforce for residential housing
- Often investment expectations by local investors can be over ambitious
- Accommodation of workers in tourism hot spots during peak season maybe problematic
- Generally "worker villages" are not preferred by project managers if other options are available
- Demand for a range of accommodation types – Private housing, apartments, motels, private rooms through to caravans

Freight Transport Services and Infrastructure

- Bulk freight movement require a mixture of road and rail transport
- Road and rail corridors and support infrastructure require safety and efficiency upgrades
- Significant increases in heavy and small vehicle movements relating to projects
- Bulk transport flow direction within the GSC region is principally in a west to east direction between Mount Gambier and Melbourne. North to south from the Murray River regions south to Hamilton and Portland.

- Consistency in the application of heavy transport road usage regulations across the GSC region will provide efficiencies, for example consistency of access for B-double vehicles to local roads
- Efficient access to and from the Port of Portland for bulk shipping, road and rail transport is critical for the region's economic future
- Strategic regional air services provide an important service for movement of personnel and urgent equipment

Social Infrastructure

- Access to efficient telecommunications across the GSC region is critical for industry, community and emergency services
- Small towns utility services can be impacted significantly by construction workforce
- Quality support services for families such as schools, kindergartens and health services is important
- If new industry offers high numbers of permanent positions then education, health, child minding services and social services can also receive a positive growth in service demand
- A common practice for major project proponents financially support local communities and regions with community funds
- Access to modern leisure and recreation facilities provide a key driver for relocation decisions



4. Project Data Sheets

4.1 Data Sheets

An informative data or fact sheet has been completed for a range of the listed projects. The fact sheets are intended to provide demonstrative information on the impacts of individual projects as well as conveying the variety of projects being proposed for the region.

The following table lists the projects that have been included in a fact sheet. The fact sheets are in Appendix 3.

Project No.	Project	Sector				Municipality					
		Energy	Dairy/Food	Forestry	Other	Colac Otway	Corangamite	Glenelg	Moyne	Sth Grampians	Warrnambool
1	Shaw River Power Station	✓							✓		
2	Macarthur Wind Farm	✓							✓		
3	Koroit Geothermal	✓							✓		
4	Oaklands Hill Wind Farm	✓								✓	
5	Coleraine Hospital				✓					✓	
6	Warrnambool Hospital				✓						✓
7	Residential Growth Areas				✓						✓
8	Timber Harvesting			✓				✓	✓	✓	
9	Dairy Farming		✓			✓	✓		✓		

Table 16. Projects divided by category and municipality

5. Prior Learning

5.1 Case Studies

The following four case study projects were selected to be included in this study because they reflect a change in the focus for new investment within the region that commenced around 1998 -2000 and is ongoing in the Great South Coast region today.

The case studies provide a reflective snap shot of each project during its construction period, their impacts on the immediate district and region, plus the long term social and economic opportunities each project has offered.

Each of the projects are different in their structure and need but linked in that they have provided a significant catalyst for further development within the GSC region. Two of the case studies relate to power production but using different energy sources, one case study is a mining and processing project and the final study is based on off shore gas extraction and on shore processing for delivery into the Victorian and South Australian distribution networks.

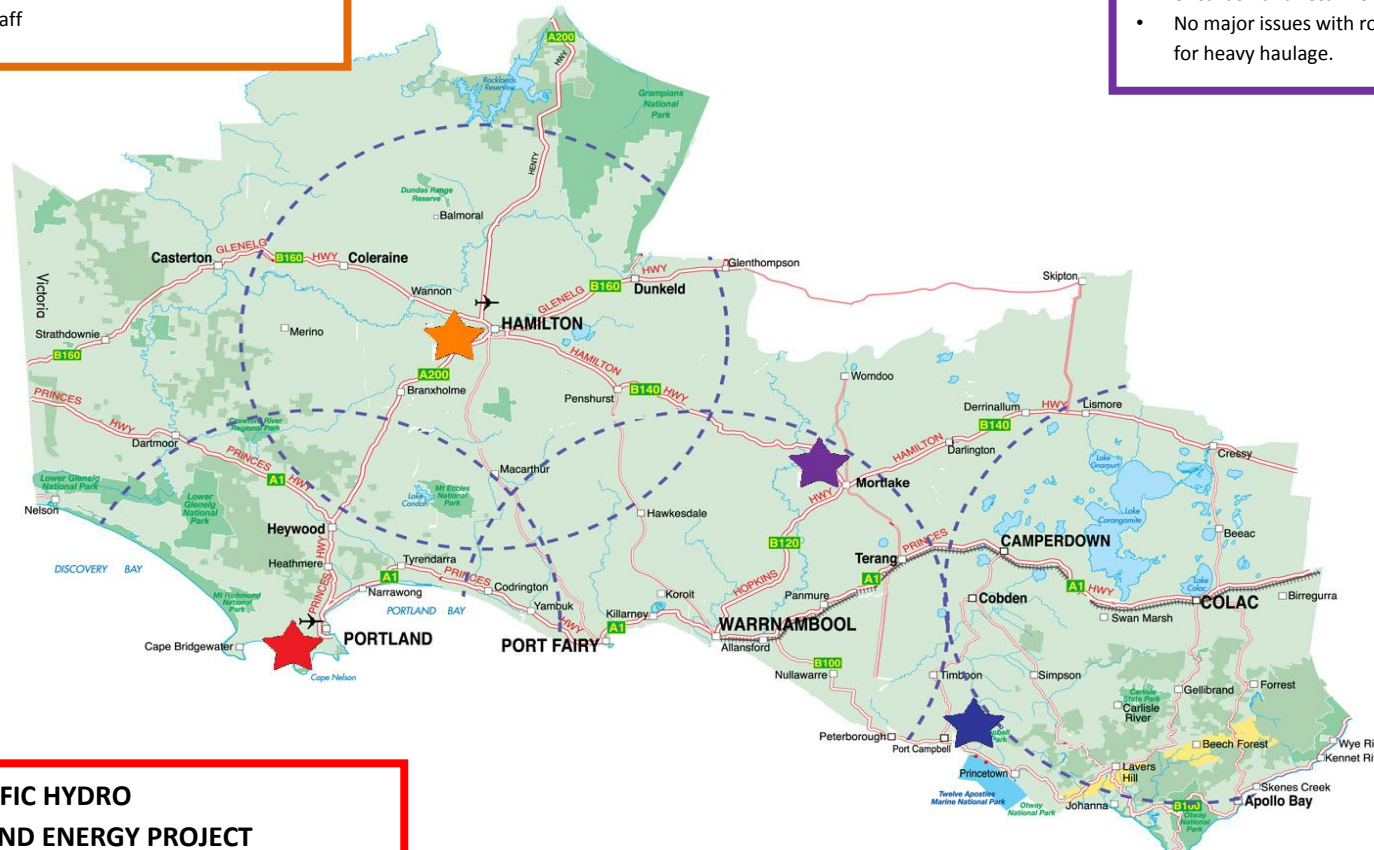


ILUKA RESOURCES LIMITED

- Project investment \$390m – Hamilton \$210m Douglas Mine \$180
- Accommodation mix of workers villages and private accommodation in Hamilton & Balmoral
- Villages fully self contained including recreation and catering facilities
- Workforce – construction 200> fly-in 80% local 20% Permanent 165> eft local 95% fly-in 5%
- All production export - Port Portland / Melbourne
- Workforce challenge retaining staff

ORIGIN ENERGY

- Project investment \$700m>
- Workforce peak: construction 370; Supervisors, Management 80 = 450 Up to 10 Permanent employees.
- “Local” employees majority from 100 k’s, but some from Portland although must camp locally as considered too dangerous to drive.
- Extremely well paid positions.
- Further investment in the Mortlake plant will depend on future cost of carbon and return on investment based on production sales.
- No major issues with road transport access from Melbourne to site for heavy haulage.



PACIFIC HYDRO PORTLAND WIND ENERGY PROJECT

- Project investment of \$350m>
- All accommodation has been provided by the private sector and this has not been a difficult process to manage.
- Pacific hydro very satisfied with the efficiency of movement of equipment thru the port of Portland.
- Total workforce for construction: Approx 400 plus (10% O/S Fly-in; 90%; Local/Australian Based Workers (Approx 30 Interstate).
- Younger people have moved to there with their families and purchased homes and increased retail spend in Portland.

MINERVA GAS FIELD DEVELOPMENT

- Joint Venture – BHP (90%) & Santos (10%)
- Project Investment \$150m> combination of off-shore gas wells and on shore processing and distribution
- Workforce construction Off-shore > 200 On-shore >120. Operational staff 14.
- Local workforce construction 40% permanent 50%
- Annual spend in region approx \$2m
- Accommodation provided by private operators
- Energy investments will continue

5.2 Key Findings

- Significant increase in income revenue for local, state and federal governments
- Additional expenditure and resources required by local and state government – human resources; infrastructure and maintenance
- Construction projects inject significant outside dollars into the local economy each week in wages; accommodation, supply chain services, transport and to local business owners
- Project workers have a significant higher disposable income than the regions traditional workforce
- Potential for large projects to have a negative impact on local people looking for residential housing due to increase in prices and limited supply
- Case study projects do provide long term benefits for local, regional and state economy in terms of revenue collected from the projects either directly or indirectly
- All case study projects have significantly assisted local communities by establishing a “community support fund”.
- The projects have introduced new industry sectors into the regional economy reducing the reliance on agriculture; education; health and government sectors for economic stability
- All projects have provided the potential for new business opportunities for existing business owners and contractors
- Investment decisions and return on investment for these project studies are influenced by domestic pricing for utility services and the value of the \$A at any given time.

Key Issues and impacts

Workforce

- Engagement of “fly in” of personnel and skills into the region
- General trend during construction by imported workforce is **not** to relocate their families during contract period
- Increased competition for local workforce skills and knowledge – positive and negative impact on community
- New opportunities for medium to long term employment for all genders in the regional workforce
- Higher remuneration packages attracting outside professionals and trained, young workers back into the region
- Provided a reason for community members who had left the region to return “home” to further their careers – begin to arrest the leakage of our population in 20 – 29 year age bracket.
- Demonstrated some gaps in technology, numeracy and literacy skills within all sectors of the workforce
- Education and training opportunities increased for sections of the workforce directly or indirectly linked to the projects
- Higher awareness of link to employment and social behavior
- Raised general awareness of responsibilities by employees, contractors and project managers in relation to occupational health and safety, responsibility for the environment, therefore increasing the professionalism of the workforce across the region
- Demographic of workforce in the districts where the projects occurred were changed
- Education and training standards required by case study project employers for employees and contractors significantly higher than the accepted local practice

Accommodation

- Workers villages are not the preferred form of accommodating “fly in” workforce for major projects within the GSC region
- Workers villages are considered by construction companies when workforce construction numbers may exceed local accommodation capability or the project is in an isolated location
- Level of demand for all types of accommodation in a project area reflects the project activity and type of related skills needed at any time
- Service apartment style accommodation is preferred by management during the project construction and a variety of individual and shared accommodation types for general workforce
- Accommodation facilities that are close to recreation and leisure facilities are preferred
- Generally for major project construction the “fly in” workforce are allocated a living away from home allowance
- Local community may experience increased competition for certain sectors of rental and private ownership properties
- The supply of accommodation can be a challenge within small towns, if travel distance to larger towns exceeds accepted safe travel distances
- If permanent workforce is significant in numbers then house prices may rise significantly which may have a flow on impact in towns within a reasonable travel time

Freight Transport Services and Infrastructure

- Port of Portland very well regarded for access and efficiency for handling bulk products
- Deep water port access is a desired facility for many projects
- Additional heavy truck movements on traditional local roads and arterial roads required significant additional investment and upgrades
- Some restriction to efficient road access across the GSC region, greater western Victoria and SE South Australia
- Road infrastructure depreciation has increased and traffic flow around the projects feeder roads does increase especially during shift changeovers

- Demand for skilled transport and logistics operators
- Rail freight infrastructure and available services needed to be developed
- Coordination between project transport operators and community transport providers such as school buses is critical

Social Infrastructure

- Town residents experience additional people accessing the retail and service sectors that may require adjustment of attitude and improvement in standards
- New residents can find difficulty in assimilating into the local communities and social support networks structures
- New residents expectations and experiences on community facilities, public transport and service levels may not equal the reality
- Generally strong support amongst the local community for “real” opportunities to assist the development of their region
- Project owners do willingly embrace community projects with strong financial support through community funds and access to their staff
- Mobile phone coverage, internet access and delivery speed needs to dramatically improve
- Generally health, education, children’s services and sporting clubs have benefited by additional people into the region especially within small townships
- The network of people with an increased awareness of the GSC region and its towns has been significantly expanded which will have a very positive, long term trickle down impact
- Very minimal historical data collected or retained on the case study projects and the social and economic changes to the region

