

Reimagining Collie

Collie Economic Development Task Force



Collie Water Park. Drone photography: Tyron Massara

March 2017



Collie's critical role in the health of the South West



"When Collie sneezes, the South West catches a cold."

Snapshot

REIMAGINING COLLIE

July 2016

➤ Strong community

5.5% of the South West's population (175,949 people) live in Collie.
9656 people
Source: ERP Report, 2014/15

\$86,492
 Average mean taxable income, which is (\$12,732 / 17.2%) higher than the SW mean.
Source: ATO and DRD, 2013/14.

Collie's average age is increasing. 50 – 59yo represents the major share (16%). Source: AEC 2014

Community spirit
 There are more than 75 sport, community and social clubs in Collie.
Source: Shire of Collie.

➤ Big workforce

5444 Collie's labour force, representing 5.4% of the SW labour force. Source: Department of Employment, 2016.

6.8% Collie's unemployment rate, compared with 4.6% in the SW. Source: Department of Employment, March 2016

3rd largest Collie represents the third largest labour force in the SW, behind Greater Bunbury and Busselton. Source: Department of Employment, March 2016

➤ Critical economy

\$2bn Representing 12% of the region's total, Collie's contribution to the \$16b SW Gross Regional Product is significant. Source: ABS, 2011.

\$300m coal mining **\$1.68bn** alumina **\$776m** energy

Big business

Collie is home to some of the South West's biggest employers, including Worsley Alumina which employs 2150 people. Source: South32, 2016.

DIDO
 Collie also provides employment to a large drive-in, drive out workforce. At the height of the construction boom in 2011, more than 3400 South West workers drove to Collie to work. Source: ABS, 2011.

3.6%
 Collie businesses represent 3.6% of the SW total, by number. Agriculture/ forestry/ fishing, construction and retail are the top business categories by number. Source: ABS 2014.

Strong support
 More than 400 local businesses, and many more throughout the SW, rely on Collie's economy. Source: ABS 2014.

Several sectors in Collie employ less people by proportion than the SW average, indicating potential opportunities for growth. Source: Pracsys 2016.

Less than average
 Agriculture, Aquaculture, Forestry, Health & Aged Care, Tourism

More than average
 Coal, Energy

Document Control

This publication has been prepared for the Collie Economic Development Taskforce. Information and projections included in the report have been provided by independent consultants that are independent of government and is believed to be accurate at the time, but is no way guaranteed. The report is intended to provide guidance only for **the purpose of exploring possible futures for the economic diversification of Collie as a strategy to mitigate potential risks associated with the town's reliance on one or two industries. They do not represent official Government views on projections for those industries concerned** and should not be relied upon. No person or organisation should act on the basis of any material contained in this document without considering, and if necessary, seeking their own professional advice.

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Final Report completed by Collie Economic Development Task Force

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Executive Summary

Collie is an economic hub in the South West (representing 12% of the region's GRP), benefitting from the state's only productive coalfields, together with state-significant energy generation and transmission infrastructure. This supports a substantial comparative advantage for the town in the coal mining and coal-fired energy generation industries. Collie is also one of nine towns recognised through the Regional Centres Development Plan for its significance to Western Australia as a 'SuperTown'.

Building on the success of the SuperTowns planning and its initial implementation, an Economic Development Task Force (the Task Force) was established in order to investigate opportunities to diversify and grow the Collie economy. Through this *Reimagining Collie* initiative, the Task Force has examined the opportunities and challenges for Collie within the context of the broader vision for the community. Based on community and industry consultations, previous planning studies and new economic modelling, this work identifies clear recommendations that, once implemented, will support the growth, sustainability and diversification of the future economy of Collie and enable the town to achieve its broader visions.

The Collie community has been widely engaged several times through the process and understands the opportunities that the town can embrace through a diversified economy and the mitigation of risks associated with over-reliance on one or two industries. This is a significant positive step, with parallels to other coalfield towns around the world that have undergone successful regeneration facilitated through community change. Closer to home, other regional towns have also successfully negotiated change through economic diversification, notably in Manjimup, again as part of the SuperTowns program.

A key part of this new work is the future economic assessment, by Pracsys Economics, of the likely economic development scenarios for Collie over a 24-year period to 2040, examining potential opportunities across a range of industries, including: agriculture, aquaculture, forestry, aged care and health and tourism. It also explores opportunities for alternative uses of coal and alternative energy generation fuels (gas and renewables). This analysis, which is based on well-validated methodologies, provides an assessment of job creation, relative to a **base case**, for both a **possible future** and a **plausible future** for two scenarios. The plausible future takes into account the likelihood that efforts to harness opportunities will be successful based on factors relating to scale and access to market, market opportunity technical viability, local skills and motivations and attractiveness to investment. The scenarios provide a tool to guide actions required to fill gaps in knowledge and direct efforts towards opportunities that demonstrate the greatest potential.

The base case recognises an ongoing commitment to coal generation, but assumes that coal production in Collie will decline from its 2016 level of 6.9 million tonnes per annum (Mtpa) to 4 Mtpa by 2040*, with a consequent impact on employment in related industries. However, it is expected that new jobs will be created in service industries driven by population growth, together with the potential for specific interventions to provide further support for job creation. The two scenarios that have been examined are:

- **Scenario 1**, focusing on growth in industries that capitalise on existing comparative and competitive advantages, including aged care and health, aquaculture, forestry, tourism and water desalination.
- **Scenario 2**, assuming that, on top of Scenario 1 initiatives, there is growth in industries in which Collie has not previously supported employment. These include alternative uses of coal, alternative energy generation industries, protected cropping technologies and associated food processing industries.

* This is founded on base case forecast coal demand estimates provided for the report by Independent consultant Economic Consulting Services (2016) *Collie Coal and Energy Industry Opportunities Study*.⁹

The scenarios represent the potential for economic diversification that can see employment in Collie increase in the medium term as alternative industries are pursued while existing coal mining and energy generation industries are sustained. In the longer-term, industry diversification will lead to a more resilient economy with the potential to maintain employment growth even with some decline in the town's traditional industries. Holding all other industries constant, Scenario 1 sees **50 to 120 direct jobs kept (that may have been lost)** by 2040 relative to the base case whilst Scenario 2 sees **520 to 660 direct jobs kept**, resulting in overall employment growth in the shire. These are the plausible future projections, with the possibility of further upside represented in the possible future projections.

It is important to emphasise that this reflects direct jobs only and that **further jobs would be created through indirect or induced economic impacts**. Using a reasonable employment multiplier, Scenario 1 sees **113 to 270 direct and indirect jobs kept** and Scenario 2 **1,125 to 1,495 direct and indirect jobs kept** by 2040 relative to the base case.

The Task Force recommends pursuing the opportunities in Scenario 2 and others as they appear, representing the maximum job creation potential, and overall employment growth in the shire, through diversification of the economy. Through an analysis of the current constraints to the development of the identified industry initiatives, a number of recommendations have been made for the desired outcomes to be achieved:

RECOMMENDATION 1

The Task Force reaffirms the commitment to Collie as a major regional centre and supports the vision of positioning Collie as an expanded centre for industry and manufacturing, offering high amenity and diverse job opportunities.

RECOMMENDATION 2

The Task Force recommends federal, state and local government support, and the attraction of private enterprise and investment, for the pathways to economic diversification in Collie.

Specifically, the key industry opportunities that have been identified are:

Agriculture

- Development of protected cropping and intensified agricultural production, including closed loop agricultural systems and greenhouse or hydroponic production.

Aquaculture

- Development of a commercially viable aquaculture industry using access to surface water dams and, potentially, mine voids (subject to meeting regulatory requirements).

Alternative uses for coal

- The use of coal in manufacturing processes, including the production of urea, fuel and activated carbon.

Energy Generation

- The continued use of Collie as a generation hub on the South West Interconnected System (SWIS), including potential for large scale gas and renewable energy generation in biomass, solar and wind.
- Extension of coal fired generation and opportunity for new power station linked to new technology and use of the South West Hub.

Forestry

- The development of an additional 2,000 hectares of softwood plantation in Collie.

Aged and Health Care

- Expansion of existing primary health services, aged care services, as well as the development of a lifestyle village to facilitate Collie as an Aged Care Hub for the surrounding region.

Tourism

- Development of a nature-based hub at Minninup Pool, linking with the Munda Bididi Trail and the Bibbulmun Track and featuring accommodation and activities options.
- Development of an Adventure Sports Hub, featuring Collie Motorplex and Lake Kepwari.

Water Desalination

- The establishment of a desalination plant to improve water quality supporting intensified agricultural production in Collie.

Other opportunities will continue to be identified as the Economic Diversification Program is developed and will need to be assessed.

All industry development opportunities would require careful assessment, planning and approvals to ensure that use of that land is consistent with existing agreements, including the State Agreements that exist in and around Collie.

RECOMMENDATION 3

The Task Force recommends that a comprehensive change program be defined and implemented, adequately resourced and funded in order to enable the community to gear for growth and diversification. This should address multiple facets, including leadership, engagement and communication and skills development.

This comprehensive change program should be run in conjunction with the industry development opportunities. Critical engagement with all parts of the Collie community is required particularly the Aboriginal community through participation and inclusion proposals. The engagement and development will be measured for effectiveness.

RECOMMENDATION 4

The Task Force recommends that the Government, at all levels, provides commitment and support to the process and outcomes contained in *Reimagining Collie* and that an appropriate Economic Diversification Program is resourced and implemented to pursue the defined outcomes.

The first step of the Economic Diversification Program is to assess resourcing requirements and develop a Project Plan. It is currently estimated that over the period 2017 to 2023 \$5.85 million will be required for the program. The Project plan will finalise the elements and implementation of the Economic Diversification Program. The Project Plan will include effective Governance and management of the program including the provision of a Steering Committee, an Economic Development Manager and an Economic Transition Coordinator, funding industry research and process for developing business cases for key development projects, industry government and community partnership, providing education development support and increasing business and entrepreneurial skills and stakeholder engagement and communication.

The Task Force strongly recommends that the implementation of the Economic Diversification Program be initiated as soon as practicable. Timely implementation will harness the momentum that has been built up through the *Reimagining Collie*, and broader SuperTowns planning, activities to date. A successful diversification and expansion of Collie's economy relies critically on the support and engagement of the community and leveraging the sense of optimism in the community that has been built up through *Reimagining Collie*. A delay in implementing the recommendations will undermine this energy, particularly in the light of the community's engagement with the prospects for Collie's future. Furthermore, an immediate transitioning of the Task Force into an Economic Diversification Steering Committee will allow sufficient time for it to bear fruit by the time critical decisions on the state's power generation capacity are required in the early 2020's. Early wins in the Economic Diversification Program will be essential for enabling further economic diversification and development over the years following these decisions in 2020.

RECOMMENDATION 5

The Task Force recommends that a Steering Committee be retained, with representation from state and local government, community and industry in order to provide leadership and oversight to the implementation of the Economic Diversification Program. The Task Force further recommends that the

Government adequately funds the Economic Diversification Program and that the implementation of the Economic Diversification Program be initiated as soon as practicable.

Community and industry feedback, including a community survey conducted following the release of the Draft Final Report and recommendations, indicated overwhelming community support for the recommendations and pursuing an Action Plan.

Along with providing the Government, the Shire of Collie and others with a recommended pathway, these recommendations will provide the community with a direction for the future. This work also provides a tool to guide further investigation and the development of a Project Plan that with a focus on actions to achieve identified outcomes will result in a future diversified more sustainable and larger economy in Collie.

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1 Introduction

1.1 Project Purpose

Collie has received welcome focus in recent years, with support for planning arising from its selection in the state's Regional Centres Development Plan (SuperTowns Program), and in recognition of its position as a key regional centre for the South West. The SuperTowns planning had a very broad scope, engaging diverse multidisciplinary teams to develop ambitious visions and to outline the challenges and opportunities faced by the town and its sub-region. The *SuperTowns Growth Plan* is based on Collie community's vision to make the town a **diverse, sustainable, inclusive and developing place where people want to live, visit and invest**. The associated *Economic Growth Plan* has broad themes encompassing the attraction of new investments to diversify the industry base in Collie.

Building on the SuperTowns planning, the Collie Economic Development Task Force (the Task Force) was established with a narrower scope to focus on developing a sustainable, evidence-based economic development action plan based on broad consultation. However, economic objectives for the town do not exist in isolation from its urban, community and environmental visions; in fact, they are fundamentally interrelated. The economy is both a potential key enabler and a potential key barrier to the achievement of the town's broader vision. Through this *Reimagining Collie* initiative, the Task Force has examined the economic opportunities and challenges within the context of the broader vision for the community. *Reimagining Collie* does not duplicate prior work, nor replace it, but builds on it, integrates it and complements it. The essence of this work is the identification of clear recommendations that, once implemented, will support the growth, sustainability and diversification of the future economy of Collie and enable the town to achieve its broader visions.

Collie is an economic hub in the South West Region (representing 12% of the region's GRP), having a considerable coal resource (the source of the state's entire viable coal supplies), co-located with state-significant energy generation (home to the state's only coal-fired power plants) and transmission infrastructure (centrally-located hub of the South West Interconnected System (SWIS)). This represents a substantial comparative advantage for the town in the coal mining and energy generation industries. The presence of a significant alumina refining operation within the shire has also supported strong employment in manufacturing.

Collie faces both great opportunities and significant challenges. On the one hand, the town's dependency on coal mining and coal-based power generation creates risks and uncertainty associated with the trend towards increasing distributed generation and the use of renewable sources of energy. On the other hand, the town's existing infrastructure and its strategic location as the hub of the SWIS, together with its substantial energy reserves, its natural environment and diverse opportunities for economic diversification provides the basis for confidence in its future.

Reimagining Collie provides a set of clear and credible recommendations for addressing these opportunities and challenges, and builds an approach based on exploiting the synergies between them to maximise the chances of success.

Participation in the various regional and state development initiatives has provided much needed external expertise and resources, and this support will remain critically important as the town builds for the future. However, the most important assets are the town's own people, industrial base, and its readiness and capacity for change. This provides a solid base from which to diversify, grow and sustain new opportunities and create new jobs.

The Task Force recommendations provide the Government, the Shire of Collie and others with a pathway to the desired outcomes. They should also provide the community with a sense of optimism, building on experiences from other coalfield towns around the world that have undergone successful economic diversification. Finally, this work also provides a tool to guide further investigation, with a focus on the actions required to influence existing barriers or harness opportunities.

1.2 Collie Economic Development Task Force

The Collie Economic Development Task Force (the Task Force) was established in November 2015 under a Memorandum of Understanding between the Shire of Collie and the South West Development Commission (SWDC). The Task Force is chaired by the President of the Shire of Collie and has representatives from the SWDC, the Department of State Development and LandCorp. This report summarises the outcome from the Task Force, *Reimagining Collie*.

Reimagining Collie demonstrates a strong commitment to embrace the opportunities and address the challenges facing the town. Workshops, surveys and a youth forum were undertaken to seek community input into the project. Industry and government agency consultation further informed the work, together with input from several previous reports and studies. This has been brought together in new economic modelling to identify the most plausible opportunities for diversifying the economy and creating jobs.

Reimagining Collie is the culmination of the current scope of the Task Force, though an enduring and needed role in directing the implementation of the recommendations has also emerged.

1.3 Process

1.3.1 Methodology

Reimagining Collie is based on a comprehensive review and consolidation of a number of reports and studies, all of which inform the key challenges and opportunities for economic diversification in Collie; these include:

1. *Collie SuperTown Townsite Growth Plan*¹,
2. *Collie SuperTown Economic Development Plan*²,
3. *Collie SuperTown Combined Report*³,
4. *Collie Economic Development Update, Addendum Report*⁴ (an addendum report to *Collie SuperTown Combined Report*),
5. *Shire of Collie Strategic Community Plan 2013 – 2022*⁵,
6. *South West Regional Planning and Infrastructure Framework*⁶,
7. *South West Regional Blueprint*⁷,
8. *Tourism Opportunities Study for Collie*⁸,
9. *Collie Coal and Energy Industry Opportunities Study*⁹,
10. *Reimagining Collie Community Survey Report*¹⁰, and
11. *Collie Future Scenario Assessment Report*¹¹.

The latter four reports include new work that builds on the previous studies and includes further consultation with the community and other stakeholders, together with new economic modelling.

1.3.2 Community and Industry Engagement

1.3.2.1 Community Engagement

Community consultation and engagement has been a core element of *Reimagining Collie*. The Task Force developed a comprehensive *Communications and Stakeholder Engagement Plan* to identify stakeholders, engage with them through a variety of methods and collect and collate ideas, feedback, concerns and input. To launch the consultation, three community forums were held in Collie on March 22, 2016 – a youth forum at the Collie Senior High School, and two public forums at the Margaretta Wilson Centre. A community survey was also launched on the same day, giving residents and stakeholders the opportunity to provide feedback and opinions across a range of key areas. These included:

- General feelings about Collie’s future
- Tourism
- Industry
- Agriculture
- Small Business
- Education

Key outcomes of the engagement process included:

- 192 stakeholders identified.
- 360 ideas collected via community forums.
- 85 opportunities identified through 5 working groups.
- 60 community survey participants with 840 comments.
- 303 Reimagining Collie website visits.

Task Force activities have been communicated to stakeholders via one-on-one briefings, regular eNewsletters and Collie Shire updates, media releases, social media and a Shire web portal

This consultation builds on previous community engagement undertaken for the SuperTowns planning and the development of the *Shire of Collie Strategic Community Plan* and the *South West Regional Blueprint*.

Not surprisingly, many in the community expressed their concern about future employment opportunities, resulting from the changing landscape of power generation. However, the community understands that the town needs to change and diversify its economy and the attitude can be summarised through one conclusion from the *Community Survey Report*:

“There are mixed feelings about Collie’s future, but many are feeling optimistic, saying the town has great potential”.

1.3.2.2 Industry Engagement

As part of the consultation process for *Reimagining Collie*, workshops were held with key industry stakeholders in tourism, arts and culture, agriculture, industry and aged care and health. Workshops identified a range of ideas and opportunities, which were fed into the economic modelling process.

