



GIPPSLAND Smart Specialisation

Developing and implementing an approach
to regional innovation and development in
Gippsland, Victoria (2018-2020)



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Executive Summary

In September 2017, the Latrobe Valley Authority (LVA) chose to focus its longer-term renewal of the Gippsland regional economy on the development of a Smart Specialisation Strategy (GS3). By June 2020, the following achievements have been recorded as steps towards the development of a sustainable and productive economy that would enhance the prosperity and well-being of all Gippslanders. These achievements are a result of strong partnerships which have developed between the LVA, the GS3 Project Team, and business, government, community and education/research institutions.

The GS3 academic Project Team from the University of Melbourne and RMIT University presents this report as an overview of the work and achievements undertaken since the Gippsland Smart Specialisation Strategy (GS3) initiative began in November 2017. It outlines:

a) the thinking which has underpinned the approach adopted by the project, drawing on OECD research and European Union experience in implementing Smart Specialisation;

b) the new ways of working developed in Gippsland during the project, with examples of specific case studies of projects initiated in this period;

c) lessons learned about the achievements and learning from the approach adopted in Gippsland; and

d) possible next steps to develop the capability for supporting innovation initiatives across sectors and throughout Gippsland.

The Report documents the impact delivered in this first phase of implementing GS3, which has engaged over 3,000 people and organisations, and has laid the foundation for the longer-term development of the embryonic regional innovation system in Gippsland. Ongoing development of the Gippsland innovation system, building the dynamic partnerships emerging around food and fibre, energy, health and wellbeing, and the visitor economy, will be the key to achieving long-term viability for Gippsland in the uncertain and challenging Victorian, national and global environment that is unfolding currently.

The early impact can be summarised in the following four sections:

1

Enabling innovation capacity

- a) This is the first effort to systematically identify innovation opportunities in a Victorian non-metropolitan region, as the foundation for developing a competitive regional economy;
- b) First experiment with an innovation survey in Australia, modelled on the EU's Community Innovation Survey;
- c) Recognition of the significance of regional assets (particularly expertise) as the key resource for regional innovation processes;
- d) The development of design principles to assist regional stakeholders to bring a collaborative and systematic method to innovation in the region;
- e) Stakeholders encouraged to see monitoring, learning and accountability as an integral part of project planning and implementation;
- f) Strengths and weaknesses of Gippsland's innovation system have been identified, and the foundations established for further evolution; and
- g) TAFE Gippsland recognises its part in the regional innovation system, identifying opportunities to engage in specific projects;
- i) Federation University has contributed significantly to the development of energy innovation processes, and can see opportunities to participate in other innovation initiatives in Gippsland.

2

Innovation projects

- a) 15 specific innovation opportunities have been tested for further investment, from which 11 specific opportunities have emerged;
- b) Some 11 opportunities have been developed to the point where a roadmap for further development and implementation is taking shape.

3

Initiatives for longer-term system development

- a) Proposition for an Energy Academy in Gippsland, as a national resource for facilitating capability and developing relationships across Federation University – as the linking pin for knowledge input across the Victorian and Australian tertiary sector, industry and community with respect to new energy initiatives;
- b) Demonstrated contribution of 'quadruple helix' collaboration (business, government, community and education/research) in advancing specific innovation opportunities;
- c) Development of networks of stakeholders across the region, bridging sub-regional interests and consolidating capacity for project development;
- d) Closer collaboration amongst key industry stakeholders in both food and fibre and in energy sectors has encouraged shared organisational arrangements and consolidated capacity;
- e) Sector leaders and entrepreneurs have recognised that co-design and co-investment, not wholly dependent on government funding, provide a stronger base for the sustainability of regional innovation than projects reliant wholly on public resources;
- f) Cross-sectoral regional innovation opportunities have emerged as key opportunities for system development;
- g) Significant knowledge assets from Victorian universities relevant to innovation in Gippsland have been identified;
- h) Victorian policy makers have developed a better understanding of industry perspectives, needs and opportunities (e.g. geothermal energy).

4

(Inter)national recognition

- a) Gippsland is the first region outside Europe and the first (and only) Australian region to be registered on the EU Joint Research Centre's Smart Specialisation Platform;
- b) Successful study tour developing bilateral relationships between the Netherlands, Germany and Gippsland was conducted;
- c) Leading European Smart Specialisation scholars have come to Victoria and Gippsland, promoting awareness amongst senior Victorian policymakers and other key stakeholders about alternative approaches to regional development, and learning about Australian perspectives;
- d) Stakeholders have been encouraged to broaden their sense of context to global forces and markets, using international benchmarks, as being an integral frame for evaluating and developing innovation possibilities.
- e) Gippsland has welcomed interest and visits by delegations from across a number of Australian jurisdictions, ranging from the Hunter Valley (NSW), the Queensland Government in the context of their regional transition and resilience program, the Western Murray Land Improvement Group, Wakool, NSW, to Collie in WA.

The project was initiated by the Latrobe Valley Authority (LVA) and supported by a project team from the University of Melbourne and RMIT University that brings together expertise on regional innovation and development, the role of tertiary education in stimulating innovation, the EU approach and experiences with Smart Specialisation, and inclusive approaches to socio-economic transitions.¹ The rationale for the project was to explore a novel approach to regional development in Australia, based on an approach developed by the European Union.

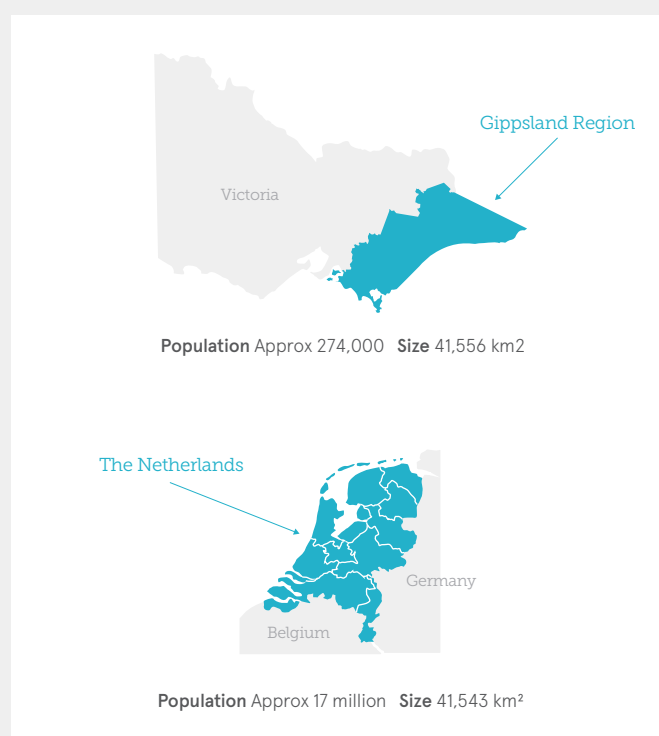
The Latrobe Valley Authority was established by the Victorian Government in 2016 to work with local industries and communities to secure a strong and resilient future for the Gippsland region in the wake of the disruption caused by the sudden closure of the Hazelwood power station, one of the major industries and employment providers in the region. The LVA strategy has been to work from an immediate response to deal with the fall out of this closure to more broadly a recovery and capability process, culminating in a strategic and sustainable growth approach for the region. The Smart Specialisation Strategy embodies this longer-term strategic agenda.

Gippsland is located in the south-east corner of Victoria. In 2016 its population was 274,627, with an average annual growth rate, since 2011, of slightly less than 1 per cent. It is an economic rural region of Victoria and covers an area of 41,556 square kilometers. Known for its primary production such as mining, power generation and farming as well as its tourist destinations, the three most significant employing industries, in 2011, were health care and social assistance (12.2%), retail trade (11.4%) and construction (10.6%).

Agribusiness, new energy (including use of waste products such as biomass, and related technologies), advanced manufacturing, construction and tourism are recognised as potential drivers of regional diversification and growth, as will be elaborated upon in this report.

To put this context in perspective, Gippsland is roughly the size of The Netherlands, which has a population of over 17 million (see *Figure 1*).

Figure 1: The Netherlands vs Gippsland comparison



¹ University of Melbourne partners are the LH Martin Institute (<https://melbourne-cshe.unimelb.edu.au/lh-martin-institute/home>) and the Melbourne Sustainable Society Institute (<https://sustainable.unimelb.edu.au/>); RMIT University partner is the European Union Centre of Excellence (<https://www.rmit.edu.au/about/schools-colleges/global-urban-and-social-studies/research/research-centres-and-groups/european-union-centre-of-excellence>)

The first section of this report introduces the key concepts of innovation and innovation ecosystems, emphasising the systems aspect, as the GS3 project has shown that this is a major issue for Gippsland, as will be elaborated on throughout the report. It is hoped this section will familiarise the reader with these key concepts and assist in a better understanding of the work that has been going on throughout the life of the project.

To further set the scene, we then present the Australian approach to regional development in an international context and highlight its core deficiencies, using the work undertaken by the Organisation for Economic Co-operation and Development (OECD). Together with the previous section, this sets out the rationale for exploring the adoption and adaptation of the Smart Specialisation approach to the Australian, Victorian and Gippsland context.

The results of the work undertaken are presented in section 4 (see p.19) in which we highlight the new way of working that has emerged over the life of the project. It shows how the four key stakeholder groups of government, industry, community and education and research have come together through the coordination activities of the LVA and have created a novel, bottom-up process to stimulate innovation and regional development. A series of case studies is presented to illustrate how this new way of work is resulting in tangible projects with both economic and community impact.

In the last section of the report, we take a step back and reflect on the lessons learned from our attempts to introduce and implement a Smart Specialisation Strategy in Gippsland. From the start of the project we knew this was an ambitious program and that it would challenge everyone involved. The realities of the project reflect these challenges, but they also show how many have risen to them and collectively have initiated a new dynamic for regional growth and development, one that we hope will have spill-over effects to other regions in Victoria and Australia. We end the report with a series of suggestions on how to take the achievements made and insights gained throughout Gippsland's Smart Specialisation journey to the next level.

On Innovation

Whilst the concept of innovation always has received significant attention in both the policy and the research literature, in the wake of the rise of the digital revolution and associated changes, the concept of open innovation has risen to the fore. Traditionally, innovation has been defined as “the implementation of a new or significantly improved product (good or service), a new marketing method, or a new organisational method in business practices, workplace organisation or external relations” (OECD, 2005).³ As elaborated in the Gippsland Business Innovation Survey (GBIS) 2019, this can be further specified as product, process, organisational and marketing innovation (*see Table 1*).⁴

Product Innovation (good or service)	· The market introduction of a new or significantly improved good or service with respect to its capabilities, user friendliness, components or sub-systems.
Process innovation	· The implementation of a new or significantly improved production process, distribution method, or supporting activity.
Organisational innovation	· A new organisational method in an enterprise's business practices (including knowledge management), workplace organisation or external relations that has not been previously used by the enterprise.
Marketing innovation	· The implementation of a new marketing concept or strategy that differs significantly from an enterprise's existing marketing methods and which has not been used before.

Table 1: Main types of business innovation

Source: OECD/Eurostat

Although this definition still is in common use throughout much of the developed world, in a way it is a limited view of innovation. It does not have much to say on the processes through which innovation is created. To get a better understanding of the latter, it is useful to distinguish between closed and open innovation.

³ OECD (2005). *The Measurement of Scientific and Technological Activities [Oslo Manual]*. Paris: OECD.

⁴ Fastenrath, S. & Goedegebuure, L. (2020). *Gippsland Business Innovation Survey 2019*, Melbourne Sustainable Society Institute, The University of Melbourne.

Table 2 summarises the different conceptualisations of the innovation process as captured under the labels open and closed, based on the argument that our world is becoming increasingly complex. Advances in knowledge are increasing rapidly and knowledge is becoming increasingly distributed globally. As a consequence, the traditional closed approach to innovation is no longer fit for purpose as the costs of research and innovation projects grow exponentially; the generation of new knowledge occurs through cross-fertilisation across disciplines; the life cycles of new technologies are increasingly shorter; and knowledge leaks happen more and more frequently.

Closed Innovation Principles	Open Innovation Principles
The smart people in our field work for us.	Not all of the smart people work for us so we must find and tap into the knowledge and expertise of bright individuals outside our company.
To profit from R&D, we must discover, develop and distribute it ourselves.	External R&D can create significant value; Internal R&D is needed to claim some portion of this value.
If we discover it ourselves, we will get it to market first.	We don't have to originate the research in order to profit from it.
If we are the first to commercialise an innovation, we will win.	Building a better business model is better than getting to market first.
If we create the most and best ideas in the industry, we will win.	If we can make the best use of internal and external ideas, we will win.
We should control our intellectual property (IP) so that our competitors don't profit from our ideas.	We should profit from others' use of our IP, and we should buy others' IP whenever it advances our own business model

Table 2: Open and closed innovation principles

Source: H. Chesbrough, *The Era of Open Innovation*, MIT Sloan Management Review, 44, 2003

As the global trends outlined above make “control” over the innovation process increasingly unproductive and impossible, a far more open and connected approach to innovation has emerged, based on *co-operation*, *complementarity* and *sharing* of knowledge and resources, with a focus on collective problem-solving. This is why the *quadruple helix*, consisting of representatives from government, industry, education and research, and the community sector, is such an important part of the innovation process.