PART C – Projecting the Future

6. Key Impacts

6.1 Workforce

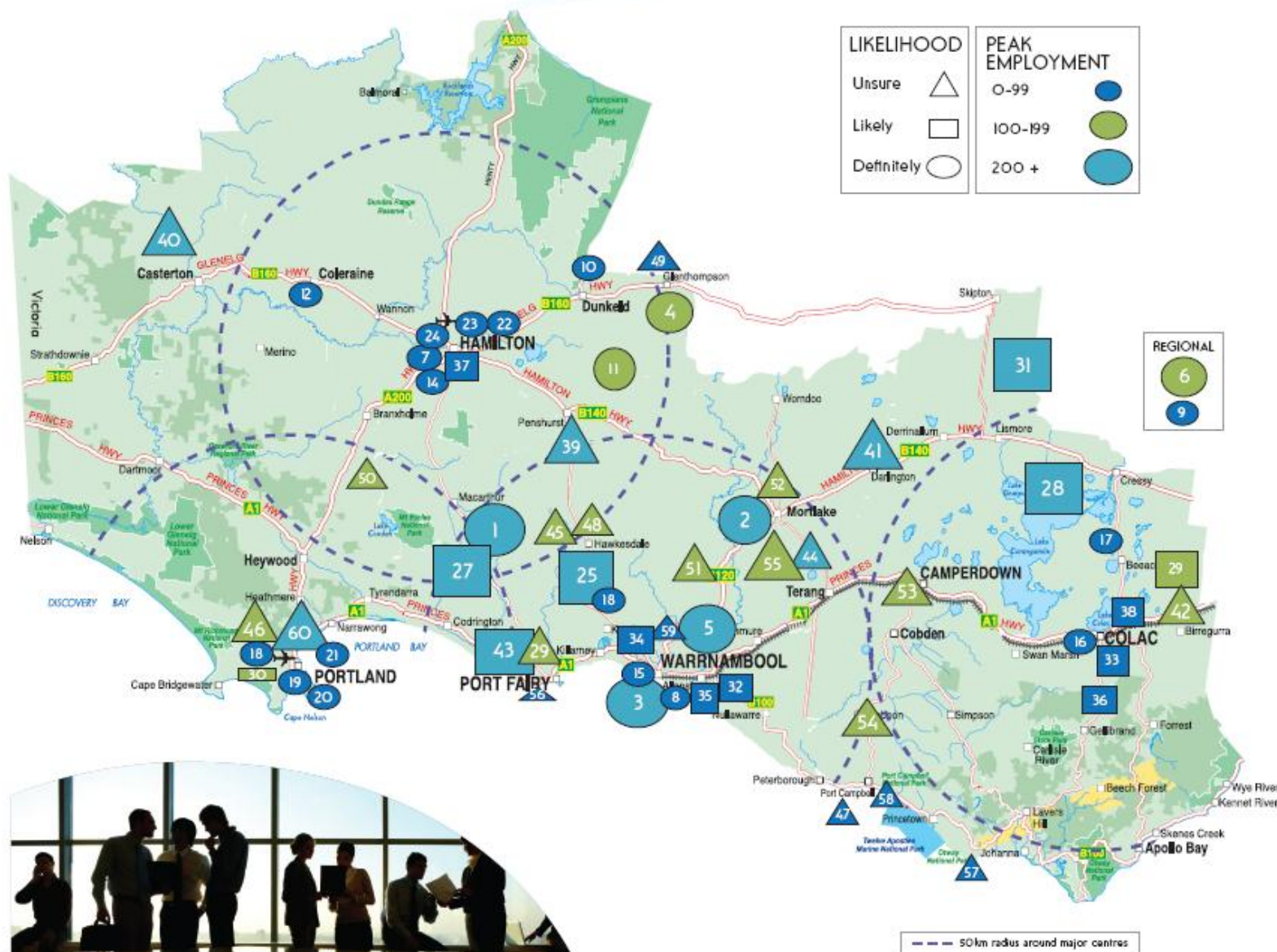
- The potential for jobs growth within the existing economy is solid – over 1,500 new jobs in the next 5 years
- A 2010 workforce study found that 62% of businesses surveyed in the region expected to increase their workforce in the next 3 years as compared with State wide data of 35%.
- Unemployment within the region is below the State wide average
- Employment skills and workplace compliance intelligence requires up skilling by regional workforce
- Average annual employment growth in all areas within the GSC region is forecast to outstrip population growth over the next decade, a rate higher than any other region in the state,
- The region is facing critical skills and people shortages
- The projects combined will create 7,800 jobs during the construction periods
- Ongoing employment creation whilst at a much lower level is still significant with an estimated 1,000 new jobs
- Significant opportunity for skilled, trained local workforce
- Conditions of employment often very different to past experiences, eg 12 hour work days and shift work

6.2 Accommodation

- Forward planning for stronger demand for residential and commercial accommodation within the stronger growth sectors of the region needs a collaborative approach between private and public sectors
- Within the growth sectors competition for medium term rental properties will strengthen
- Living away from home allowance provided to construction workers
- Shared accommodation is common during construction period
- Accommodation within 30 minutes travel to the project site is preferred
- Accommodation within or close to a town with entertainment and recreational facilities is keenly sought after
- Apartment style accommodation is preferred at management level
- Permanent employee's preference is for modern, traditional residential and lifestyle accommodation located near all essential and recreational services and within easy travel distance to their place of employment



WORKFORCE & LIKELIHOOD



NO	PROJECT NAME
1	Macarthur Wind Farm
2	Mortlake Power Station
3	Residential Growth Areas - Investment in Housing Lots
4	Oaklands Hill Windfarm
5	South West Healthcare - Warrnambool Campus Stage 2
6	Dairy Farming
7	Lakes Edge Housing Development
8	New Retail and Commercial Office Outlets
9	Timber Harvesting
10	Grampians Walk
11	Morton's Lane Windfarm
12	Coleraine Hospital Redevelopment
13	Koroit Geothermal Project
14	Commercial & Retail Development
15	Warrnambool Entertainment Centre Redevelopment
16	Colac Trade Training Centre (TTC)
17	Chicken Farm
18	Portland Multi Unit Development
19	GP Super Clinic
20	Harbour Infrastructure
21	Trade Training Centre
22	CFA Building Upgrade
23	Rail Siding - Iluka
24	Relocation of School
25	Willatook Wind Farm
26	Taronee Power Station
27	Shaw River Power Station
28	Berrybank Windfarm
29	Mt Gellibrand Wind Farm
30	Cape Sir William Grant Wind Farm
31	Stockyard Hill Wind Farm and Terminal Station Facility
32	Deakin University - campus accommodation
33	Colac Secondary College - Stage 3
34	Warrnambool Regional Airport
35	Lyndoch Aged Care - Waterside Redevelopment
36	Biogas - Renewable Energy Plant (Waste Conversion to energy)
37	Residential development
38	Blawater Fitness Centre
39	Penhurst Wind Farm
40	Casterton & adjoining Shires Windfarm
41	Darlington Wind Farm
42	Princes Highway Duplication - Windshela to Colac
43	Ryan Corner Wind Farm
44	Mortlake Wind Farm - South
45	Taronee Wind Energy Facility
46	Wave Energy Power Station
47	Loch Ard Interpretive Centre
48	Hawkesdale Wind Farm
49	BCD Resources NL - Copper Project
50	Woolthorpe Wind Farm
51	Drysdale Wind Farm
52	Salt Creek Wind Farm
53	Naroghd Wind Farm
54	Newfield Wind Farm
55	The Sisters Wind Energy Project
56	Port Fairy Wave Energy Project
57	Moonlight Head Eco-Hotel
58	Southern Ocean Beach House (97 unit motel)
59	Biodiesel Project
60	Portland Aluminium



WORKFORCE & LIKELIHOOD

DATA

NO.	PROJECT NAME	LOCATION	Project Probability Within next 5 yrs	Workforce	
				Construction Peak	Ongoing
1	Macarthur Wind Farm	East of Macarthur	Definitely	300	25
2	Mortlake Power Station	Mortlake	Definitely	430	15
3	Residential Growth Areas – Investment in Housing Lots	Warrnambool	Definitely	660	20
4	Oaklands Hill Windfarm	Glenthompson	Definitely	150	10
5	South West Healthcare – Warrnambool Campus Stage 2	Warrnambool	Definitely	200	40
6	Dairy Farming	Regional	Definitely	50	20
7	Lakes Edge Housing Development	Hamilton	Definitely	20	-
8	New Retail and Commercial Office Outlets	Warrnambool	Definitely	30	300
9	Timber Harvesting	Regional	Definitely	50	-
10	Grampians Walk	Dunkeld	Definitely	10	15
11	Morton's Lane Windfarm	Woodhouse	Definitely	150	10
12	Coleraine Hospital Redevelopment	Coleraine	Definitely	40	20
13	Koroit Geothermal Project	Willatook/ Warrong districts.	Definitely	50	2
14	Commercial & Retail Development	Hamilton	Definitely	10	30
15	Warrnambool Entertainment Centre Redevelopment	Warrnambool	Definitely	20	10
16	Colac Trade Training Centre (TTC)	Colac	Definitely	30	-
17	Chicken Farm	Beac	Definitely	5	5
18	Portland Multi Unit Development	Portland	Definitely	10	-
19	GP Super Clinic	Portland	Definitely	20	-
20	Harbour Infrastructure	Portland	Definitely	15	-
21	Trade Training Centre	Portland	Definitely	35	-
22	CFA Building Upgrade	Hamilton	Definitely	20	-
23	Rail Siding - Iluka	Hamilton	Definitely	12	-
24	Relocation of School	Hamilton	Definitely	15	-
25	Willatook Wind Farm	Willatook	Likely	300	20
26	Tarrone Power Station	Tarrone	Likely	430	7
27	Shaw River Power Station	Orford	Likely	430	7
28	Berrybank Windfarm	Berrybank	Likely	240	25
29	Mt Gellibrand Wind Farm	Mt Gellibrand	Likely	116	20
30	Cape Sir William Grant Wind Farm	Portland	Unsure	150	10
31	Stockyard Hill Wind Farm and Terminal Station Facility	Skipton	Likely	240	30
32	Deakin University – campus accommodation	Warrnambool	Likely	16	10
33	Colac Secondary College - Stage 3	Colac	Likely	20	-
34	Warrnambool Regional Airport	Mallors Flat	Likely	15	-

NO.	PROJECT NAME	LOCATION	Project Probability Within next 5 yrs	Workforce	
				Construction Peak	Ongoing
35	Lyndoch Aged Care – Waterside Redevelopment	Warrnambool	Likely	10	10
36	Biogas - Renewable Energy Plant (Waste Conversion to energy)	Colac	Likely	20	3
37	Residential development	Hamilton	Likely	30	-
38	Bluewater Fitness Centre	Colac	Likely	25	-
39	Penshurst Wind Farm	south/ south west of Penshurst.	Unsure	300	20
40	Casterton & adjoining Shires Windfarm	Casterton and adjoining shires	Unsure	300	25
41	Darlington Wind Farm	East and south of the Darlington	Unsure	240	15
42	Princes Highway Duplication - Winchelsea to Colac	Colac	Unsure	100	5
43	Ryan Corner Wind Farm	10 km north west of Port Fairy	Unsure	180	10
44	Mortlake Wind Farm - South	South of Mortlake	Unsure	240	15
45	Tarrone Wind Farm	Tarrone	Unsure	180	10
46	Wave Energy Power Station	Portland	Unsure	150	30
47	Loch Ard Interpretive Centre	Port Campbell	Unsure	50	10
48	Hawkesdale Wind Farm	South and east of Hawkesdale	Unsure	180	10
49	BCD Resources NL - Copper Project	north of Glenthompson	Unsure	50	5
50	Woolsthorpe Wind Farm	West of Woolsthorpe	Unsure	180	10
51	Drysdale Wind Farm	North of Purnim	Unsure	180	10
52	Salt Creek Wind Farm	North of Mortlake	Unsure	180	10
53	Naroghid Wind Farm	Naroghid	Unsure	150	10
54	Newfield Wind Farm	Newfield	Unsure	150	10
55	The Sisters Wind Energy Project	The Sisters	Unsure	150	10
56	Port Fairy Wave Energy Project	Port Fairy	Unsure	20	2
57	Moonlight Head Eco-Hotel	Wattle Hill	Unsure	80	75
58	Southern Ocean Beach House [97 unit motel]	Port Campbell	Unsure	50	10
59	Biodiesel Project	Warrnambool	Unsure	10	8
60	Portland Aluminum	Portland	Unsure	300	150

6.3 Freight

Transport

- Port of Portland very well regarded for access and efficiency for bulk products
- Increasing truck movements in and around Portland will require additional planning and investment
- Efficient road access across the GSC region, greater western Victoria and SE South Australia is a rapidly growing impediment to effective and profitable movement of goods and resources
- Depreciation of road infrastructure has increased due to load weights and volume of vehicle movements along road networks
- Coordination of traffic management services for the movement of over sized, heavy equipment is effective
- Rail freight infrastructure and services need major improvements within the region to cater for increasing freight traffic

6.4 Social Infrastructure

- Towns and communities near major projects need assistance in preparing for an influx of workers and additional demand on services
- Education and community support providers require forward knowledge of the future level of demand for their services
- Telecommunication access and service delivery must meet future community and industry expectation
- A variety of leisure and recreation activities will be required for indoor and outdoor activities
- Education and assistance to local community members and new residents is need to assist in a harmonious, sustained relocation of new workforce

- Large project investment will provide opportunities to leverage additional government funding for many community developments in partnership with the project proponents
- Modern acute and allied health services are an expected part of a modern society and a key consideration for population relocation
- Access to public transport including air services is important for building a modern, vibrant regional location



7. Response Plan

The Great South Coast region has historically been known as a very reliable, efficient and profitable region for agricultural production and the manufacturing industries allied to these activities. This reputation has been supported and strengthened over the past ten years with the expansion of the dairy industry into non traditional dairy country, the growth of investments relating to plantation timbers, strong demand for sheep and beef products and by increasing interest from competing investor groups looking for reliable climate patterns in areas with reasonable soil fertility.

In addition to the traditional investments relating to primary production, the region is now being targeted by a range of potential investors including public, national, international companies, superannuation funds and very well resourced private companies interested in a variety of industry sectors - mining, large scale energy production, oil and gas exploration, bulk transport, food security and food processing projects.

The Australian economy is currently experiencing (2010/2011) a period of extremely low unemployment but at the same time an increase in demand for labour and new skills. This situation is not isolated to our capital cities but being experienced throughout all regional areas across Australia. The Great South Coast region has lower unemployment statistics than the national average and is now linked to the global labour market which has both positive and negative implications for our growth industries and our working population.

The Great South Coast region is leading Victoria in relation to investment in the dairy and milk processing, plantation timber harvesting, wood chip and log export and innovative clean energy projects.

The cumulative impacts on the Great South Coast region of the nationally significant socio-economic investment into the region over the next 5 years will require the 3 tiers of government to strategically forward plan agreed responses to the investors and project managers to achieve long term sustainable benefits across a diverse range of social, environmental and economic sectors.

To manage this evolving change to the region's physical, social and economic landscape it will be strategically important that the Great South Coast region is represented by a united, collaborative voice to identify and direct sustainable long term benefits for individual towns, shires and the whole of the region, as many of the new investment projects will have short and long term impacts across the GSC region. It is important that councils collect and update data on the key projects within their boundaries as the review of the case studies has revealed a gap in the retained project intelligence on the experiences of the past and the challenges faced.

The economic stimulation and project interest across the region is currently very strong but over the next 15 to 25 years a number of the industry specific projects will reach the end of their project life and will require a decision by their owners and share holders for significant reinvestment. The majority of the energy projects during the construction phase require a large construction workforce but once commissioned, provide reasonably low permanent employment opportunities as individual projects but due to the number of projects in the region will be a volume industry employer for permanent positions. During this same period of time the region will experience peak saturation for investment in new major energy projects as the regions infrastructure and physical environment will not be able to continue to accommodate new investment in these large scale projects.

Regional strategic planning and a cooperative response for future large scale investment projects will be critical to achieve the maximum benefits for the region's communities in relation to improved infrastructure, social and community services, provision of education and training, whole of environment management and provision of sustainable economic and employment outcomes.



The following provides guidance to readers to understand the Response Plan.