In addition, industry consultation has been undertaken in other components of this work:

- For the *Tourism Opportunities Study for Collie*⁸, engagement was undertaken with a range of stakeholders from the tourism industry (e.g. tour operators, attractions and hospitality operators), as well as relevant public sector agencies.
- The *Collie Coal and Energy Industry Opportunities Study*⁹ engaged with 37 industry stakeholders over a two-month period, from coal customers to Government stakeholders.
- As part of the *Collie Future Scenario Assessment Report*¹¹, a separate industry consultation was carried out with the key industries based in Collie and termed the Collie Industry Advisory Group. This group was an extension of the Collie SuperTowns Community Advisory Group, set up in 2011 to help guide the SuperTowns process.
- Dozens of further one-on-one briefings were given to industry and business stakeholders throughout the course of the engagement process.

1.3.2.3 Draft Report Feedback and Engagement

With the draft final report released on December 16, 2016, several opportunities were created to engage with the community and gather feedback. A Final Report feedback²¹ summary provided the following:

IAG Briefing

A briefing session with the Reimagining Collie Industry Advisory Group was held on January 12th 2017, with 17 attendees. A range of feedback was collected and analysed.

Community Briefing

An open house briefing session was held at the Margaretta Wilson Centre on January 12th, 2017, with 7 attendees. A range of feedback was collected and analysed.

Community Survey

The Reimagining Collie Final Report Survey provided an opportunity for the community to give feedback on the draft report. The Survey was open from December 16, 2016 – January 20, 2017. Access was available to the general public, via Collie Shire Council website and through hard copy forms at the Shire of Collie.

There were 356 visits to the Reimagining Collie website throughout this period, with 19 survey completes and 100 final report downloads.

Shire meeting 24 January 2017

The Shire of Collie met on the 24th January 2017 to consider the draft report and the following resolution were approved:

That Council:

1. Receive the Draft Reimagining Collie Report prepared by the Collie Economic Development Task Force, and
2. Authorise the Shire President and the Chief Executive Officer to seek a funding commitment from State political parties to progress the recommendations of the report.

1.3.3 Methodology for Economic Modelling

The approach to scenario assessment used in the *Collie Future Scenario Assessment Report*¹¹ seeks to bridge the gap between high level economic development strategy – largely undertaken by Government – and industry-driven economic development. The methodology used in the scenario assessment incorporates the following levels of assessment:

1. A *top-down analysis* of regional comparative advantages and strategic directions, and
2. A *bottom-up assessment* of a potential development trajectory for a range of industries.

Top-down Analysis

A standard economic modelling approach provides the foundation for identifying regional comparative advantages. This includes the calculation of employment location quotients which identify concentrations of employment in particular industries in a region compared with the nation, and shift share analysis, which identifies industries outperforming national trends in job growth.

This approach to quantitatively identifying competitive regional industries or clusters of industries is used by international bodies such as the OECD⁺ and nationally[‡] in economic development strategy. When coupled with qualitative insights on strategic directions provided in regional and local economic development strategy documents - including the *South West Regional Blueprint* and the *Collie SuperTown Growth Plan* – a strategic context for the scenario assessment can be established.

Bottom-up Assessment

A combination of benchmarking and direct engagement with key stakeholders and industry experts informs the identification of a possible growth pathway for a particular industry and a future state in relation to jobs and output. Critical factors influencing local capability to respond to barriers and harness opportunities are then uncovered through the examination of:

- Market scale and access.
- Availability of assets required to support development (land, labour and capital).
- Local capacity and motivation to see growth in the industry.
- Network effects of growth in the industry on other industries.

⁺ See Page 79 (http://artnet.unescap.org/tid/artnet/mtg/gmscb_regionalclusters.pdf)

[‡]For example, in *Bayside City Council's economic development strategy* (See: http://www.bayside.vic.gov.au/documents/Economic%20Development/Bayside_EDS_Strategy_LowRes.pdf)

Using the assessment

The output of the assessment is a representation of a future state informed by regional comparative advantages, industry knowledge and an assessment of local capabilities. The identification of critical constraints and gaps in capability provides insights on where interventions can support future growth and what impact growth would have on the broader economy.

Any industry has a range of development pathways and the scenario assessment reflects current knowledge only. The assessment does not represent the full scope of opportunities and, as new opportunities are uncovered, a similar approach can be applied to focus efforts and plan for future growth.

The majority of the new economic modelling undertaken for *Reimagining Collie* is contained in the *Collie Future Scenario Assessment Report*¹¹. This work describes and assesses the likely economic development scenarios for Collie over a 24-year period to 2040. The methodology shown in Figure 1 was employed in order to identify industries to form the focus of the scenario analysis and assess the relative merits of initiatives based on the scale of potential impact and likelihood of success.

A **possible future** and **plausible future** for various industry initiatives were established through this process. The possible future represents a desirable future state for the industry initiative, informed by benchmarking, research, engagement with experts and analysis of land use constraints. The plausible future takes into account the likelihood of that future state being achieved. It represents the desirable future state discounted by an estimated probability of success. This probability is informed by an assessment against a number of criteria utilising currently available data and knowledge (see Table 1).

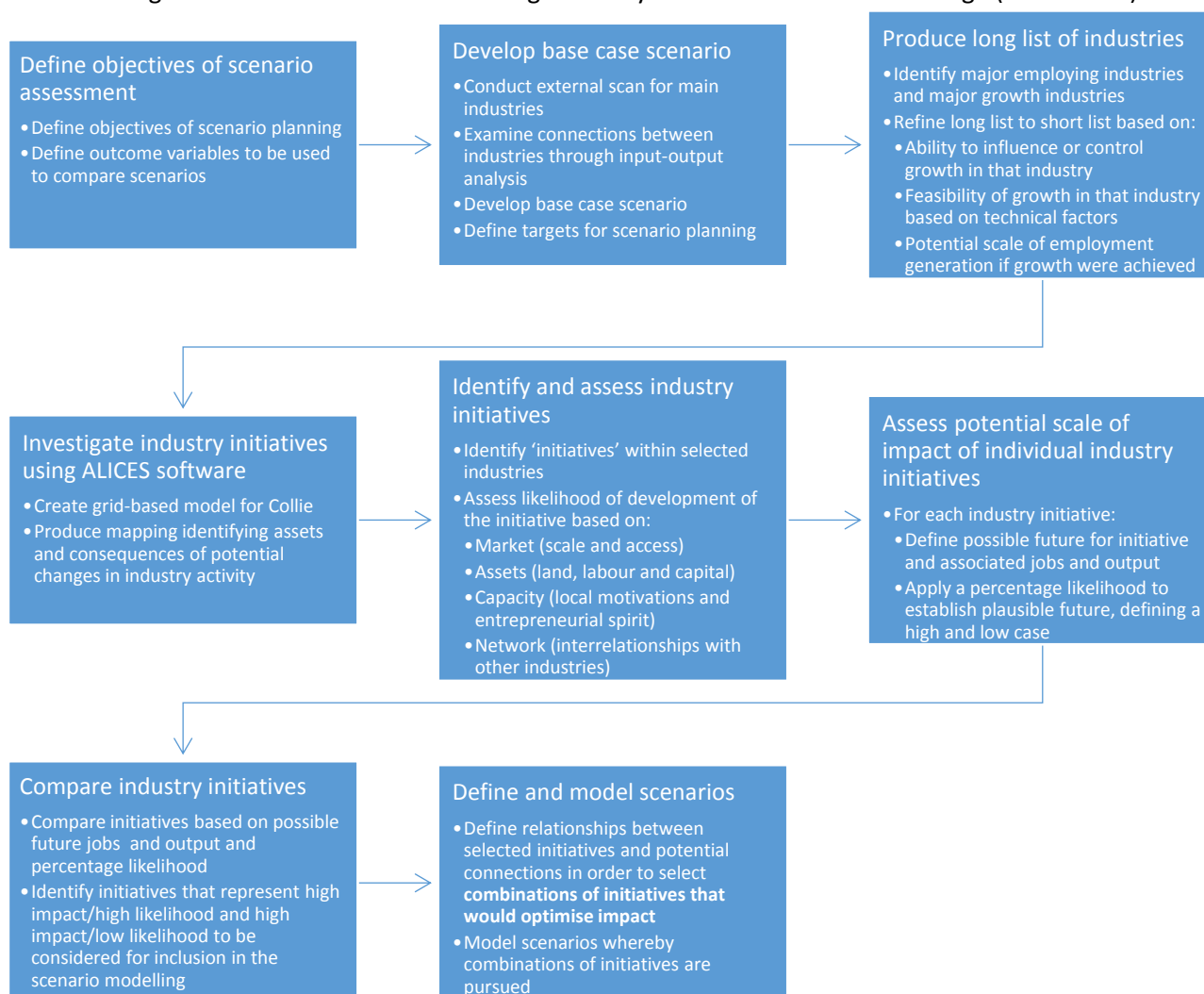


Figure 1. Methodology for the economic modelling and scenario planning

Table 1. Assessment criteria

Market	Factors such as sources of demand, nature and scale of markets and market readiness.
Assets	Technical feasibility of the initiative based on current assets, including natural capital (land, water, climate) and physical capital (proximity to required infrastructure).
Capacity	Capability to deliver on the initiative such as local skills, access to industry expertise and technical knowledge, motivations and entrepreneurial ability.
Connections	Strength of connection between the industry initiative and the rest of the local economy.
Investment	Attractiveness to public/private investment.

1.4 Alignment with Key South West Planning Documents - Regional Development Strategy and the South West Regional Blueprint

The *Reimagining Collie* is consistent and aligns with key planning documents in the South West including the Department of Regional Development's Regional Development Strategy, The SWDC South West Regional Blueprint, The Western Australia's Planning Commission South West Regional Planning and Infrastructure Framework²² and the recently released Bunbury Geopraphe Growth Plan²³.

1.4.1 Regional Development Strategy

The aspirations and recommendations contained in *Reimagining Collie* fully aligns with the focus of the state's *Regional Development Strategy*¹² for **building vibrant regions with strong economies through jobs growth, economic growth and capable people**. Specifically it supports the following priorities:

- **Developing people's capability to drive growth and prosperity.** *Reimagining Collie* has widely engaged with the community actively thinking about their future and participating in their economy.
- **Enhancing key regional centres to capture investment.** Collie will contribute to the network of regional centres across WA.
- **Investing in economic infrastructure to drive growth.** Collie's existing infrastructure remains critical for underpinning economic growth across much of regional WA.
- **Fostering the growth of emerging industries.** The cross-sectoral approach applied in *Reimagining Collie* is focused on growing a range of prospective industries.
- **Supporting change in existing major industries.** Collie is currently dependent on major industries, but recognises the need to change to improve their resilience.
- **Identifying and promoting opportunities for investment.** *Reimagining Collie* embraces the need to attract private sector capital and capability.

1.4.2 South West Regional Blueprint

As can be seen from the infographic on the inside cover page of this report, Collie is critical to the South West and as such is critical to the achievement of the ambitions in the *South West Regional Blueprint*⁷. Specifically:

- Collie is one of the region's three SuperTowns, representing a catalyst for growth.
- Collie contributes to the region's strengths in mining and environment, with a well-established workforce.
- Collie can contribute to the region's future opportunities in mining, manufacturing, agriculture, tourism timber processing and recreation.
- Collie has excellent infrastructure to support heavy and export-focused industries, with a strong industry base and key industrial parks.
- Collie has employees with good skills and training for key heavy industries.
- Collie has good aged care facilities and a strong, supportive community.

Recognising this, Collie is the focus of a number of transformational opportunities targeted by the Blueprint:

- **Collie-Kemerton water management.** Irrigation for food, new or expanded water sources and distributing surplus saline water to industrial centres, including Worsley and Kemerton.
- **Support for Bunbury Port Interconnection to the Wheatbelt.** Safe, efficient interconnected transport network through upgrading the Collie/Shotts to Brunswick railway line.
- **Sustainable energy supply.** Identifying options to provide gas as an alternate fuel to Collie power stations
- **Tourism.** Complete the redevelopment of Lake Kepwari as a recreational water body and Collie Motorplex as a motor sports venue.

In turn, these initiatives support the SuperTowns vision of positioning Collie as an expanded centre for industry and manufacturing offering high amenity and diverse job opportunities.

1.4.3 South West Regional Planning and Infrastructure Framework

The South West Regional Planning and Infrastructure Framework is a key document that focuses on the longer term planning and infrastructure needs of the region. The Framework outlines the need for sustainable communities, reinforces the character of town and centres throughout the region, supports strategies that structure sensible development and build on communities that have existing infrastructure.

It notes that the power stations in Collie are “vital to the security of the State’s Electricity supply” while recognising the changes approaching in terms of increased renewable and other alternative power generation capacity.

The document further outlines opportunities for tourism, logistics, industrial and agricultural growth. Several relevant projects and initiatives are identified that relate directly to Collie. These include Wellington National Park, gas supply to Collie townsite. Collie Kemerton Water Management plan, Collie water supply to Perdaman, Collie Motoplex, Lake Kepwari Recreation at Stockton and Glen Mervyn Dams and other projects that would indirectly benefit Collie. In summary there is much alignment with this report.

1.4.4 Bunbury Geographe Growth Plan

The Bunbury Geographe Growth Plan²³ is a new document providing a thorough and detailed investigation of the strengths and opportunities, and priorities, that will foster growth of Greater Bunbury. This growth plan is aligned with the South West Regional Blueprint and acknowledges what will influence areas beyond the City of Bunbury, and the Shires of Capel , Dardanup and Harvey. Additionally a number of the projects identified in the plan will directly support development around Bunbury including Collie. Importantly the growth plan is a partnership between Government, Industry and the community and is similar in that regard to this report.

It is envisaged that in implementation of this plan that there will be direct alignment between this report and the Bunbury Geographe Growth Plan initiatives.

2 Context

In analysing the development opportunities it is important to review the relevant demographic and economic context of the South West Region, and Collie Shire specifically, in order to identify the scope and scale of impact, as well as to make suitable and justified assumptions and projections based on the available material.

The regional and local context has been described in detail in the various planning documents highlighted in Section 1.3.1. In this document, only those elements that directly impinge on the development of the economic development recommendations are summarised, together with the key factors that influence the challenges or opportunities facing Collie.

2.1 South West Regional Overview

The *South West Regional Blueprint*⁷ provides a comprehensive overview of Collie's regional context:

Table 2. South West regional context

Demographic	Regional Context	Key Factor
Population	In 2011, the estimated regional population was 158,615. In the period 2006-2011, the region grew by 22.1% compared to 14.3% for WA as a whole, and 8.3% for Australia over the same period. It has one of the fastest growing regional populations in the whole country.	The region's population has grown, and is expected to continue to grow, strongly.
Population growth	WA Tomorrow ¹³ forecasts that by 2026, the regional population will reach between 193,000 and 267,000. Current trajectories indicate a population of 230,000 by 2026. In the past two decades, most of the growth has occurred along the coastal areas. The WAPC expects this trend to continue. If historical growth rates were maintained, the population in 2050 would be in the order of 490,000. The Blueprint adopted an aspirational increase of 0.17% average annual growth rate to arrive at a possible population figure of 500,000.	Economic development is critical to the region as a whole to be able to cater for population growth.
Age structure	The latest census (2011) showed significant under-representation in the 20–34 age group (17% of the region's population in compared to 22% across the state), a slight over-representation in the 0–14 age cohort, and an over-representation beginning in the 45–64 age group. Underrepresentation of the 20-34 years group is likely to be associated with people seeking employment and higher education or training elsewhere. The region's lifestyle attraction is likely to explain the slight above average representation of the retirement age group.	In common with many regional areas in WA, tacking out-migration of youth is a priority.
Mean taxable incomes	Figures show a sizeable variation between local governments, ranging from the highest in Collie to the lowest in Manjimup. For 2013/14, the mean taxable income in Collie was \$86,492, 17.2% higher than the South West mean.	Collie has the highest mean taxable income in the region.
Aboriginal community	Aboriginal people represent 2.1% of the South West population, compared to 3.1% state-wide. All sub-regions have a similar young age profile with almost 60% of the Aboriginal population under 25 years of age. By comparison, a third of the non-Aboriginal population is less than 25 years of age. The greatest proportion of the Aboriginal population in the region resides in Bunbury and Collie (3.1% each).	

2.2 Collie's Demographics

The *Collie SuperTown's Growth Plan*³ and subsequent addendum report⁴ provides a comprehensive summary of Collie's demographic context, together with further evidence compiled for the scenario planning¹¹:

Table 3. Collie’s demographic context

Demographic	Collie’s Context	Key Factor
Population	Since 2010, the Collie LGA’s population has grown from 9,218 to 9,778 in 2014. This growth has resulted in the expansion of the Collie Urban Centre population from 7,170 to 7,332 residents over the period, equating to 75% of the LGA’s population.	Indications are that sustained population growth can be expected in the future in Collie.
Population growth	The 2015 database projects an increase in the Shire population from 9,935 in 2016 to 10,521 in 2031. The average annual growth rate of population for Collie is forecast to be less than 1%.	However, projections for the town are lower than those for the region as a whole.
Age structure	2014 data indicate that the average age of residents in the Collie LGA is increasing, with the age bracket with the major share is the 50 to 59 age bracket (16%). In 2005 it was the 40 to 49 age bracket (15.7%).	Ageing population is both a challenge and an opportunity. Retention of youth is an enabler for growth, but there are also opportunities for development in recreational, aged care and healthcare services.
Educational attainment	Collie has a lower proportion of persons that hold a post school qualification, with only 5% of persons holding a Bachelor or Postgraduate degree compared to the state rate of 16%.	Collie shows evidence of relative disadvantage in terms of attributes such as educational attainment.
Index of Disadvantage	The SEIFA Index of Disadvantage measures the relative level of socio-economic disadvantage based on a range of Census characteristics. Areas which include average minimum scores lower than 1,000 provide evidence of relative disadvantage. Collie has a SIEFA score of 958 whilst Bunbury and the state both have scores >1,000.	
Occupation	Blue-collar workers make up the majority of Collie’s workers, which was over 55% in 2008-09 and, in 2011, is over 70%. This is well above the proportions for the South West and WA. The level of white-collar workers has dropped over the comparison periods, while service workers have remained steady in Collie while it has increased in the comparison areas.	Collie has a strong ‘blue collar’ workforce tied to the major employing industries – construction, mining and manufacturing. Additionally there is a significant amount of Drive In Drive out employment to businesses that operate in Collie. This has implications for the level of the self-employment and entrepreneurial skills base in the town.