The principles underpinning this approach are that learning and knowledge rest in the productive diversity of opinion; that learning is a process of connecting specialised nodes or information sources and that the capacity to know more is more critical than relying on what is currently known.

In this process nurturing and maintaining connections is needed to facilitate continuous learning. Consequently, the ability to see connections between fields, ideas and concepts becomes a core skill, and currency (accurate, up to date knowledge) is at the core of all connected learning activities. In this evolved conceptualisation of innovation, the classic know-how increasingly is being replaced by *know-where*. This is clearly articulated in the notion of innovation as eco-systems.

On (Regional) Innovation Eco-systems

The notion of an ecosystem refers to a complex network or interconnected system. In the context of innovation, such ecosystems consist of a core set of building blocks.⁵



Connector & facilitator



Diverse & complementary actors



Collective focus on disciplines & activities



Collaboration spaces & co-location



Investment capital

First, there needs to be a *connector* to bring all the interdependent actors together. In other words, collaboration needs to be orchestrated and facilitated. In the context of GS3, this obviously is the LVA.

Second, it needs to have a diverse but complementary set of actors to maximise the fruits of collaboration. This always includes research universities, other post-secondary education institutions, governments (local and provincial and sometimes national), and companies – both mature and start-ups – with a strong focus on advanced technology. In other words, the classic triple-helix which in the context of Smart Specialisation has been expanded to incorporate the community sector to form the so-called quadruple helix, referred to before and expanded upon in the next sections of this report.

Third, there needs to be a focus on a certain set of disciplines or activities. It is not enough to just bring these groups together; they need to be collectively focussed around a certain theme or discipline, such as advanced manufacturing in many of the cases identified in the references in footnote 5.

In the case of GS3, these themes have been Food and Fibre, New Energy, the Visitor Economy, and Health and Wellbeing, as elaborated in the next sections of this report.

⁵ Van Agtmael, A. and Bakker, F. (2016). *The smartest places on earth: Why rustbelts are the emerging hotspots of global innovation*. New York: Public Affairs. See also: Engel, J.S. (Ed.) (2014). *Global Clusters of Innovation*. Cheltenham/Northampton: Edward Elgar.

Fourth, there need to be physical spaces where these actors can interact in close proximity. The benefits of co-location are maximised and the “energy” that flows from this in turn attracts other actors. In this way, high tech activities can be complemented with socio-cultural activities as is demonstrated by all effective innovation ecosystems across the globe, from Silicon Valley to Medellin, from Milan to Eindhoven. This element of the Gippsland innovation system still is under construction, with the development of the various precincts planned, ranging from the High-Tech Precinct to the Logistics Precinct.⁶

Finally, no innovation ecosystem can exist without the availability of significant capital on which the actors can draw. As with any biological ecosystem, unless there is a fertile and rich environment, the system will either remain struggling or will collapse. The availability of capital is an essential condition for any innovation ecosystem. For GS3, significant investments already have been made through the Victorian Government budget allocations to the LVA and subsequent LVA allocations for both capacity building and project stimulation. These are elaborated on in the next sections of this report. In addition, it is worth noting the significant private investment in the large renewable energy projects being rolled out across Gippsland, from Star of the South⁷ to the Delburn Windfarm.⁸

Transforming regional economies is something of great importance to Australia given our long-term dependence on natural resources, the fact that coal-fired power stations from both an ecological and an economic perspective are no longer sustainable, and the growing realisation that our traditional manufacturing base is no longer competitive in a globalised world. In this context, effective innovation ecosystems and open innovation become more than just academic concepts. They become the vehicles necessary to drive socio-economic transformation. But we also need to realise the particular nature of our economy. As evidenced in a recent Australian Innovation System Report 2016, and subsequently incorporated in the Australian Innovation System Monitor,⁹ Australia does not have a strong foundation of large-scale, multi-national industries, but is primarily a country of small and medium sized enterprises (SMEs), with a strong concentration in the services sector. According to ABS 2016 data, 68% of employment in Australia is in the SME sector, and 85% of this is in the services industries (everything excluding agriculture, forestry, fishing, mining and manufacturing), which also is responsible for 77% of industry value add. As highlighted in the GBIS 2019⁴ this industry make-up becomes even more pronounced in Gippsland, where micro-businesses dominate the various industry sectors.

⁶ https://www.latrobe.vic.gov.au/City/Invest_in_Latrobe/Investment_Prospectus

⁷ <http://www.starofthesouth.com.au/>

⁸ <https://osmi.com.au/delburn-wind-farm/>

⁹ <https://publications.industry.gov.au/publications/australianinnovationsystemmonitor/index.html>

This has a major impact on the nature of innovation in Australia, being driven by SMEs and predominantly of a process-type nature rather than a new product to market – as also evidenced in the GBIS 2019. This strongly suggests that widely heralded innovations such as Wi-Fi, the Cochlear ear-implant and the cervical cancer vaccine are exceptions rather than the rule. According to the Australian Innovation System Report 2016, part of the problem is in a weakly networked innovation system: “Australia ranks poorly against OECD comparators in most business to research and business to business indicators”.⁹ This problem of a weakly networked system also was at the heart of the Australian Academy of Technological Sciences and Engineering (ATSE) 2013 position paper “Translating research into economic benefits for Australia; rethinking linkages”, which points to the cultural differences between SMEs and academia as one of the factors inhibiting stronger collaboration.¹⁰

We may have a rather unique industry make-up, particularly in Gippsland, but again there are international examples of countries tackling this effectively, which we have brought to bear on the GS3 project. A case in point is the Netherlands, which has a services-based economy like Australia. Taking an open innovation approach as its starting point, this spurred the Dutch Scientific Council for Governmental Policy (WRR) to argue the case for a move away from the traditional R&D model to one based more on the principle of knowledge circulation rather than solely on knowledge generation:

*“The focus cannot be on knowledge generation alone; it will be just as important to see that knowledge is properly absorbed and circulated. The question, then, is whether a country (especially a small one like the Netherlands) should seek to remain in the lead by investing only in knowledge generation. In many cases, it is not necessary for a country to top the world science rankings, as long as it understands developments in science well enough and is connected to networks in which new knowledge circulates. On the other hand, knowledge will become more important as a basic attitude. People have to be able to absorb new knowledge quickly and make it productive”.*¹¹

This line of argument seems appealing from the compelling case of open innovation. The logical consequence of such an approach would be a much more prominent role for vocational education (VE) given its close proximity to the SME sector. This would require the capacity of VE to effectively engage in the process of knowledge circulation, which would in turn require a greater ability to absorb research and translate it to professional practice. This position is recognised in the recent Performance Review of the Australian Innovation, Science and Research System 2016.¹² The review clearly articulates that Australia’s VE sector is “an underused resource in the IRS System” (p. 76). In line with the principle of knowledge circulation outlined above, the Review emphasised that “people with VET occupations are amongst businesses’ principal sources of ideas for technological innovation” and that people with VET qualifications “are well placed to diffuse, share and implement innovation” (ibid.). Albeit somewhat implicitly, the absence of an applied research function with a dedicated budget is seen as an obstacle to maximising the VE sector’s role in innovation. In the next sections of this report we highlight the importance of the role the tertiary sector, including TAFE Gippsland, has to play in the further development of the Regional Innovation System (RIS) in Gippsland, as well as the challenges that are associated with this.

In summary, there is little doubt about the importance of innovation and the further building of a Regional Innovation System in Gippsland. Most of the building blocks for such a system at least in part are in place, although serious work still needs to be undertaken to make this into a true RIS. But as is elaborated in the next section of this report, a solid foundation has been laid on which further development and implementation work can be based.

¹⁰ Australian Academy of Technological Sciences and Engineering (2013). Translating research into economic benefits for Australia; rethinking linkages. Melbourne: ATSE.

¹¹ WRR (Scientific Council for Governmental Policy) (2013). Towards a Learning Economy. The Hague: WRR. See also the report from a study mission to the Netherlands and Germany organised as part of the GS3 project: https://sustainable.unimelb.edu.au/___data/assets/pdf_file/0006/3273666/EU_Study_Mission_Web.pdf.

¹² <https://www.industry.gov.au/data-and-publications/performance-review-of-the-australian-innovation-science-and-research-system-2016>

In the years leading up to and following the Global Financial Crisis (GFC), the OECD firstly identified and tried to explain why some regions' economies performed much better than others, and hence to understand the key drivers of regional development. Notwithstanding the overall importance of national macroeconomic policies, regions within nations demonstrated contrasting rates of economic growth, and broader regional development, raising questions about why these patterns emerged.

This analysis, developed in cooperation with the European Union (EU), led to the formulation of Smart Specialisation as an approach to preparing strategies for decision-making on allocation and expenditure of regional development funds. In the case of the EU, this amounts to approximately one third of their total budget. In the 2014–2020 budget period, the EU has required each region to develop a Smart Specialisation Strategy in order to be eligible to receive EU funds.¹³

The International Evidence Base

So, why this shift in focus? In 2009, the OECD published *Regions Matter: Economic Recovery, Innovation and Sustainable Growth*, drawing on a review of regional development policies and their outcomes across the 36 Member Nations of the OECD. In a time of some controversy, the OECD argued very strongly for a clear focus on growth-oriented regional policies that were centred on innovation.¹⁴ The Foreword to *Regions Matter* stated:

The key appears to be how assets are used, how different actors interact and how synergies are exploited. Evidence of this is provided by analysis of the factors that generate growth: for example, infrastructure investment is effective when combined with other forms of investment, notably in education and skills. For innovation, it is not only the

number of researchers or the level of R&D investment that count, but how the innovation system as a whole functions. This leads to very different kinds of public policy considerations ... public policy needs to embrace reform and continue a transition away from market-distorting subsidies to policies that unlock the potential of regions and that support long-term economic, social and environmental objectives. (OECD, 2009, 3).

As an OECD member, Australia contributed to that work yet there is minimal evidence of it having had any significant influence at national or state level. Examination of either the Australian Federal Government's *Regions 2030: Unlocking Opportunity*, published in 2017, or the Victorian Government's *Provincial Victoria Growth Fund (2005–2011)*, the *Regional Growth Fund (2011–2015)* or the *Regional Infrastructure and Jobs Fund (2015)*, indicates that the expenditure of funds is fragmented, and committed either to infrastructure or to grants programs, spread thinly ('vegemite for all'), with poorly defined criteria for selection. Despite these investments in Victoria, the Gross Regional Product (GRP) of non-metropolitan Victoria has declined in the 6 years since 2005–06 and growth of less than 1 per cent in another four years. Furthermore, the gap in GRP per person between Melbourne and non-metropolitan Victoria has continued to widen every year since 2002–03.¹⁵

While policy alone is not responsible for this pattern, the OECD prescription is very clear. It acknowledges that the temptation to invest in infrastructure is very strong, especially in times of crisis, but indicates that a more integrated approach which encompasses human capital and innovation support, linked with infrastructure, will have a stronger impact on growth possibilities (OECD, 2009, 11). In 2012, in *Promoting Growth in All Regions*, the OECD concluded that:

¹³ For a detailed analysis, see: https://sustainable.unimelb.edu.au/_data/assets/pdf_file/0006/2792319/State-of-the-Art-Review-of-Smart-Specialisation-in-Europe.pdf

¹⁴ <https://www.oecd.org/cfe/regional-policy/regionsmattereconomicrecoveryinnovationandsustainablegrowth.htm>

How policy makers frame the challenges they face does matter. The case studies suggest that a self-conscious shift towards a growth-oriented policy framework is very often a part of the recipe for success. As long as policy makers focus on exogenous sources of support for a region, growth is unlikely to take off and actors are likely to focus on the appropriation of funds from external sources. (OECD, 2012, 16).¹⁶

This was articulated further in an OECD report in 2013, *Innovation-driven Growth in Regions: The Role of Smart Specialisation*.¹⁷ Smart Specialisation was adopted in the EU in 2014 to require regional stakeholders to embrace this reorientation in approach in order to access the so-called Structural Funds.¹⁸ In essence, the new approach emphasised:

In short, Smart Specialisation represented an evidence-based, collaborative approach to stimulating place-based innovation focused on distinctive local assets which had potential for competitiveness in key [global] markets.