The plan is broken up into the 4 major headline impact issues identified during the report, being workforce, physical infrastructure – accommodation, physical infrastructure – freight transport (road, rail and sea), physical infrastructure – power grid, urban and commercial water and telecommunications and social infrastructure.

Response Plan Heading	Meaning
GSCRSP#	Reference to the major strategy item contained within the Great South Coast Regional Strategic Plan. This reference links the response plan to the underlying GSCRSP.
Key Finding	Key findings summarized from the body of the report
Impact (+++/---)	Considers the extent of the impact on the broader region from highly positive (+++) to highly negative (---)
Action	Recommended action to be taken to address the finding
Potential to influence (+++)	The extent to which the action can positively (significantly = +++; mildly = ++; marginally = +) influence the finding to mitigate negative impacts or leverage positive ones
Timeframe	Timeframe for action and whether the action item is reoccurring
Indicative resource requirements	Considers the nature of the resources required to fund the action. Resources relate to external as well as internal sources and include in-kind as well as \$ contributions
External	Potential funding and partner sources outside the GSC region
Internal	Potential funding and partner sources within the GSC region
Funding source	Potential source and nature of resource
5 yr \$	Indicative cost of completing the action over 5 years

Table 17. Response plan headings

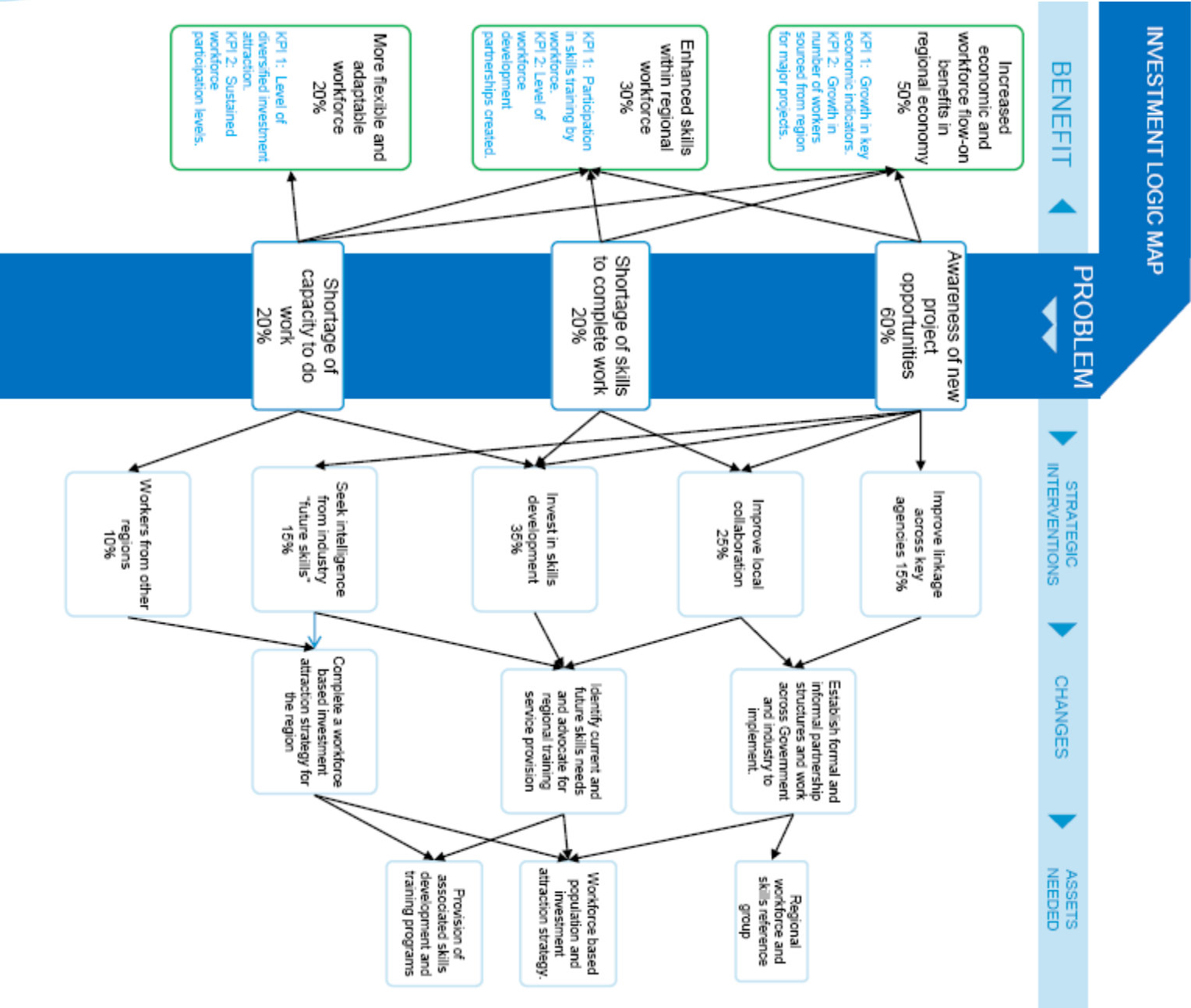
In addition to this, investment logic maps have been developed for each headline impact item. These support the response plan and can be used as a basis for securing funding from Government, particularly State Government agencies.

Response Plan

Workforce – GSCRSP#4 - Skills and People

Key findings	Impact [+++/--]	Action	Potential to influence [+++]	Timeframe	Indicative Resources requirements			
					External	Internal	Funding Source	5 yr \$,000
Case studies identified if local contractors are provided the opportunity their skills are considerable.	+	Strengthen the Victorian Government policy of encouraging key project managers to support the local workforce to develop their skills and plan their employment opportunities.	++	Ongoing	Regional Development Victoria. Industry Capability Network	Local Government & GSC Executive	State & Federal Governments. Project proponents.	25
Work visas alleviate shortage of people & skills during periods of peak demand.	++	Support the Federal work visa initiative to supply short term workforce & skills gap relief.	+	Ongoing	Federal Government Workskills -Victoria	GSC Executive & regional immigration officer	Private Industry. Government	10
Visa categories do not always reflect areas of shortage	-	Plan future industry needs and educate policy makers well in advance of requirement.	+	Ongoing	Federal Government Workskills -Victoria	GSC Executive & regional immigration officer	Private Industry. Government	15
Minimal awareness of educators to regional employers needs and opportunities for new or existing industry	---	Early education of students on the "local" skilled career opportunities. Support regional workforce initiatives	+	Immediate & ongoing	Secondary Colleges, Tafe, RMIT, Deakin, Flinders, ACE Networks & Training Organisations	Local Councils & Youth Programs	Industry, State Government, SWRDA	25
Local contractors undervalue their skill capability. Opportunities for long term, local maintenance contracts.	--	Encourage development of local skills and expertise to provide ongoing services to industry sectors for a variety of key projects and to grow the local skill capability.	++	Immediate & ongoing	AusIndustry DPCD – Victoria Industry Capability Network	Individual Councils & GSC Executive	Private and Government sources.	75
Minimal coordination of information to local industry sectors of future opportunities.	--	Establish consistent communications with major industry sectors to obtain forward workforce intelligence on the future needs to allow time to plan.	++	Immediate & ongoing	Training & education providers	Councils & GSC Executive	Private & Government sources	25
Minimal awareness at any level of GSC brand within the region and Victoria.	-	Stronger marketing of the Great South Coast region in relation to the lifestyle and career opportunities available with our existing and emerging industry sectors.	+	Ongoing	Victorian government & representative	GSC Executive	Private sponsorship & Government	100
Some employees and contractors lack foundation skills such as effective numeracy & literacy to enable them to up skill.	--	Encourage employers to support additional training for staff and to be aware of trends in employment conditions and future needs to stay competitive.	+	Ongoing	Training providers & Ace networks	GSC Executive	Victorian Government-DPCD Local Government	50
Low recognition of the growing economic influence and employment opportunities within the GSC region and its importance to the Victorian economy.	-	Actively support the promotion and celebration of workforce and investment opportunities across the Great South Coast region. Conduct 6 monthly briefing sessions with the Victorian Government's key department managers and engage them in the regions development. Brief the South West RDA twice per year.	+	Ongoing	Industry Capability Network South West RDA	GSC Executive	GSC Regional Group	50

Developing workforce capacity to support major projects and investment Great South Coast



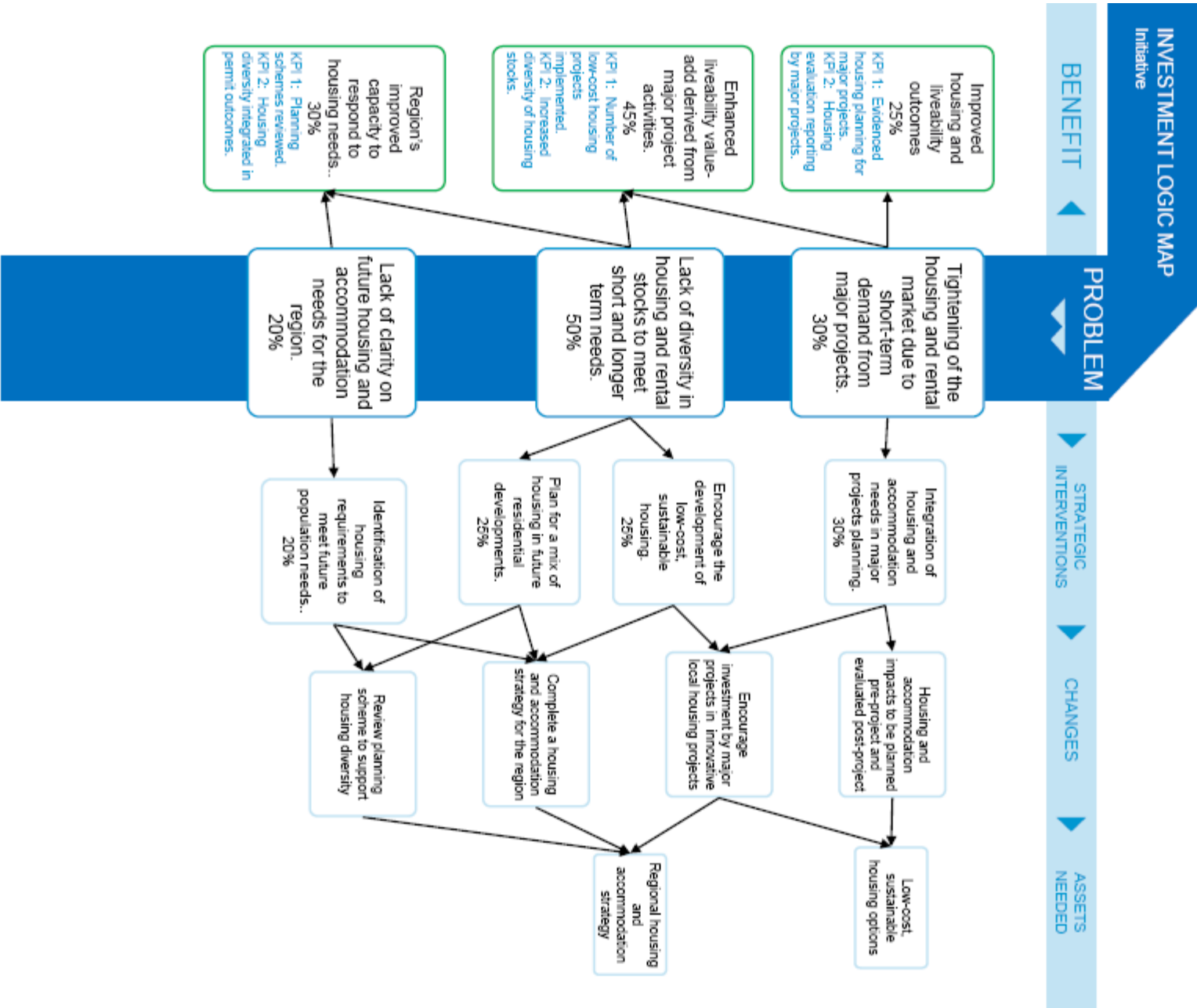
Response Plan

Physical Infrastructure - GSCRSP #3 - Accommodation

Key findings	Impact [+/-]	Action	Potential to influence [+]	Timeframe	Indicative Resources requirements			
					External	Internal	Funding Source	5 yr \$,000
Positive population growth in the region at key strategic locations.	+	Develop a united regional approach to achieve additional government funding to manage the hot spot population growth areas and to reflect the service infrastructure needs and funding required in the region.	+	Ongoing	DPCD; SW-RDA Major Developers	Local Government	Government and industry	30
Residential and commercial accommodation demand is very diverse and sometimes opportunistic depending on economic and tourism activity.	---	Annual forum to plan 2 years in advance, with residential and industrial land developers as to the regions ability to supply adequate residential, industrial and recreational land including delivery of essential services that reflects the regions investment growth.	+	Ongoing	Developers	GSC Executive	Department of Planning & Community Development. Local Government	25
Demand during construction period differs from after commissioning for operation.	---	Plan for a mix of housing type and affordability models in the future identification of residential land release, based on access to services.	++	Ongoing	DPCD	Councils	Private & Government	25
Ongoing demand for serviced apartment style accommodation.	+	Encourage apartment development for short term accommodation needs –commercial, residential and tourism.	+	Ongoing	Private	Council Planners	Private	10
Need to manage community expectations of returns for first time investors in the accommodation markets.	-	Conduct analysis of the likely impact for investors in the accommodation sector by clients with higher disposable income and accommodation allowances on the permanent resident population (rents & new home purchases) in active areas.	+	Ongoing	DPCD	GSC Executive & Councils	SWRDA Councils DPCD	50
Community perception of projects will be varied, plan for management of short term, high impact of influx of workers into specific areas.	-	Discuss options for workers villages with community or private rentals and locality in relation to access to services.	+	Ongoing	DPCD & Vic Urban	Local Council	Councils	10