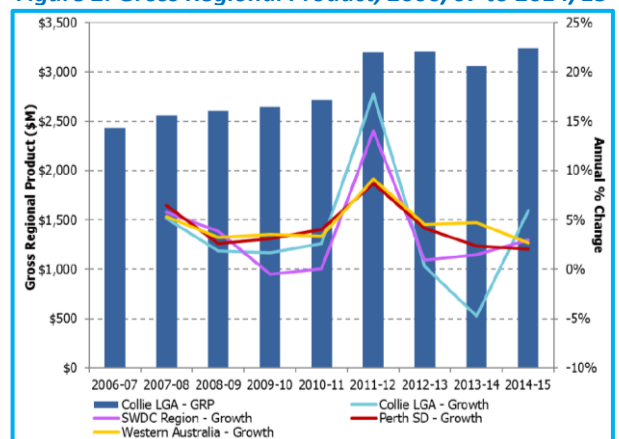
2.3 Collie’s Economic/Industrial Context

2.3.1 Overall economy

Collie is a critical part of the South West economy, representing 12% of the region’s GRP. Collie’s GRP grew steadily by an average of 8.8% p.a. from 2006-07 to over \$1.7 billion in 2010-11. In 2011-12, GRP grew by 17.8% before levelling out and then dropping in 2013-14 by 4.7% before increasing again 2014- 15 by 6%. Collie’s GRP is significantly influenced by the Alumina price with the Worsley Alumina refinery’s large contribution to the local economy.

Collie’s leading sector (by value) in 2010-11 was mining, generating 42.1% of the industry value add. Electricity, gas, water and waste services and manufacturing were also key contributors to the local economy, representing 20.2% and 18.7% of Collie’s contribution to GRP,

Figure 2. Gross Regional Product, 2006/07 to 2014/15



Source: AEC (Unpublished)

respectively. In 2014-15 the construction sector generated 41.6% of the region's industry value add, with the other major contributors being mining (23.2%) and electricity, gas, water and waste services (14.8%).

Table 4. Collie's economic context

Factor	Collie's Context	Key Factor
Employment by Industry	In 2011, the industries employing the most people were manufacturing, mining, electricity, gas, water and waste and construction sectors, and they employed almost 55% of the local workforce. In 2015 it's the same 4 industries that provide the most jobs, although the construction sector has reduced substantially since the last census.	The Collie economy is dominated by a combination of non-ferrous metal manufacturing (i.e. alumina), coal mining and electricity generation.
Imports into Collie	In 2012-13, the prominent imports to the Collie LGA were: <ul style="list-style-type: none"> • Non-ferrous metal ore mining (\$1,749.2m) • Construction services (\$351.1m) • Professional, scientific and technical services (\$280.3m) • Electricity transmission, distribution, on selling and electricity market operations (\$182.3m) 	
Exports from Collie	In 2012-13, prominent exports included the following: <ul style="list-style-type: none"> • Basic non-ferrous metal manufacturing (\$2,399.4m) • Electricity generation (\$794.7m) • Coal mining (\$476.1m) 	
Business by industry	Collie had 448 registered businesses in 2009, with almost a quarter of these being agriculture, forestry and fishing industries. Other key businesses were in the sectors of construction (15%), retail (12.1%) and manufacturing (8%). By 2014, the number had reduced to 427 businesses with agriculture, forestry and fishing (19.3%), construction (16.6%) and retail (13.5%) making up the majority of these. During this period manufacturing dropped from 8% to 2.4% or approximately from 36 to 10 businesses.	There is an opportunity to provide business support services to assist small business owners to establish and grow their own businesses and create employment.
Businesses by employment size	In 2009, 60% of Collie's businesses were non-employing (i.e. owner/operator). In 2014, this figure dropped to 56%. Collie has higher numbers than the comparison regions in the number of businesses that employ between 1 to 19 staff.	
Businesses by turnover	In 2009, approximately 35% of businesses in Collie earned less than \$50,000 per year with the second largest revenue category being businesses that earned between \$200,000 and \$500,000 each year (16.1% of businesses). In 2014, the highest category was again businesses earning less than \$50,000 with 27.4%.	
Labour force & unemployment	In the June Quarter of 2006, Collie recorded a labour force of 4,336 people and an unemployment rate of 6%. For the September Quarter of 2015 the Collie labour force was 5,433 and the unemployment rate was 7.3%. The unemployment rate peaked at 8.1% during the June Quarter of 2013 and then dropped as low as 5.5% in 2014. The last recorded statistic is the March 2016 unemployment rate of 6.8%. Collie represents the third largest labour force in the South West, behind Greater Bunbury and Busselton.	Collie's unemployment rate is above the average for comparison regions.
Labour imports	Collie imports labour, predominantly from other LGAs within the SWDC region. In 2011, a net 3,423 workers came into the region each day, with large numbers from LGAs in proximity to Collie, such as Bunbury, Dardanup and Harvey. These workers commute into Collie to work in its key industries, including mining, manufacturing, electricity, gas and water supply and construction. The region also attracts workers in support industries such as property and business services.	Many employment opportunities, particularly in non-ferrous metal manufacturing and electricity generation, are filled by workers living outside of Collie.
		Capturing employment opportunities locally, while continuing to reinforce strong economic interrelationships between Collie and the surrounding region, is a critical challenge to Collie's growth.

2.3.2 Coal mining and power generation

Collie's foundation industries are coal mining and power generation. Although the relative contribution of mining to GRP overall dropped from 42.1% in 2010-11 to 23.2% in 2014-15, over the same period the value of coal production increased from \$296.26 million to \$301.04 million, while the volume of production dropped from 7.23 million tonnes to 6.55 million tonnes¹⁴. The coal industry did not grow during the Western Australia Mining boom between 2005 -2012.

2.3.3 Tourism

Collie received 134,000 visitors in the year ending September 2011. In 2015, the total number of visitors dropped to 117,500. However, during this period, the number of domestic overnight visitors increased from 41,000 to 74,500 with most of those people visiting for a holiday, with the next largest group visiting friends and relatives. In comparing the number of overnight visitors to Collie with that from the neighbouring local government areas, Collie receives about a quarter of the overnight visitation that Bunbury receives, about 13,000 less than the Shire of Harvey and about 4,000 more than the Shire of Donnybrook-Balingup.

2.4 Collie's Major Projects

Major projects recently undertaken in Collie focus on the mining and processing industries:

Table 5. Collie's major developments

Project	Description
Shotts Industrial Estate	The Shotts Industrial Estate is currently ready for development after receiving approval from the State Government in late 2009. The 235ha site is located approximately 7 km to the east of Collie, adjacent to the Premier Coal mine. The estate is a strategic land project for coal related industrial uses and will look to accommodate five tenants, complementing the Coolangatta heavy industrial estate. Perdaman proposed a \$3.5 billion chemical plant to be housed in the Shotts Industrial Estate, producing urea; however, this has not yet proceeded. The site has also been considered suitable for a coal char plant.
Collie – Worsley Alumina Refinery Expansion (BHP Billiton)	The Collie Worsley Alumina Refinery produces 3.5 million tonnes of refined alumina each year. In 2012, the facility completed a \$3 billion expansion, increasing production to 4.7 million tonnes per annum. \$500 million was also spent on a new multi fuel cogeneration power plant at the refinery. Capital value: \$3.3 billion. Employment: construction: 4,500, operational: 200.
Collie CBD Revitalisation	The <i>SuperTowns Growth Plan</i> acknowledges the primacy of the Collie CBD and its role to provide the community with a large variety of commercial and retail opportunities. Building on this, a number of CBD rejuvenation projects have been implemented through SuperTowns funding, incorporating enhancements to the CBD area itself, revitalisation of the Collie Mineworkers and the Memorial Swimming Pool.

2.5 Major Assets

2.5.1 Proximity to Bunbury

The Bunbury Wellington sub-region has substantial alumina, coal and mineral sands production, with strategic assets, including the Bunbury Port, and the State's strategic industrial areas at Kemerton and Shotts. The power stations around Collie produce 71% of WA's base load electricity and 34.5% of total electricity production.

2.5.2 Energy capacity

The extensive energy capacity at Collie and the adjacent Shotts strategic industrial park provide an opportunity for possible waste heat use by industry including agriculture. Coal use as a proportion of fuel for energy generation over the decade has declined.

2.5.3 Hub on the SWIS

The current coal fired power stations are all located adjacent to the Collie mines. Synergy own and operate Muja CD and Collie A and own Muja AB. Vinalco, however, operate it as a joint venture. Bluewaters Power Station is owned privately by Bluewaters Power (Sumitomo Corporation and Kansai Electric Power Co Ltd.). These existing power stations are supplied with coal direct from the mines by conveyor.

The main grid network (the South West interconnected System (SWIS)) has about 5,683 MW of installed generation capacity, excluding rooftop solar PV installations. The network services 1.1 million customers across an area of 261,000 km². The SWIS is an isolated network with no connection into the east coast National Energy Market. Collie is centrally located as a hub on the SWIS with major transmission lines radiating from Collie to Perth, Kalgoorlie, Albany, Manjimup, Busselton/Margaret River and Bunbury.

2.5.4 Coal resources

Economic Demonstrated Resources (EDR) of black coal in WA comprises less than 2% of Australia's total, but is still substantial at around 930 Mt. **All of the coal in this classification is located at Collie.** Total WA coal resources are estimated at 6,400 Mt and include 930 Mt of EDR (at Collie), 1,700Mt of Sub-Economic Demonstrated Resources (SDR) and 3,800 Mt of Inferred Resources¹⁵. **The Collie deposits remain the most economic coal in the state and the basis for ongoing production.** Total production over the last 35 years has roughly doubled from around 3 Mtpa to between 6 and 7 Mtpa (growth rate of just over 2% per annum); however, the growth rate has stalled over the last five years.

Collie coal is well-suited for local power generation and some industrial processes. The coal's high reactivity characteristics also make it very suitable for gasification and metallurgical applications such as mineral sands processing and char production. Collie coal is primarily used as a power generation fuel with 5.0-5.5 Mtpa consumed in local power stations. The largest industrial related use is alumina refining, notably at the Worsley refinery for power generation. Other key industrial customers include Tronox and Iluka where the coal is used as a reductant in the production of synthetic rutile.

2.5.5 Tourism assets

The Geopraphe region includes the City of Bunbury and the Shires of Harvey, Capel, Collie, Donnybrook and Dardanup. The region is known for its natural assets such as its coastline, as well as its range of nature-based attractions. The region is also noted for its fresh produce, particularly around Harvey and Donnybrook, as a result of the farming industry in the area. Some of the key strengths and unique selling points of the region include:

- Proximity to Perth (less than two hours).
- Natural assets (coastal, jarrah forest, wildflowers, wetlands, inlets and river systems).
- Wildlife experiences (for example Dolphin Discovery Centre, Big Swamp Wildlife Park).
- Inland water-based experiences (for example Wellington Dam, Glen Mervyn Dam, Stockton Lake).
- History (maritime, agricultural, small museums).
- Cultural and heritage and emerging food and wine experiences (Ferguson Valley).

There are several cultural heritage attractions within Collie that, combined, generate the main reason for stopping and exploring the township. The major attractions are:

- Replica underground coal mine
- Collie Railway Station
- Collie Historical Rail Precinct
- Collie Art Gallery

Supporting these attractions are several historic hotels and other historic buildings within the streetscape. Collie, due to its industrial base, has a number of relatively new motels that provide accommodation for events and business visitors.

2.6 Trends

2.6.1 Coal prices

The average price in real terms received by the two coal producers in Collie has remained between \$40 and \$50/t since 1989¹⁶ (Figure 3). This means that when adjusted for inflation, the value of that payment in 2015 dollar terms has fallen dramatically from over \$80/t to the current level of around \$45/t. Both companies have reported that prices around this level are not sufficient to sustain long term production. The companies require a price in the order of \$60-\$75/t (\$3.00-\$3.75/GJ) to remain viable in the long term.

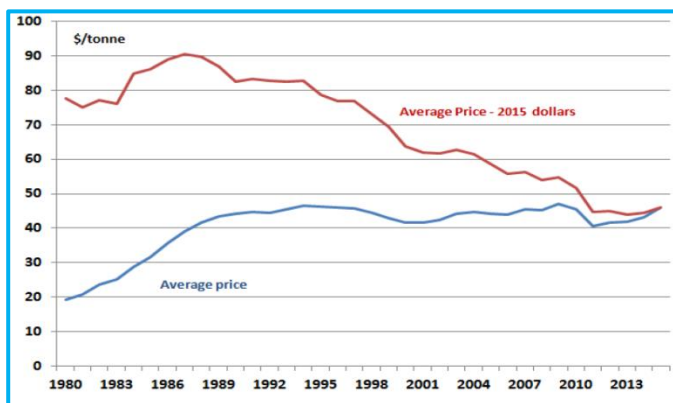


Figure 3. Historical coal prices

2.6.2 Electricity trends

Western Australian electricity supply includes two large grid networks, a substantial number of town power stations, many mining and remote industry installations and small systems on rural and remote properties and settlements. WA has about 9,500 MW of installed capacity in the SWIS of which nearly 60% is natural gas fuelled and 18% coal fired. The high proportion of gas reflects the dominance of this fuel in mining and mineral processing power stations.

Peak demand in 2016 has been 4,304 MW on 8 February. The peak demand does not include the contribution of an estimated 187 MW from own-use solar PV. The combination of the increased use of solar and reserve capacity available means that utilisation of the capacity has been less than 60% in 6 out of the last 8 years (Figure 4). Collie coal and natural gas together provided 91% of the primary fuel energy in the SWIS in 2014-15. Again this does not include rooftop solar PV. However, the share of coal and gas generation capacity in the SWIS has fallen from 93% to 85% with the use of demand side management, which has increased from 3% to 10%, is included.

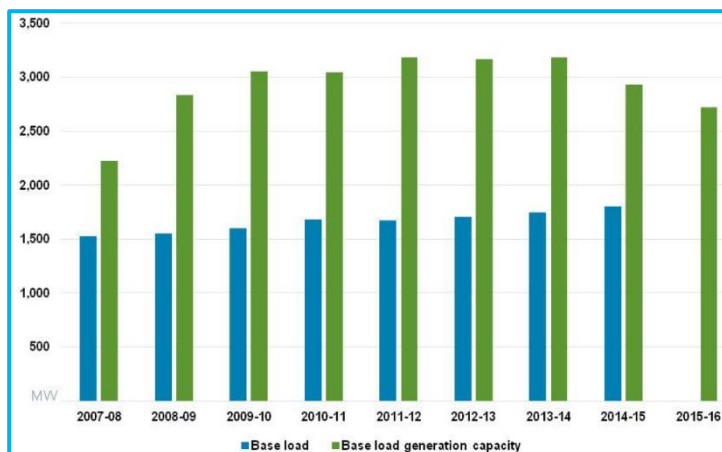


Figure 4. Capacity utilisation (MW)

The growth in solar PV systems is a significant contributor to reduced grid electricity consumption and generation utilisation. Between January 2011 and January 2015, the total installed PV capacity in the SWIS grew from 63 MW to 435 MW and is now estimated at over 500 MW. If this were counted as a single generation source, it would be the largest single source in the SWIS. AEMO (Australian Energy Market Operator) has forecast rooftop solar and large scale PV installations to continue to increase with the mid case expected scenario put at 1,400 MW by 2024-25 or as much as 2,370 MW in the high case (Figure 5). Were the high case to be realised, this would represent over 40% of the current installed SWIS capacity. In 2015, it was estimated that peak summer load was reduced by 187 MW or around 5% of peak due to the contribution of PV solar. By 2024-25, the reduction due to PV solar is forecast to be around 380 MW or 9% of forecast peak.

The amount of electricity that is forecast to be sent out in 2015-16 is 18,730 GWh. This is forecast to grow slowly with the expected growth to be 1.2% a year over five years and 1.3% over the next ten years.

The consequences of excess generation capacity, slowly growing demand and more solar PV installations means that the AEMO does not forecast a requirement for any new generation capacity for the next ten years. The Government has responded to the oversupply of generation capacity by instructing the dominant generator, Synergy, to reduce capacity. The Minister for Energy indicated that the Government believes the SWIS has about 23% more electricity capacity than it needs and directed Synergy to reduce its capacity by 380 MW or about 25%.

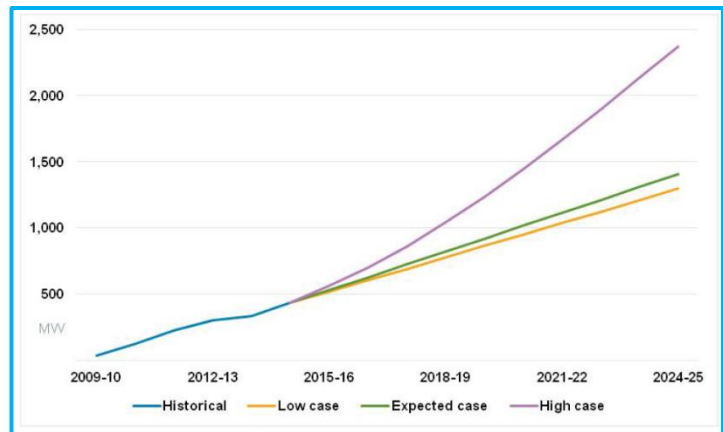


Figure 5. Installed solar PV system capacity, 2009-10 to 2024-25

2.6.3 Tourism trends

Life Cycle analysis is a perception analysis used to track the progress of a tourism business, destination or region, as reflected by the number of visitors, visitor expenditure and tourism business health. The Life Cycle analysis compiled by a consultant through consultations Figure 6¹⁷ positions Collie as being in the early developmental phase. It shows Bunbury and Harvey at later consolidation-development stages compared to Collie, with higher levels of infrastructure, businesses and visitation and more sophisticated approaches to marketing and planning. This indicates that Collie has plenty of opportunity to grow as a tourism destination with considered planning and business development.