- **Focus on regional assets:** what unique expertise or other assets did regions have that could offer competitive advantage in looking to key markets;
- Encouragement for exploring **innovative opportunities** which arose from those assets, seeking to develop market-leading economic activities;
- **Strong collaboration** amongst key stakeholders, specifically business and researchers but also government and community (including sources of investment), both in leadership of place-based innovation but also practical engagement on particular initiatives;
- Long-term emphasis on developing the **institutional foundation** to sustain place-based innovation systems, so that future innovative opportunities would be readily identified and nurtured;
- Attention to **activities within global value chains** where a region could exercise leadership, identifying innovative cross-sectoral connections;
- Development of an **entrepreneurial outlook** not only amongst business and industry participants but also researcher, government and community stakeholders;
- Close attention to **data**, to identifying a region's demonstrated assets and mediating the claims of vested interests; and
- Ongoing **monitoring and evaluation** to ensure that decision-making was well-informed and focused on a region's overall sustainable development potential, encompassing economic, social and environmental indicators.

¹⁵ <https://www.audit.vic.gov.au/sites/default/files/2019-05/20190502-Investing-Regional-Victoria.pdf>

¹⁶ <https://www.oecd.org/publications/promoting-growth-in-all-regions-9789264174634-en.htm>

¹⁷ <https://www.oecd.org/sti/innosmart-specialisation.pdf>

¹⁸ European structural funds include the European Social Fund (ESF) and the European Regional Development Fund (ERDF). Both funds are part of the European Cohesion policy, which aims to create a more cohesive Europe and thus achieve one of the core principles underpinning the EU. To fulfil its mission, Cohesion Policy must reduce economic, social and human rights-based inequalities between regions throughout Europe.

Smart Specialisation and Gippsland: challenges and opportunities

While the closure of a coal-fired power station in the Latrobe Valley triggered urgent Victorian Government response as mentioned in the Introduction, the conditions shaping the relative decline in GRP per person in Gippsland had been developing for more than 30 years. In this period, Gippsland, like so many other Australian non-metropolitan regions, became increasingly regarded as a source of valuable primary produce to be sent to metropolitan Australia (or even to global sites) where value add would occur. Whereas Australian primary producers have had a long history of local value-adding (often through cooperative enterprise), these operations have been converted to public companies searching for economies of scale which were then merged or taken over to the point where two large transnational dairy companies controlled most of the milk production in Gippsland, with the farm gate price to farmers under real pressure.

When the Project Team completed its early work on the regional context analysis and on the Gippsland innovation system in April–June 2018, it noted the evidence of considerable social disadvantage in Gippsland as well the significant diversity in geography, economy and social mix. More than 60 per cent of businesses had a sole employee with a further 30 per cent having no more than 4 employees (2016 available data, but confirmed by the GBIS 2019), a small number of internationally-owned companies exercised a preponderant influence in both the food and agriculture, and the mining and energy sectors. Yet the reports also demonstrated no shortage of significant regional assets with innovation potential. The key issue was the significant disconnect amongst key stakeholders who might have contributed to mobilising expertise and finance, and delivering on the innovation potential.

This disconnect was reinforced by significant issues arising from Australia's system of government. As noted by Weller (2019),

Overlapping political boundaries and the absence of coordination of electoral cycles add to the confusion: Federal and State electoral boundaries do not accord with each other, with local government boundaries, or with the administrative boundaries of policy implementation. The resulting political landscape is adversarial and characterized by unsettled relationships between fragmented political, policy and administrative institutions. (2019, 301).¹⁹

Weller's analysis preceded the closure of the Hazelwood mine and of the power station, focusing on efforts by a previous Federal Government to facilitate a shift from coal dependence to renewable energy sources. The 'Clean Energy Future' plan sought to support a 'just' transition to regional economies which would be dependent no longer on fossil fuels. However, its implementation in the region was undermined by a process of reframing which led to considerable local cynicism about government policy initiatives that purported to promote a transition program to support the workers and families whose livelihoods would be lost by the closure of coal and energy.

¹⁹ <https://journals.sagepub.com/doi/full/10.1177/2399654418784304>

Therefore, in looking to shape Gippsland's regional future in a world after coal-fired power, the challenge is how to reverse the historical pattern of industry restructuring and sub-optimal policy and strengthen the capacity for adding value as close as possible to the point of primary production and natural assets. This is not easy when the consistent message is that margins are tight and business pressures force a short-term mindset. Even though many producers are alert to wider industry possibilities and travel overseas occasionally to check on new developments, these activities are ad hoc and isolated. As in many other regions, and as argued in our Introduction, getting the space and resources to engage strategically with innovation depends on transformative interactions with educational and research institutions and the implementation of time and cost-saving technology. However, at this stage, the sector is largely segmented and inwardly focused, rather than engaged in strategic partnerships with regional government and industry.

Therefore, this example of a region rich with good ideas but undermined by disconnected relationships amongst key innovation stakeholders offered the opportunity to test the OECD-EU approach in Australia: how to promote endogenous growth in Gippsland? How can Gippsland's regional/place-based innovation system support different opportunities for growth, given the centrality of innovation to achieving competitive advantage in increasingly globalised markets?

In 2018, there were some obvious starting points. There was no shortage of unique knowledge and natural assets, nor of significant entrepreneurial activity. However, the recent dominance of large companies with foreign headquarters, with their own internal innovation systems, has meant that there has been little impetus to promote local innovation. There is one higher education campus with its leadership based in another region and a scattering of relatively small TAFE campuses across Gippsland. There is one outstanding agricultural research station, yet its work is focused largely on pre-farm gate topics. The key food and fibre sector (half of the regional economy) had dispersed leadership and while there were various networks including Regional Partnerships, the Gippsland Local Government Network, and the Committee for Gippsland, the region did not demonstrate cohesive leadership or capability.

This pointed to another key issue identified by the OECD. That was the importance of institutional factors:

Formal and informal institutions that facilitate negotiation and dialogue among key actors in order to mobilise and integrate them into the development process are vital, as are those that enhance policy continuity. At times, the challenge is to create institutions that strengthen the region's "voice" in dealing with other regions and countries and those that foster linkages among the private, public and education sectors. (OECD 2012, 15).

Taken together, the evidence in 2018 was that while there were a broad range of innovation opportunities in Gippsland, the lack of institutional capability and of cohesiveness amongst key agencies meant that any collaboration between industry, government, education/research and community was ad hoc and unsystematic.

The conditions were not only inadequate for providing the concentrated energy necessary to maximise the benefits from the opportunities that exist now, they did not offer any foundation for building a longer-term place-based innovation system that would spawn and support innovations that cannot even be dreamt of at this time, innovations that build on Gippsland's distinctive knowledge and natural assets.

So this was the challenge when Smart Specialisation was adopted by the Latrobe Valley Authority as the key resource to shape the future in the third phase of their response to the closure of Hazelwood. How to understand and lay the foundations for a new phase of economic, social and environmental development in Gippsland?

These pre-conditions have been central to the activities undertaken in the context of GS3 and are:

- a culture of collaboration;
- the role of the tertiary education and research sector in regional innovation systems;
- an integrated policy framework that sits within a long-term vision;
- the consistency and coherence of actions that flow from this in terms of industry-led and government supported and facilitated innovation activities, and;
- a culture of learning.

Each of these will be elaborated on below.

Culture of collaboration

At the heart of a successful regional innovation system and the development strategies embedded within them is a culture of collaboration. Innovation can be seen as a team sport, in that the different actors in a region have to work together to achieve results that no one actor individually could have achieved. This highlights the interdependence of the key stakeholders across the region: government, industry, the tertiary education and research sector, and the community sector.

Under the leadership of the Latrobe Valley Authority, these stakeholders have been brought together in the Smart Specialisation process and have started to explore ways of working together, supported by a shared language on innovation and strategic change.²⁰ It should be realised that this is a 'process under construction' that takes time. But the developments over the first two years of the GS3 project already have demonstrated the significant progress that has been made in breaking down barriers and existing silos, and engaging in real collaborative work, also known as co-creation.

Starting with the Food and Fibre sector, a number of strategic opportunities have been identified that through collective action provide the potential for competitive advantage across the sector. These opportunities are:

- A collectivised malting facility to support a growing craft brewing and distilling industry, built on the provenance of Gippsland. This may include links to visitor economy/agritourism.
- A high-tech processing hub for regional produce to create and extract more value from regional produce for ingredient, functional food and nutraceutical markets. This includes transforming Gippsland food waste.
- Exploring opportunities to connect Gippsland food and fibre businesses with new market opportunities via online platforms. This includes consideration of transport/logistics and aggregation hubs.

²⁰ As is shown in Appendix 1, over the life of the project, some 3,000 people and organisations have been engaged with GS3.

#1. Collective Craft Malting Facility

Gippsland's rapidly-emerging craft brewing, distilling and baking businesses are becoming renowned for their high-quality produce and strong local provenance story. Lacking, however, for all of these businesses is the availability of locally-sourced malt – a key ingredient in many brewed beverages, distilled beverages, and artisan breads. Malt is simply germinated grain that has been heated and dried following initial sprouting to halt any further plant growth. Gippsland, despite not being renowned for it, has belts of grain production, including grain types that may be suitable for malting. Much of the grain grown currently within the region is utilised as animal feed, with value-adding not commonplace.

In 2018, conversations pertaining to the potential for Gippsland producers to access locally-grown and processed malt began with a passionate group of brewers, growers and Food and Fibre Gippsland (formerly the East Gippsland Food Cluster). These conversations were broad in scope and participation, and soon grew to include stakeholders representing many different sectors. The concept of a Collective Malting Facility that would provide an option for different members of the value chain to become involved in a new industry was born. Such a facility is proposed to provide grain growers with an additional market option for their grain; local communities with new employment options; and the region's producers with a local malt that strengthens their provenance story and regional connection.

Following the initial concept's development, the project has undergone a process of deep engagement with stakeholders ranging from local community associations, to universities, to international brewery-building specialists. A number of project champions such as Sailor's Grave Brewing, have assisted this engagement alongside the

GS3 Project Team, and provided meaningful connections to interested parties across the nation, and globe, to advance the project.

Currently, a variety of enquiry tasks are in development or underway to prove all elements of the project and bring about an investment-ready business case. These include:

- A demand study being undertaken by Gippsland's own Federation University, focussing on the potential market opportunities for Gippsland malt, as well as its importance to local, regional, state and national brewers/distillers/bakers.
- An enquiry into collaborative business models, and how they would support such a facility to return maximum benefit to stakeholders up and down the value chain.
- A grain trial (under development) in collaboration with a leading seed genetics and agronomy provider that will determine the most appropriate varieties of grain to be grown in Gippsland, together with their supply capacity.
- An enquiry into whether a new regional educational offering in malting / brewing is required to support such an industry, should it be successful in its establishment.

This project continues to enjoy strong collaborative input from a myriad of stakeholders and the afore mentioned enquiry works are ongoing.

Under the auspices of Food and Fibre Gippsland and with the support of the LVA through a dedicated project manager, innovation groups currently are further developing these opportunities.

In similar vein, four opportunities have been identified for New Energy as a result of the Entrepreneurial Discovery Process (EDP):

- Bio-energy;
- Geothermal energy;
- Smart Grids; and
- Community energy

In the absence of an existing cluster organisation like Food and Fibre Gippsland for New Energy, the coordination of the Innovation Groups for these four opportunities is run through the LVA with support for a dedicated project manager. Significant progress has been made in the bio-energy, smart grids and community energy domains, with the further exploration of geothermal energy opportunities scheduled for the second half of 2020.

#2 Regional Online Trading Platform

Gippsland's producers are some of Australia's most diverse, growing everything from black garlic and salad greens, to wagyu and colostrum (plus everything in between).

Plagued by the tyranny of distance that comes with living in a region the size of many European countries, Gippsland's producers incur high marketing and logistics costs when attempting to bring their award-winning produce to market.

The Gippsland Regional Online Trading Platform was born out of the collective will of the region's producers to have an option to trade differently, and hopes to provide Gippsland producers of all shapes and sizes with an integrated commerce platform that eases the logistics burden whilst allowing increased market exposure opportunities.

Producers, tech companies, government agencies, education providers and community organisations have been involved in developing this concept – all of whom have identified that there is significant regional benefit to be gleaned from allowing Gippsland's produce to be accessed by all. COVID-19 has further highlighted the importance of being able to trade online for Gippsland's businesses, and placed additional impetus on this opportunity's development.

Currently, a variety of enquiry tasks are in development or underway to provide an informed course of action for the next steps in the project. These include:

- A study analysing what producers want or need in a platform
- An enquiry into the required logistics enablers for such a platform to work as efficiently as possible
- The development of a regional provenance trademark that would allow consumers to identify the origin of Gippsland produce, and have confidence in its high quality standards
- An enquiry into how to brand the platform for optimum user uptake.

Stakeholder engagement for this project is ongoing, and collaboration with other government departments who are working on similar projects has been strong.