Provision of adequate housing and accommodation for the region's workforce

Great South Coast



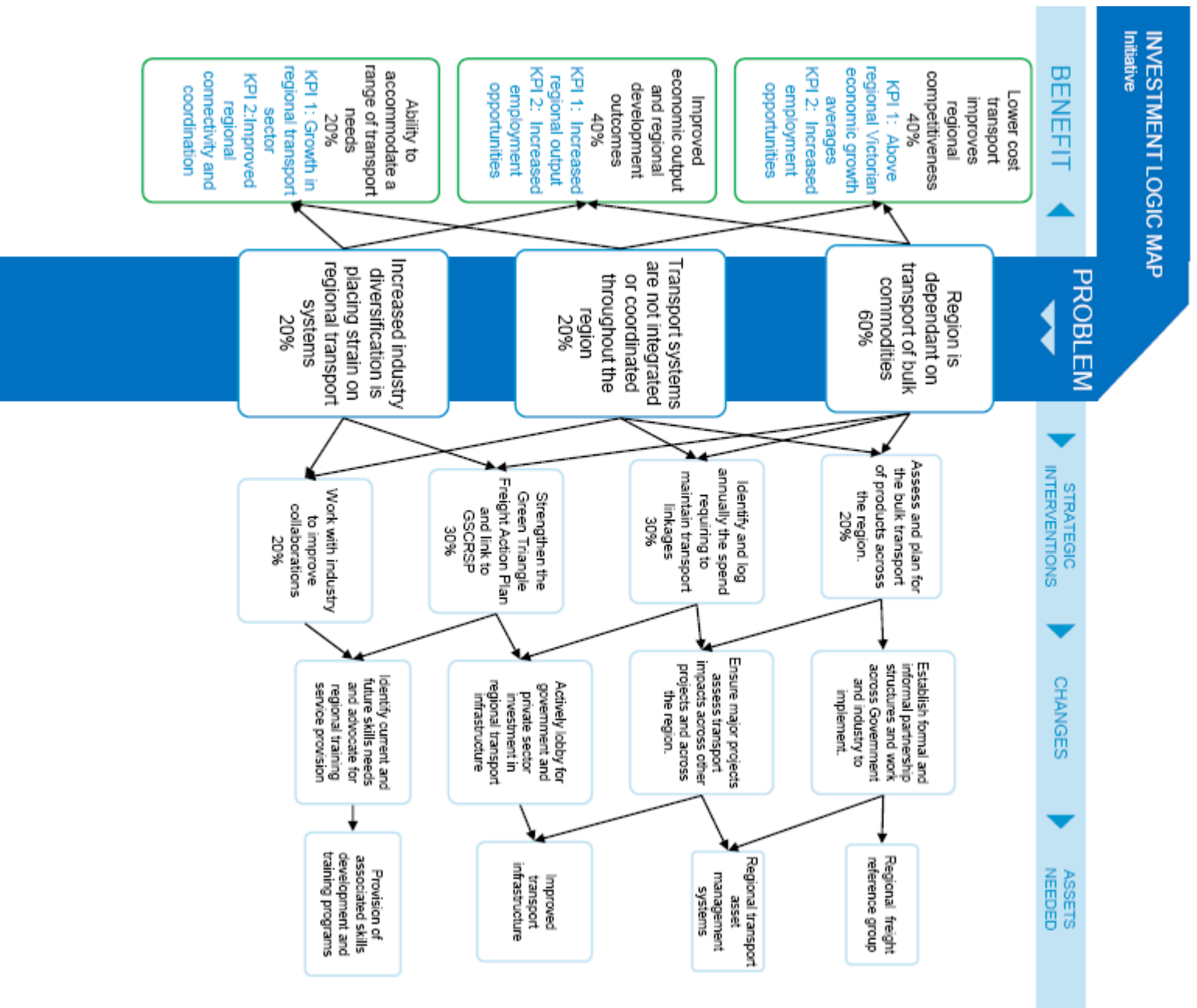
Response Plan

Physical Infrastructure - GSCRSP #2 – Freight Transport (Road, Rail & Sea)

Key findings	Impact [+++/--]	Action	Potential to influence [+++]	Timeframe	Indicative Resources requirements			
					External	Internal	Funding Source	5 yr \$,000
The region's economy is sustained by the transport of bulk commodities. Regional industries will become less competitive on the global markets if efficiencies in transport services, systems and infrastructure are not significantly improved.	--	Establish a technical, integrated regional transport group to assess and plan for the bulk transport of products across the region, providing consideration to transport systems, safety, infrastructure planning and capital expenditure required to develop a world class freight transport standard.	+	Immediate & ongoing	Road Transport Associations Vic Roads National Freight Council VicTrack	GSC Executive Local Councils	Federal and State Government Specific Heavy Industry	50
An integrated road network with common standards between States and within Victoria, will attract new investment and improve efficiencies, especially for dairy and timber industries.	-	Identify and log annually, the spending required to maintain efficient regional, intrastate and interstate transport linkages.	+	Ongoing	Vic Roads Pacific National SE RDA	SW RDA GSC Executive Local Councils	Federal and State (Vic & SA) Governments Transport Industry	75
		Support integrated regional roads maintenance and improvement program with proven industry linkages and the options for product and strategic transport hubs.						
Opportunity to strengthen the engagement with the transport industries to improve transport systems.	+	Establish and meet every 6 months with a representative cluster of bulk transport industry providers and key industry users to assist in forward planning.	+	Immediate	Whole Transport Industry Vic Roads	GSC Executive Local Councils	Local Government Victorian Government	15
The region's growth in the diversity of major industries - strengthens the business case for increased investment in transport due to proven need.	+	Strengthen the Green Triangle Freight Action Plan, present annually to the Victorian Government on the planned future transport infrastructure needs for the efficient coordination of the three key transport services	++	Ongoing	Whole Transport Industry	GSC Executive Local Councils	Federal and State (Vic & SA) Governments	25
	+	Complete the South West Transport Study and shortlist priorities investment / delivery over the short-medium term	++	Immediate	VicRoads	Local Councils	VicRoads Local Government	70
The efficient operation of the Port of Portland and its traffic flow is critical to servicing domestic and export markets. Adequate bulk storage facilities at or near the Port facility is an important link in the supply chain and assisting the Port operators to grow this critical logistics business.	+++	Conduct regular update and planning meetings with the Port of Portland managers to ensure all levels of influence support each other to ensure a significant prominence for the Port of Portland within the regional and Victorian economy.	+++	Immediate & ongoing	Port of Portland Export/Import industries	GSC Executive Local Councils	Hastings Group Federal and State Government	15

Building capacity in regional freight transport planning and investment

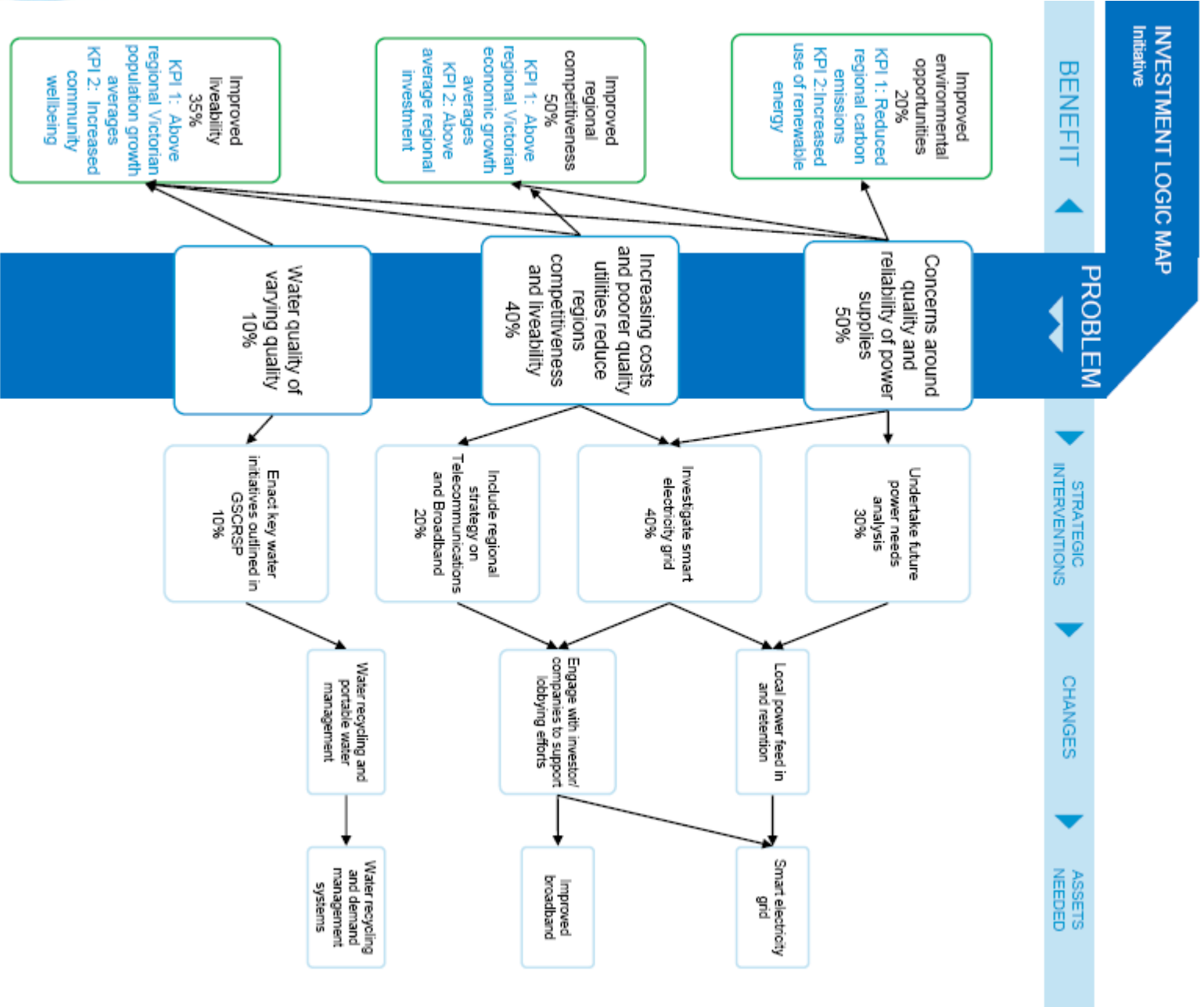
Great South Coast



Response Plan Physical Infrastructure - GSCRSP #2 and #3 – Power Grid, Urban & Commercial Water and Telecommunications

Key findings	Impact [+++/--]	Action	Potential to influence [+++]	Timeframe	Indicative Resources requirements			
					External	Internal	Funding Source	5 yr \$,000
New industry sectors require significant power and continuity of supply with minimum fluctuations in delivery, often reduces future access for other industries.	--	Annual planning meetings with major users and suppliers to identify and manage demand and required infrastructure upgrades for improved service delivery.	+	Ongoing	Powercor Energy Commission Victorian Government	GSC Executive Local Councils	Federal & State Governments	5
Dairy industry continues to expand into broad acre farming districts where power supply becomes problematic.	--	Support power upgrades to developing industrial and agriculture locations across the region. Consult with industry to map need.	++	Ongoing	Dairy Australia Regional dairy Processors	GSC Executive Local Councils	Gardiner Foundation Federal & State Governments	5
Power cost will increase significantly for households and business.	-	Investigate regional purchasing opportunities and joint ventures with major energy producers to share with the community the regions competitive advantage and emerging prominence in clean energy production.	++	Immediate	Energy Retail Companies and Brokers	GSC Executive Local Councils	State Government Milk Processors	15
Collectively the region has a potential strong purchasing power.	++							
Town water supplies have been developed on historical population growth patterns. Additional people in a towns for projects will impact on use and possibly quality.	-	Plan with Wannon Water the future population increases in towns with major projects to ensure no decrease to customer service during peak activity periods.	+	Immediate & ongoing	Wannon Water Local Development Associations	GSC Executive Local Councils	State Government Wannon water	10
Great variety of town water quality across the region which can attract negative comment from fly-in workers and visitors.	-	Support the upgrade of water quality across the region to meet community and visitor expectations.	+	Ongoing	Wannon Water	Local Councils	Town Water Users Wannon Water Victorian Government	5
Availability of high standard services, especially water is key determinant in making decisions for relocation.	-	Support expansion of town water supplies to residential growth areas and developing industrial estates.	+	Ongoing	Wannon Water	Local Councils	Victorian Government SW RDA	10
Industry is open to the opportunity to reduce costs and their environmental impact.	++	Develop joint opportunities to promote the commercial opportunities for the increased supply and demand for re-use water.	+	Immediate & ongoing	Wannon Water	Local Councils	Wannon Water Private Industry	10
The region continues to experience a variety of service standards which significantly impairs business and lifestyle.	-	Develop a regional strategy for a significant improvement to access and speed of delivery for the internet and mobile communications.	++	Immediate	Service Providers	Local Councils	SW RDA Federal Government	25
Proponents of large scale projects often provide opportunistic leverage with governments and service providers.	-	Use new projects to lever for increased roll out of communication technology for commercial growth potential and risk management.	+	Ongoing	Service Providers Project Proponents	GSC Executive Local Councils	Victorian and Federal Governments	10