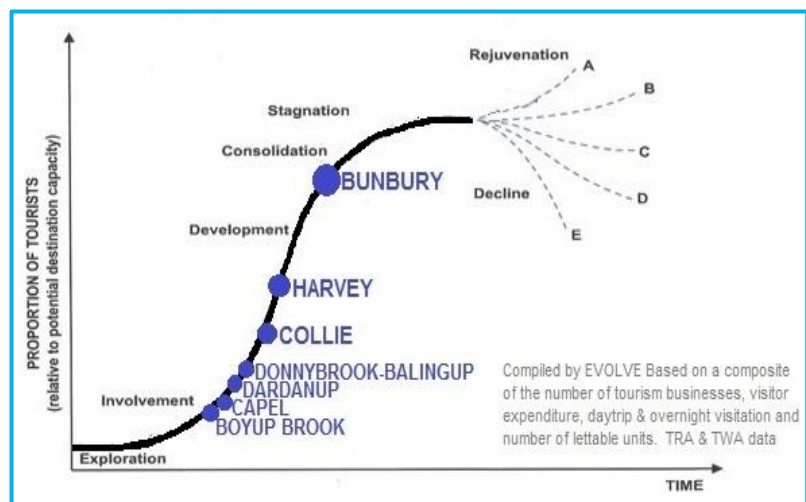


Figure 6. Positioning of Collie on the Tourism Lifecycle Analysis

2.6.4 The Asian Century

The coming decade will see the world economy shift as the ‘economic centre of gravity’ moves eastward from its European and North American hotspots and, by 2030, is forecast to sit firmly between India and China with an increasing focus on the emerging economies of Vietnam, Indonesia, Myanmar and Cambodia¹⁸. This trend will result in increased consumption of goods and services through an increasingly prominent middle class. This will include health and education services, food, tourism and various consumer goods. The South West is well positioned in relation to Asia. Common time zones, direct flights between China and Perth and a growing interest in food, wine, tourism and minerals are all attractive to the market. Opportunities for Collie include aquaculture and tourism, as well as potential inward investment.

2.7 Economic Outlook

The economic outlook for Collie is key to identifying future growth opportunities and industries for development. Though the future is uncertain, sociodemographic changes and other macro-influences can, to some extent, be planned for in order to stabilise local economic dynamics.

Future economic drivers are sourced internally and externally. Internal factors are, to some extent, able to be influenced and manipulated by the Shire of Collie. External factors, however, tend to be of a macro nature and are outside of their control. Nevertheless, strategic planning ahead of these external drivers can assist in amplifying or reducing their impact on the local economy.

2.7.1 Internal Economic Drivers

Population growth – The population of the South West is expected to grow significantly in the coming years as WA reaches a projected population of 4.3 million by 2056.¹⁹ Collie's selection as a 'SuperTown' reflects the Government's belief that the community will play a pivotal role in absorbing some of this growth. Population growth is a key factor in supporting the local economy, in several sectors, including retail trade, education, construction and health care and social assistance.

2.7.2 External Economic Drivers

Ageing Population – People are living longer. In 1950, 8% of the world's people were over 65 years old, increasing to 11.2% by 2011 and is forecast to reach 22% by 2050²⁰. By 2011, Australia's 65 years plus population was already 14% and that is predicted to rise to 23-25% by 2056. The ageing population is expected to create some economic opportunities for Collie. Increased demand for health services is projected over the next two decades which has already seen health and social assistance overtake retail as the largest employer in Australia. Demand for age-specific housing is also expected to grow, with retirement villages and aged care facilities expected to play a greater role in accommodating and caring for seniors. However, an ageing population also tends to result in lower labour force participation rates and lower disposable incomes.

State and National Growth Outlook – The economy at the State and national level greatly impacts the economy of Collie. Although economic activity at the State and national level is outside the control of local economic development teams, planning for projected changes in the State and national economies is essential for protecting the local economy.

Environment, climate and water – A drying climate is affecting the ability to source potable surface water supplies, placing increased reliance on ground water. Climate change can put agricultural production at risk, which may drive investment in more efficient irrigation options, together with improved water storage and distribution systems.

2.7.3 Regional and Local Economic Drivers

Mining & Electricity – Ongoing economic activity in terms of mining and power generation is expected to continue to provide strong support for local economic outcomes, particularly employment and GRP. Managing changes in the industry (including, potential further decline in coal-fired generation) and ensuring adequate support services for these activities will be essential over time.

Bauxite & Alumina Refinery – Economic development activities, whilst seeking to broaden the base of the economy through diversification, should also ensure that existing key growth sectors, such as bauxite/alumina refining in Collie remain strong. Ensuring that key supply chains in critical industries are supported locally should be key components of Collie's economic development plans.

National Broadband Network – Digital technology has already transformed the way we communicate and engage. It is now set to fundamentally change the nature of work with many employees no longer having to live in the places they work and many businesses relying on digital technology to improve supply chain logistics, improve customer service and asset utilisation and to innovate. Beyond core industries locally, internet infrastructure and access to broadband internet is therefore critical for the future. The NBN is currently under construction in Collie, which is located on a major cable to the East. This access has the potential to drive economic growth and increase residential amenity across Collie. Modelling of the impact of the NBN in the South West suggests that, between 2010 and 2030, the economy will benefit from (on average) increased output growth of 0.9% and increased GVA growth of 0.8% per annum.

2.8 Summary of Challenges and Opportunities

Key challenges and opportunities identified in the assessment of Collie's context are summarised below:

Table 6. Key challenges and opportunities facing Collie

Strengths	Weaknesses
<ul style="list-style-type: none"> • High regional population growth in South West. • Comparative advantages: <ul style="list-style-type: none"> ○ Considerable coal resources, ○ Existing energy infrastructure, ○ Hub of the SWIS, ○ Significant water resource in Wellington Dam, ○ Geographical location – proximity to greater South West population centres and access to tourism markets, ○ Access to natural gas from Bunbury, via Worsley, ○ Transport links – access to rail, road and port, ○ Diverse nature and adventure-based tourism assets. • Strong community spirit and engagement. • Availability of industrial land for heavy and light uses. • Lifestyle and environment attractive to 'tree changers', together with lower property prices compared with the metropolitan area. • Industrial heritage – the community is open to industrial developments. 	<ul style="list-style-type: none"> • Economic dependence on the coal and power industry. • Lack of translation of economic activity into local employment (i.e. Drive-In/Drive-Out workforce). • Traditionally low population growth and ageing demographic. • Lack of professional service delivery. • Supply chain gaps (industrial/professional services). • Historically poor residential amenity (public realm and retail/service offering), though improved with recent CBD regeneration projects through SuperTowns. • Limited tertiary education, health and professional services due to location within Bunbury catchment. • Collie's brand and perception (internally/externally). • Lack of coordination and collaboration between major industry sectors. • Lack of understanding on how to leverage the digital economy and the NBN. • Low level of entrepreneurial and self-employment skills. • Though recognising the need to change, community fear of change.
Opportunities	Threats
<ul style="list-style-type: none"> • Leverage existing infrastructure, including: <ul style="list-style-type: none"> ○ Use of electricity hub for future power generation, ○ Use of Industrial land, ○ Diversify fuel mix for generation, e.g. natural gas, ○ Spare power generation capacity for industrial uses, ○ Use of transport infrastructure. • Attraction of manufacturing that require significant energy and/or coal. • Leverage existing supply chain and support services based around traditional industries of mining and bauxite/alumina refining. • Develop aged and health care sectors based on high regional population growth and ageing demographic. Leverage hospital space to diversify services. • Establishment of industry-oriented tertiary education facilities and services with potential for industry-specific research capability. • Attraction of new residents and visitors and reduce Drive In/Drive Out through improvements in the retail and residential service offerings. • Develop adventure and leisure-based tourism and heritage and industrial tourism. • Leverage water and, potentially, mine voids for aquaculture (subject to meeting regulatory requirements). • Embrace the Asian Century, providing opportunities in agriculture, aquaculture and tourism. • Leverage major link to the NBN for cloud-based services. • Through the new South West Native Title Settlement, work with newly formed Aboriginal Corporations to ensure greater indigenous inclusion • Use and development of the South West Hub to support new energy and coal related projects. • Establish WA Rural Fire Service and a centre of Excellence in Collie • Strategies to grow specific industry sectors including creative, forestry, youth education and small business 	<ul style="list-style-type: none"> • Uncertainties over the future for coal-fired electricity generation. • Ageing local power generation infrastructure. • Oversupply of base load generation capacity in the SWIS. • New diverse lower cost power generation technology, including solar PV and batteries. • Significant capital cost for new base load power stations. • Poor current financial position of coal mining companies. • Mounting pressure to reduce carbon emissions and competition from renewable technologies. • Restricted access to investment – both private and public. • Climate change – drying environment. • Longer term the continuing mechanisation and automation across industry, reducing employment opportunities particularly in highly paid and repetitive industries. • Single coal company increases risk of sustainability in that industry. • Potential increase of Drive in Drive out reducing employment in Collie

2.9 Community and Stakeholder Expectations

The *Reimagining Collie Community Survey Report*¹⁰ details the key strengths and weaknesses of Collie as viewed by the community. More than 60 people participated in the survey, with the majority of respondents being long-term residents. While respondents had mixed feeling about Collie's future, many were optimistic. Respondents felt that the town's best assets were its natural bushland, forests, waterways and the friendly, close-knit community. They also felt that Collie's geographical situation, being close to Bunbury, but still a "country" location, to be an advantage. Many expressed concerns about future employment opportunities, preserving Collie's rich heritage, and the future of industry, business investment, tourism and infrastructure in the area, as well as a potentially declining population. Many respondents were in favour of a future focus on tourism, as well as calling for more small business opportunities and diversification of the industry sector.

Focus areas and themes identified in the survey included investment in alternative industries, as well as investigation into alternative uses of coal and alternative sources of energy. Aged and health care were identified as key areas for investment and development.

Respondents listed local business, tourism and economic planning as most important to Collie's economic future, followed by education and training, and aged care and health.

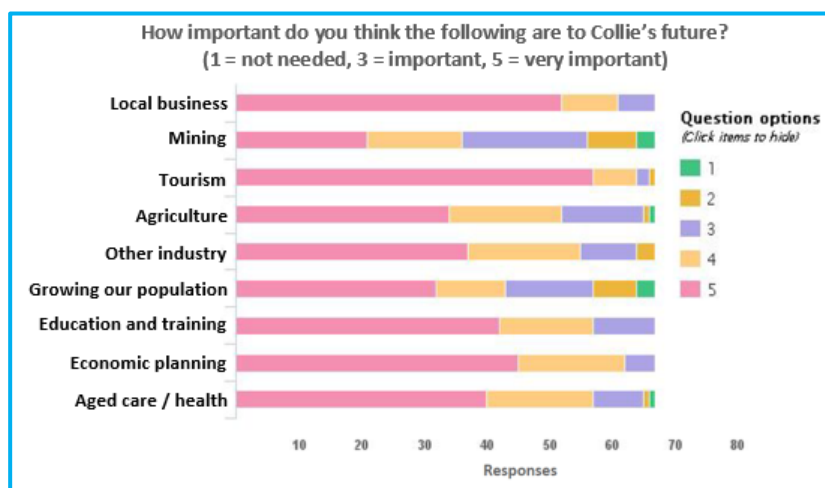


Figure 7. Key factors for Collie's future from the community consultation

The March 2016 community forums explored the topic: "How can Collie diversify, grow and sustain its economy into the next decade and beyond?" Over 150 people participated in the forums, including 50 students. Key themes and opportunities for Collie's future that arose out of the forums included:

- An acceptance that the long term future of coal and power production faced challenges. That there is a need to diversify the economy.
- The need to explore and develop opportunities around tourism, agriculture and aged care.
- Suggestions about re-energising Collie's brand, e.g. to launch a signature event such as a Marron Festival.
- That many young people plan to leave the town when they finish high school, citing lack of opportunity as the key reason.

2.10 Other Considerations

It should be recognised that there are other issues that could impact on the future growth and economic diversification of Collie. These include:

- **Policy** – Rapid changes in energy generation and storage technologies produces uncertainty and barriers to private sector investment. Updating of the *Strategic Energy Initiative* (August 2012) is required.
- **Investment** – The appetite and capacity for the private sector or the State to invest in projects and infrastructure required to achieve the outcomes identified for Collie are uncertain.
- **Regulatory** – Regulations can create some constraints to certain opportunities, such as in aquaculture or in transforming some assets into tourism attractions.
- **Mining leases** – Existing State Agreements can add an additional layer in planning for diversification.

- **South West Native Title Settlement** – When the settlement commences, native title rights and interests will be resolved and will provide certainty around land-use and long term costs benefits for Government and land users in the South West.

3 Recommended Options for Economic Development of Collie

Please note:
Projections in this report have been developed by independent consultants with the purpose of exploring possible futures for the economic diversification of Collie as a strategy to mitigate potential risks associated with the town’s reliance on one or two industries. They do not represent official Government views on projections for those industries concerned.

The new economic modelling undertaken for *Reimagining Collie* is contained in the *Collie Future Scenario Assessment*¹¹. This work describes and assesses the likely economic development scenarios for Collie over a 24-year period to 2040 and forms the basis for the recommended options for Collie’s economic development. The initial list of opportunities provides insight into the potential for diversification of the shire’s economy and the capacity to replace some of, or all of the jobs that may be affected by declining coal demand.

3.1 Base Case and Implications

The Base Case provides an indication of the possible future for the Collie economy given a range of forecasts in coal demand. It assumes employment in all other industries remains constant and establishes a basis from which the outcomes of Scenario 1 and 2 can be compared.

The Base Case was developed using the base forecast for coal demand to 2040. The two major coal companies, Premier Coal and Griffin Coal, together currently produce approximately 6.9 Mtpa of coal per annum. Forecast coal demand in 2040 used in this report is estimated to be lower between 4 Mtpa (base demand outlook) and 4.5 Mtpa (high demand outlook) (see Figure 9). Without intervention, and holding all other industries constant, this would result in a likely decline in the number of jobs based in Collie from the current level of 7,800 to an estimated 7,300 in 2040 (see Figure 9). The trajectory of the decline is forecast to be slow initially with loss of approximately 125 jobs over the next 10 years from 2016 to 2026 after which point sharper declines are anticipated. The impact would be significant as these are relatively well paying jobs and difficult to replace on a like for like basis. Approximately 60% of these jobs are currently held by Collie residents and the loss of these jobs will have flow on effects for the local economy. It can be expected that jobs will be created in service industries driven by population growth and that natural economic development will work to replace a proportion of these jobs. However, there is potential for specific interventions to provide considerable support in job creation.

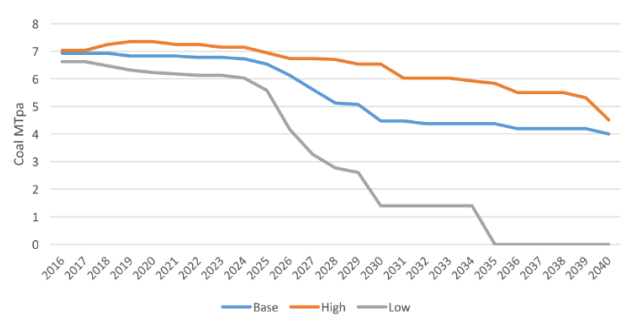


Figure 9. Forecast Collie coal production

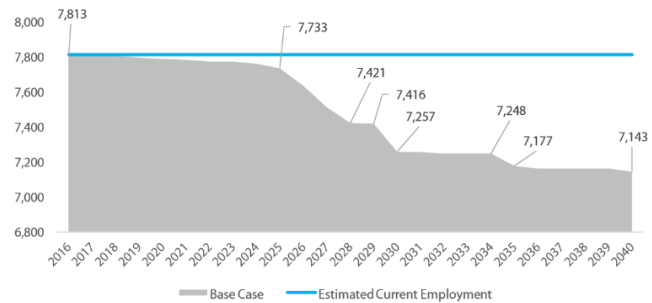


Figure 9. Total employment

3.2 Alternative Scenario Industry Opportunities

The *Collie Future Scenario Assessment* focused on the following industry opportunities:

- Agriculture (including, potential water desalination and adopting intensified agricultural technologies),
- Aquaculture,
- Alternative uses for coal (including, urea manufacturing, activated carbon and liquefaction),
- Energy generation (including, coal, gas and renewable fuel sources),
- Forestry,
- Aged and health care, and Tourism.

The analysis provides an objective assessment of the potential for these opportunities to support growth in jobs and output in Collie in terms of a **possible future** and **plausible future** for various industry initiatives. The possible future represents a desirable future state for the industry initiative, informed by benchmarking, research, engagement with experts and analysis of land use constraints. The plausible future takes into account the likelihood of that future state being achieved. It represents the desirable future state discounted by an estimated probability of success. This probability is informed by quantitative data, expert opinions and engagement with local stakeholders.

3.3 Scenarios and Scenario Evaluation

Based on the industry initiatives identified, two scenarios were built and assessed in terms of the potential cumulative impact in the form of job creation:

- Scenario 1** is based on the forecast high case for both coal mining and electricity generation and includes the pursuit of industry initiatives that capitalise on existing comparative and competitive advantages. This includes development of aged care and tourism, as well as aquaculture, forestry, and water desalination.
- Scenario 2** assumes that all the industry initiatives in Scenario 1 are undertaken and that opportunities in new industries, where Collie has not previously supported employment, are also pursued. This includes the development of alternative uses for coal through gasification and liquefaction, alternative energy generation and the adoption of protected cropping technologies to support growth in agriculture. Whilst industries in Scenario 2 would require considerable external support in order to be pursued, they draw from existing comparative and competitive advantages and support agglomerations around industries proposed to grow under Scenario 1.