The discovery processes for the Visitor Economy and Health and Wellbeing currently are underway. It is envisaged that similar innovation groups will be constituted with support of the LVA once the discovery processes are completed during 2020. Dedicated project managers are in place for both these sectors. For the Visitor Economy sector a first series of discovery workshops took place during November 2019, with a follow up series taking place during the first half of 2020. For the Health and Wellbeing sector an extensive mapping exercise took place during the first half of 2020 to provide a thorough basis for the Entrepreneurial Discovery Process scheduled for the second half of 2020.

The somewhat different methodologies adopted across the four sectors highlights the diversity across these sectors and the different constellations of key actors. This adds to the richness of the GS3 project and serves as further international case studies for the variety of ways in which a smart specialisation strategy can be developed and implemented.

Key to both the discovery processes and the innovation groups is the participation of key actors across the so-called quadruple helix: government, industry, tertiary education and research, and the community sector, to start the process of collaboration.

The fact that these key actors now are actively involved in both the discovery workshops and the innovation groups is a key indicator that collaboration increasingly is becoming a defining factor in the development of the Gippsland innovation system. Given the fragmented nature of innovation-related activities at the start of the project, this can be seen as a major achievement in a relatively short time frame.

Role of tertiary education and research

An important component of regional innovation systems is the regional knowledge infrastructure: universities, research institutions, training and further education institutions. Knowledge and capabilities are important to address and develop solutions for today's social, economic and environmental challenges, but also to prepare for the future. Close cooperation with the region's universities plays an important role in the success of knowledge networking. These knowledge networks must be supported by all regional actors involved in the generation, diffusion and protecting of knowledge. Knowledge networking – across industries, clusters and fields of expertise – is key for achieving sustainable and resilient socio-economic growth for the region.

#3 Vegetable Processing Hub

Gippsland, to those in the know, is one of Australia's vegetable bowls. Vegetable production across varieties such as salad greens, glasshouse tomatoes, eggplants and the humble spud, is abundant, and the growing area stretches from the Lindenow valley in the East, all the way to the outer suburbs of Melbourne. Many of these products are sold direct-to-market, with minimal value-adding occurring within the region. Whilst producers exercise their best efforts to ensure the minimisation of vegetable waste, there is a considerable amount of spoilage or out-of-specification wastage of valuable produce.

A growing body of knowledge and interest in functional foods and nutraceuticals, (many of which can be made from out-of-spec produce that is otherwise destined for the compost pile) has piqued the interest of many of Gippsland's growers, research institutes, and those more generally interested in the environment. Facilitated by the Project Team, a number of these parties have put their heads together in order to develop the concept of a Gippsland High-Tech Veg Processing Hub, which aims to produce highly valuable nutraceutical products and ingredients from Gippsland primary produce, whilst reducing waste, creating new industry and providing an additional revenue stream for growers.

Following initial brainstorming and concept development through the Entrepreneurial Discovery Process, there has been significant work undertaken on the feasibility of the concept, with contributions coming from an Innovation Group consisting of universities, CSIRO, Sampano, government organisations, and others. The project has been assessed against a set of design principles to ensure benefit maximisation for the region, and collaboration with other interested parties across the globe has begun on the possible benefits of the new technology.

Currently under collaborative development within the Innovation Group are a number of enquiry packages that will aim to firm up the concept and develop a strong regional business case for the project. These include:

- Customer demand validation
- Supply chain capacity within Gippsland
- A technical analysis of facility requirements and its ability to be built as a multi-use plant.

Gippsland has some serious challenges when it comes to its knowledge infrastructure given its vast geographical coverage and the limited presence of tertiary education and research providers: TAFE Gippsland and Federation University. Yet through the GS3 process we have witnessed increasingly active roles of both. While TAFE Gippsland has gone through a challenging period at the beginning of the GS3 process with its rebranding and repositioning across the region, it has participated fully in all GS3 activities, including the study mission to the Netherlands and Germany (see separate report). It also approved the secondment of one of its staff to the LVA to act as project manager for the Food and Fibre innovation projects, further highlighting its commitment to GS3.

Similarly, Federation University has actively supported the process and sees itself as a key driver for positive change in the New Energy sector. Combined with the progress on the High-Tech Precinct, the Gippsland Technical School, the development of new energy specialisations and a series of strategic staff appointments, it is clear that both the presence and the collaboration across the tertiary sector and with governments, industry and community is much stronger today than at the start of the S3 process. Both institutions are taking their role as regional providers very seriously indeed.

#4 New Business Models for Social Enterprise Innovation in Gippsland Tracks and Trails

As part of the GS3 work in Visitor Economy, an Entrepreneurial Discovery Process workshop on Trail Construction and Design identified an innovation opportunity that could arise from generating new business models, with new ways of raising revenue, for trail support. The opportunity emerged from recognition that over the next 5 years or so, there will be an emerging need for trail maintenance, especially as forestry companies withdraw from the region, and as new trail design and construction investment comes on stream. Currently the resources available for this in Gippsland are very limited, so the challenge is how to generate revenue and to develop the capability for Gippsland enterprises to undertake this work.

One serious possibility is the formation of a Gippsland-based social enterprise that recruits disengaged young people and provides initial access to skills and training, on the basis that a company that tenders successfully for design, construction and maintenance of Gippsland tracks and trails will be required to include them as a joint venture partner. An organisation such as Ride Nation Gippsland might be able to exercise leadership in forming such a social enterprise. Such a joint venture would enable the Gippsland social venture to:

- a) develop a Gippsland workforce capable of undertaking track/trail design, construction, and maintenance;
- b) provide safe and attractive tracks and trails in Gippsland;
- c) given the Gippsland environment, such an enterprise could use this as a platform to develop globally competitive capability;

d) link with GROW, reinforcing capacity development in Gippsland;

e) utilise profits realised to re-invest in training, marketing and trail maintenance thus reducing the impost on Government.

Further work is required to examine both the assumptions underpinning the proposal, and the feasibility of the concept. Issues to be addressed include:

- a) what is the potential number of visitors who will use the trails?
- b) funding is being made available from various sources for capital investment in tracks and trails, but maintenance is not funded, leaving it typically to either local government, DELWP, Committees of Management or to Parks Victoria;
- c) what is a realistic estimate of the scale of investment over the next 5-10 years in the Gippsland track and trail network?
- d) could Gippsland companies be a source of unique manufacturing and recycled materials for use in trail construction and maintenance?

Possible sources of finance for a (social) enterprise include: event fees (big events with high fees, cf. lots of small events); sponsorship; social investment sources, crowdfunding; coaching fees (individuals and school groups, for example); gold coin donations; services charges; add-on services (shuttles, bike wash, food trucks); and hiring venues out for other purposes.

Other research institutes and organisations are also active in the region, on specific projects. These include CSIRO, other Victorian universities and some private research entities. Alongside developing its own capability, Federation University can play a key role as a gateway to the broader range of expertise in Victoria's tertiary sector, connecting and brokering regional industry and government with the most appropriate institutions.

Whilst Gippsland for the foreseeable future will have the challenge of 'thin markets' when it comes to tertiary

education, it is heartening to see the new way of working that gradually is emerging out of the GS3 process extending into an active partnership with key stakeholders across the region.

Integrated policy framework

Integral to the optimal functioning of a regional innovation system is the existence of a long term, integrated policy framework, providing some form of stability to the key actors across the quadruple helix, allowing for evidence-based investment decisions underpinning the smart specialisation opportunities identified.

#5 'MyTown' Energy: Smarter Energy at the Grid Edge

Smart grids are able to utilise local resources for the greater benefit of the community, driving deep carbon reductions, overcoming local grid constraints, attracting inward investment and strengthening the local economy. They can also support the decarbonisation of the wider energy system while also improving overall system resilience.

There are many options for communities looking to develop local smart grid projects but determining a viable path can be difficult to navigate. For some communities there is already substantial momentum on a number of grassroots energy projects, from solar bulk buy schemes to energy literacy projects. But how can they be combined and boosted for optimal benefit to the local area and its residents? What complementary resources can be developed to maximise local energy independence and support grid integration? What technologies and partners should they choose? What business models will be financially viable? How can they be financed? What ownership and governance can ensure customers are protected, while benefits are equitably shared within the community?

A faster and easier way for understanding, designing and implementing local smart grids is needed. A replicable model would allow these benefits to be capitalised on for the whole Latrobe Valley region, for other edge of grid areas around Australia, and beyond.

Heyfield is a town of around 2,000 people, located in the Latrobe Valley. With its considerable untapped potential for lower cost, community centric local energy systems, Heyfield is an ideal location to pilot a new approach with local community at the helm. The project will bring together progressive industry, community and research partners to understand, design and implement a local renewable energy system, building on Heyfield's local economic strengths and tackling evolving regulatory challenges.

Using a 'plug-and-play' process approach, the project will develop tools to make it cheaper, faster and more accessible for other communities to replicate. The project would deliver:

1. Replicable data-driven decision support tool to understand the local energy system value proposition.
2. Community-centred business models enshrining customer benefits and protections.
3. Road-tested engagement process to empower communities to assess and pursue appropriate local energy system solutions.
4. Implementation business case for staged delivery, drawing on available funding sources.
5. Regulatory guidance regarding opportunities and barriers presented by evolving national and state energy law and rules

Experiences with S3 across Europe have demonstrated that blueprint policy frameworks are counterproductive to effective innovation and that a combination of bottom-up and top-down approaches provide for the best results. This also is the approach chosen for the S3 process in Gippsland. Priorities and opportunities will emerge over time, as the current Innovation Groups very clearly demonstrate. From this, a shared vision on the desirable future of Gippsland will gradually be built. Yet Gippsland also sits within the context of the Victorian State Government policy framework, which as such provides direction for the GS3 activities, exemplified by the current climate change policies and an emphasis on the circular economy.

Consistency and coherence of actions

Innovation needs to be understood in new and diverse ways. Innovation is not only related to new products (product innovations), it also includes changes in processes (process innovations), new forms of work and organisation and, in connection with this, new types of management systems (organisational innovations), as well as the development of new business models, new market structures or market entries (business model innovations), and the increasingly important roles of sustainable environmental and social innovations.

#6 Boosting Gippsland's bioenergy science and training capability at TAFE Gippsland Yallourn

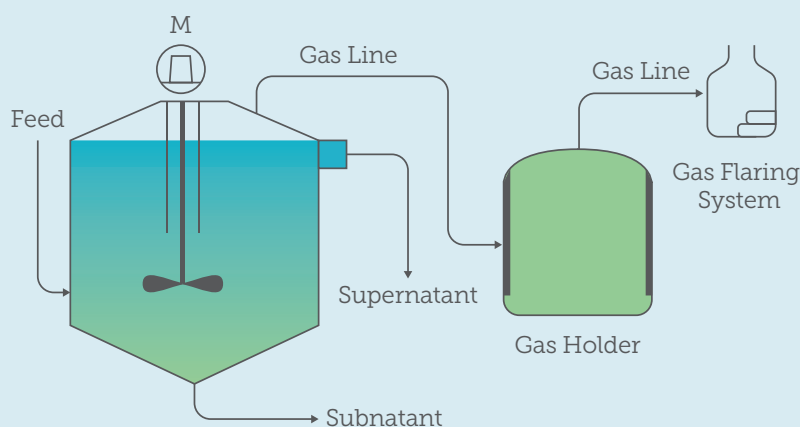
EnviroMicroBio and TAFE Gippsland will design and construct two large lab-scale Anaerobic Digestion Units for research and training purposes

The Innovation proposal put forward by Gippsland entrepreneur, Emily Scholes from EnviroMicroBio was endorsed by the Bioenergy Innovation Group at its February meeting. Partners in the proposal EnviroMicroBio, TAFE Gippsland, Biopathways Partnership and Federation University aim to engage students and teachers from electrical and plumbing trades at TAFE and an Industry Placement Program Student from Federation University in the real-world project work of designing, procuring, constructing and commissioning two lab-scale anaerobic digestion units.

These facilities will provide important foundational infrastructure for supporting growth of the emerging bioenergy sector in Gippsland. This unique opportunity will encourage collaboration between different groups of technicians and better prepare students for workplaces of the future.

Australia is entering a phase where anaerobic digestion is becoming a viable option for waste management, nutrient recovery and energy generation. Provision of local lab-scale systems will enable research and development to occur in Gippsland and will also help develop the Latrobe Valley as the location within Australia to access research and pre-project design data.

Continuous Stirrer Tank Reactor



To flourish, consistency and coherence of actions by key actors in the system is essential. For this to happen, the new way of working as outlined in this section of the report is a crucial pre-condition. Business as usual will only result in more of the same: unconnected policies, disjointed decision-making and a non-systemic approach to innovation and institution building. Deviating from “business as usual” is difficult for all involved, yet there is a strong feeling that in the context of GS3, the change is being implemented and effectuated. In part, this is through the last condition for the new way of working: a culture of learning.