Physical infrastructure investment and other Great South Coast



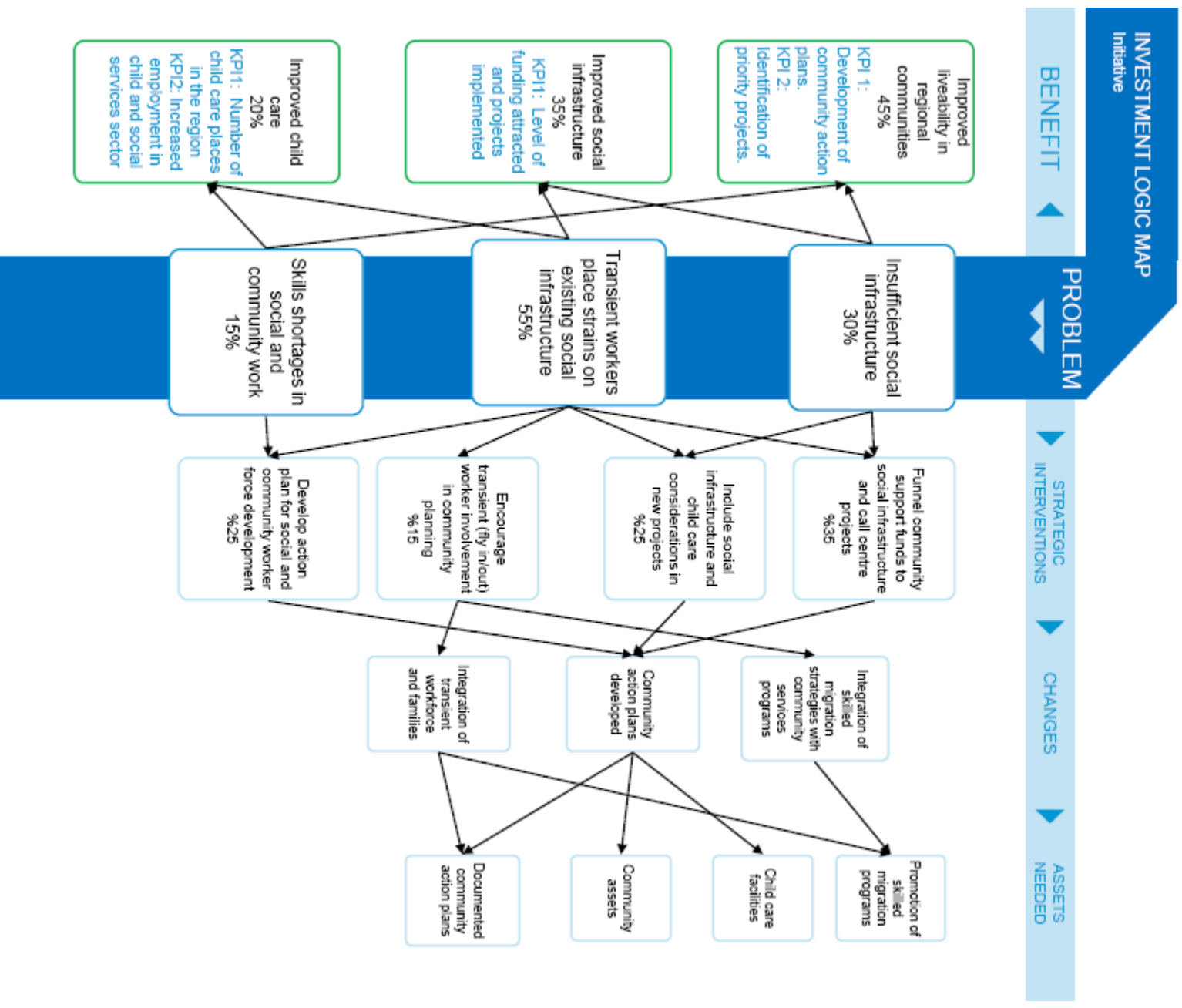
Response Plan

Social Infrastructure - GSCRSP #4 – Livability & Community Services

Key findings	Impact [+++/--]	Action	Potential to influence [+++]	Timeframe	Indicative Resources requirements			
					External	Internal	Funding Source	5 yr \$,000
Demand for social infrastructure & services vary significantly depending on the type of projects and location.	-	Plan with local communities and the project proponents how all project activities and needs can be integrated into the towns with minimum disruption to permanent population.	+	Ongoing	Project Proponents Local Committees DPCD	GSC Executive	Local Council State Government	50
Access to modern recreational and health services is important during large construction projects.	++							
Major project proponents will establish a "Community Support Fund".	+++	Coordinate planning with local communities to leverage additional funding to improve infrastructure and services using the project Community Support Fund.	+++	Immediate	State Government	GSC Executive Local councils	Government Agencies	25
Education and child minding services will experience increase in service demand when permanent workforce is established.	-	Coordinate and facilitate service delivery to meet market demands and attract additional funding.	+	Immediate & ongoing	External Agencies	Local Councils	Private State and Federal	10
Indicative costing for all activities (over 5 years)								\$ 955

Ensuring social and community infrastructure and resources meet the needs of a changing population

Great South Coast



Appendices

Appendix 1 – Project List by Category

Council	PROJECT CATEGORY													
	Energy		Dairy / Food Processing		Forestry		Mining		Commercial/Retail		Education		Manufacturing	
	No. of Projects	Total Value (\$M)	No. of Projects	Total Value (\$M)	No. of Projects	Total Value (\$M)	No. of Projects	Total Value (\$M)	No. of Projects	Total Value (\$M)	No. of Projects	Total Value (\$M)	No. of Projects	Total Value (\$M)
Colac-Otway	2	\$467									2	\$19		
Corangamite	4	\$650												
Glenelg	3	\$1,285							1	\$5	1	\$4	1	\$1,000
Moyne	17	\$6,370												
Southern Grampians	2	\$224					1	\$100	2	\$13	1	\$4		
Warrnambool	1	\$10							1	\$50	1	\$13		
Regional	0	\$0	1	\$100	1	\$30								
Total	29	\$9,006	1	\$100	1	\$30	1	\$100	4	\$68	5	\$40	1	\$1,000
Total Percentage	48.3%	77.5%	1.7%	0.9%	1.7%	0.3%	1.7%	0.9%	6.7%	0.6%	8.3%	0.3%	1.7%	9%

Council	Health		Hospitality/Leisure		Residential		Tourism		Transport		Primary Production	
	No. of Projects	Total Value (\$M)	No. of Projects	Total Value (\$M)	No. of Projects	Total Value (\$M)	No. of Projects	Total Value (\$M)	No. of Projects	Total Value (\$M)	No. of Projects	Total Value (\$M)
Colac-Otway			1	\$5					1	\$300	1	\$6
Corangamite			1	\$15			2	\$173				
Glenelg	1	\$5			1	\$5						
Moyne												
Southern Grampians	1	\$20			2	\$87	1	\$26	1	\$4		
Warrnambool	1	\$195	1	\$9	2	\$412			1	\$11		
Regional												
Total	3	\$220	3	\$29	5	\$504	3	\$199	3	\$315	1	\$6
Total Percentage	5.0%	1.9%	5.0%	0.2%	8.3%	4.3%	5.0%	1.7%	5.0%	2.7%	1.7%	0.1%

Appendix 2 – Municipal Snapshots

a) Colac Otway

Municipality Background

The Colac Otway Shire is located 150km southwest of Melbourne, and is home to over 20,000 residents. With a population of over 10,000 people, Colac is the Shire's economic centre. The Shire is also made up of smaller centres such as Apollo Bay, Johanna and Wye River along the coast and Cressy, Birregurra and Gellibrand in northern farming areas. Agriculture, health and education are the main industries supporting the local community.

Proposed Developments

Projects

No.	Description	Location	Company	Category	Cost	Status ⁹	Probability
1	Princess Highway Duplication - Winchelsea to Colac	Colac	VicRoads	Transport	\$300m	PP	Unsure
2	Mt. Gellibrand Wind Farm	Mt. Gellibrand	Pro Ventum	Energy	\$460m	PA	Likely
3	Biogas – Renewable Energy Plant (Waste Conversion to energy)	Colac	Colac Power Company	Energy	\$7m	PP	Likely
4	Colac Trade Training Centre (TTC)	Colac	Colac Otway Vocational Education Committee (COVEC)	Education	\$6m	PP	Definitely
5	Colac Secondary College – Stage 3	Colac	Education Department	Education	\$13m	PP	Likely
6	Chicken Farm	Beeac	Focus Creative Development Solutions	Agriculture	\$6m	PA	Definitely
7	Bluewater Fitness Centre	Colac	Colac-Otway Shire Council	Other	\$5M	Feasibility Study	Likely
	TOTAL				\$797m		

⁹ Status options: **OP**: Opportunity, **PP**: Pre-planning, **PA**: Planning Approved, **CO**: Commenced

b) Corangamite

Municipality Background

Home to Camperdown, Terang, Cobden and other smaller farming communities, Corangamite Shire's economy is largely based around the agriculture industry, employing nearly half of the labour force. The Shire also boasts a strong tourism industry, due to its rugged coastline and in particular the world-famous Twelve Apostles.

Proposed Developments

Projects

No.	Description	Location	Company	Category	Cost	Status ¹⁰	Probability
1	Moonlight Head Eco-Hotel	Wattle Hill	Moonlight Head Properties PtyLtd	Tourism	\$23m	PA	Unsure
2	Stockyard Hill Wind Farm and Terminal Station Facility	Skipton	Stockyard Hill Wind Farm Pty Ltd	Energy	\$50m	PA	Likely
3	Berrybank Wind Farm	Berrybank	Union Fenosa	Energy	\$484m	PP	Likely
4	Southern Ocean Beach House [97 unit motel]	Port Campbell	Riverland Retreat Pty Ltd/Southern Ocean Group Pty Ltd Barraclough Property Group	Hospitality	\$15m	PA	Unsure
5	Loch Ard Interpretive Centre	Port Campbell	Parks Victoria	Tourism	\$150m	PP	Unsure
6	Newfield Wind Farm	Newfield	Acciona Energy	Energy	\$50m	PA	Unsure
7	Naroghid Wind Farm	Naroghid	Naroghid Wind Farm Pty Ltd/Wind Farm Developments Pty Ltd	Energy	\$66m	PA	Unsure
TOTAL					\$838m		

¹⁰ Status options: **OP**: Opportunity, **PP**: Pre-planning, **PA**: Planning Approved, **CO**: Commenced

c) Glenelg

Municipality Background

The Great South Coast's most Western municipality, Glenelg shares its boundaries with South Australia, Southern Grampians, West Wimmera and the coast. The Shire is home to over 20,000 residents, who are mostly employed in agriculture, metal manufacturing and health sectors. Glenelg is also home to some of the State's most significant industry including an international deepwater port, Portland Aluminium (Victoria's largest exporter) and a sustainable and significant agricultural, renewable energy, timber and tourism industry.

Proposed Developments

Major Projects

No.	Description	Location	Company	Category	Cost	Status ¹¹	Probability
1	Portland Multi Unit Development	Portland	Portland Terrace Pty	Residential	\$5m	CO	Definitely
2	Cape Sir William Grant Wind Farm	Portland	Pacific Hydro	Energy	\$120m	PP	Unsure
3	Portland Aluminium	Portland	Portland Aluminium		\$1,000m	PP	Unsure
4	Casterton & adjoining Shires Wind farm	Casterton and adjoining shires	Origin Energy	Energy	\$1,000m	PP	Unsure
5	Wave Energy Power Station	Portland	Ocean Power Technology	Energy	\$165m	PP	Unsure
6	Harbour Infrastructure	Portland	Glenelg Shire Council	Tourism	\$5m	Funding Committed	Definitely
7	GP Super Clinic	Portland	Portland Health	Health	\$5m	Funding Committed	Definitely
8	Trade Training Centre	Portland	Portland Secondary College	Education	\$4m	Funding Committed	Definitely
	TOTAL				\$2,304m		

¹¹ Status options: **OP**: Opportunity, **PP**: Pre-planning, **PA**: Planning Approved, **CO**: Commenced

d) Moyne

Municipality Background

The Moyne Shire is home to over 15,000 residents, who are largely employed by the agriculture industry, in the dairy sector and sheep, beef, cattle and grain farming. The Shire also enjoys one of the region's lowest unemployment rates. Moyne is well supported by a strong road network and access to air, sea and rail services.

Proposed Developments

Major Projects

No.	Description	Location	Company	Category	Cost	Status ¹²	Probability
1	Tarrone Power Station	Tarrone	AGL	Energy	\$500m	PP	Likely
2	Willatook Wind Farm	Willatook	Wind Prospect	Energy	\$1,000m	PP	Likely
3	Shaw River Power Station	Orford	Santos	Energy	\$500m	PA	Likely
4	Macarthur Wind Farm	East of Macarthur	AGL Energy Ltd	Energy	\$1,000m	CO	Definitely
5	Koroit Geothermal Project	Willatook/Warrong districts	Hot Rock Ltd	Energy	\$10m	PP	Definitely
6	Hawkesdale Wind Farm	Hawkesdale	Union Fenosa	Energy	\$130m	PA	Unsure
7	Penshurst Wind Farm	Penshurst	RES Australia Ltd	Energy	\$1,000m	PP	Unsure
8	Ryan Corner Wind Farm	Port Fairy	Union Fenosa	Energy	\$300m	PA	Unsure
9	Woolsthorpe Wind Farm	Woolsthorpe	Wind Farm Developments	Energy	\$85m	PA	Unsure
10	Darlington Wind Farm	Darlington	Union Fenosa	Energy	\$720m	PP	Unsure
11	Drysdale Wind Farm	Purnim	Drysdale Wind Farm Pty Ltd	Energy	\$70m	PA	Unsure
12	Salt Creek Wind Farm	Mortlake	NewEn Australia Pty Ltd	Energy	\$70m	PA	Unsure
13	Mortlake Power Station	Mortlake	Origin	Energy	\$505m	CO	Definitely
14	Mortlake Wind Farm - South	Mortlake	Acciona Energy	Energy	\$200m	PP	Unsure
15	Port Fairy Wave Energy Project	Port Fairy	BioPower Systems Pty Ltd	Energy	\$30m	PP	Unsure
16	Tarrone Wind Energy Facility	Tarrone	Union Fenosa	Energy	\$200m	PP	Unsure
17	The Sisters Wind Energy Project	The Sisters	Wind Farm Developments	Energy	\$50m	PP	Unsure
	TOTAL				\$6,370m		

¹² Status options: **OP**: Opportunity, **PP**: Pre-planning, **PA**: Planning Approved, **CO**: Commenced

e) Southern Grampians

Municipality Background

Southern Grampians Shire is the Great South Coast's only inland municipality, located at the foot of the Grampians National park, in the heart of Western Victoria's farming region. The Shire is home to over 16,000 residents. Southern Grampians' main source of employment comes from the agriculture industry, namely sheep, beef, cattle, and grain farming. However the Shire's economic centre, Hamilton provides the region with excellent health and education services.

Proposed Developments

Major Projects

No.	Description	Location	Company	Category	Cost	Status ¹³	Probability
1	Grampians Walk	Dunkeld	Parks Victoria	Tourism	\$26m	PP	Definitely
2	Lakes Edge Housing Development	Hamilton	VicUrban	Residential	\$80m	CO	Definitely
3	Oaklands Hill Windfarm	Glenthompson	Suzlon	Energy	\$200m	CO	Definitely
4	Morton's Lane	Woodhouse	New En Australia	Energy	\$24m	PA	Definitely
5	Residential development	Hamilton	Growth areas to be constructed with numerous developers.	Residential	\$7m	PP	Likely
6	Coleraine Hospital Redevelopment	Coleraine	Western District Health Services	Health	\$20m	PP	Definitely
7	Commercial & Retail Development	Hamilton	Coles	Retail	\$9m	PP	Definitely
8	Copper Project	Glenthompson	BCD Resources NL	Mining	\$100m	Feasibility Study	Unsure
9	Relocation of school	Hamilton	St Mary's Primary School	Education	\$4m	PP	Definitely
10	Rail Siding - Iluka	Hamilton	Iluka Resources	Transport	\$4m	PP	Definitely
11	CFA Building Upgrade	Hamilton	CFA	Other	\$4m	PP	Definitely
TOTAL					\$478m		

¹³ Status options: **OP**: Opportunity, **PP**: Pre-planning, **PA**: Planning Approved, **CO**: Commenced

f) Warrnambool

Municipality Background

The City of Warrnambool is the region's economic hub and has a population of over 30,000 people. The City provides diverse and specialised health, education, retail and support services. This is reflected in the Council's main sectors of employment; retail trade education, health and hospitality.