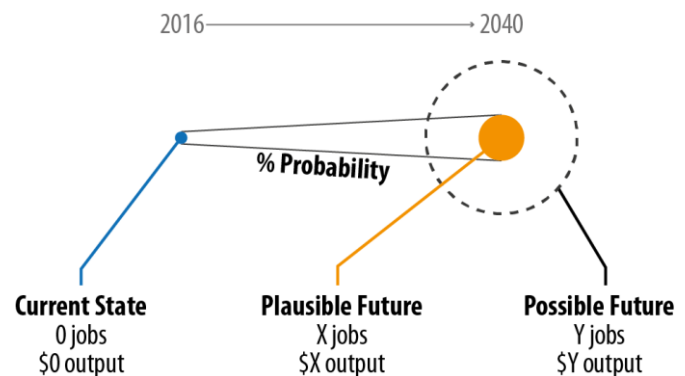


Figure 10. Possible futures vs plausible futures

3.3.1 Scenario 1

Aquaculture – Given Collie’s access to surface water dams and mine voids, there is the potential for the development of a commercially viable aquaculture industry (subject to meeting regulatory requirements). A vibrant aquaculture industry creates upstream and downstream businesses and, if a sufficient scale of production can be achieved, opportunities for processing and value add could support more substantial job creation. The success of an aquaculture initiative in Collie, and the associated job creation, depends critically on the type of species produced, external market conditions, Government regulation and processes and governance models. Scenario 1 includes the growth of aquaculture output, assuming a plausible future state whereby total value of output increases from the current level of approximately \$25,000 per annum to between \$360,000 and \$480,000 per annum.

Forestry – The forestry industry has a long history in Collie with existing established softwood and hardwood plantations. The State Government is committed to ensuring a sustainable softwood supply and is exploring opportunities for the development of approximately 20,000 ha of softwood plantations over the next 10 years in a defined region that includes the Collie area. Given existing State Agreements with three key processing facilities at Dardanup and Neerabup and the considerable benefits to water quality, Scenario 1 assumes the development of an additional 2,000 ha of softwood plantations in Collie.

Coal Mining – Scenario 1 sees coal production falling from the current level of 6.9 Mtpa to 4 Mtpa by 2040 based on a reduced level of coal-fired energy generation and reduced levels of industry use⁹. It is assumed that no other alternative industrial uses for coal are pursued and equates to an approximate retention from now of 357 jobs in coal mining.

Energy – Scenario 1 assumes the reduction of energy generation capacity in Collie from current levels of 1,850 MW to 980 MW by 2040 based on the retirement of the Muja and Collie power stations and the ongoing operation of the Bluewaters 1 & 2 power plants⁹. This would equate to the retention of approximately 213 of the existing 402 jobs in energy generation.

Aged Care – With increasing demand from the ageing population in the South West, an opportunity exists for the development of the aged and health care service industry. Opportunities include expansion of existing primary health services, expansion of existing aged care services, as well as the development of a lifestyle village. Past Government support for health services in Collie has provided a strong foundation from which to grow with a strong general practitioner workforce and practice, a recently refurbished hospital, and one of very few aged care facilities in the region. There is potential for specialisation in residential aged care services and Scenario 1 assumes the expansion of existing services to accommodate 93 additional residential aged care patients in Collie by 2040.

Tourism – Tourism has been identified by stakeholders as a key industry capable of supporting the economic growth of Collie. The *Tourism Opportunities Assessment*⁸ identified and assessed over 100 opportunities to determine those most likely to grow the local tourism industry. The report proposes that the most viable approach to driving growth is through developing destination hubs: a **nature-based hub** at Minnipup Pool, linking in with the Munda Biddi Trail, and an **adventure sports hub** featuring the development of Collie Motorplex and Lake Kepwari. Scenario 1 includes the potential for the development of these the two hubs and associated job growth.

Water Desalination (Processing or Manufacturing) – Access to water of suitable quality is a key need for the agricultural and industrial growth of Collie and the South West. Given the large water resource in Wellington Dam currently underutilised due to high salinity, the establishment of a desalination plant has the potential to maximise water usage and support agricultural productivity in Collie. Given the high level of local motivation to realise water assets, the potential establishment of a water desalination plant has been included in Scenario 1.

Holding all other industries constant, Scenario 1 sees **50 to 120 direct jobs kept (that may have been lost)** by 2040 relative to the base case. It is important to emphasise that this reflects direct jobs only and that **further jobs would be kept or created through indirect or induced economic impacts**. Using a reasonable employment multiplier⁵, Scenario 1 sees **113 to 270 direct and indirect jobs kept** by 2040 relative to the base case.

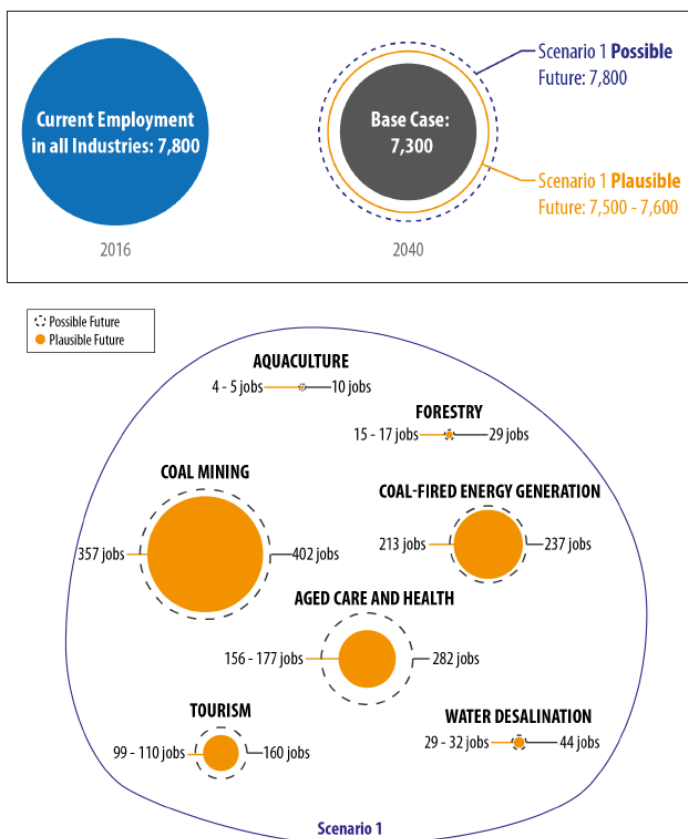


Figure 11. Job creation under Scenario 1

⁵ In a recent study, the Committee for Gippsland used an employment multiplier of 2.265, that is for every direct job retained in the mining and power generation industries, a further 1.265 jobs are retained in the wider economy. (Our Region Our Future, Securing an Economic Future for Gippsland and Latrobe Valley, Committee for Gippsland, July 2016.)

3.3.2 Scenario 2

Agriculture (protected cropping) – The development of a water desalination plant under Scenario 1 has the potential to support the adoption of protected cropping technologies and more intensified agricultural production. Such technologies could include intensive, closed-loop agricultural systems, greenhouse or hydroponic production.

Alternative uses for coal – The development of alternative industrial uses for coal has the potential to ensure that more jobs within the coal mining industry are retained and that further jobs are generated in manufacturing. Coal gasification and liquefaction are potential future alternative uses for coal. Final products from these alternative uses are urea (for fertiliser), fuel and activated carbon. Such opportunities are significantly influenced by costs of production and international market conditions. The establishment of a urea manufacturing plant, for example, could generate up to 200 manufacturing jobs and support 250 coal mining jobs while the development of an activated carbon plant could support 25 jobs in manufacturing as well as the retention of a small number of coal mining jobs.

Energy generation (gas, solar, biomass) – Given the predicted reduction of baseload capacity over the next 10 years, it is possible that additional capacity will be required by 2040, particularly if high energy industry is added on the SWIS. The conversion of retiring coal-fired power stations to less carbon-intensive gas-fired units, notably natural gas with a more remote possibility of coal syngas derived from local coal seams, represents an opportunity for Collie to utilise existing plant generation and transmission infrastructure.

There may also be the potential for large-scale renewable energy generation in biomass, solar or wind. Achieving scale may be challenging and it is considered likely that electricity networks will evolve from centralised hubs to interconnected smaller networks with expanding local generation. The conversion of an existing coal-fired power plant to a natural gas fired plant (or establishment of a new plant) could support the retention of up to 70 energy generation jobs. A biomass plant could support up to 20 jobs.

Food processing – With increased agriculture and aquaculture activities in both Scenarios 1 and 2, there is the opportunity to value add production through food processing. The realisation of opportunities in agriculture and aquaculture may support up to 55 additional jobs in food processing.

Scenario 2 sees **520 to 660 direct jobs kept** by 2040 relative to the base case, resulting in overall employment growth in the shire. Again, it is important to emphasise that this reflects direct jobs only and that **further jobs would be kept or created through indirect or induced economic impacts**. Using a reasonable employment multiplier, Scenario 2 sees **1,125 to 1,495 direct and indirect jobs kept** by 2040 relative to the base case. This analysis leads to the following dashboards for each targeted industry sector:

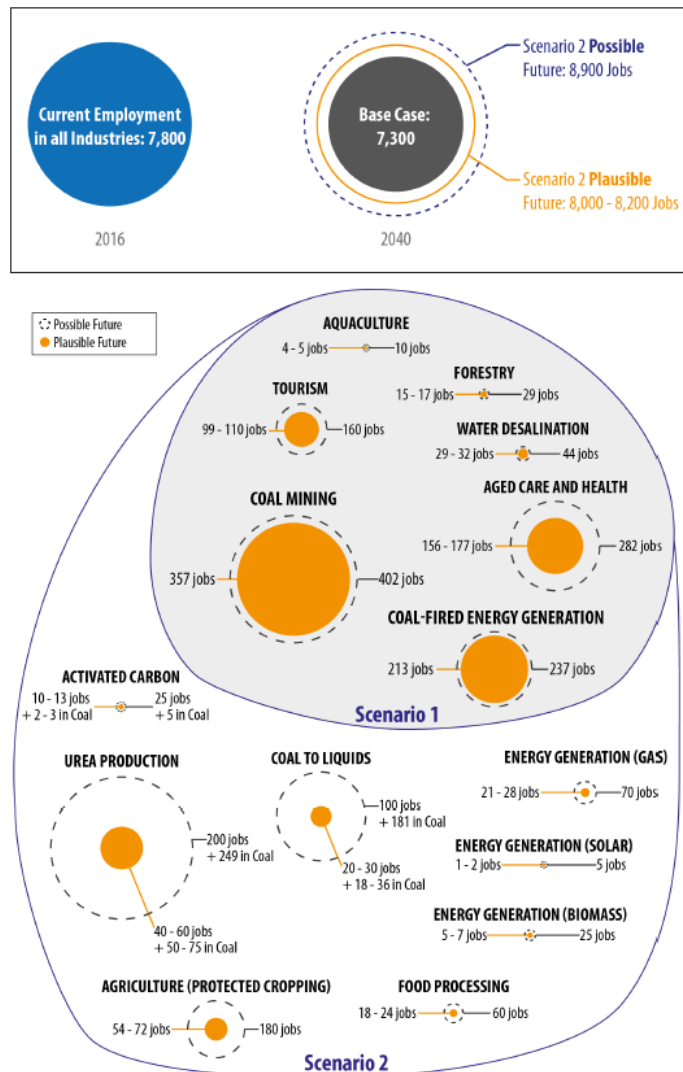
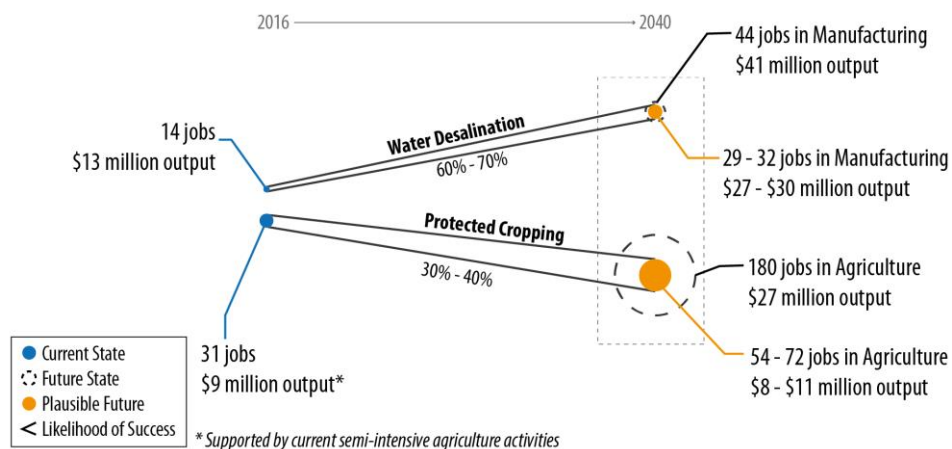


Figure 12. Job creation under Scenario 2

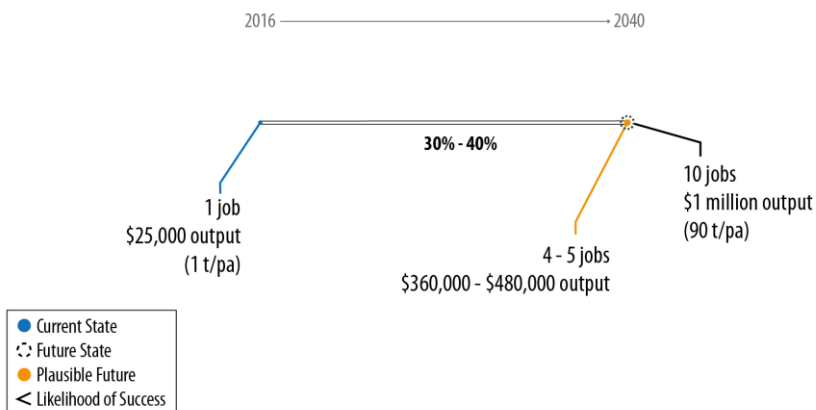
3.3.3 Agriculture

Key Points		
<ul style="list-style-type: none"> Relatively high labour costs in agriculture require that high value, 'premium' markets are targeted. Growth of the agriculture industry is to a great extent dependent on improving water quality in the Collie area and securing access through the adoption of new protected cropping technologies. 		
	Likelihood of Success	Critical Factors
Water Desalination	60% - 70%	<ul style="list-style-type: none"> Significant underutilised water asset. Strong demand for potable water. Likely to rely on public funding yet to be secured.
Protected Cropping	30% - 40%	<ul style="list-style-type: none"> Strong global market for produce. Barriers to entry in labour costs and economies of scale to access markets. Limited large-scale protected cropping activity and technical knowledge in region.



3.3.4 Aquaculture

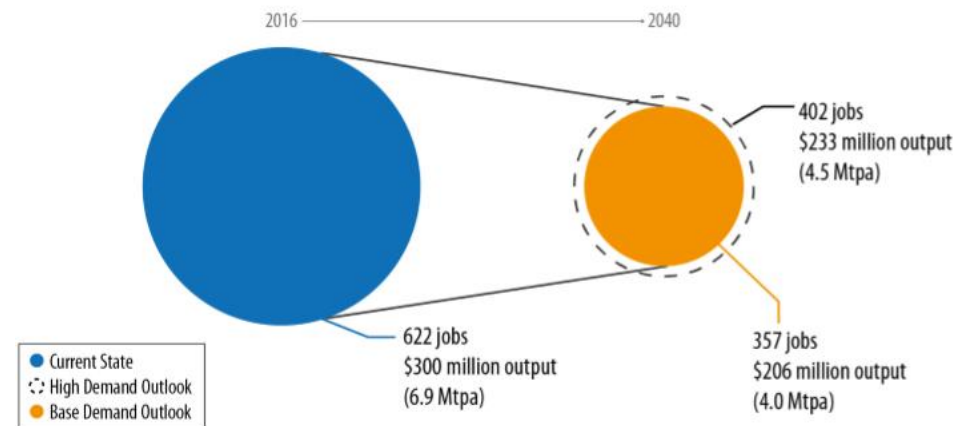
Key Points		
<ul style="list-style-type: none"> There is a critical need to de-risk aquaculture projects in order to attract investment. Western Australia is well-positioned to expand select, high value seafood exports to Asia. However, access to international markets relies on reducing production costs and establishing economies of scale. 		
	Likelihood of Success	Critical Factors
	30%- 40%	<ul style="list-style-type: none"> Significant underutilised assets including Wellington Dam and mine voids. Strong global demand for premium aquaculture products. Relatively new industry in WA and perceived high risk currently limiting capacity to attract private capital investment.



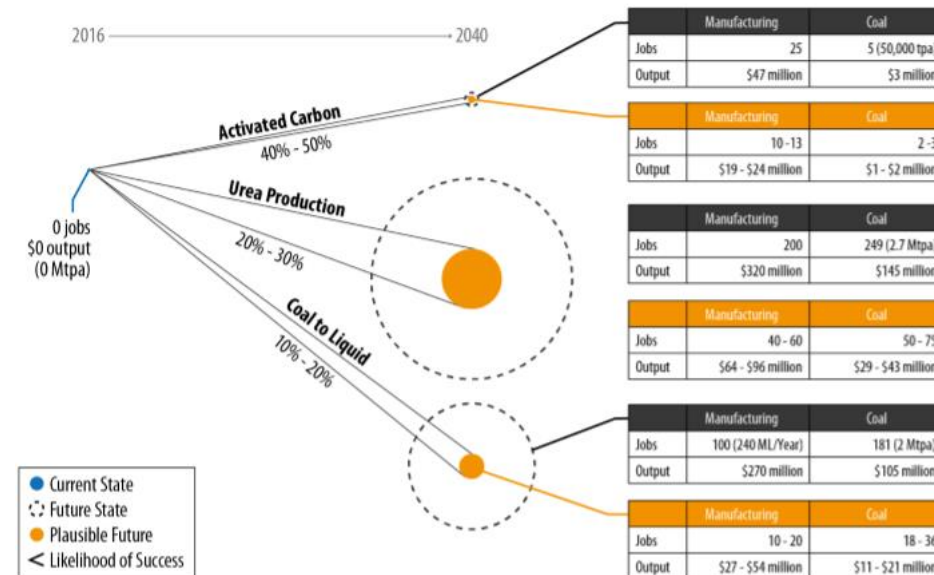
3.3.5 Alternative use for Coal

Key Points		
<ul style="list-style-type: none"> Major coal companies, Premier Coal and Griffin Coal, together currently produce approximately 6.9 Mtpa. Forecast demand for coal by current users in 2040 is estimated to be between 4.0 Mtpa (base demand outlook) and 4.5 Mtpa (high demand outlook). Forecasts suggest that the base demand outlook is the most likely case and for this reason, employment and output associated with 4.0 Mtpa production has been incorporated to this study as the ‘plausible’ future. The establishment of urea, activated carbon and liquefaction plants have the potential to generate jobs in both manufacturing and coal mining. 		
	Likelihood of Success	Critical Factors
Coal Gasification to produce Urea	20 – 30%	<ul style="list-style-type: none"> Current low price of urea and rising coal production costs limit viability. High carbon footprint. Considerable work done in investigating potential of this project.
Activated Carbon	40 – 50%	<ul style="list-style-type: none"> Strong demand and high value product. Highly competitive market and small scale of production.
Coal to Liquids	10 – 20%	<ul style="list-style-type: none"> Viability dependent on price of oil averaging US\$95/BBL; however, current oil price is approximately US \$50/BBL. High carbon footprint.