Culture of learning

Innovation by definition is risky and prone to failure. Australian policy settings traditionally are not well suited to risk, uncertainty, ambiguity and failure. Yet the way in which the GS3 process in the context of the LVA suite of actions has developed, is evidence that such an approach can take hold. Core to this is the willingness to learn from mistakes as well as learn from others in terms of non-traditional approaches to problem solving.

In the context of S3 in Gippsland, the attempt to create a culture of learning has been embedded in the process from the beginning. As is the case for a culture of collaboration, a culture of learning also is not established overnight. Yet learning has been a part of each and every agenda and meeting designed for the GS3 process. As the further sections in this report highlight, progress indeed is being made and we certainly are on the road to open innovation.

#7 Could Emergency Smart Grids lead to energy innovation in Gippsland?

A global market scan is underway to find and research international examples of where emergency situations have prompted innovations in energy supply and related policies, practices and energy sharing approaches.

Researchers from the Institute for Sustainable Futures, University of Technology Sydney have been engaged to undertake this work on behalf of the Smart Grids Innovation Group, through the Smart Specialisation Initiative.

They are employing the following questions to determine where such examples might exist and what we might learn from them that might be helpful in the context of Gippsland and Australia.

- Where are the relevant examples and who should Gippsland be comparing itself to? (e.g. Japan’s Fukushima Prefecture, the US’s Northeast states, New Zealand’s South Island, etc.)?
- What energy services are supplied by these international examples? (e.g. lights and appliances, refrigeration, hot water, heating, cooling, etc.)?

- What type/size of DER technologies have been integrated? (e.g. Solar PV, batteries of various chemistries, diesel generators, geothermal, small wind, electric vehicles)?
- What are the legal and regulatory challenges? (e.g. who is responsible, how have they been managed elsewhere etc.)?
- What other enablers are involved? (e.g. supportive policy frameworks, close collaboration with local industries, local identity etc.)?

Ultimately this research will provide case studies that will inform a response in Gippsland whilst also contributing to understanding the competitive advantage that Gippsland may have in the field of Emergency Smart Grids. Early results of this research will be shared in August 2020, with the project due for completion in September 2020.

Case study #7 continued on next page

What value will this research provide to stakeholders?

Technology Developers

- Data informed understanding of our comparative and competitive advantage and potential for specialisation

Investors

- Evidence supporting technology development trajectories and investment opportunities

Local Government

- Opportunities identified to collaborate for multiple benefit relating to emergency responses, security of energy supply and community recovery and wellbeing

State Government

- Information and collaboration for enabling strategic approach to emergency response and security of energy supply in vulnerable communities across jurisdictions

Educators/Researchers

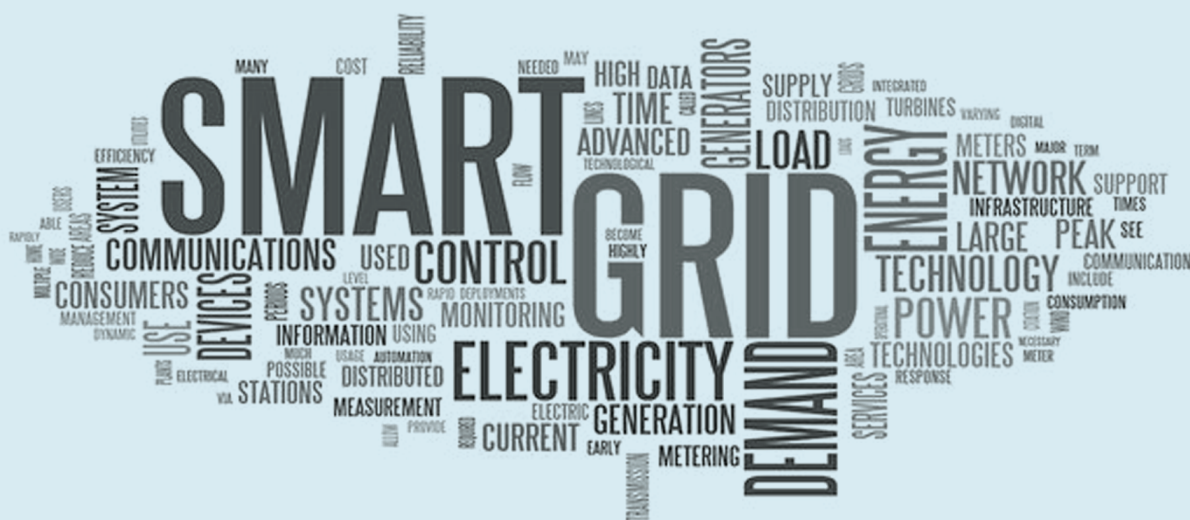
- Identification of research opportunities and potential collaborators

Community

- Access to information that can assist with technical choices

Regional economy

- Support sector growth in Gippsland and help identify opportunities for competitive/co-operative advantage



Preamble

At the end of Stage 3 of the project, it is appropriate to take a step back and look reflectively on what we have learned during our work in terms of strengths and weaknesses of the Gippsland Smart Specialisation approach. For this we will draw on a number of critical reviews of Smart Specialisation in Europe and compare our experiences and insights.²¹ Incorporated in this section are the discussions we have had with our invited international colleagues to reflect on the Gippsland Smart Specialisation project during 2018 and 2019.²²

We start by looking at the regional context in which the Gippsland Smart Specialisation project has evolved and reflect on the traditional assumption that regional elites are universally committed to innovation. From there, we locate Gippsland within the broader Victorian and Australian policy context with respect to regional development, with a focus on the quality of governance. Following this, we take a step back and consider the concept of innovation that is at the heart of Smart Specialisation. In particular, we address the question of open versus linear innovation. This then will logically lead us into a discussion on the functioning of the quadruple helix. Our final section aims to bring all these elements together in the overarching theme of multi-level governance.

We note that the following reflections are not merely the result of the Smart Specialisation Project Team taking a step back and looking at what has transpired during the course of the project. This “lessons learned” section equally incorporates the many reflective sessions we have had during our Steering Committees meetings and discussions with our colleagues from the LVA. However, it should be acknowledged that they bear no responsibility for the text that follows. These are our evaluative and reflective observations as the Project Team assisting in the development and delivery of Smart Specialisation for Gippsland and Victoria.

The regional context for Smart Specialisation in Gippsland: the commitment to innovation

The challenges that Gippsland faces are well-documented not least in the Regional Context Analysis, published at the start of this project. In this section we want to focus in more detail on the actor constellation that we found and the way in which their action repertoire has unfolded over the course of the project. This is based on the finding across many European regions that despite a strong policy belief that key regional actors, often identified as the regional elites, are universally committed to innovation, the reality is that vested interests frequently stand in the way of progress. Vested interests are threatened by a new way of work (see section 2) and the bottom up approach that is at the core of Smart Specialisation does not gel with traditional top down policy approaches.

²¹ In particular: (i) Balland, P.A., R. Boschma, J. Crespo and D. Rigby (2018), Smart specialization policy in the EU: Relatedness, knowledge complexity and regional diversification, *Regional Studies*; (ii) Coenen, L., Asheim, B., Bugge, M. M., & Herstad, S. J. (2017). Advancing regional innovation systems: What does evolutionary economic geography bring to the policy table? *Environment and Planning C: Government and Policy*, 35(4), 600–620; (iii) Kieron Flanagan, Elvira Uyarra, Manuel Laranja (2011), Reconceptualising the ‘policy mix’ for innovation, *Research Policy* Vol 40, no. 5; (iv) Manuel González-López and Bjørn T. Asheim (2020) Introduction: regional innovation systems and regional innovation policies; (v) Pedro Marques and Kevin Morgan (2018), The Heroic Assumptions of Smart Specialisation: A Sympathetic Critique on Regional Development Policy. In: Arne Isaksen, Roman Martin & Michaela Trippel (Eds), *New Avenues for Regional Innovation Systems – Theoretical Advances, Empirical Cases and Policy Lessons*; (vi) Rodríguez-Pose, A., & Di Cataldo, M. (2015). Quality of government and innovative performance in the regions of Europe. *Journal of Economic Geography*, 15(4), 673–706;

²² Dr Manuel Palazuelos Martínez, Leader – Smart Specialisation Platform, DG JRC, Seville, Spain; Professor Andrés Rodríguez-Pose, Professor of Economic Geography London School of Economics; Professor Paul Dalziel, Lincoln University, New Zealand; Professor Bjørn Asheim, Professor of Economic Geography and Innovation Policy (University of Stavanger, Norway); Prof Ron Boschma, Professor in Regional Economics, Utrecht University, The Netherlands; and Dr Elvira Uyarra, Director of the Manchester Institute of Innovation Research, University of Manchester.

Throughout the course of the project, we have encountered variations on the theme of complacency. These have ranged from individual businesses who find themselves in quite comfortable positions and hence are not overly enthusiastic to engage with a new and in the Australian context unproven approach such as Smart Specialisation. “Never change a winning team” would be a more apt characterisation for them than that the world is rapidly changing, the knowledge economy is here to stay, and one needs to innovate to remain a player in an increasingly global market. In part this attitude is reflected in the outcomes of the Gippsland Business Innovation Survey. It is very clear that the focus of Gippsland’s industries is inward looking, with limited linkages across Victoria and very limited exposure to international markets.

Similarly, Gippsland is not densely populated which strongly reinforces the rise of regional elites. Personal networks have been established over decades and across families, and that is as true for industry as it is for government. Actors can find themselves comfortable in their relative splendid isolation, so it is understandable that they do not immediately embrace a novel approach such as Smart Specialisation with open arms. Add to this mix a TAFE institution that has to produce a Von Munchhausen-like act (of the fictional Baron trying to pull himself out of the mud by his own hair) and a university whose core operations are hundreds of kilometers away, and the concept of universal commitment to innovation indeed can become a little problematic.

We have seen this play out in the early days of our Steering Committees. Progress was slow, many issues were revisited quite a number of times, and actors clearly were uncomfortable with the approach proposed. Yet when we look back at where we are in June 2020 – leaving aside for the moment the upheaval brought about by Covid-19 – we cannot but conclude that the key actors across Gippsland have gone on an amazing journey and have changed the governance culture significantly. In these circumstances, the unwavering support of the LVA for the principles of Smart Specialisation and the very patient yet unwavering focus on changing the ways of working has been crucial.

If the development and implementation of Smart Specialisation across Gippsland has demonstrated one thing, it is that policy change indeed is possible, but it requires persistence and time. The one key lesson to be learned from this is that Smart Specialisation is not implemented overnight, that it requires very dedicated policy support and that immediate results should not be expected. This outcome is in line with much of the experiences recorded on the EU’s Smart Specialisation Platform, and valid across a diversity of regions. In this context, the outcomes achieved so far cannot be assessed as anything other than remarkable.

The functioning of the quadruple helix

At the heart of Smart Specialisation is the concept of government, industry, research and training, and community aligning and collaborating for the betterment of the region. This is an extension of the “old” concept of the triple helix, which was limited to university-government-industry interaction.²³ This has been a hard part of the project journey. As we have stated frequently, collaboration is not in our genes in Australia.²⁴ Many of the policy settings that have been put in place in the past 30 years are grounded in a market-based approach and philosophy. Despite the fact that even in a market-based approach the concept of ‘co-opetition’²⁵, emphasising that competition and collaboration go hand in hand, is increasingly important, the Australian approach very much is grounded in competition.

It has been a conscious approach and part of the design principles developed for the GS3 project to put the quadruple helix at the centre of the work we have done. It is evident in the way in which the Entrepreneurial Discovery Process across the various sectors has been constructed and in the way in which the current Innovation Groups have been formed. Whilst it has been hard work, we believe great inroads have been made and a foundation for the actual emergence of the quadruple helix across Gippsland has been laid.

This foundation still is fragile and much energy will continue to be needed to make it more solid. This is particularly true for the engagement of the tertiary education sector in the innovation journey. But in the context of the relatively short life of the project, and in reference to the European experiences in this respect demonstrating the major hurdles inherent to the concept of the quadruple helix, we cannot but conclude that major progress has been made. Clearly, deliberate and structured support continues to be needed to integrate this as part of the “institutional thickness” (see p.33) for a more extended discussion).

The concept of innovation

Putting the characteristics of open innovation next to the building blocks of the new way of working for GS3 as outlined before, it will be clear that there is significant overlap, as could be expected. Modern regional innovation systems are centered around the principle of open innovation, which is why for the GS3 process attention continuously is focused on co-operation, complementarity and the exchange and sharing of knowledge and resources. It is only through this that a regional innovation system for Gippsland can be created, suited to 21st century conditions, as discussed previously.