Proposed Developments

Major Projects

No.	Description	Location	Company	Category	Cost	Status ¹⁴	Probability
1	South West Healthcare – Warrnambool Campus Stage 2	Warrnambool	South West Healthcare	Health	\$195m	CO	Definitely
2	Warrnambool Entertainment Centre Redevelopment	Warrnambool	Warrnambool City Council	Hospitality	\$9m	CO	Definitely
3	Biodiesel Project	Warrnambool	Midfield Group	Energy	\$10m	PP	Unsure
4	Residential Growth Areas – Investment in Housing Lots	Warrnambool	Growth areas to be constructed with numerous developers.	Residential	\$404m	PP	Definitely
5	Lyndoch Aged Care – Waterside Redevelopment	Warrnambool	Lyndoch	Residential	\$8m	PP	Likely
6	Warrnambool Regional Airport	Mailors Flat	Warrnambool City Council	Transport	\$11m	PP	Likely
7	New Retail and Commercial Office Outlets	Warrnambool	Numerous developers	Commercial	\$50m		Definitely
8	Deakin University – campus accommodation	Warrnambool	Deakin University Warrnambool Campus	Education	\$13m	PP	Likely
TOTAL					\$700m		

¹⁴ Status options: **OP**: Opportunity, **PP**: Pre-planning, **PA**: Planning Approved, **CO**: Commenced

Appendix 3 – Case Studies

MORTLAKE POWER STATION



Project Type - Natural gas fired power generation

Developer - Origin Energy

Project Manager – Conneq Infrastructure Services

Location - 12km west of Mortlake along Connewarren Lane

Project Investment - \$700m+

Generation Capacity – 500Mega Watts

Workforce – Construction Peak 450; Permanent Peak 10

Economic Value to the region – Construction \$1,023m; ongoing \$7m pa

Project Status – Commissioned and operational mid 2011

Website – www.originenergy/mortlakepowerstation.com.au



Project Description

The Mortlake Power Station is owned by Origin Energy and located along Connewarren Lane on a 100 ha site with the Power Station occupying 20ha. The Power Station has been designed to produce 550 MW of electricity annually from the open cycle natural gas fired power plant. The economic driver for the investment in the project is to supply clean power to the Victorian market during high electricity demand periods. The design of the plant will allow Origin to further develop the capacity of the plant if future demand and carbon pricing requires further investment.

The Mortlake location was chosen due to its proximity to the 500KV high voltage power line, proximity to Origin's gas reserves and processing plant near Port Campbell, access to and suitability of the chosen site and road networks. Conneq Infrastructure Services was the responsible Project Manager during the construction period and up until the commissioning period is completed. For this project it was decided that all the accommodation needs for the construction teams would be provided by the existing accommodation facilities and operators within the immediate Mortlake, Terang and Warrnambool districts.

In addition to the main Power Station, construction of another two significant projects was required to support the Mortlake Power Station. The first, to construct 83 km of gas transmission pipeline from Origin's gas processing plant near Port Campbell to deliver a continuous supply of natural gas to the Mortlake Power Station. The pipeline was commenced in February 2009 and completed in March 2010. The second support project was to construct a 15km reused water pipeline extending from the Wannon water facility to the southeast of Mortlake to the newly constructed Mortlake power station.

Workforce/Employment

- Power Station Construction Peak 370
- Management / Supervisors 80
- Gas and Water supply pipelines > 120
- 8 Apprenticeships and 4 Indigenous training opportunities were created
- Approximately 20% (90) of total workforce were selected from the local and regions community
- Local skilled workforce very suitable for project
- Registration of interest for work exceeded 2600 applications
- Majority of construction workers supplied by Conneq and contract teams who work around Australia and overseas

- “Code of Behaviour”, all workers inducted and expected to comply
- Safe working environment guides all actions
- Local contractors used in the supply chain
- Skills – plant operators, mechanics, electrical, plumbers, engineering, surveying, truck drivers , crane operators, labourers, etc

Accommodation

- No preference for “camps”, prefer integration into district community
- Very generous living away from home allowance
- Use of broad range of accommodation from shearers huts, caravan parks, private housing, motels to executive apartments
- Prefer access to accommodation no further than 45mins travel time to reduce fatigue
- All employees and contractors were able to find accommodation in the Koroit, Warrnambool, Port Fairy, Terang and Mortlake districts
- Responsibility of workers to find own accommodation

Transport

- Heavy vehicle and over sized transport all came from Melbourne direction including escort vehicles
- General satisfaction with highway, arterial and local road networks
- Very good cooperation between Victorian Police, Vicroads, Local Councils, transport operators and community of Mortlake
- Access to site suitable to all weather conditions
- Truck movements varied depending on operation
- Significant increase in local traffic in Mortlake and Connewarren Lane feeder roads

PROJECT IMPACT

Medium Term (2 years)

- Significant local employment opportunities
- Opportunity to develop new regional skilled workforce
- Significant increase in house prices and rental properties in Mortlake and district
- Mortlake house prices increased by 30-50%>; rental properties in high demand reflecting similar percentage increases to housing prices
- Opportunistic accommodation demand for on farm, caravan park and casual accommodation
- Significant increase in spending patterns within the Mortlake township and the larger region – food, entertainment venues, recreation pursuits, service industry etc
- Additional exposure to different cultures and work practices for the broader population
- Estimated spend in local district economy by workers of \$500,000 per week at peak employment period
- There is the potential that some of these impacts maybe of a ‘spiking’ nature with subsequent declines occurring once the construction phase of the project is completed

Long Term (After commissioning)

- New families and skills to the region
- New career and business opportunities for local people
- Potential full time positions in power station operations, up to 10 full time positions
- Potential for ongoing maintenance and supply contracts
- Opportunity for social service providers, health sector and education providers to increase their market share
- Recognition of Mortlake and larger region as a new hub for the production of clean energy
- Community funding program to be established by Origin will present opportunities for funding partnerships for community projects and programs

PACIFIC HYDRO PORTLAND WIND ENERGY PROJECT

PORTLAND VICTORIA



Project Type – Wind powered energy generation

Developer – Pacific Hydro Limited

Project Manager – Mr Danny Halstead, Pacific Hydro Limited, Portland

Location – Yambuk west of Port Fairy to Cape Bridgewater & Cape Nelson North near Portland on Victoria's south west coast

Project Investment - \$350 +

Generation Capacity – Approximately 178 Mega Watts

Workforce – Construction Stages 1-4 including contractors 400+; Permanent 30

Economic value to the region – Construction \$710m; ongoing \$22m pa

Project Status – Stages 1-3 completed and operational, Stage 4 awaiting final Victorian Government approval

Website – www.pacifichydro.com.au



Project Description

The Portland Wind Energy Project is a four part strategic wind energy project owned and operated by Pacific Hydro Limited. The project focuses on the establishment of four separate wind farms located along the south west coast of Victoria. The location of the wind towers and their configurations are negotiated between Pacific Hydro, the land owners, local community, State and Local Governments.

Stages 1- 3 have been completed and are operational, producing wind generated power for the Victorian grid network. Stage 4 is awaiting final planning approval from the Victorian Government which is anticipated to be approved in 2011. When stage 4 is completed and operational the Portland Wind Energy Project will generate approximately 178 MW of power from 94 wind turbines, eliminating approximately 600,000 tonnes of green house gas emissions per annum.

Portland is the main centre for administration and project management for this project and a specialist workforce within the Portland district has developed specific skills to support this new industry. Pacific Hydro will employ approximately 30 full time staff to manage and operate their wind farm in the Great south coast region of Victoria. The future workforce opportunities are for the development of local skills to service this emerging industry for the longer term maintenance of the wind farms and the associated infrastructure.

Workforce/Employment

- Construction Stages 1-4 peak employment 400+
- Over 500 inductions completed to date
- Permanent operational workforce 30 EFT fully trained
- During construction approximately 10% of expertise imported from overseas, 90% from within Australia
- Portland district community have developed specific skills related to the wind energy construction and maintenance – civil engineering, fitter & turners, industrial electricians, plant operations, civil engineering, heavy haulage, escort logistics, assembly line management.
- Preference to use skilled local workforce and contractors
- Site and workers safety critical importance
- Opportunity for young, skilled professionals to return to Portland district for permanent employment
- Ongoing opportunity to develop skilled work teams

Accommodation

- Portland the key centre for accommodation either casual or permanent
- Style of accommodation – apartment, hotel, motel, private rental, caravan parks, etc
- Accommodation adequately supplied by private enterprise

Transport

- Port of Portland very efficient with handling of imported equipment such as turbines, blades, etc
- Port of Portland important strategic asset for wind energy projects and bulk handling
- Oversized and heavy haulage transport and escort vehicle expertise very good in the region
- Estimated 110 heavy vehicle movements per constructed wind tower

Cultural / Social Economic Influences

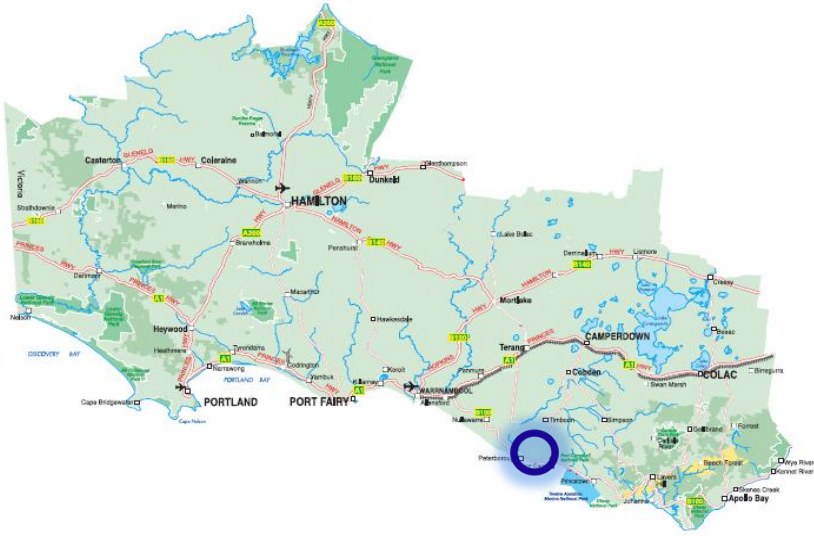
- Attraction for young, skilled professionals to return home to further their careers bringing enhanced skills to the region
- Reuniting regional families
- Small number of international workers have now made Portland their home
- Increase local community exposure to different cultures
- Employment packages above local average – increase in residential investment in Portland district
- Increase in retail activity, local shopping, recreation and entertainment
- Catalyst for increased financial support to education, child care service providers
- Pacific Hydro's social policy of financially supporting the Portland and regional communities. A number of regional community projects and associations receive financial assistance each year.

General Comment

- Portland community very welcoming and supportive of the projects and workforce
- Financial returns on wind energy projects in Australia are significantly less than in Chile due to the retail cost of power
- Political decisions on carbon pricing will influence future wind energy investments
- Victorian Planning process very arduous and lengthy
- Opportunities to develop teams of skilled maintenance personnel specific to the wind generation industry

THE MINERVA GAS FIELD and PLANT DEVELOPMENT

PORT CAMPBELL, VICTORIA



Project Type- Offshore gas field development and onshore natural gas processing and distribution facility

Developer – Joint venture 90% BHP Billiton (Victoria) and 10% Santos (BOL)

Project Operator/Manager – BHP Billiton

Location- Gas field wells approximately 11 km offshore, south west of Port Campbell. Gas Plant onshore 5.5km, North West of Port Campbell

Project Investment - \$200m+

Production – Natural gas and liquid stabilised condensate

Construction Workforce – Offshore > 200; Onshore 120+

Permanent Workforce – 14 EFT

Economic value to the region – Construction \$407m; ongoing \$10m pa

Project Status – Completed 2005, ongoing significant investment in plant and equipment



Project Description

The Minerva Gas Field and Gas Plant is a joint venture project between BHP Billiton (Victoria) the operator who has a 90% holding and Santos (BOL) with a 10% holding in the project. The gas field was first discovered in 1993 and is situated approximately 11 km off-shore south west of Port Campbell. Drilling of the gas wells commenced in late 2002 and were completed in January 2003. The construction of the gas plant which is situated 5.5 km north west of Port Campbell, was project managed by Kellogg Brown and Root Pty Ltd (KBR) and was completed in December 2004. After commissioning the first processed gas flowed into the pipeline distribution network in January 2005.

Prior to the commencement of drilling, BHP Billiton negotiated a 10 year sale and supply agreement with Pelican Power P/L for the majority of the Minerva gas field production. After processing at the Minerva Gas Plant the gas is delivered to the Pelican Point Power Station near Adelaide, South Australia via a 680km gas pipeline owned and operated by SEA Gas. The Minerva Gas Plant at Port Campbell also distributes gas into the Victorian market networks. The Plant also produces condensate which is stored and transported to Geelong along a designated route.

The initial capital investment in the Minerva Gas Field joint venture was approximately \$200m but significant reinvestment has been made since commissioning of the production facilities in 2005.

This project has been a successful long term investment decision by the joint venture partners and demonstrates the critical importance of a coordinated planning approach between the investment partners, the Victorian and South Australian Governments, the Corangamite Shire and the local government agencies and local communities through which the pipelines were constructed.

WORKFORCE/EMPLOYMENT

The workforce participation is separated into two categories –

Offshore Activity

- Offshore drilling of gas wells and associated pipe laying require very specialist skills which was provided by contract teams- 100 – 200 depending on work activity
- High level of training for workplace safety and management of the natural environment
- Some limited local logistic support from the region was provided for the pipe laying barge, diving boat and support vessel.