Coal Mining for electricity generation and industrial use



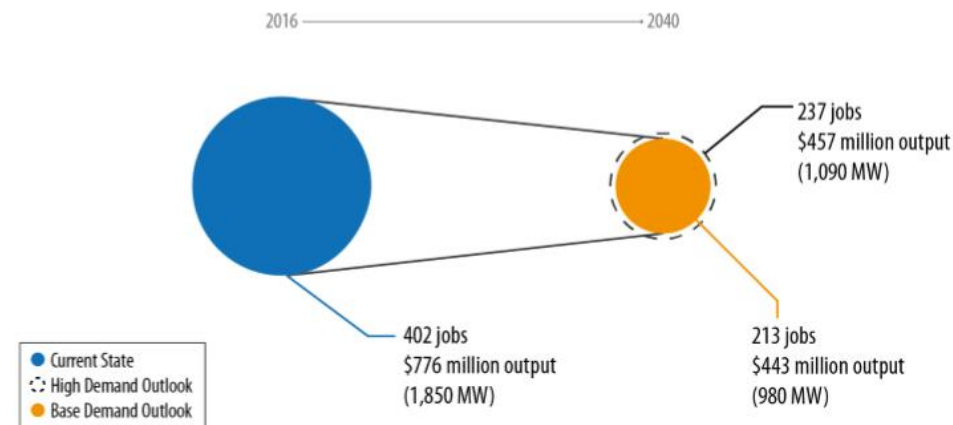
Coal Mining to support alternative uses for coal



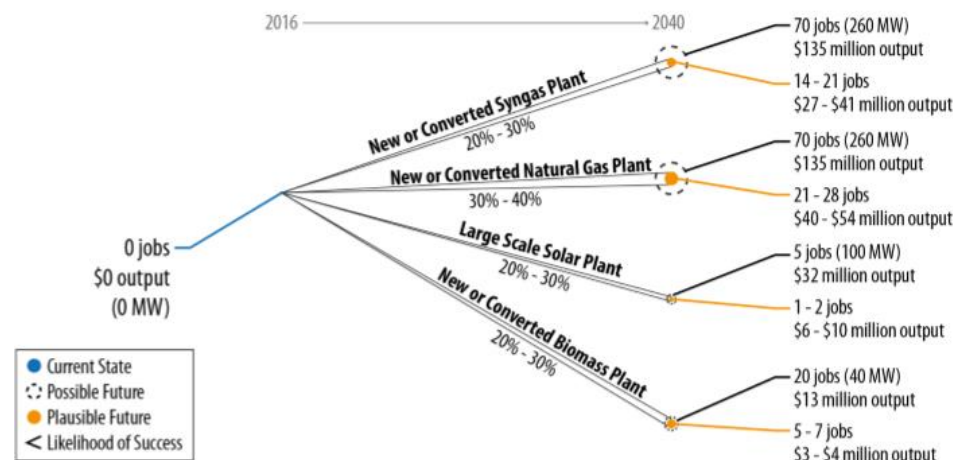
3.3.6 Energy Generation

Key Points		
<ul style="list-style-type: none"> The base demand outlook would see 213 jobs retained. Forecasts suggest that this is the most likely case and so employment and output associated with 980 MW production has been incorporated as the 'plausible' future. A new or converted gas-fired plant with a capacity of 260 MW (syngas or natural gas) may have potential to generate up to 70 jobs in energy generation. A large-scale solar plant would likely only generate a low level of operational employment whilst a biomass plant may generate up to 20 operational jobs. 		
Likelihood of Success		Critical Factors
New or converted syngas-fired plant	20% - 30%	<ul style="list-style-type: none"> Ability to attract investment is currently severely limited by market conditions (oversupply of baseload power capacity). Physical assets exist, however infrastructure is ageing and conversion costs are high. Technical feasibility not well advanced and deemed less likely than natural gas.
New or converted natural gas-fired plant	30% - 40%	<ul style="list-style-type: none"> Ability to attract investment is currently severely limited by market conditions (oversupply of baseload power capacity). Physical assets exist, however infrastructure is ageing and conversion costs are high. Cost, capacity or approval issues for natural gas pipeline extension.
Large-scale Renewables (biomass or solar)	20% - 30%	<ul style="list-style-type: none"> Ability to attract investment is currently severely limited by market conditions (oversupply of baseload power capacity). Greenhouse gas abatement targets may support future development. Challenges in achieving sufficient scale of generation.

Coal-fired energy generation

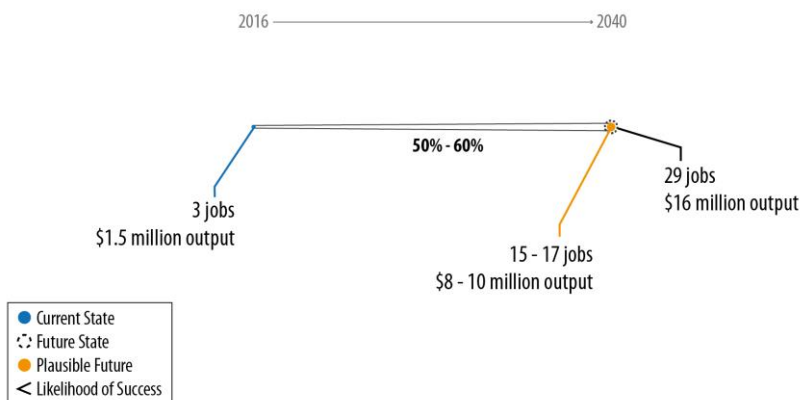


Alternative Energy Generation



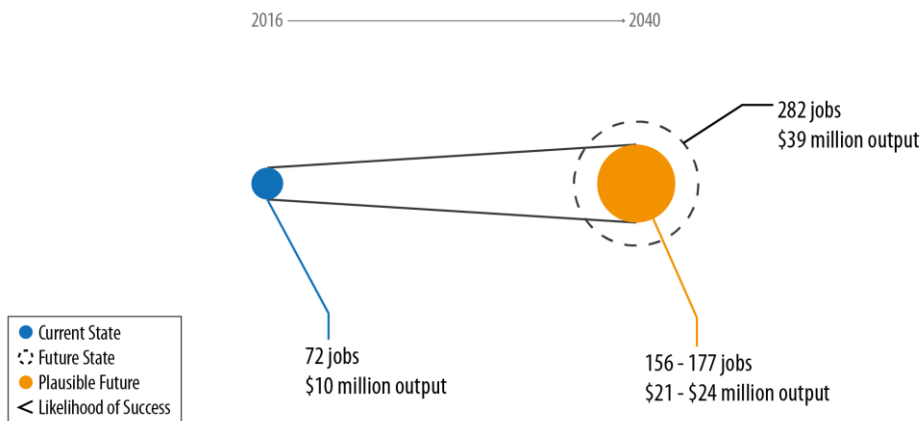
3.3.7 Forestry

Key Points	
<ul style="list-style-type: none"> WA has a competitive advantage supplying softwood to local markets and with current plantation estate projected to decrease, existing processing industries require expanded plantation area. There is currently approximately 7,700 ha of softwood plantation in Collie and an additional 4,000 ha is potentially suitable for softwood plantations. For every 100 ha of plantation approximately 1.5 jobs are created. 	
Likelihood of Success	Critical Factors
50%- 60%	<ul style="list-style-type: none"> Strong, secured demand from domestic markets with additional supply of softwood timber required to fulfil existing State Agreements. Positive link between forestry, improved water quality and increased agricultural yields. Existing local industry knowledge. Land rents affordable to the industry are below current landowner expectations requiring subsidisation.



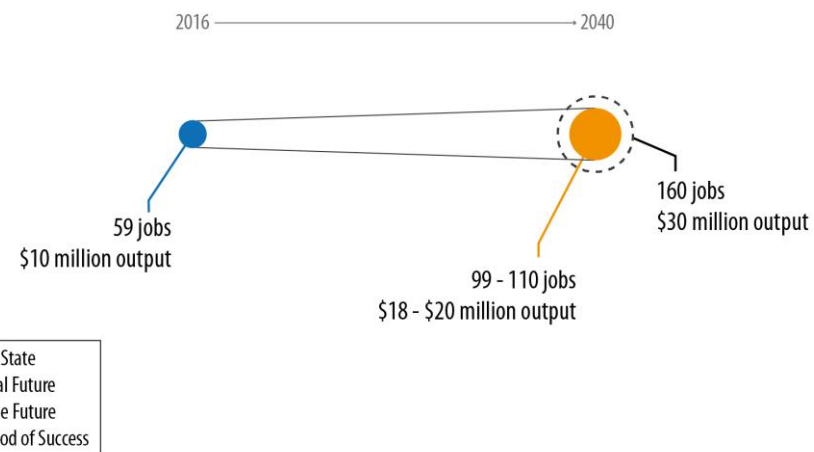
3.3.8 Aged and Health Care

Key Points	
<ul style="list-style-type: none"> There is a strong and increasing local and regional market for aged care services with critical shortages of respite care and secure dementia care. According to WA Tomorrow, the population of persons aged 70 and over in Collie is expected to almost double between 2011 and 2026. If Collie were to cater for 50 per cent of the projected increase in the population of persons aged 70 and over across the Harvey and Donnybrook-Balingup LGAs, this expansion could support up to 210 additional jobs. 	
Likelihood of Success	Critical Factors
40%- 50%	<ul style="list-style-type: none"> Strong and increasing local and regional market for aged care services. Comparative advantage in respite and dementia care. Difficulties in attracting health workers to rural areas Difficulty attracting aged care providers given high capital costs



3.3.9 Tourism

Key Points		
<ul style="list-style-type: none"> Collie has a range of nature and adventure-based assets, including Collie Motorplex, one of two motor sport complexes in the State, and Lake Kewari which has the potential to become a significant water sport destination. Current holiday visitation is low with Collie’s market share of domestic overnight visitors around a sixth of that of Bunbury and an eighth of that of Margaret River. Currently leisure-based day trips are estimated to be 55,000 per annum and overnight visitation is estimated to be 36,978 per annum, comprising of 34,619 (intrastate), 1,670 (interstate) and 689 (international). Based on standard expenditure per visitor of \$103 for day visitation and \$147 for overnight visitation, total expenditure is approximately \$11 million per annum. Based on national output per worker data this indicates that current leisure visitation supports approximately 59 jobs in tourism. It has been estimated that there is potential for the tourism industry in Collie to support up to 160 jobs, with the proposed hub-based projects expected to deliver up to 90 additional jobs and other related developments capable of supporting some additional job creation. 		
	Likelihood of Success	Critical Factors
Nature-based hub	40% - 50%	<ul style="list-style-type: none"> Strong domestic market in the South West Region, but limited awareness of Collie as a destination. Collie Motorplex and Lake Kewari represent significant assets. Target market identified is limited in scale. Existing product and supporting infrastructure requires development.
Adventure-based hub		



3.4 Summary of Job Creation

Collie is an economic hub in the South West Region with the co-location of the State’s only productive coalfields and regionally significant energy generation and transmission infrastructure supporting a total over 1,000 jobs (approximately 600 in coal mining and 400 in energy generation). The scenario assessment explores a range of opportunities that could see the diversification of Collie’s economy in the face of forecast declines in coal demand. Over the next decade, job reductions based on forecast declines in demand for coal are expected to be relatively modest (approximately 10% reduction by 2026). However, sharper declines are expected after this period. **The next decade represents a window of opportunity to further investigate and implement economic development strategies that will ensure the ongoing sustainability and development of the Collie economy.**

The plausible futures in both cases see employment in Collie increase in the medium term as alternative industries are pursued and existing coal mining and energy generation industries are sustained.

Figure 13 provides an illustration of the possible effects of Scenarios 1 and 2 on total employment in Collie over time, with industry initiatives staged between 2020 and 2030. Whilst some initiatives may create employment within a specified year, others would likely result in slow growth in employment over time. Initiatives and associated employment growth have been staged for illustrative purposes only and should not be viewed as predictions or forecasts.

Holding all other industries constant, Scenario 1 sees **50 to 120 direct jobs kept** by 2040 relative to the base case whilst Scenario 2 sees **520 to 660 direct jobs kept**, resulting in overall employment growth in the shire. It is important to emphasise that this reflects direct jobs only and that **further jobs would be kept or created through indirect or induced economic impacts.**

Using a reasonable employment multiplier, Scenario 1 sees **113 to 270 direct and indirect jobs kept** and Scenario 2 **1,125 to 1,495 direct and indirect jobs kept** by 2040 relative to the base case.

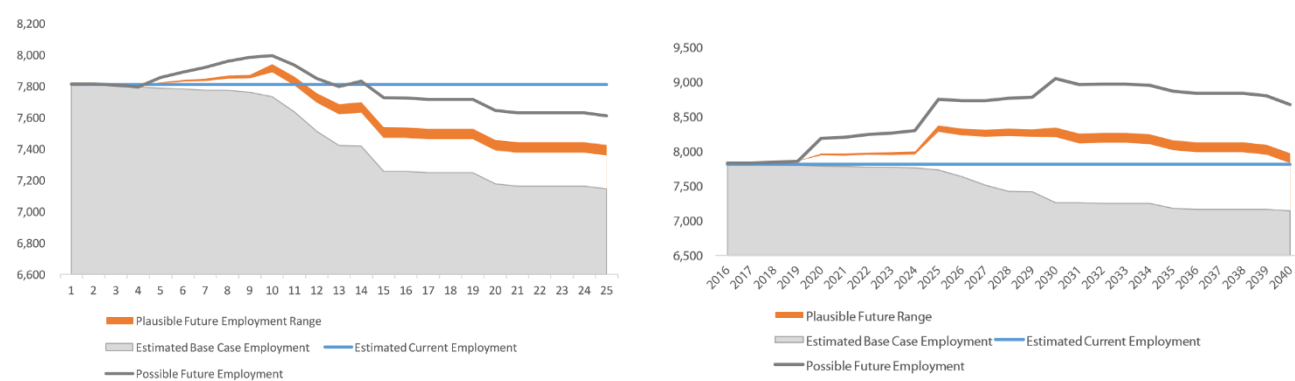


Figure 13. Scenario 1 and Scenario 2 total employment

These results are based on plausible outcomes, taking into account the likelihood of growth in each industry.