But theoretical conceptualizations are not the same as practical realities. The closed or linear approach to innovation still is alive and well in Australia as it is in Gippsland. In part this is related to the perverse incentive system underpinning the university sector. A premium is paid to academics and institutions securing the so-called category 1 grants: basic or blue sky research projects through either the Australian Research Council or the National Health and Medical Research Council. Applied research continues to be undervalued as academics and their institutions are preoccupied with theoretical knowledge and find it hard to contribute to practical projects.²⁶

²³ For an extended analysis, see: Henry Etzkowitz (2018), *Innovation Governance: From the “Endless Frontier” to the Triple Helix*, in: Peter Meusburger, Michael Heffernan, Laura Suarsana (Eds.), *Geographies of the University*. Springer Open.

²⁴ The OECD Innovation Scoreboard (2017) portrays Australia at the bottom of its reference countries when it comes to university-industry collaboration on innovation. See <https://www.oecd.org/sti/scoreboard.htm>, p.136.

²⁵ Barry Nalebuff & Adam Brandenburger (2002), *Co-opetition*. London: Profile Books.

²⁶ For a more extended argument on this, see: Leo Goedegebuure & Ruth Schubert (2017). *Vocational Education and the Innovation Agenda: Towards the creation of effective innovation eco-systems*. In: Richard James, Sarah French and Paula Kelly (Eds.), *Visions for Australian tertiary Education*. Melbourne: Melbourne Centre for the Study of Higher Education, pp. 111-122.

Yet we have seen positive change throughout the course of the project, in particular in the area of New Energy and the role played by Federation University (see section 4 for the case studies on the new Way of Working) and increasingly TAFE Gippsland. There still is a long way to go to establish a truly open innovation culture in Gippsland and move away from the also dominant “commercial in confidence” attitude prevalent in the major industries, but the innovation group activities established through the LVA and highlighted in section 2 of the report, clearly show that there is a new dynamic taking place, one much more related to the concept of open innovation rather than the closed model. As such, the GS3 project has demonstrated the potential that can be achieved through collaboration and sharing of knowledge, which we consider to be a major achievement.

Yet during the course of the project Gippsland also has demonstrated at times an almost dialectical approach to innovation. On the one hand, the Gippsland Business Innovation Survey 2019 shows a significant amount of innovation activities across a range of industries, with manufacturing leading the charge and service innovation featuring strongly. On the other hand, on a regular basis we have come across instances where people clearly did not fully comprehend the concept of innovation and its applications and implications. This means people not seeing innovation in the region when it occurs, or misidentifying practices as “innovative”, which clearly are not (e.g. importing new technology developed elsewhere to the region). Such misunderstandings are damaging to the further development of a vibrant innovation system across Gippsland and requires continuous attention from both all dimensions of the quadruple helix. It also highlights that it will take time for the wider community to come to terms with the increased focus on innovation and competitive advantage.

The quality of governance

One of the important lessons that has come forth from Europe in the context of Smart Specialisation has been the importance of “Institutional Capability”. In more common parlance, this refers to the way in which political actors, government agencies and community groups are interconnected, within a framework of rules, regulations and commonly accepted forms of control and accountability. The core idea behind the concept of Institutional Capability is that organisations are deeply embedded in social and political environments, proposing that organisational practices and structures are often reflections of or responses to rules, beliefs, and conventions built into the wider environment.²⁷

If regions exhibit a common, shared understanding of the system of rules, beliefs and conventions, it is assumed policy change processes, such as Smart Specialisation, will be easier to develop and implement. This is generally described as “institutional thickness”.²⁸ The corollary to this obviously is “institutional thinness” where such an understanding is less developed. In the continuously developing literature on Smart Specialisation in Europe, increasingly emphasis is focused on the so-called “absorptive capacity” of regions to deal with the opportunities and challenges offered by S3. The core question asked is that “Yes, we sort of know the recipe for regional development, but are the basic conditions in place to make it happen?”.

²⁷ For a more elaborate analysis and discussion, see Walter Powell (2007), *The New Institutionalism*, in: *The International Encyclopedia of Organization Studies*, Sage Publishers.

²⁸ For a more extended discussion and application to Australia, see: Andrew Beer & Laurence Lester (2015) Institutional thickness and institutional effectiveness: developing regional indices for policy and practice in Australia, *Regional Studies, Regional Science*, 2:1, 205–228, DOI: 10.1080/21681376.2015.1013150; For an application of this extended argument to the current Covid-19 response, see: Mazzucato & Quaggiotto (2020), <https://www.socialeurope.eu/the-big-failure-of-small-government>

When looking back over the course of our project, it would be fair to say that Institutional Capability still is thin when it comes to Gippsland. In part this is related to the “newness” of the LVA as an intermediary level of government in between State Government and the Local Government Authorities, and the lack of both agreement and understanding of how such a body can and should operate. In part it also goes way beyond the government actors and extends into industry as the case of the merger of Food and Fibre Gippsland has clearly demonstrated. It clearly lays bare the fragile environment in which GS3 has had to operate, and how, at times, this has seriously hampered progress.

It is well known from the literature on regional development and regional policy in Australia that institutional thinness is a problem.²⁹ Yet not much in reality is done about this. Short term budget lines, political opportunism, the lack of a ‘one government approach’ and constituent dependency plays out across the country, as it does in Victoria and in Gippsland. A more articulated support from the State level as to the structural relevance of a Smart Specialisation approach would have benefited the project. As it stands, we have witnessed the opposite process: a new body (LVA) continuously needing to explain and convince its counterparts in government of the value of the approach and the value of the governance model adopted.

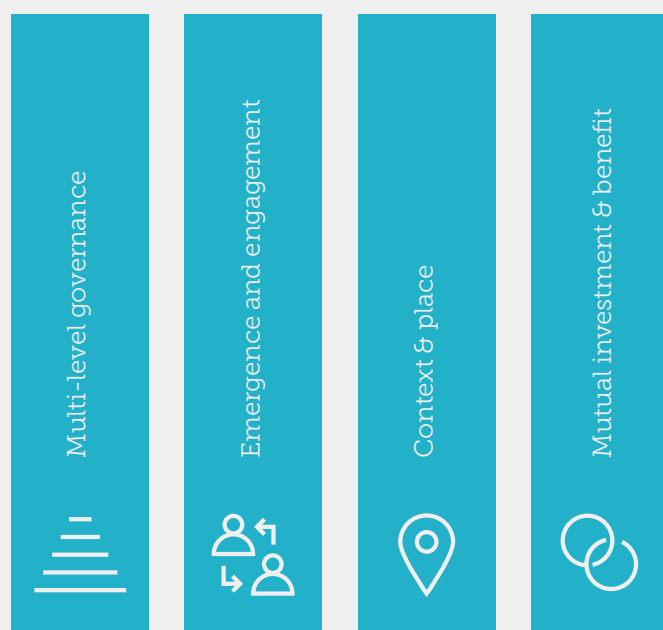
As an external party to this side of the project, it highlights to us the fundamental problematic of regional development in Australia, extending into Victoria despite the support GS3 has received. Regional institutional thinness is something that needs to be addressed, as it is the only way forward for sustainable socio-economic innovation and growth. But this takes time and is hard to achieve, also in light of the previous points made. Yet, the Gippsland Smart Specialisation project has also demonstrated that progress can be made as regards the quality of governance.

²⁹ See: Australian Government (2017), *Regions 2030: Unlocking Opportunity*; Productivity Commission (2017), *Transitioning Regional Economies*.

Multi-level governance and Smart Specialisation

Smart Specialisation is an approach to regional development policy. But in the Australian context the concept of a “region” is a difficult one.³⁰ Traditionally, regions have been defined and seen as non-metropolitan. Therefore, whilst in other national jurisdictions regions have a particular governance structure, this has been a vacuum in Australia. As such, the creation of the Latrobe Valley Authority can be seen as a unique initiative to deal with regional development policy. It is our view that a body and structure like the LVA has immense value to further regional development across Victoria and Australia.

A recent paper from the EU’s Joint Research Centre identifies four pillars underpinning multi-level governance in the context of smart specialisation.³¹



The first pillar is about recognising and accepting the complexity of multi-level governance. It emphasizes the importance of negotiation between the different actors involved and the acceptance that in the end this form of governance is about trade-offs. It is dynamic, evolving, and at times unpredictable. The second pillar, labelled “emergence”, is about the S3 process indeed being a process: it is an evolving process of engagement and only gradually will the outcomes become clear. This is a hard one for policy-makers to deal with, as the standard approach is to set a firm goal and outcome – and then sometimes measure against this. Fluidity tends not to be part of the standard repertoire. The third and crucially important pillar is context specificity, essentially meaning recognising that smart specialisation is a place-based approach to innovation. This re-iterates the point made above about the conceptualisation of “the region” in an Australian context. However, the paper also emphasises the importance of the team implementing the smart specialisation strategy to be emerged in the region and actively engage with local stakeholders. The key point here is shared learnings. The final pillar is reciprocity: there is mutual benefit in this way of working, but it needs to be earned. To put it very simply: you get back what you put in.

In our view, these four pillars have started to emerge during the course of the project. For this we need to pay tribute to the Victorian Government for being willing to take a leap of faith with a new approach to regional development, unique in Australia. We also need to pay tribute to the different government departments involved in our project for the way in which they have engaged with the different way of working outlined in the previous section. This has not been easy but it has been achieved. From a public policy perspective this is an enormous accolade to understanding the complexities of the politics of change, and something that should not be underestimated.

In summary and on reflection: during the course of the project we collectively have recognised the complexity of the project, we have accepted, at all levels, that it is a process with outcomes emerging not having set clear targets, it has been absolutely place-based taking into account the specific context and history of Gippsland, and the benefits have come from mutual investments by all parties involved. In the context of public policy evaluation, this probably is the most important lesson learned.

³⁰ For an extended discussion, see: <http://www.regionalaustralia.org.au/home/new-identifyingapproach-regional-policy-australia/>

³¹ Miren Larrea, Miren Estensoro, Martina Pertoldi (2019), Multilevel governance for Smart Specialisation: basic pillars for its construction. Luxembourg: Publications Office of the European Union, 2019. <https://s3platform.jrc.ec.europa.eu/documents/20182/322704/Multilevel+governance+for+Smart+Specialisation+basic+pillars+for+its+construction/5598ea34-9340-40aa-8730-cd2962fbd9f8>

A team-based approach to Innovation and Regional Development

One of the distinguishing features of the GS3 project has been the way in which the Project Team and the LVA have collaborated and have worked together with the Gippsland community to achieve the outcomes highlighted in the previous section. Throughout the project, they have operated as equal partners with a keen sense of willingness to learn from each other. Good examples of this are how both Food and Fibre Gippsland and Destination Gippsland have employed project managers to support GS3 and how through their continued involvement capacity building across Gippsland is taking place.

The team from The University of Melbourne and RMIT University brought to the project a solid knowledge base on innovation and regional development from an international perspective. It also brought in an extensive international network of experts that could be drawn upon during the various phases of the project. And it provided the project with an independent and expert view on the region.

The LVA brought to the project a deeply contextualised understanding of Gippsland and its key actors and stakeholders, combined with a political sensitivity on how to move a project of this complexity forward. Both partners brought together expertise related to project management, stakeholder engagement, process facilitation and monitoring and evaluation. The importance of this for a project of the GS3 complexity cannot be underestimated.

But key to the success of the GS3 project so far has been the willingness to share these different capacities and capabilities and learn from each other. The Project Team has immersed itself in Gippsland and has connected strongly with its people. The LVA has embraced the new way of work that has emerged during the project, including taking significant risks pursuing an uncharted route, and has been very explicit about this being a true process of discovery and of learning.

Without wanting to pat shoulders, this project has been a unique partnership and a demonstration that are partnership between theory, practice and policy is not an illusion, but can work to the fullest advantage of all involved. Trust and openness are key to this and have to be earned and learned. This obviously is a two-way process, but one well worth pursuing.

Further development of Gippsland's longer-term strategy for economic, social and environmental growth depends on consolidating the progress made in strengthening the region's gains in new ways of working identified previously. This will be the heart of the process of building competitive advantage for Gippsland communities in national and international value chains. At the same time, there is further work to be done on understanding the distinctive Gippsland knowledge and natural assets, the provenance, which underpin the connectedness of the food and fibre, energy, health and well-being and visitor sectors which are Gippsland's identified strengths and opportunities.

Based on the achievements of the past three years, the following aspects require further work and consolidation.

An inclusive governance structure for GS3

One of the key learnings from the S3 program in Europe is that governance matters, but also that it is a hard nut to crack. The overarching approach used is establishing multi-level governance structures referred to above. The basic premise of multi-level governance is that it is a system of negotiated outcomes, which is process driven, and by its very nature is relatively uncertain. At the same time it is vested in strong accountability and therefore transparency.

In the Australian context the concept of multi-level governance is much more of a novelty than in Europe. It is clear that therefore, this is not ready to be established in Victoria and Gippsland. Obviously care needs to be taken in designing and implementing a GS3 governance structure in terms of both who the key stakeholders are to be involved and how we operationalize the various authorities and decision-making structures and powers.