Onshore Employment

- Gas plant construction – 120+(approx 30% local)
- Construction skills - electrical, plant operation, plumbing, concreting, labouring etc
- Gas Plant operations – Permanent 14 eft (50%+ local)
- Permanent staff skills – industry qualifications in electrical, instrumentation and process plant technology
- Permanent (contract) specialist B-double operators transporting condensate to Geelong
- Very specific training continually provided to all staff in safe operations and procedures- guides all employees and management
- Operation staff required to live within 1 hour travel of the gas plant facility to minimise driving fatigue

Accommodation

- BHP Billiton and KBR's strategy for construction workforce accommodation was to support the local providers and economy
- The accommodation facilities in the region were able to successfully meet the demand of the workforce
- No significant issues were identified in relation to accommodation provision

Transport

- Established designated B-double routes used for heavy haulage access during construction
- Ongoing transport of condensate from the Gas Plant to Geelong also use existing B-double routes approximately 16 tankers per week
- No specific road alterations were required

Cultural/Social/Economic Influences

- Estimated annual ongoing direct economic benefit to the immediate economy around \$2m
- Long term project for the region and establishment of two, large, international energy producers in the region
- Significant short term boost to local economy during construction
- Catalyst for ongoing investment in the region
- Relocation of additional industry professionals into the Port Campbell region, including their families
- Local employees were trained to world best practice standards for gas production
- Higher wage levels for local employees engaged by BHP Billiton
- Local retailers, service providers, accommodation and leisure providers experienced additional trading over their traditional market
- BHP established a Environmental Review Committee (ERC) to provide a forum for the local residents, Corangamite Shire and BHP staff to discuss the construction and ongoing operation of the plant
- BHP Billiton recognise the sensitivity of the local coastal environment and the proximity to the Twelve Apostles
- Established a community support program especially to assist in environmental projects, community sustainability and education projects.
- Established a strong relationship with the Timboon P-12 College and assist senior students with work experience and annual careers day
- Ongoing local employment opportunities both in the permanent workforce and contract opportunities when maintenance and upgrades are required

ILUKA RESOURCES LIMITED – MINERAL SANDS SEPARATION PLANT HAMILTON, VICTORIA



Project Type – Construction and operation of a mineral sands separation and processing plant at Hamilton. Development of a mining operation and primary processing plant at Douglas n-west of Balmoral

Developer – Iluka Resources Limited

Project Manager – Construction -Roche Mining Pty Ltd

Operation –Iluka Resources

Location – Mineral Separation Plant -159 Burgins Road, Hamilton

Mine site – Douglas near Balmoral

Project Investment – Douglas Mine & Primary Plant \$180m; Separation Plant, Hamilton \$210m

Production Capacity – 330 ktpa

Workforce – Construction Peak - 200+; Permanent - 165

Economic value to the region – Construction \$785m; ongoing \$178m pa

Project status – Douglas mine operational since 2006 and the Hamilton Separation Plant commissioned in 2007 - key products Zircon & Rutile

Website – www.iluka.com



Project Description

Iluka Resources global head office is based in Perth and they are recognised as one of the world's leading miners and processor of heavy mineral sands and lead the international value chain in the supply of zircon and titanium dioxide products.

The Murray Basin region comprising of western Victoria and southern NSW (north of Mildura) contain very extensive deposits of heavy mineral sands. In 2002/3 Iluka made a strategic decision to acquire and develop significant tenements in the Murray Basin to ensure their position in the global market place would be maintained for many decades. The Murray Basin mineral sands are rich in zircon and rutile deposits and have an estimated productive cycle till at least 2023. The first mine to commence operations was at Douglas near Balmoral during 2004. In future years the mining operations will progressively move north towards Ouyen and Pooncarie. As the mining is completed in one area the land is rehabilitated with trees and pasture. After primary processing at the Douglas mine site, the mineral sands are transported in specially designed B-doubles south to Hamilton for further processing before being transported to Portland or Melbourne, where the minerals are stored awaiting shipment to the international market place.

Construction of the Hamilton Heavy Mineral Separation Plant was commenced in 2005 and commissioned in 2007. The plant is located approximately 10 km west of Hamilton on the Glenelg Highway. Roche Mining were the project managers for the construction of the separation plant at Hamilton and the construction of the primary treatment plant and mining operation at Douglas. During construction Roche managed two construction villages, one near Hamilton and the other at Balmoral. A contract transport service was provided from both locations to move the workers to and from the work sites.

The Hamilton plant is strategically located next to a large reuse water storage facility owned by Wannon Water who in partnership with the Victorian Government and Iluka built a Class A Water Treatment Plant to provide reuse water for Iluka's processing systems. During 2010 the separation plant at Hamilton was upgraded to increase its capacity and in 2011 a rail siding is being constructed into the Hamilton plant, which will allow for some of the transport to be provided by rail from the Kulin mine near Ouyen into Hamilton. This additional investment of \$6m in rail upgrades will be in a partnership between Iluka and the Victorian Government.

Iluka's capital investment into the western region of Victoria, known as the Murray Basin region, has permanently changed the economic profile of the whole region and provided "real" opportunity for people to consider relocating to Hamilton and the broader region and investing in the social capital of our community. The Hamilton and Balmoral communities were very engaged and supported Iluka's Murray Basin project in a variety of ways.

Workforce/Employment

- Hamilton & Douglas Construction period 3 years - 200> construction workforce
- Operations Permanent – currently 165 Iluka employees
- During construction 80% of workers were from outside the region and 20% were local
- Over 70 local businesses in the Hamilton & Balmoral districts provided services to Roche Mining and Iluka Resources during construction
- All levels of construction skills, plant operations and trade skills were required. A number of administration positions were also created.
- Workplace safety and management of environment were mandatory requirements for all workers
- Significant investment in numerous training programs for construction and long term employment positions
- Number of local staff sent to Western Australia for training courses
- At start up of operations senior and middle management positions occupied by people outside the region, most with previous mining/processing experience
- Local industry intelligence and skills are developing and opportunities for higher levels of operational responsibility are available for local people
- Encouraged relocation to Hamilton of companies in the supply chain such as Kempe Engineering Services, Krueger Engineering
- Long term contracts with local companies have been negotiated such as Kalari Transport for the transport of the mineral sands which has created 60 + new positions in the Hamilton, Horsham and Portland areas

Accommodation

Construction Period

- Workers villages were established in Hamilton and Balmoral to provide short term accommodation during the construction period
- Rental properties experienced strong demand especially apartment type accommodation
- Demand strong for short term apartment rental, 1-3 months
- High demand for caravan park and motel accommodation
- Commencement period for private home purchase demand
- Local residential market supply able to meet demand

Permanent Operations

- Significant increase in demand for residential housing within Hamilton and surrounding areas
- Demand for rental properties both short and long term strong
- Hamilton house prices rose approximately 30-80% over 2 years within selected areas
- Balmoral house prices increased significantly
- Demand for lifestyle properties increased, such as small acreage farms
- Small towns within 60km of Hamilton experienced increase in housing demand

TRANSPORT

- During construction of Hamilton Separation Plant heavy haulage and B-double trucks were used
- Realignment of the approach to the Burgins road rail crossing and warning signals completed
- Turning lanes installed into Burgins Road from Glenelg Highway
- Hamilton to Douglas mine site designated B-double route required minor strengthen works on culverts and bridges
- Road maintenance demand increase
- Radio communication between trucks and school buses & driving protocols introduced and strictly enforced for travelling through small towns – Balmoral & Cavendish
- Transport of product between Hamilton and the mine sites and Hamilton to Portland is provided by B-double trucks operating 24hours per day, 7 days a week, 365 days per year
- Rail transport will be utilised between Hopetoun and Hamilton when track upgrades, loading facility at Hopetoun and a new rail siding at the Hamilton Separation Plant is completed during2011
- Saline water transported from Hamilton to Wannon Water's treatment plant at Warrnambool, 7 days per week, 365 days per year using two B-double trucks
- Majority of product for export is shipped from the Port of Portland as bulk product

CULTURAL /SOCIAL/ECONOMIC INFLUENCES

- Migration of people with new skills to the regions of Balmoral, Hamilton, Horsham and Portland
- Families relocating from interstate and overseas to the region, reason for the return of young professionals
- Introduction of new cultures and religion into the communities
- Adjustment required from recently arrived and established community members to assist new residents to integrate into the communities
- Greater awareness in secondary colleges of the careers available in the mining industry in the region where students live
- Demand for increased leisure, recreation facilities
- Hamilton industrial estate was developed with new and existing businesses expanding
- Catalyst for the joint venture between Southern Grampians Shire and Vicurban to develop Hamilton's "Lakes Edge" 300 lot residential subdivision and development
- Strong social and financial commitment by Iluka to support community programs, ie- HILAC at Hamilton, local business awards, numerous community and environmental projects
- Increase in service and sporting club memberships
- Private and public school enrolments significantly increased in Hamilton region
- Hamilton district no longer reliant on the public sector or agriculture for volume numbers of employment opportunities
- Local businesses exposed to new business standards, codes of operation and improved business practices including OH&S
- Iluka employees have high disposable incomes
- Recreation services and holiday accommodation demand increase within 100 km of Hamilton
- Increased traffic flows in and out of Hamilton with light commercial vehicles
- Significant increase in awareness and focus from Victorian Government on the Great South Coast region and its future opportunities

Appendix 4 – Fact Sheets

- 1) Shaw River Power Station
- 2) Macarthur Wind Farm
- 3) Koroit Geothermal Project
- 4) Oaklands Hill Wind Farm
- 5) Coleraine Hospital Redevelopment
- 6) South West Healthcare: Warrnambool Campus Stage 2
- 7) Warrnambool residential growth areas
- 8) Regional timber harvesting
- 9) Regional dairy farming sector

SHAW RIVER

Power Station



Project at a Glance

Project	Timber Harvesting
Developer	Shaw River Power Station Pty Ltd (Shaw River Power), a wholly owned subsidiary of Santos Ltd
Location	Orford
Municipality	Moynes Shire
Cost	\$860m (Stage 1)
Project status	The Minister for Planning has amended the Moynes Planning Scheme to allow the project to proceed
Greenhouse gas emission	70% less than brown coal fired power station
Capacity	1,500 MW
Website	www.shawriverpowerstation.com.au

Construction Workforce¹

Component	Construction Average	Construction Period	Construction Peak	Peak Period
Power Station (option 2)	331	26 months	400	15 month
Gas Pipeline and compressor station	147	7 months	180	1 month
Water pipeline	25	6 months	25	6 month

Project Description

The project comprises:

- A gas-fired power station near the village of Orford, approximately 27 km north of Port Fairy
- A gas compressor station north-west of Port Campbell;
- A gas pipeline from Iona to Orford; and
- Water supply infrastructure.

The gas fired power station will connect to the Victorian and national electricity grid via a switchyard adjacent to the Moorabool – Portland 500-kV overhead

Transmission line which passes through the site.

It is likely to be supplied with gas from Santos' gas reserves in the Otway and Gippsland Basins offshore Victoria, and other basins in eastern Australia.

Staged Development

The Power Station development would occur in three stages as a baseload, intermediate or peaking generator to ultimately provide a peak capacity of 1,500MW.

Developer

Santos Ltd is a major Australian oil and gas exploration and production company with interests and operations in every major Australian petroleum province. It is Australia's largest domestic gas producer.

Workforce

During construction the project is expected to generate an average of about 400 direct jobs, with about 30% of workers sourced locally. The direct additional spend in the region is estimated at \$20.7 million.

The permanent operational workforce would result in a total ongoing spend in the region of about \$2.73m annually.

Economic Impact

The project has the potential to induce an economic impact nationally in the order of \$2.18 billion (direct and indirect) during the construction phase.

Local businesses will supply goods and services to the project, such as catering/ food services, transportation, sub-contract construction skills, accommodation, and personal services.

Accommodation

The construction workforce may live in existing accommodation in nearby or potentially could live within a temporary construction camp established for the project near the power station site, along the pipeline routes or in towns nearby.

Transport

Overall the project has been assessed as having a minimal, and largely temporary impact, on the surrounding arterial road network during construction. This is because the additional traffic generated by the project is well within the theoretical roadway capacities of access routes to the site.

It is proposed to improve access to the power station site by upgrading Riordans Road as well as the intersection of the Port Fairy-Hamilton Road with Riordans Road and Smyths Road. Although the local road network may have adequate capacity, there is a need to provide for local improvements to cater for large construction vehicles on minor roads and to ensure that roads are reinstated to an adequate condition.

MACARTHUR Wind Farm



Project at a Glance

Project	Wind farm
Developer	AGL and Meridian Energy
Location	9 km west of Hawkesdale, 10 km east of Macarthur
Municipality	Moyne
Cost	\$1,011M
Electrical generation	The amount of electricity generated per year is expected to be approximately 945,000 MWh
Capacity	420 MW
Greenhouse gas emission	Greenhouse gas savings of over 1,700,000 tonnes per annum
Supply equivalent	Sufficient electricity to supply 220,000 households
Project status	Construction commenced, due for completion early 2013
Website	www.agk.com.au/macarthur

Project Description

The project comprises:

- 140 wind turbines
- Turbine type: Vestas V112
- Individual turbine capacity: 3 MW
- Turbine height: 85 m
- Max. blade tip height: 141m
- Land area: 5,500 ha

A 33/132kV sub-station, Tarrone 132/500kV terminal sub-station, 14km of 132kV overhead transmission line to the Tarrone terminal sub-station 33kV underground cable collector systems.

The grid connection for the wind farm will be via a 14km line to Heywood-Moorabool 500kV transmission line. An offer to Connect from AEMO was scheduled for September 2010.

Developer

AGL is Australia's largest integrated renewable energy company. AGL operates retail and merchant energy businesses, power generation assets and an upstream gas portfolio.

Meridian is New Zealand's largest electricity generator and currently owns and operates nine hydro stations and three wind farms within New Zealand, and one wind farm in Australia (Eyre Peninsula, SA).

AGL will receive all of the wind farm's energy output and renewable energy certificates.

Development

Leighton Contractors has been awarded a \$290 million contract for the engineering, procurement and construction work. Vestas will supply the wind turbine equipment.

Keppel Prince Engineering, Portland has been awarded a \$27 million contract to build 80 of the Macarthur wind farm's 140 towers and construct the 140 foundation rings for the project. The first of Macarthur's 140 turbines will be commissioned in June 2012 with the project set for completion by January 2013.

Workforce

In terms of employment, approximately 400 direct jobs would be generated at the peak of construction, as well as another 800 indirect jobs at the peak, according to an assessment made by Sinclair Knight Merz. The ratio of local to imported workers is estimated at 70:30.

There would be ongoing employment for about 25 to 30 full time staff for 25 years following construction.

Economic Impact

Direct construction expenditure in the region is estimated to be approximately \$245 million between 2010 -2013, with regional construction expected to add about 1.5% to the region's gross production in 2013.

Local contractors have been engaged for the civil works required to establish the site compound including fencing, plumbing and electrical works.

The 2008 Planning Panel report estimated that a significant part of this cost applied to the local content including the State and Australian economies (52% to 77%). The Panel further reported that it is not possible to accurately quantify many economic, social and environmental effects, nor is it appropriate to put a monetary value on many social and environmental effects.

Accommodation

The options for housing construction workers asisted in the planning permit application are: renting existing homes, rent the available accommodation at Hawkesdale and Macarthur, or locate at Port Fairy, Hamilton or Warrnambool and travel to site.