3.5 Pathways Required to Industry Outcomes

The scenarios described above provide an illustration of potential pathways for Collie’s economy if efforts are directed to supporting the growth of alternative industries. Whilst the scenarios

themselves do not represent a complete, or inevitable, future for the Shire of Collie’s economy, they can be used as a tool to guide investigation, with a focus chiefly on actions required to increase the likelihood of success for selected industry initiatives. Actions will be required in order to address information gaps or barriers that currently exist under the factors of market, assets, capacity, connections or investment. In the process of further investigation, other industry initiatives may also become apparent and the established framework could similarly be applied to new initiatives in order to objectively assess their merits. The table below provides high level direction in terms of actions for various opportunities identified in the study:

Table 7. High level actions required to exploit identified opportunities

		Scale of Opportunity	
		Small to Medium	Medium to Large
Ability to Influence		<p>LOW PRIORITY Monitor market conditions and support stakeholder engagement if/when external conditions adjust.</p>	<p>MEDIUM PRIORITY Engage with stakeholders to further understand needs and preferences of industry. Monitor market conditions and prepare to act on opportunities if/when external conditions adjust.</p>
	Medium to Large	<p>HIGH PRIORITY Engage with stakeholders to correct information asymmetry where it exists and support private and public sector action to address constraints. Investigate opportunities to increase impact of development within industries e.g. through supply chain completion, value-add opportunities and other network effects.</p>	<p>HIGHEST PRIORITY Actively promote opportunities and seek investment. Engage with stakeholders to correct information asymmetry where it exists and support private and public sector action to address constraints.</p>

The Task Force recommends pursuing opportunities in Scenario 2, not only safeguarding jobs that would otherwise be lost, but leading to overall employment growth in the shire, through diversification of the economy. The *Collie Future Scenario Assessment* identifies the current constraints to the development of the industry initiatives which, in turn, enables the key actions that are required to achieve the desired outcomes to be defined:

Table 8. Pathways and actions to the desired industry outcomes

Industry Initiative	Capacity	Constraints Connections	Investment	Action Required
Agriculture	<ul style="list-style-type: none"> Limited local knowledge or adoption of protected cropping technologies. Need to achieve economies of scale. 	<ul style="list-style-type: none"> Explore potential linkages between aquaculture and the development of aquaponic industries. Explore connections between agricultural development and tourism. Leverage rehabilitated mine areas/voids. 	<ul style="list-style-type: none"> Investment into protected cropping to catalyse the growth of the agricultural industry in Collie. High capital costs, research requirements and regulatory compliance present barriers to entry. 	<ul style="list-style-type: none"> Training and support for adoption of protected cropping technologies. Identify potential crops and markets. Support grower cooperation and the adoption of new business models. Facilitate access to large-scale domestic or international capital to enable expansion.
Aquaculture	<ul style="list-style-type: none"> Lack of wide spread knowledge or experience in commercial scale aquaculture in Collie there production in the 	<ul style="list-style-type: none"> Aquaculture represents an opportunity for farms to diversify and supplement 	<ul style="list-style-type: none"> Investment attraction to aquaculture depends on de-risking aquaculture projects. On-farm options could be 	<ul style="list-style-type: none"> Technical support and training. De-risk aquaculture development through regulatory pre-

Industry Initiative	Capacity	Constraints Connections	Investment	Action Required
	region.	incomes. <ul style="list-style-type: none"> Links between aquaculture and tourism through recreational fishing. 	supported by farmers, but larger scale activities utilising mine voids are more costly.	approval (i.e. investment-ready aquaculture zones). <ul style="list-style-type: none"> Review the project supported by the Government at Premier Coal. Identify funding sources such as mining companies seeking beneficial end use options for mine voids as part of closure plans.
Alternative uses for coal	<ul style="list-style-type: none"> Community supportive of industrial development. Lack of technical knowledge in coal gasification, liquefaction or activated carbon. Local entrepreneurial capacity would require support from external sources. 	<ul style="list-style-type: none"> Coal production is strongly linked with the Collie economy through energy generation. 	<ul style="list-style-type: none"> Urea, activated carbon and coal-to-liquid plants would require considerable capital investment. Price volatility and costs of further investigations may deter investment. 	<ul style="list-style-type: none"> Technical support and training. Development of entrepreneurial capacity. Develop a process and source funding to support initial analysis work to maximise use of State assets. Maintain existing networks with energy generation.
Energy generation	<ul style="list-style-type: none"> Collie has a local workforce skilled in coal-fired electricity generation and maintenance, with transferable skills relevant to gas-fired or renewable energy generation. Limited local knowledge at present in alternative fuels. 	<ul style="list-style-type: none"> The energy generation and transmission industry has connection to all industries that require electricity; in particular, potential intensified agricultural activities and the manufacturing of value add coal products. 	<ul style="list-style-type: none"> Significant capital investment required to undertake conversion. Ability to attract investment is currently severely limited by market conditions. 	<ul style="list-style-type: none"> Leverage international expertise and heavy involvement from Synergy and other Government agencies. Develop initiatives for attracting private investment or gaining wider Government support for new projects when demand is at suitable levels. Understand and confirm long term Government plan for coal fired generation.
Forestry	<ul style="list-style-type: none"> Although employment in the plantation industry in Collie is currently very low, there is a strong history of plantations and strong knowledge of traditional wood processing. 	<ul style="list-style-type: none"> The strongest connections lie in the link between forestry, improved water quality and increased agricultural yields. 	<ul style="list-style-type: none"> Standalone investment in forestry is poor and given lower growth rates in the area and competing demand for land means forestry development in Collie would require subsidisation to ensure competitive rents can be paid to landowners. 	<ul style="list-style-type: none"> Investigate the development of training and employment pathways in the forestry sector.
Aged and Health Care	<ul style="list-style-type: none"> Difficulties in attracting health workers and specialists to rural areas. Growth of a business 	<ul style="list-style-type: none"> Aged and Health Care services influence liveability and thus support the attraction of workforce for a 	<ul style="list-style-type: none"> Investment to support demand from local population. Investment to support demand from regional catchments. 	<ul style="list-style-type: none"> Develop Government support to attract aged care workers on an ongoing manner. Explore the potential and feasibility of a

Industry Initiative	Capacity	Constraints Connections	Investment	Action Required
	<p>in Collie demonstrating increased capacity</p> <ul style="list-style-type: none"> • Competition from Bunbury has resulted in a lack of professional service delivery in Collie. 	<p>range of other local industries.</p> <ul style="list-style-type: none"> • Need for support from State and Federal Governments 		<p>lifestyle village for Collie.</p>
Tourism	<ul style="list-style-type: none"> • Apparent lack of motivation to work in the tourism and hospitality sector. • Lack of entrepreneurs and capital to develop and sustain a tourism industry. 	<ul style="list-style-type: none"> • Potential for the development of agriculture or aquaculture industries to support associated tourism development. • Proximity to neighbouring areas such as Ferguson Valley could be leveraged. 	<ul style="list-style-type: none"> • Lack of local investors with significant capital for tourism development. • All if the proposed tourism hub projects are unlikely to be funded by the private sector and will require further definition. 	<ul style="list-style-type: none"> • Capacity building across business operations and marketing to help major projects and ensure new businesses gain market share. • Strengthen network among the leaders of the local tourism sector. • Develop partnership approach to the delivery of projects. • Implementation of major development projects: Collie Motorplex, Lake Kewari etc.

3.6 Update to the Pathways to Industry Outcomes

Following the release of the draft report in December 2016 feedback was received on the status of several industry initiatives. The engagement by proponents demonstrates an interest in exploring future economic development opportunities in Collie. The engagement is ongoing, and has included:

Collie Synfuels

The Collie Synfuels Coal to Liquids project engaged with the Collie Economic Development Task Force through its economic consultants last year. Collie Synfuels has since supplied a range of information demonstrating potential economic benefits of its proposal to Collie. The response also addresses potential issues, including concerns over carbon footprint. Collie Synfuels has indicated a desire to continue working with the Collie Economic Steering Committee on its proposal.

Perdaman Industries

On 23rd February 2017, a briefing was held in Collie to discuss plans for the proposed Perdaman Urea manufacturing plant in relation to the Nationals WA commitment to extend the Dampier to Bunbury gas pipeline to Collie. The briefing by Perdaman Industries Managing Director Vikas Rambal and Regional Development Minister Terry Redman, was attended by about 40 people. Mr Rambal said the proposed Perdaman urea plant at Collie could be modified to use gas, and that a gas pipeline to Collie could be the catalyst to drive a range of new economic opportunities.

Infinity Renewables

On the 10 February 2017, Infinity Renewables presented to community representatives a project to develop a solar thermal steam generation plant (CST) in Collie. *The concept is produce steam from CST then comingle it into existing pipework that currently links coal fired steam production with turbines and process feeders.* The proponents are seeking to conduct a feasibility study into the project.

It is known that the release of the draft report has also generated interested in the agriculture, and tourism industries. This is encouraging and very pleasing reaction to the report. The opportunities need to further explored and tested for viability.

3.7 Additional Economic Opportunities

A range of additional potential economic opportunities have been identified following the release of the Draft Final Report. These opportunities have been identified through community and industry briefings, the final report survey, and stakeholder engagement. They include:

Rural Fire Service and Centre of Excellence:

Collie Shire Council is keen to pursue an opportunity to develop a WA Rural Fire Service and Centre of Excellence in Collie. This follows recommendations made in the Ferguson Report into the Waroona Bush Fire (2016).

Creative Industries:

The further development of Collie's creative industries sector.

Youth: Development of opportunities to engage youth in Collie's economic future, with initiatives from increased training and education opportunities, to ongoing Youth engagement in planning and implementation.

Possibility of a major annual event to link in with the Collie Art Gallery.

Indigenous inclusion:

Development of opportunities to engage Aboriginal people in Collie's economic future, including involvement in tourism and other industry opportunities.

The development and implementation of a Reconciliation Action Plan as part of a program will provide a framework for reconciliation and a partnership in development of inclusion in a sustainable community.

Drive-in, Drive-out:

DIDO was identified as a key issue impacting Collie's economy, particularly into the future. Opportunity to create a strategy to mitigate DIDO impacts.

Economic Marketing:

Opportunity to create a Collie prospectus (including video & website) to promote Collie to government and new business opportunities. This could include a role for economic marketing through the Collie Economic Diversification Program.

Entrepreneurial leadership development:

A recognised need to develop entrepreneurial skills and leadership in Collie. Particularly relevant to younger entrepreneurs, and through schools and other education institutions.

3.8 Community Change Requirements

The ability for Collie to diversify, grow and sustain new opportunities and create new jobs will rely heavily on the town's own people and their readiness and capacity for change. Community-related issues that have been identified through this work include the ageing demographic and out-migration of youth, developing an appropriate skills base for entrepreneurial activity, perceptions of the town and fear of change.

The Collie community has been widely engaged and understands the opportunities that the town can embrace through a diversified economy and the mitigation of risks associated with over-reliance on one or two industries. This is a significant positive step, with parallels to other coalfield towns around the world that have undergone successful regeneration facilitated through community change. Closer to home, other regional towns have also successfully negotiated change through economic diversification, notably in Manjimup, again as part of its SuperTowns program.

Coal has a lengthy history of development and decline. Major coalfields in the United Kingdom, United States and Europe have closed over the last fifty years. Some towns have been able to diversify and remain prosperous while many others have declined. Project RECORE (Rehabilitation of Europe's Coalfield Regions)^{xxi} is a program instigated by the European Coal-mining Association with strong representation from local authorities. The program notes the massive decline in coal mining in wider Europe and the loss of this foundation industry on which the continent's economic power was based. Such changes have meant that the regions affected have had to devise and implement new policies, the scope of which is unmatched in any other region. Caught between a mining past and economic prosperity, these regions are now at a crossroads. The application of regeneration policies in these regions is indispensable to secure their sustainable development.

Across Europe, the future of 900 local communities and 26 million people has been impacted by the decline of the coal sector. Large government subsidies have been made in many cases to assist with regeneration. Regeneration of coal mining regions has been described in the RECORE project under six broad categories:

- **Infrastructure improvements** – road and rail, water, power and industrial land and electronic communications.
- **Environment remediation** – successful renovation of old mining sites is a prerequisite for improving the environment, including water management and land restoration.
- **Mining heritage** – heritage plays an important role in enhancing tourism and leisure activities.
- **Foreign investment** – many regions have successfully attracted foreign investment despite the negative images of decline and social deprivation.
- **Small to medium enterprises** – traditionally this sector was not supported by large coal mining and energy companies and is lacking in many coalfield regions. They are seen as a catalyst for restoration and programs to encourage entrepreneurship have been necessary.
- **Training** – basic education and training and systematic vocational training have proved to be fundamental factors for overcoming periods of crisis.

RECORE demonstrated that the transformation of the mining regions is not a simple process. It is one that encompasses all aspects of regional development including: infrastructure, the environment, the enhancement of cultural heritage, economic development and training. The program has highlighted that the mining regions make up a distinctive community underpinned by solidarity. This remarkable identity is the legacy of a common industrial and social history, which has left a deep imprint on the regions and communities concerned.

There are no universal rules for managing change, but the ingredients for successful change^{xxii} highlighted in Figure 14 are useful. That the required changes are necessary and desirable is generally accepted by the community and therefore the **pressure for change** is clear. This then requires **leadership** to provide the direction for the community changes, coupled with **learning** to shift behaviours and accommodate new ways of working. In designing a change process, the importance of creating short-term wins is recognised in order to keep the community motivated. Without the evidence of success, people tend to lose the energy to change. Breaking the process into **manageable steps**, as proposed in this report, and communicating early wins will be key to

keeping the expectancy factor high. **Relevant rewards** for the community will then be evident through the progress made in transitioning Collie and its economy.

The industry pathways defined in Table 8 provide a set of clear and credible actions for addressing the challenges faced by Collie, exploiting the synergies between the opportunities and challenges to maximise the chances of success. This provides the basis to diversify, grow and sustain new opportunities and create new jobs, alongside a community change program. The actions should provide the community with a sense of optimism, building on experiences from other coalfield towns around the world that have undergone successful regeneration.

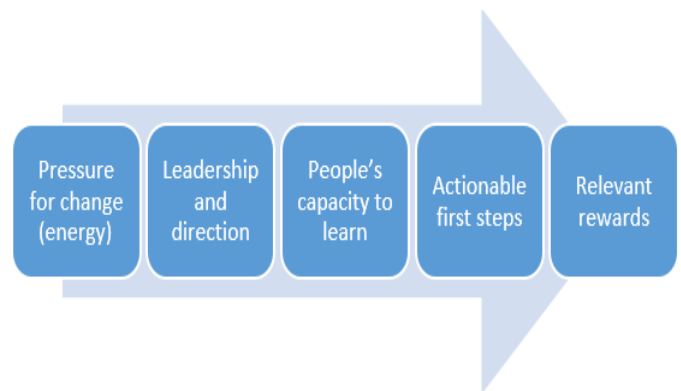


Figure 14. Ingredients for successful change

Throughout the entire Reimagining Collie project, the Collie community overwhelmingly supported the need for continued ongoing engagement – following the release of the Final Report and through implementation. Suggestions included continuing the steering committee, and potential to create focus groups/clusters to drive particular sectors (similar to WA Growth Plan structures). Additionally, there was a clearly identified need to address/support psychological issues related to change.

The feedback identified an important role for ongoing community engagement through the Collie Economic Diversification Program.

4 Implementation and Resources

A key part of implementing a successful Economic Diversification Program for the Collie economy is the development of a plan that is aimed at achieving outcomes, supported by the community and aligned with regional strategies. Fortunately lessons from other communities provide guidance on the requirements of a good plan to achieve a stronger sustainable community. The lessons from these communities also strongly indicate that inaction will result in economic stagnation and possible decline where a community relies substantially on one industry and that industry cannot grow or declines.

The development of a good project plan requires clear identification of the goals, actions, outcomes, responsibilities, governance, measurements, timelines and resources. The overall governance of the development and implementation of a plan is outlined in Section 4 Project Governance and will be the responsibility of the Steering Committee.

The implementation of the first phase of the Economic Diversification Program for the period 2017 to 2023 will start the process of growing strengthening and sustaining the Collie economy into the future.

Overview of the implementation of the project

The Project Plan will include for the implementation of the recommendations contained in the report will include the following:

A Purpose :

The aim is to implement initiatives that will grow, sustain and diversify the economic development of Collie for the long term over the period 2017 to 2023.

The Outcomes :

The key outcomes from the implementation of the initiatives for the Economic Diversification Program are the following:

1. The strengthening and growth of existing industries in Collie
2. The introduction and development of new industries as identified in the Reimagining Collie report to Collie
3. The growth of new and existing business that will support the development of the industries in Collie

As a result, more than 1500 additional jobs from the 2016 base will be created in Collie across a diverse range of industries and these jobs are taken up by residents of the community of Collie by 2040.

Outcome Measurement:

The key outcomes of the plan will be measured with the following; population change, unemployment rates, capital investment, new business started, existing business grown, industry diversification, industry production, and community satisfaction.

The implementation of the plan will be measured against criteria agreed and the completed stages of the project plan.

The project plan will be developed and will be implemented in stages that will achieve the outcomes identified above.

The project plan will address each of the recommendations and the identified actions include the following that is identified in the table below

4.1 Action Plan

Table 9 Identified Actions for period 2017 to 2023

Key Recommendations	Implementation Actions	Actions during period 2017 to 2023
<p>1. The Task Force reaffirms the commitment to Collie as a major regional centre and supports the vision of positioning Collie as an expanded centre for industry and manufacturing, offering high amenity and diverse job opportunities.</p>	<ul style="list-style-type: none"> Finalise Task Force Report 	<ul style="list-style-type: none"> Formation of Economic Diversification and Development Committee New Committee to review Priorities
<p>2. The Task Force recommends federal, State and local government support, and the attraction of private enterprise and investment, for the pathways to economic diversification in Collie.</p>	<ul style="list-style-type: none"> Develop an Industry Diversification Action Plan to attract and support development of new business, including completing feasibility studies and business cases. 	<ul style="list-style-type: none"> New and Existing industries expanded, particularly the following <ul style="list-style-type: none"> Tourism <ul style="list-style-type: none"> Planning and agreement to open Lake Kewari Feasibility and EOI for Nature based hub at Minninup Pool Expand and further develop Motorplex Develop and progress Collie as a Mountain Bike hub Investigate camping development opportunities at Black Diamond and other key sites. Agriculture <ul style="list-style-type: none"> Assessment of Protected cropping opportunities Assess energy intensive food processing opportunities Develop prospectus to highlight opportunities to industry. Aquaculture <ul style="list-style-type: none"> Investigate recommencement of Mine lake farm Alternative uses for Coal <ul style="list-style-type: none"> Review of all options that currently exist for economics and success Energy generation

	<ul style="list-style-type: none"> • Support New industry development with focus groups where appropriate • Implement Industry Development and Research Fund. 	<ul style="list-style-type: none"> <ul style="list-style-type: none"> ▪ Develop a process to introduce alternative generation capacity into Collie including as assessment of green power technologies. ▪ Advocate for next base load power station in Collie ○ Forestry <ul style="list-style-type: none"> ▪ Advocate for expansion of of timber industry (Forest Products to plant 2000Ha) ○ Aged and Health Care <ul style="list-style-type: none"> ▪ Expand aged care facilities in Collie ▪ Develop feasibility for lifestyle village ○ Water Desalination <ul style="list-style-type: none"> ▪ Support the further assessment and feasibility of the Collie Water project ▪ Ensure that the Collie Water project provides new industry and employment opportunities in in Collie ○ Other <ul style="list-style-type: none"> ▪ Build headquarters for the new Rural Fire Service and research facility (centre of excellence) in Collie. • Develop a multi stakeholder structure of government, community and industry to guide industry development • Develop guidelines, processes and complete first round of funding industry research
<p>3. The Task Force recommends that a comprehensive change program be defined and implemented, adequately resourced and funded in order to enable the community to gear for growth and diversification. This should address multiple facets, including leadership, engagement and communication and skills development.</p>	<ul style="list-style-type: none"> • Put in place new organisation structures to support a comprehensive change • Define a community change program that includes at least the following: <ul style="list-style-type: none"> ○ Transition projects with universities. ○ Education development support. ○ Increase of business and entrepreneur skills. 	<ul style="list-style-type: none"> • Examine and develop new structures that accelerate change <ul style="list-style-type: none"> ○ Small Business start up, incubators and accelerator program that aligns with key industry ○ Work with the Chamber of Commerce and Industry to implement programs ○ Work with key regional alliances including BWEA and Bunbury Wellington Tourism group and local governments • Following the identification of industry opportunities develop a comprehensive community program to work alongside the industry development program that including <ul style="list-style-type: none"> ○ Developing and implementing Partnerships with Education providers such as SWIT and ECU and others