For this, it may be worthwhile to explore the concept of a Code of Conduct. Such codes are an attempt to ward off extensive controlling regulation by explicitly stating a set of principles that those covered by the code commit to stringently following. This will have to be an iterative process based on "learning by doing", but in the spirit of GS3 over the life of the project so far, it may be one way to grow an effective and efficient governance structure over time, owned by Gippsland's key stakeholders.

A further identification of innovation opportunities, in particular cross-sectoral initiatives

Following on from the work currently undertaken by the innovation groups in Food and Fibre and New Energy, this work needs to continue in the areas of the Visitor Economy and Health and Wellbeing. For the Visitor Economy this can build on the Entrepreneurial Discovery Process started in the second half of 2019 which currently is ongoing. For Health and Wellbeing, this EDP process needs to be started up following the outcomes of the comprehensive mapping exercise to be completed by the end of June 2020. Lessons learned from the initiation and roll out of the innovation groups across Food and Fibre and New Energy will enable a well-grounded process to evolve for the two remaining sectors.

At the same time, it is important to focus on the cross-sectoral linkages to define distinctive competitive advantages locally, nationally and globally for Gippsland. As discussed in a number of workshops, this brings to the fore the concept of related variety and regional diversification.³² There appears to be great value in furthering such cross-sectoral linkages, but these opportunities crucially are dependent on an effective governance structure as outlined above, and strong and effective information exchange across the innovation groups operating across Gippsland.

Developing better understanding of the implications of climate action and circular economy principles for Gippsland in the context of the Victorian policy settings

Taking a circular economy approach to innovation opportunities in the next G S3 phase potentially enables the identification of regional and system level projects at scale that showcase the innovation capability of Gippsland and its competitive advantages particularly in agriculture and food production.

Developing circular food systems within the region which encompass sectoral and cross-sectoral (eg: food and energy) innovations in agricultural practice and the entire food value chain would enable improved productivity and energy efficiency, reduced emissions and waste, and the creation of new value or markets and resilient supply chains. Investment in bioenergy, waste and recycling infrastructure would further form part of an interconnected range of solutions towards a circular economy at organisational, and sectoral levels.

As part of project development, initiatives such as the Victorian Government Circular Economy Business Innovation Centre established as part of Recycling Victoria strategy to develop new technologies and solutions to waste challenges, and the National Circular Economy Hub and Marketplace (an international collaboration between Planet Ark and the Holland Circular Hotspot) could be drawn upon to stimulate support, investment and collaboration between industry, government and research.

Engagement with other knowledge networks and circularity initiatives to facilitate collaboration could include: FIAL/Food Waste CRC on Circular Economy for Food systems and CSIRO Net Zero Missions for Industry and Agriculture. International industry linkages to inform circular implementation could be further developed through EU Green Deal initiatives, together with industry projects in the Netherlands and Australian based Dutch companies eg: Priva, Rijk Zwaan in the agriculture sector.

³² For an extended discussion, see: Pierre-Alexandre Balland, Ron Boschma, Joan Crespo & David L. Rigby (2019) Smart specialization policy in the European Union: relatedness, knowledge complexity and regional diversification, *Regional Studies*, 53:9, 1252–1268, DOI: 10.1080/00343404.2018.1437900

Further developing the institutional arrangements to support the evolution of the region's innovation system

This element follows from our previous observations and conclusions on the institutional thinness across Gippsland. It is very much linked to the previous three areas identified for further action, but requires priority in establishing a truly functioning innovation system for Gippsland. As we have indicated before, no innovation system can function without strong and continued inputs from the tertiary education and research sector. In the earlier parts of this report we have mentioned both the challenges and the significant progress made with Gippsland's tertiary institutions. For the establishment of a solid foundation for the region's innovation system it is paramount that this trajectory is continued. For this, in our view, it also is essential that the two Gippsland providers take on the role of regional hubs for the other tertiary providers in Victoria (and beyond). Given the nature of Gippsland the tertiary sector will always have to deal with the "thin market" problem. This means it will not be viable for both TAFE Gippsland and Federation University to offer the full spectrum of tertiary provision across the whole of Gippsland.

However, across all tertiary providers, Victoria has outstanding research capacity in many fields, including those relevant particularly to Gippsland. With the Fed Uni and TAFE Gippsland as a gateway to the broader research community, even Gippsland producers and makers can be linked with the expertise necessary to solve problems creatively and to turn good ideas into outstanding products.

Furthermore, they can provide a home base for other providers to offer niche programs for the region. Whilst this would not be a novelty across the tertiary sector, it would be in the context of the further development of a regional innovation system. Previous educational partnerships have traditionally been based on a commercial model. This one must be based on a socio-economic growth model which is a novelty in the Australian context. Which means that all the "lessons learned" identified in the previous section of the report, apply here in full force.

From such a knowledge constellation, it would also follow that there is a solid base to ensure that the region's stakeholders have sufficient depth in particular knowledge and skills, necessary for project management and building the knowledge depth so as to convert innovation opportunities to competitive goods and services in international value chains.

Strengthening partnerships with international partners experienced in promoting regional innovation processes

The current project has highlighted the importance of international linkages. Not only do they open the doors to a wide range of experience and approaches in the context of Smart Specialisation, they also provide food for thought for policymakers, as evidenced through the seminars featuring our European colleagues, open our eyes to new ways of thinking and practices as demonstrated through the Dutch–German study mission,³³ and provide a platform to showcase Gippsland and Victoria as we have practiced during the course of the project on both the EU and professional associations platforms. Having laid the groundwork for these international linkages, it is important to maintain these in the next phase of the development of the Gippsland innovation system. It will allow for further input, advice and critique from a community committed to innovation. It will also allow Gippsland, as the only non-EU region registered on the Smart Specialisation Platform, and Victoria to contribute to the ongoing development and improvement of the Smart Specialisation framework through the unique, place-based approach that is being developed in the GS3 project.

This in turn will allow us to contribute significantly to a more structured and innovative approach to regional development policy across Australia, bringing into the discussion a mix of international and local experiences in a mutually beneficial way.

Developing appropriate resources to enable explicit system-wide monitoring and learning.

Throughout the project the lack of relevant, place-based data has been both a problem and a source of creativity and progress. It is a problem in the sense that the development of evidence-based policy has been hampered by a lack of data at the regional level. This may not stand out immediately when looked at through an Australian lens, but it becomes very clear when seen through an international comparative lens. However, it has led to creative and progressive outcomes in the sense that over the life of the project we have made great steps forward in recording evidence of progress and developing and implementing a new survey instrument, the Gippsland Business Innovation Survey (GBIS), modelled on the European Community Innovation Survey, and adapted to the Gippsland context. Similarly, a monitoring and evaluation framework has been developed for GS3.

With a view to the further development and refinement of an evidence-based policy framework for regional innovation, it is important that these activities are continued. The GBIS should be run on an annual basis to create a longitudinal database that can help in assessing the effectiveness of GS3 in terms of innovative activities. The monitoring and evaluation framework should be further fine-tuned, so as to allow for full transparency and accountability of the policy interventions.

Complementary to this is the further development of an effective communication strategy at both the policy and the community level. As we have argued in the previous sections of the report, we believe great results and significant progress have been achieved. Yet some of the key stakeholders for the project are not optimally informed through structured and continuous communication. We suggest this to be another priority for the next phase of the development of the Gippsland innovation system.

³³ <https://sustainable.unimelb.edu.au/publications/books-and-monographs/eu-study-mission-innovation-systems-in-action>

Appendix 1:

Stakeholder & Network Engagement

Stakeholders have been engaged in the work of the Gippsland Smart Specialisation Initiative to explore innovation opportunities through interviews, workshops and events across the four growth sectors of food and fibre, new energy, visitor economy and health and wellbeing.

Linkages established with regional networks, national and international institutions, together with public events and conference presentations have further profiled the Gippsland approach to regional innovation and development to policymakers and practitioners nationally and internationally.

Stakeholder engagement:

Over 1,800 engagements with stakeholders from across government, business, tertiary education and training and community sectors were held across the four growth sectors.

The activities that form the Discover/Define/Develop and Deliver stages of the GS3 initiative include:

- Steering Committee meetings
- Regional Ecosystem Analyses Interviews
- Entrepreneurial Discovery Workshops
- Innovation Groups

Gippsland Business Innovation Survey:

453 regional businesses participated in the November 2019 survey.

Public and Policy Outreach:

Seminars and briefings for policymakers, researchers, industry, and community have included eighth major events with over 670 participants:

1. Future World of Work Forum October 2018
2. G S3 Implementation Design Principles December 2019
3. MSSI Seminar: Smart Specialisation and Regional Innovation Systems: An Example of European Policy Experimentation October 2018 X 65
4. S3 Regional Launch Warragul October 2018
5. Victorian Government – Senior Officials Briefings (2) Aug 2018
6. LVA Transition in Action – Lardner Park December 2019
7. RMIT Centre of Excellence on Smart Specialisation and Regional Policy – Policy Roundtables and Dialogues (x4) 2019/2020

This represents over 3000 direct engagements during the period January 2018 – June 2020.

Local Government Networks

In addition to engagement with many industry and community networks, connections with local governments included:

- Gippsland Local Government Network (GLGN) and including individual involvement of councils/shires within the region ie: Wellington Shire Council, Bass Coast Shire Council, East Gippsland Shire Council, Latrobe City Council, South Gippsland Shire Council and Baw Baw Shire Council.
- Mussellbrook Shire Council – Hunter Valley Delegation, NSW
- Western Murray Land Improvement Group, Barham NSW
- Collie Town Council Delegation Western Australia

International Institutions and Conferences

Institutions

- European Commission – Directorate General Joint Research Centre – S3 Platform Sevilla.
- European Commission Directorates General for Regional and Urban Policy; Energy and Communication
- Embassy of the Kingdom of the Netherlands, Canberra, Australia
- Wageningen University Research, Netherlands
- University of Applied Sciences Groningen, Netherlands
- London School of Economics, United Kingdom
- Lincoln University, New Zealand
- Manchester Business School, United Kingdom
- Utrecht University, Netherlands
- University of Stavanger, Norway
- Western Norway University of Applied Sciences, Norway
- Government of Ireland
- Organisation for Economic Development (OECD) Centre for Entrepreneurship, SME's Regions and Cities
- OECD Environment Directorate – Green Growth and Development.
- University of Oldenburg, Germany

Conference Presentations

- S3 Smarter Conference, Sevilla, Spain; September 2018
- Regional Studies Association Annual Conference, Lugano, Switzerland; June 2018
- Australian and New Zealand Regional Studies Association International, Melbourne, Victoria; December 2018
- Regional Studies Association, Santiago de Compostela, Spain; June 2019
- Regional Studies Australasia Conference, Melbourne, Victoria; February 2019
- GEOINNO 5th Geography of Innovation Forum – Stavanger, Norway; January 2020
- 3rd OECD Meeting of Mining Regions and Cities, Skellefteå, Sweden; June 2019
- 12th OECD Rural Development Conference – Seoul, Korea; September 2019
- International Round Table on the Future of Coal: The international thermal coal sector at a crossroads, Cape Town, South Africa; February 2019
- Symposium on a Just coal transition for South Africa, Cape Town, South Africa; February 2019
- Queensland Government – Regional Resilience and Transition Forum, Brisbane, Queensland; August 2019.
- EU Joint Research Centre S3 Platform 'S3 and Science Technology and Innovation (STI) Roadmaps for Sustainable Development Goals' Webinar, 30 June 2020.

Engagement across *Four Growth Sectors*

The innovation opportunities and the organisations who participated for each growth sector were:

Food and Fibre

Within the rapidly evolving global context there are some strong emergent trends that inform the potential for innovation in food and fibre production and manufacturing in Gippsland. Demand for food, and Australian agricultural produce clearly highlights the potential of the industry.

Given Gippsland's well established agriculture sector, there is opportunity for the region to develop products within market niches and become embedded in global value chains.

Discover

In early 2018, a regional context analysis, including twenty interviews, was done to understand current innovation, assets and ways of working with the sector. A core reference committee was formed to drive the work forward.

Newly merged Food & Fibre Gippsland from previous Agribusiness Gippsland and East Gippsland Food Cluster have been funded to support the process.

Ninety-two people workshopped six themes in late 2018 with a view to identify the potential of each for further development. Of the six themes, three were endorsed for further exploration:

- Gippsland collective malting/distilling facility
- Gippsland vegetable processing hub
- Regional trading platform.

Define and Develop

Over 70 engagements have occurred during the define and develop stage. This includes innovation groups convened to further define, develop, test and trail the three value propositions using the design principles..

One example of an innovative opportunity currently being explored with stakeholders such as Food and Fibre Gippsland and CSIRO is the Gippsland vegetable processing hub. The hub would add value to produce and utilise food waste benefiting local businesses and jobs.