The Planning Panel reported that given the desirability of minimising traffic on local roads and travel time, and the scarcity of accommodation in the local area, the option of locating temporary housing in the region be canvassed.

Transport

AGL is currently investigating a range of options regarding traffic access routes, including the possibility of changing the main site access route to Green's Lane. This level of alteration to the site access route would require the submission of an amended Traffic Management Plan.

Vehicle type	Movements
Over Dimension Vehicles	800
Heavy Dimension Vehicles	57,000
Light Vehicles	156,000

KOROIT Geothermal Project



Project at a Glance

Project	Geothermal power generator
Developer	Hot Rock Limited
Location	North west of Koroit
Municipality	Moyne Shire
Cost	\$10 M [Stage 1]
Electrical generation	Base load power to national grid
Capacity	100 MWe gross generation
Supply equivalent	Sufficient electricity to supply 100,000 households
Project Status	Drilling to commence early 2011
Website	www.hotrockltd.com

Project Description

Drilling of two proof of concept wells in the expectation that the evaluation will lead to the development of a small, pilot power plant by mid 2013.

Exploration will take place more than 2500 metres below the earth's surface and focus the use of hot water for power generation, along with industrial or agricultural purposes such as heating and drying.

The process of extracting geothermal energy is one of heat transfer, such that the whole water flow system occurs in a closed circuit loop. The heated water is pumped up from below the surface, its heat extracted for electricity production, and then the cool water returns from whence it came to be heated once more. There is no discharge.

Developer

Hot Rock is a renewable energy resource company focused on the global exploration of geothermal projects for developments and operation of responsible environmental energy programs. It was listed on the Australian Stock Exchange in November 2007.

Hot Rock owns 18,250sqkm of the Otway Basin - the largest single sedimentary geothermal resource in the country. The company has acquired an extensive database of previous geological investigation of the area, fast-tracking production.

Staged Development

The first phase of the project is the testing and evaluation component of the Koroit Proof of Concept drilling program, set to commence in March 2011.

The objective is to confirm the characteristics of a hot water geothermal resource at depths of greater than 2.5 kilometres in the area and to assess the suitability of the resource for either electrical power generation and/or direct uses such as heating, drying and other industrial or agricultural purposes.

The first well will take about 50 days to complete and 40% of that time will be spent drilling. If the first drill hole is successful, a second well will be drilled about three months later.

HRL has secured Ensign International's Rig 16 to complete the proof-of-concept exploration program.

Workforce

For stage one, the drilling phase, a 'fly-in' workforce of up to 50 specialists will be employed.

Accommodation

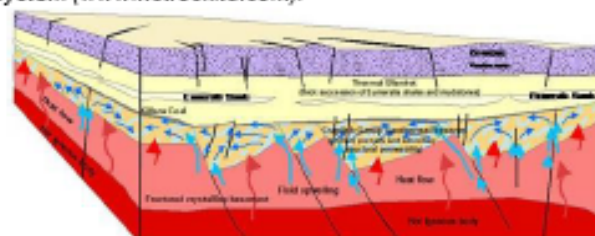
HRL is investigating possible sites for a temporary workers camp to accommodate the drilling crew of some 20 people for a period of 50 days per well.

Transport

The site will be accessed via a classified main roads (Penshurst-Warrnambool and Penshurst-Port Fairy) and a local road (Threlfalls Road). Anticipated freight movements during stage one are:

Vehicle type	Movements
Over Dimension Vehicles	12
Heavy Dimension Vehicles	200
Light Vehicles	200

Conceptual hydro geological model for the Koroit geothermal system (www.hotrockltd.com):



OAKLAND HILL Wind Farm



Project at a Glance

Project	Wind farm
Developer	AGL Energy Ltd
Location	3km south of Glenthompson
Municipality	Southern Grampians
Cost	\$200M
Capacity	63 MW
Greenhouse gas emission	Greenhouse gas savings of over 185,000 tonnes per annum
Project status	Construction commenced, completion scheduled for Q4 2011
Website	www.agk.com.au/oaklandhill

Project Description

The project comprises:

- 32 wind turbines

Turbine type	Suzlon S88
Individual turbine capacity	2.1 MW
Turbine height	80m
Max. blade tip height	124m
Land area	2,323 hectares

- A switchyard and electrical substation to increase the reticulation voltage level of the wind farm power to the 66kV sub-transmission voltage level of the network
- An operation and maintenance building
- Staff and visitor car parking

The wind farm will connect to the national electricity grid approximately 17 km to the south of the site.

To satisfy the Victorian Government's requirement that the energy needs of the State's desalination plant at Wonthaggi be offset by an expansion in renewable energy projects, AGL's commitment to the construction of the Oaklands Hill wind farm will add to its portfolio of renewable assets that will supply the desalination plant.

Developer

AGL Energy Limited, Australia's leading renewable energy company and largest private owner, operator and developer of renewable generation assets is developing the AGL Oaklands Hill Wind Farm.

Development

AGL has entered into an Engineer, Design and Construct contract with Suzlon Energy Australia. Suzlon are the principal contractor at the site.

Workforce

During construction, up to 80 personnel will be engaged directly in site activities, with many others benefiting from these activities.

Following construction, the wind farm has a design life of 25 years. During this time a small crew of personnel will be permanently stationed at the site for routing and ongoing maintenance and operational work, with additional resources called in from time to time to support scheduled busy periods of maintenance.

Economic Impact

The Planning Application Report suggested that some 100 to 120 indirect jobs would be created by the construction (manufacturing and transporting components, providing accommodation etc); and the small number of on-going jobs would generate some additional local spending on goods and services.

Accommodation

Accommodation for the construction workers will be met through the existing housing stock, at Hamilton, Glenthompson, Dunkeld and Penshurst.

Transport

An anticipated 1400 truck journeys will be undertaken for the project, with the majority of turbine components arriving in the second half of 2010.

A survey of all local roads to be used by project vehicles has been undertaken and these roads will be reinstated to the same or better condition at the end of the construction period. Construction work will be undertaken entirely on the project site, using access tracks constructed with local materials.

Vehicle type	Movements
Over Dimension Vehicles	250
Heavy Dimension Vehicles	500
Light Vehicles	6,000

COLERAINE Hospital Redevelopment



At a Glance

Project	Wind Farm
Project	Coleraine District Health Service (CDHS) Redevelopment
Developer	Western District Health Services
Project Manager	Aurecon Australia
Location	Coleraine
Municipality	Southern Grampians Shire
Cost	\$25.8 M
Project Status	Tenders to be called March 2011
Project	Coleraine District Health Service (CDHS) Redevelopment

Project Description

The proposed development includes the following scope of works:

- Demolition Works: New Acute, High and Low level Aged Care accommodation (61 beds) and a new Primary Care Building;
- Refurbishment of an existing Aged Care facility;
- New Support Services facilities and infrastructure upgrades;
- New Primary Care building on a separate site located on the opposite side of McLeod Street; and
- Closure of part of McLeod Street and construction of civil works to create a car park between the facilities located on each side of McLeod Street.

The Coleraine District Health Service facility is currently located in McKebergy Street and will relocate to the new development.

Developer

Coleraine District Health Services is a member of the Western District Health Service (WDHS) which is a Sub-Regional referral centre primarily for the Southern Grampians and Glenelg Shires providing a comprehensive range of acute, aged and primary health services.

Development

This initiative will redevelop the acute, primary health and residential aged care services at Coleraine Hospital onto one site, creating a comprehensive integrated health facility that will address the very poor condition of the existing hospital and aged care facilities, and meet the needs of the local community.

The redevelopment includes 10 acute beds, 27 aged residential beds, primary care and emergency service area in a new purpose-built facility, co-located with the refurbished Mackie Court (24 low care beds). A new medical, allied health and dental centre will be constructed on land adjacent to the new development.

It is anticipated that works will commence in May 2011 and the construction period is estimated to be 31 months.

Workforce

Details not currently known.

Accommodation

The construction workforce is expected to be accommodated in existing housing stock in Hamilton and Coleraine.

FACT SHEET



WARRNAMBOOL Hospital Redevelopment



Project at a Glance

Project	Warrnambool Hospital Redevelopment Stage 2
Developer	South West Healthcare
Location	Warrnambool
Municipality	Warrnambool City
Cost	\$80M
Project status	Business case being prepared

Project Description

The proposed development includes the following scope of works:

- Additional operating theatre
- Expanded diagnostic service capacity [including medical imaging and pathology]
- Expansion of Emergency Department
- Refurbishment [internal and external] of existing multi-storey building
- Provision of space for future radiotherapy services

Developer

South West Healthcare - Warrnambool Campus is a Public hospital offering a broad range of health care services.

Development

Stage 1 of the hospital redevelopment is well advanced. At a cost of \$115m it will deliver a new base hospital, incorporating 192 acute beds, a new integrated care centre including allied health, mental health and primary care services, a five bed extended care inpatient unit and a new ambulance station.

Stage 1 is due for completion by early 2012.

Work on the business case for Stage 2 is currently progressing. The business case documentation is targeted to move forward for final approvals and funding commitments in the 2012/13 and 2013/14 financial years.

Workforce

Phase	Average	Peak	Sourced Locally
Construction	100	200	30%
Operational		40*	30%

*Health professionals

Transport

Roads surrounding the Hospital will experience an increase in heavy vehicle movements during the construction period.



FACT SHEET

WARRNAMBOOL Residential Development



Project at a Glance

Project	Warrnambool Housing Lot Developments
Developer	Various Developers
Location	Warrnambool
Municipality	Warrnambool City
Cost	\$404M
Project status	Pre-planning application

Project Description

Strategic planning by Warrnambool City Council has identified the opportunity for significant growth in residential allotments to meet the city's projected population expansion.

The four key growth areas identified are shown in the following table.

Growth Area	Lots
Dennington North	1,300
North of Merri	2,000
North East	800
Coastal Hopkins	550
TOTAL	4,650

Development

Demand for residential lots in Warrnambool has averaged around 350 lots per annum in recent years. Within five (5) years this equates to some 1,750 lots being taken up for development.

Based on an average dwelling cost of \$300,000 the total value of the building component over the five years is around \$404million.

Workforce

Over the five year period it is estimated that 660 full-time jobs will be involved in residential construction activity. It is expected that approximately 30% of the workforce will be recruited from outside the region.



Economic Impact?

An additional paragraph could be added here to provide greater information and more importantly, take up more space on the fact sheet...



FACT SHEET

TIMBER HARVESTING

Regional



Project at a Glance

Project	Timber Harvesting
Developer	Various Plantation Investors
Location	Green Triangle
Municipality	Various
Project status	Commenced & ongoing

Green Triangle Region

The Green Triangle Region encompasses the Great South Coast region of Victoria and the south-east of South Australia. Strategic towns in the Green Triangle are Warrambool, Portland, Hamilton, Horsham, Penola and Mount Gambier.

A large increase in timber plantation activity has occurred in the region over the past decade, making it home to the largest timber plantation area in Australia and constituting more than 17% of the forest plantation sector in Australia.

The area planted to softwood timber is approx 167,000 ha and timber destination is predominantly solid timber products, pulp logs, particle board and export woodchip for paper production.

Hardwood timber planting operations began in 1988 with blue gum plantations. It is estimated that the area planted to hardwood was 165,000 ha in 2009¹.

Development

It is expected the harvesting and chipping of blue gum plantations will result in a near doubling of the total volume of wood harvested [both softwood and hardwood] in the region from 1.5 million tonnes to 3.5 million tonnes per annum by 2012².

There are two main approaches to hardwood timber harvesting and chip production: infield chipping and centralized chipping at a static chip mill. South West Fibre, a joint venture between Midway and Mitsui, has built a new static chip mill at Myamyn.

The Green Triangle Region Freight Action Plan highlights that \$8.7 billion worth of new investments will occur in the Green Triangle Region over the next three to five years, presenting enormous opportunities for the region.

Workforce

These investments will potentially generate up to 1,000 direct jobs in the blue gum timber industry alone and up to 1,000 jobs in industries associated with the timber industry³.

The Green Triangle Region will be an excellent platform for new, innovative initiatives in skills development and workforce planning.

Economic Impact

As a result of the increased timber harvesting, the Port of Portland will become the largest blue gum woodchip receipt and storage port facility in Australia. This activity is expected to generate annual exports worth \$250 to \$300 million.

The rate of harvesting and export of the logs and chips will be determined by the global demand at anytime.

Transport

There will be a significantly greater freight task in the region when large-scale harvesting and chipping of blue gum plantations commences.

Anticipated truck movements to Portland per annum, without rail are summarised below.

Current truck movements	Additional movements (If by semi-trailer)	Additional movements (If by B-Double)	Total
90,000	138,000		228,000
90,000		93,000	183,000

DAIRY INDUSTRY Regional



Project at a Glance

Project	Dairy Farming
No. Dairy Farms	1,500
Milk Production	2,069,500 litres in 2009/10
Estimated farm gate value	\$687M in 2009/10
Share of national production	23%
Project	Dairy Farming
No. Dairy Farms	1,500
Milk Production	2,069,500 litres in 2009/10
Estimated farm gate value	\$687M in 2009/10

Farming at a Glance

Average dairy land area per holding	179 ha
Average herd size	219 cows
Litres per cow	6,282 litres

Dairy Industry

National Outlook

Dairy Australia expects Australian milk production to increase by 1% - 2% for 2010/11. However, there is potential for greater growth if seasonal conditions remain positive and if grain prices soften following the harvest¹.

Region's Status

Western Victoria the largest milk producing region in the national industry. In 2009/10, the region produced 35.7% of Victoria's milk supply and 23% of the national production.

The strategic direction for the region is set out in a document titled 'Down the Track – Dairy 2020'². The strategy is targeted at driving the industry forward to 2020. The overarching goal is to grow the industry by 50% by 2020 – from current 2 billion litres pa to 3 billion pa.

Workforce

The industry regionally employs on the farm and processing areas more than 7,400 people.

This is around 15% of the regional workforce.

Economic Impact

There are 15 dairy factories in the region including milk processing, dairy product manufacturing and milk collection plants.

The major companies operating in the region include:

- Murray Goulburn Co-operative - www.mgc.com.au
- Fonterra Milk Australia - www.fonterra.com.au
- Warrnambool Cheese and Butter - www.wcbf.com.au
- Dairy Farmers
- National Foods

WestVic Dairy estimates that the current value of the dairy industry to the region is about \$4.6 billion³.



- ¹ September Update, Dairy Australia
- ² Down the Track – Dairy 2020, WestVic Dairy
- ³ Down the Track – Dairy 2020, WestVic Dairy