		<ul style="list-style-type: none"> ○ Involving key community organisations and businesses and business organisation including Business SW ○ Conducting an Industry current and Future Skills needs audit ○ Developing and implement training and education programs as identified ○ Working with Collie High School to develop pathways to future employment ○ Identify and develop entrepreneurial opportunities
<p>4. The Task Force recommends that the Government at all levels provides commitment and support to the process and outcomes contained in <i>Reimagining Collie</i> and that an appropriate Economic Development and Diversification Program is resourced and implemented to pursue the defined outcomes.</p>	<ul style="list-style-type: none"> ● Gain Government support and funding from all levels for the Economic Development and Diversification Program ● Develop and submit a Business case for Collie's Economic Development Diversification Plan 	<ul style="list-style-type: none"> ● Complete a business case that includes all key stakeholders for funding of Economic Development and Diversification Program that includes <ul style="list-style-type: none"> ○ Key Outputs and Outcomes ○ Financial plan ○ Risk Management plan ○ Governance structure ○ Economic Benefit to Collie ○ Pursue other funding opportunities where appropriate
<p>5. The Task Force recommends that a Steering Committee be retained, with representation from State and local government, community and industry in order to provide leadership and oversight to the implementation of the Economic Diversification Program. The Task Force further recommends that the Government adequately funds the Economic Diversification Program and that the implementation of the Economic Diversification Program be initiated as soon as practicable.</p>	<ul style="list-style-type: none"> ● Develop a Steering Committee for the leadership and implementation of the Economic Development and Diversification Program. ● Align Collies program with other regional programs such as the Bunbury Geographe Growth Plan and Bunbury Wellington Sub regional tourism strategy ● new industries and business to Collie. 	<ul style="list-style-type: none"> ● Implement a steering committee and management structure <ul style="list-style-type: none"> ○ Steering Committee, ○ Economic Development Manager, ○ Economic Transition Coordinator, and ○ Industry and Community Reference groups ● Engage directly and with local and regional Alliances and business organisations including <ul style="list-style-type: none"> ○ Bunbury Wellington Economic Alliance ○ Bunbury Wellington Tourism ○ South West Chambers ○ Bunbury Geographe organisation ○ SW Chamber of Mines and Energy ○ And others ● Develop promote and market Collie with support from the Collie businesses <ul style="list-style-type: none"> ○ Review the most effective strategy for Marketing Collie. ○ Develop a new marketing brand ○ Develop an investment prospectus

4.2 Resources and Costs

An estimate of the resources required to establish and implement a program over the period 2017 to 2020 has been completed. The costs identified in Table 10 Estimated costs for implementation of a project plan for a Economic Diversification Program are indicative and require further definition in a project plan.

Table 10 Estimated Costs for implementation of Project Plan for an Economic Diversification Program

Recommendation and Project	Stakeholders	Project Owner	Estimated Cost over period 2017 to 2023
<p>Recommendation 2</p> <p>Increase diversification through investigation and Feasibility studies. (including detailed design, engineering and documents to reduce risks and complete Business cases for development)</p> <p>Research Development Fund of \$4.85m for investigations and preliminary development with an Indicative breakdown between industry sectors as follows</p> <ul style="list-style-type: none"> • Tourism (\$1m) • Agriculture(\$500k) • Aquaculture(\$250k) • Alternative uses of Coal(\$1m) • Energy Generation(\$1m) • Forestry(\$100k) • Aged and Health Care (\$300k) • Water Desalination(\$100k) • Other <p>Rural Fire Centre and research facility(\$500k)</p>	<p>Relevant -Business Industry Org , Shire of Collie, SWDC</p>	<p>Shire of Collie though a new structure that will focus on the economic development and diversification of Collie</p>	<p>\$4.85m</p>
<p>Recommendation 3</p> <p>Comprehensive change management program including learning lessons from other communities</p> <p>Program to be developed in conjunction with the development of new industries and research into other communities</p>	<p>Shire of Collie, BWEA, SWDC, Educational Institutions etc Collie High School, SWIT, ECU</p>	<p>Shire of Collie and partnership arrangements</p>	<p>\$1m</p>

Recommendation 4			
Complete project plan for overall Economic Development and Diversification program	Shire of Collie and SWDC	Shire of Collie	\$200,000
Recommendation 5			
Implement Governance and Management over five years	Shire of Collie, Business and Community	Shire of Collie	\$1m
Total Estimated Cost			\$7.05m

The application of costs and program will be subject to an agreed project plan that is approved through the Shire and the South West Development Commission.

4.3 Governance

It is critical that an appropriate governance process is implemented to oversee the Economic Diversification Program. The Shire of Collie and the South West Development Commission will take key roles in the overall project and establish the governance structure to meet the aims and achieve the outcomes of the project plan. Appropriate selection key people to the steering committee will be the responsibility of the Shire of Collie. All other project decisions will be the responsibility of the Steering Committee. Employment contracts will be with the Shire of Collie and the CEO/Economic Development Manager will sit on the Steering Committee.

A clear governance structure will capture the momentum created by the Reimagining Collie project and drive the action plan to achieve the outcomes agreed in the project plan. The following governance structure will provide oversight and resourcing required:



Figure 1. Proposed Collie Economic Diversification Program

Steering Committee: The peak Collie community and industry based group to provide input and guidance over the next phase of Reimagining Collie.

Economic Development Officer: The key resource tasked with implementing the strategies identified in the Action Plan.

Industry and Community Reference Groups: Groups developed to provide guidance and input into key economic areas identified.

Communications: Resourcing to ensure ongoing community engagement over the next phase of Reimagining Collie.

Economic Transition Coordinator: Resourcing to support the Economic Development Officer, with a particular focus on supporting community change.

4.3.1 Review

The agreed Project Plan for the Collie Economic Diversification Program will be subject to annual review processes lead by the Steering Committee and facilitated by the Economic Development Manager (with input from the Industry and Community Reference Groups). The review will at a minimum consider the following:

- Progress against schedules.
- Performance against indicators.
- Funding priorities and status.
- Refinement of initiatives and actions.
- Implementation issues.

The community will be involved and informed of progress of the implementation of the Project Plan.

5 Recommendations

5.1 Recommendations

5.1.1 Vision - Ensure Sustainability of Collie's Future Economy

From the work undertaken for *Reimagining Collie*, the widespread desire to focus the future on Collie's sustainability has been clear. This is not just from the town's community, but a much broader imperative for the future prosperity of the South West Region as a whole; Collie is critical to the South West and is critical to the achievement of the ambitions in the *South West Regional Blueprint*. In this respect, the Task Force reaffirms the SuperTowns vision of positioning Collie as an expanded centre for industry and manufacturing offering high amenity and diverse job opportunities.

RECOMMENDATION 1

The Task Force reaffirms the commitment to Collie as a major regional centre and supports the vision of positioning Collie as an expanded centre for industry and manufacturing, offering high amenity and diverse job opportunities.

5.1.2 Industry - Diversify Collie's industry base

The consultation and economic modelling in *Reimagining Collie* has identified a number of opportunities for industry development and economic diversification. These opportunities encompass both supporting change in existing major industries to improve their resilience and fostering the growth of new and emerging industries. The analysis considers opportunities in a diverse range of sectors: agriculture, aquaculture, forestry, aged care and health and tourism, as well as opportunities for alternative uses of coal and alternative energy generation fuels (gas and renewables). On the basis of analysis, using well-validated methodologies, the Task Force has identified options and actions that should safeguard between 1,125 and 1,495 direct and indirect jobs by 2040 relative to a base case that assumes a decline in demand for coal and a concomitant fall in direct employment. Significantly, the opportunities for diversification that have been identified are projected to lead to overall employment growth in the shire compared with today. The pathways and actions to the desired industry outcomes are summarised in Table 8.

RECOMMENDATION 2

The Task Force recommends federal, state and local government support, and the attraction of private enterprise and investment, for the pathways to economic diversification in Collie.

Actions include:

1. Improving collaboration between industries,
2. Supporting the transformation of existing industries, and
3. Developing new industries.

Specifically, the key industry opportunities that have been identified are:

Agriculture

- Development of protected cropping and intensified agricultural production, including closed loop agricultural systems and greenhouse or hydroponic production.

Aquaculture

- Development of commercially viable aquaculture industry using access to surface water dams and, potentially, mine voids (subject to meeting regulatory requirements).

Alternative uses for coal

- The use of coal in manufacturing processes, including the production of urea, fuel and activated carbon.

Energy Generation

- The continued use of Collie as a generation hub on the SWIS, including potential for large scale gas and renewable energy generation in biomass, solar and wind.
- Extension of coal fired generation and opportunity for new power station linked to new technology and use of SW Hub.

Forestry

- The development of an additional 2,000 hectares of softwood plantation in Collie.

Aged and Health Care

- Expansion of existing Primary Health Services, Aged Care Services, as well as the development of a lifestyle village to facilitate an Aged Care Hub for the surrounding region.

Tourism

- Development of a nature-based hub at Minninup Pool, linking with the Munda Biddi Trail and the Bibbulmun Track and featuring accommodation and activities options.
- Development of an Adventure Sports Hub, featuring Collie Motorplex and Lake Kepwari.

Water Desalination

- The establishment of a Desalination Plant to improve water quality supporting intensified agricultural production in Collie.

Other

- Attract and build the headquarters for the new WA Rural Fire Service in Collie.

These eight industry opportunities have detailed actions identified in Table 8. All industry development opportunities would require careful assessment, planning and approvals to ensure that use of that land is consistent with existing agreements including the state agreements that exist in and around Collie.

5.1.3 Community - Assist Community Transition to New Economy

That the community is essential to realising the opportunities defined in *Reimagining Collie* are clear. For Collie to diversify, grow and sustain new opportunities and create new jobs will rely heavily on the town's own people and their readiness and capacity for change. Key aspects are creating a shared vision (hope, opportunity, confidence) instituting leadership and community engagement, developing entrepreneurial skills and transitioning careers, attracting and educating youth and demonstrating success. These all represent the ingredients for successful change highlighted in Section 3.6.

RECOMMENDATION 3

The Task Force recommends that a comprehensive change program be defined and implemented, adequately resourced and funded in order to enable the community to gear for growth and diversification. This should address multiple facets, including leadership, engagement and communication and skills development.

5.1.4 Government - Strengthening Collie's Community with Engagement in its Future

Around the world, other coalfield towns have undergone successful regeneration, and what is clear is that this requires not only community support and change, but comprehensive engagement by Government. The transformation of mining regions is not a simple process, but needs to encompass all aspects of regional development, including: infrastructure, the environment, the enhancement of cultural heritage, economic development and training. The community cannot do this by themselves and engagement by Government and adequate investment in regional development is essential.

A component of the approach is the engagement of the diverse sections of the Collie community. Particularly important will be the engagement and participation of the local Aboriginal people and the newly formed Aboriginal Corporation to ensure greater inclusion and participation in economic growth.

RECOMMENDATION 4

The Task Force recommends that the Government at all levels provides commitment and support to the process and outcomes contained in *Reimagining Collie* and that an appropriate Economic Diversification Program is resourced and implemented to pursue the defined outcomes.

5.2 Resources, Implementation and Governance

Resourcing the actions required to secure the future of Collie's economy and strengthen the South West Region requires human and financial capital. The first step of the Economic Diversification Program is to assess resourcing requirements. This will include:

Vision – Ensure the sustainability of Collie's future economy:

- Developing pathways to a new economy through an Economic Diversification Program,
- An Economic Diversification Steering Committee,
- An Economic Development Manager, and
- An Economic Transition Coordinator.

Industry – Diversify Collie's industry base:

- Funding of industry research,
- Developing business cases for key opportunities,
- Supporting transformation of current industries, and
- National and international investment attraction.

Community – Assist community transition to a new economy:

- Providing education development support, and
- Increasing business and entrepreneurial skills.

Government – Strengthening Collie's community with engagement in its future:

- Ongoing stakeholder engagement and communication, and
- Reenergising Collie's brand.

As has been emphasised previously, leadership, engagement and communication are also critical to the success of the transitioning required. The Task Force believe that a Steering Committee should be retained, with representation from State and local government, community and industry, in order to provide this leadership and oversight to the implementation of the Economic Diversification Program.

The Task Force also recommend that the momentum that has been built up through the *Reimagining Collie* activities be harnessed through an immediate transitioning of the Task Force into the Economic Diversification Steering Committee and that the implementation of the Economic Diversification Program be initiated as soon as practicable. This will allow the Economic Diversification Program to bear fruit by the time critical decisions on the state's power generation capacity are made in 2020.

RECOMMENDATION 5

The Task Force recommends that a Steering Committee be retained, with representation from State and local government, community and industry in order to provide leadership and oversight to the implementation of the Economic Diversification Program. The Task Force further recommends that the Government adequately funds the Economic Diversification Program and that the implementation of the Economic Diversification Program be initiated as soon as practicable.

The implementation of the recommendations will require a detailed action plan. The following is proposed as an overview of that action plan:

Table 11. Overview of action plan

Key Recommendations	Proposed Implementation Actions
<p>1. The Task Force reaffirms the commitment to Collie as a major regional centre and supports the vision of positioning Collie as an expanded centre for industry and manufacturing, offering high amenity and diverse job opportunities.</p>	<ul style="list-style-type: none"> • Release Task Force Report • SWDC and Shire of Collie to support development and implementation of Action plan including new structure and agreements with State Government..
<p>2. The Task Force recommends federal, State and local government support, and the attraction of private enterprise and investment, for the pathways to economic diversification in Collie.</p>	<ul style="list-style-type: none"> • Setup and Implement Industry Development and Research Fund. • Develop Research and Development Fund guidelines and terms of reference. • Liaise closely with industry and Government to support high value options • Develop an Action Plan to attract and support development of new business, including completing investigation feasibility studies and business cases.
<p>3. The Task Force recommends that a comprehensive change program be defined and implemented, adequately resourced and funded in order to enable the community to gear for growth and diversification. This should address multiple facets, including leadership, engagement and communication and skills development.</p>	<ul style="list-style-type: none"> • Following the identification of industry opportunities develop a comprehensive community program to work alongside the industry development program that including • The community change program will includes at least the following: <ul style="list-style-type: none"> ○ New structures that will accelerate change including ○ Transition projects with universities. ○ Education development support. ○ Increase of business and entrepreneur skills.
<p>4. The Task Force recommends that the Government at all levels provides commitment and support to the process and outcomes contained in <i>Reimagining Collie</i> and that an appropriate Economic Diversification Program is resourced and implemented to pursue the defined outcomes.</p>	<ul style="list-style-type: none"> • Develop and gain approval for project plan that will: <ul style="list-style-type: none"> ○ Gain Government support for all levels of transition plan and work with all stakeholders. ○ Secure funding for program over a five year period. ○ Market Collie with new industries. ○ Include a Resource plan and Governance structure for Collie’s Economic Development transition. ○ Include key learnings from other communities that have transitioned and diversified their economy.
<p>5. The Task Force recommends that a Steering Committee be retained, with representation from State and local government, community and industry in order to provide leadership and oversight to the implementation of the Economic Diversification Program. The Task Force further recommends that the Government adequately funds the Economic Diversification Program and that the implementation of the Economic Diversification Program be initiated as soon as practicable.</p>	<ul style="list-style-type: none"> • Implement a new Governance structure that includes a Steering Committee and key project roles and industry and community involvement for the leadership and implementation of the Economic Diversification Program. • Examine ways that the public, educational and private sectors can be part of the program through alliances and partnerships . • Ensure community is involved and informed of work

6 Supporting Documents

- ¹ Collie SuperTown Townsite Growth Plan, 2012 (RPS).
- ² Collie SuperTown Economic Development Plan. Prepared for the South West Development Commission, February 2012 (AEC Group).
- ³ Collie SuperTown Combined Report: Final Draft Report, April, 2012 (AEC Group).
- ⁴ Collie Economic Development Update, Addendum Report, March 2016 (AEC Group).
- ⁵ Shire of Collie Strategic Community Plan 2013 – 2022, 2013 (Shire of Collie).
- ⁶ South West Regional Planning and Infrastructure Framework, December 2015 (Western Australia Planning Commission).
- ⁷ South West Regional Blueprint, December 2014 (South West Development Commission and Regional Development Australia – South West).
- ⁸ Tourism Opportunities Study for Collie, 1 July 2016 (Simon McArthur and Associates).
- ⁹ Collie Coal and Energy Industry Opportunities Study, May 2016 (Economics Consulting Services), and updated October 2016.
- ¹⁰ *Reimagining Collie* Community Survey, Collie Economic Development Task Force, 1 June 2016 (Doug Green).
- ¹¹ Collie Future Scenario Assessment, July 2016 (Pracsys), and updated November 2016.
- ¹² Regional Development Strategy 2016-2025, Building vibrant regions with strong economies, Department of Regional Development, 2016.
- ¹³ Western Australia Planning Commission (2012).
- ¹⁴ Government of WA Department of Mines and Petroleum (2015, 2016)
- ¹⁵ Millar, A: Memorandum Coal Resources 10 June 2014, Department of Mines and Petroleum 2014.
- ¹⁶ Department of Mines and Petroleum.
- ¹⁷ Evolve Strategic Solutions, Bunbury Wellington Tourism Strategy 2015, p35.
- ¹⁸ The Boston Consulting Group – *Imagining Australia in the Asian Century: How Australian Businesses are Capturing the Asian Opportunity*, September 2012.
- ¹⁹ Western Australia Economic Profile – February 2012, Department of State Development.
- ²⁰ CSIRO Futures – *Our future world: Global megatrends that will change the way we live*, 2012 revision.
- ²¹ Reimagining Collie Draft Final Report feedback, January 2017.
- ²² South West Regional Planning and Infrastructure Framework.
- ²³ Bunbury Geopraphe Growth Plan.
- ²⁴ Project RECORE; Boosting the Regeneration Process, Good Practice Guidelines.
- ²⁵ Hunt, J. W., *“Managing People at Work”*, McGraw-Hill, London (1992).