Engagement in the design process



Key themes identified



Case study

Partnerships and connections in the regional trading theme

Industry

- Food & Fibre Gippsland
- Regional Digitisation
- Telstra
- GippsTech
- Mirboo North Garlic
- Sampano
- Baw Baw Organics
- CSIRO
- Destination Gippsland
- Gippsland Jersey
- Cheffields Providore

Government

- Latrobe Valley Authority
- Regional Development Victoria
- Agriculture Victoria
- Latrobe Community Health
- Department of Education and Training
- Local Government
- AusIndustry



Community

- Latrobe Community Health
- Baw Baw Food Hub
- Traralgon Neighbourhood Learning House
- Latrobe Health Assembly
- Promcoast Collective

Education and Research

- TAFE Gippsland
- Federation University
- RMIT
- University of Melbourne
- Swinburne University of Technology



Collective malting and distilling facility

Thirteen micro and craft breweries already operate in Gippsland, servicing growing demand for authentic craft beverages globally.

By combining Gippsland's grain and brewing industries, there is potential to create single-source produce and specialty premium products unique to Gippsland that would provide significant benefits to tourism.

A proposal is being explored for a shared-use malting and distilling facility in Gippsland, available to all local breweries that will provide a number of flow-on benefits for the wider community.

The facility would cut business costs and make operations more commercially viable for the breweries involved, as well as support industry growth and job creation into the future.

Complementing this, training and employment opportunities would support the businesses and the region, including a brewing and crafting course offered by Federation University to support skill development in the sector.

It would also support Gippsland's growing tourism sector – helping to attract more people to the region to experience Gippsland's reputable, high-quality local produce.

Brewers and farmers are able to join forces and develop niche quality products suitable for the Gippsland climate and the needs for brewing, including online sales.

STATUS

- Development of collaborative business model options for the management of the facility to enable community ownership and shared value for members along the supply chain locally, interstate and nationally.
- Demand study for Gippsland malt is underway, with the study being led by Federation University.
- Growing trials for malt grain varieties in development with growers and seed genetics experts underway.



Vegetable processing hub

Development of a processing hub to supply ingredients for growth markets in functional foods and nutraceuticals.

STATUS

- With a feasibility study now complete, stakeholders are exploring the possibilities for the processing hub in a range of Gippsland supply chains.
- A further study is being undertaken to ascertain customer demand across a number of sectors for ingredients derivable from Gippsland produce.



Regional trading platform

Creation of a regional online trading platform will help connect business to new markets, enable more efficient logistics and provide marketing and branding benefits for local businesses. Such a platform can be a vehicle for smaller producers that want to grow to achieve scale.

The platform will promote Gippsland provenance story by enabling consumers to trace produce and create direct feedback loops from consumers to producers, giving producers more market intelligence.

Collaboration through the platform could potentially solve the small producers' logistics challenge in getting produce out of the region and increase the level of digitisation.

STATUS

- Exploring business models and investment options that results in benefit to all along the supply chain has been completed.
- Inquiry into technology, applications and trading platforms that enable global trade and provide low-cost and reliable logistics for perishable and non-perishable items has also been completed.
- An analysis is currently underway led by GippsTech, to explore the digitisation and logistics issues to be overcome to directly connect Gippsland producers with consumers.
- Project partners are currently working to understand what technological solutions may be available to overcome logistics challenges.

Energy

As the traditional centre of energy production in Victoria, it is widely accepted that Gippsland's extensive electricity infrastructure and transmission network are significant assets which provide opportunities for utility scale renewable energy generation. Energy is systemically important for Gippsland, and new energy provides an opportunity for Gippsland to lead the innovation in renewable energy.

Discover

In early 2019, a regional context analysis, including ten interviews, was undertaken to understand current innovation, assets and ways of working within the energy sector.

In mid 2019, almost 170 representatives from industry, education, community and government participated in the Entrepreneurial Discovery Process workshops on four key themes:

- Community energy
- Smart grids
- Geothermal
- Bioenergy

Define

In late 2019 innovation groups for each of the themes were created and began researching and inquiring into specific areas of energy with innovation and Smart Specialisation potential. Over 220 engagements have occurred as part of this process. A description and status of the theme areas and associated innovative opportunities are described on the next page.

Develop

Over 140 engagements have occurred whilst testing and trialling the value propositions for competitive advantage.

One example of an innovative opportunity is the assessment and design options of a whole town energy system for Heyfield lead by the Heyfield community resource centre partnering with the University of Technology Sydney, local businesses, community organisations and residents.

Engagement in the design process



Key themes



Case study

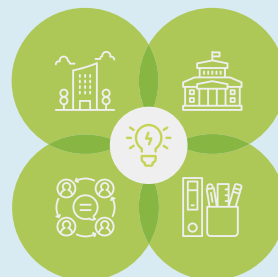
Partnerships and connections in Bioenergy

Industry

- Analytical Engines
- EnviroMicroBio
- BioRA
- Victorian Bioenergy Network
- Sailors Grave
- Frontier Impact Group
- Food & Fibre Gippsland
- Sheltered Glamping
- Australian Sustainable Hardwoods
- Gippsland Lakes Fishing Businesses

Community

- Gippsland Climate Change Network
- Snowy Innovation Network
- Totally Renewable Phillip Island
- Latrobe Sustainability Group



Government

- Department of Environment, Land, Water and Planning
- Latrobe Valley Authority
- Sustainability Victoria
- Agriculture Victoria
- Wellington Shire Council
- Latrobe City Council
- Bass Coast Shire Council
- Baw Baw Shire Council

Education and Research

- RMIT
- Federation University
- TAFE Gippsland
- University of Melbourne
- Gippsland Tech School
- Biopathways Partnership



Community energy

Support for community energy across Gippsland through a connected network is underway. Innovative models of community energy are being researched and tested by several communities that are focussed on engagement, planning, design, financing and implementation.

Emergent benefits include communities co-designing energy transitions that will provide energy generation that matches demand at local scale, whilst augmenting and stabilising the grid.

STATUS

- Pre-feasibility assessment underway on how Totally Renewable Phillip Island might achieve its '100% Renewable by 2030' goal.
- Latrobe Valley Power Hub and partners are researching the potential of reusing mid-age solar PV panels whilst reducing solar panel eWaste.
- Developing a community energy network that will enable the region to connect and share resources, increase the knowledge and capability to build community renewable energy.



Smart grids

Smart grids can optimise energy use and support grid stability and include physical and virtual connectivity. Renewable energy, battery storage, digital technology and live monitoring are features of this optimisation.

Several projects underway are demonstrating the benefits of different types of approaches and technology in Gippsland.

STATUS

- Scan of the global market will report on who is currently managing smart grids, connections to and how we can learn from them.
- A collaborative leadership model is being designed to assist communities to transition to community owned renewable energy.
- Potential identified for greater demand for these self-reliant systems following fire impacts in Gippsland.
- Pre-feasibility assessments underway on how the communities of Heyfield and Loch Sport might develop whole town smart grids.



Bioenergy

A form of renewable energy that uses organic materials to produce heat, electricity, biogas and liquid fuels, bioenergy is about seeing waste as a resource.

Whilst globally bioenergy is a significant source of renewable energy, it is an emergent industry in Australia.

Bioenergy has significant potential to become a viable industry sector in Gippsland, with opportunities for small and medium enterprises to repurpose municipal and agricultural waste streams into energy and value-added products, for example Biochar.

STATUS

- Research is underway, lead by Latrobe City, to determine the volume, properties and uses of biomasses in Gippsland.. This will be coupled with a assessment of the constraints, location, stakeholders and possible finance models for a bioenergy or biomanufacturing facility.
- A bioenergy development framework is being developed in partnership, with Wellington Shire taking the lead. The Framework will support stakeholders to navigate the planning and regulatory process for new projects.
- A task, being led by EnviroMicroBio, is underway to design and construct two large lab-scale anaerobic digesters to enhance the science and training capability in the sector.



Geothermal

Provides Gippsland with the potential to capitalise on a largely untapped, world class natural resource – water that is 70 degrees celcius insulated by the coal layer and available at very accessible depths.

Water and heat could be used in a range of applications, such as heating for greenhouses, in health facilities such as hospitals and aged care, spa use for tourism resorts, and electricity generation.

STATUS

- Research in to the uses for low temperature geothermal is underway to identify potential business opportunities in Gippsland.
- Physical data is being collected to form the basis of an online tool that will predict the availability and cost and identify potential uses of geothermal energy across the Gippsland region.
- A 3D case study of the Gippsland Regional Aquatic Centre is being developed to showcase the opportunities and benefits from geothermal resource

Tourism

Tourism is an economic driver, generating jobs and contributing lifestyle benefits to communities across Gippsland. In 2019, the Gippsland region received approximately 7.06 million visitors who spent an estimated \$1 billion, which represents 11.6% of the regional economy.

The recently completed Gippsland Destination Management Plan as well as a Tracks and Trails Feasibility Study identified significant opportunities for the creation of iconic tracks and trails across Gippsland's landscape, that will drive further visitation and economic prosperity for the region.

Discover

In early 2020, a regional context analysis was done, including thirty-one interviews, to understand current innovation, assets and ways of working with the sector. Destination Gippsland has received funding to support the process.

In late 2019 and again in 2020, forty-nine people were involved in the Entrepreneurial Discovery Process. Four key themes related to tracks and trails were identified and endorsed for further exploration, they included:

- Product innovation
- Technology fusion
- Design, construction and maintenance.
- People innovation in seasonal workforce, staff retainment and skill development.

Define

In 2020, 117 engagements have occurred in the define stage. An innovation group was convened for each of the four theme areas. The following are the status of the inquiry tasks that are currently underway:

- Feasibility study into an aquatic trail on and around Gippsland Lakes
- Investigation into existing platforms and technology
- Pilot project to develop an interactive and curated itinerary for three trails
- Exploring community led business and revenue models. Audit of tracks and trails capital and maintenance costs.

Engagement in the design process



Key themes



Product innovation



Technology fusion



Design, construction & maintenance



People innovation

Case study

Partnerships and connections in tracks and trails

Industry

- Ride Nation
- Southern Alpine Resorts
- Australian Cycling Holidays
- GippsTech
- Destination Gippsland
- Cycling Australia
- TRC Tourism
- Ethical Fields
- Silverwater Group
- Gumbuya World
- Lardner Park
- Snowy River Cycling
- Modra Technology
- Alpaca
- GippSport

Community

- West Gippsland libraries
- KSJ Events
- East Gippsland Marketing
- FLOAT
- Gippsland MTB Club
- Gunaikurnai Land and Waters Aboriginal Corporation
- Great Southern Rail Trail Committee of Management



Government

- Latrobe Valley Authority
- Local Government
- Creative Victoria
- Visit Victoria
- Parks Victoria
- Department of Environment, Land, Water and Planning

Education and Research

- RMIT
- Federation University
- TAFE Gippsland
- University of Melbourne
- Latrobe Flexible Learning Option

Health and Wellbeing

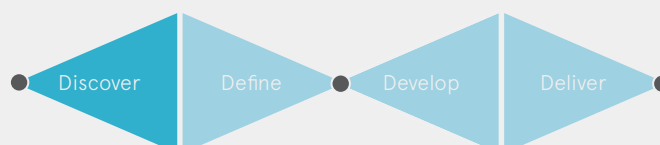
The health and wellbeing sector is one of the largest employers in Gippsland and are expected to grow. Over the past decade, the sector has grown dramatically in size. The ageing population, public policy and the shifting focus on wellbeing are driving change in health and wellbeing services across the region.

The health sector is broad and provides services such as medical, nursing, pharmacy, allied health, hospital, community services and disability. The wellbeing sector covers wellness services such as wellbeing tourism, healthy aging, beauty, fitness and alternative medicines.

Discover

Building on the knowledge outlined in the 2019 Gippsland's Future Health and Community Services Workforce report, the Gippsland Smart Specialisation project team are beginning the discovery process involving key stakeholders from the sector including industry, education, community and government to discover innovation opportunities for further development in Gippsland.

A project manager has been appointed to support the process. Nineteen interviews have been conducted as part of the analysis of regional context for the health and wellbeing sector. A Regional Context Analysis report has been produced. The next step is to identify the themes for exploration.



Case study

Partnerships and connections in the health and wellbeing sector

Industry

- West Gippsland Primary Care Partnerships
- Gippsland Physiotherapy Group
- Gippsland Primary Health Network
- Latrobe Regional Hospital
- West Gippsland Healthcare Group

Community

- Gippsland Carers
- Gippsland Regional Partnership (Chair)
- Latrobe Health Advocate
- Latrobe Health Assembly
- Ramahyuck
- Lifeline
- Berry Street
- Interchange Gippsland



Government

- Latrobe Valley Authority
- Local Government
- Department of Health and Human Services
- One Gippsland

Education and Research

- Federation University
- Monash University
- Swinburne University
- RMIT
- University of Melbourne



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