
New Directions in Regional Strategies: Socio-Ecological Innovation in Australia

The article begins with an acknowledgement of the emergence of smart specialisation in Europe, before locating the Australian developments in the context created by a priority on emissions reduction and climate action. It provides a brief review of the initial engagement with Smart Specialisation in the region of Gippsland, before providing a more detailed account of the application of smart specialisation to transition in small communities responding to an end to native forest logging. It concludes with an overview of the key elements that distinguish this work as 'new directions in regional strategies'. While developing very much in an Australian context, it offers insights which can be instructive in Europe and in other parts of the world where sustainable transitions will occur inevitably.

El artículo comienza con un reconocimiento del surgimiento de la especialización inteligente en Europa, antes de situar los desarrollos australianos en el contexto creado por la prioridad otorgada a la reducción de emisiones y la acción climática. En él se hace un breve repaso del compromiso inicial con la especialización inteligente en la región de Gippsland, antes de proporcionar una descripción más detallada de la aplicación de la especialización inteligente a la transición en pequeñas comunidades como respuesta a la finalización de la tala de bosques nativos. Concluye con una visión general de los elementos clave que distinguen este trabajo como «nuevas direcciones en las estrategias regionales». Si bien se desarrolla en gran medida en el contexto australiano, ofrece ideas que pueden ser instructivas en Europa y en otras partes del mundo donde inevitablemente se producirán transiciones sostenibles.

Artikuluaren hasieran, Europan espezializazio adimenduna sortu dela aitortzen da, Australiako garapenak emisioen murrizketari eta ekintza klimatikoari emandako lehentasunak sortutako testuinguruan kokatu aurretik. Bertan, Gippsland eskualdeko espezializazio adimendunarekiko hasierako konpromisoaren errepasso labur bat egiten da, espezializazio adimendunak komunitate txikietako trantsizioan duen aplikazioaren deskribapen zehatzagoa eman aurretik, bertako basoen mozketaren amaierari erantzuteko. Amaitzeko, lan hau «eskualde-estrategietako norabide berri» gisa bereizten duten funtsezko elementuen ikuspegi orokorra ematen du. Neurri handi batean Australiako testuinguruan garatzen bada ere, Europan eta munduko beste leku batzuetan irakasgarriak izan daitezkeen ideiak eskaintzen ditu, non ezinbestean trantsizio iraunkorrak gertatuko diren.

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1. INTRODUCTION

Australia was colonised by English settlement in the late eighteenth century, after tens of thousands of years of indigenous people living on the continent. Settlement of country Australia has been contested ever since, even though the vast majority of white Australians live on the southeastern coast with the hinterland being settled largely for economic purposes. With the population (now more than 25 million) concentrated in this way, country Australia has been seen largely as a place for primary produce and for recreation. From a policy perspective:

Australian Government policy has not conceived its rural and regional space to be more than places from which natural resources can be extracted and exported elsewhere. By and large, extraction from the rural and regional space has structured the development of rural and regional communities. The presence of these products (these staples) in conjunction with the capacity to efficiently extract and transport these staples out of the region to market, shapes a region in regard to its place in the economy (Hogan *et al.*, 2015, 338).

The Australian state, at Federal, state and local level, has played an active role in shaping Anglo settlement of country Australia since the beginnings of colonial invasion. This included military action against first nations people as well as direct encouragement of settlement (Reynolds, 1981; Marr, 2023). Policies at different times have encouraged ex-soldiers, migrants and asylum seekers to settle in country areas, while services and infrastructure were also led by governments. This policy framework has been seen as being based:

...around a paradigm of state assistance, where governments co-invested in the development of rural industries and infrastructure. ... [In Australia], government was an innovator and a risk taker, investing in the development of industries at a time and in places where industry was not brave enough to venture alone. As with Canada, rural staples (Bunker 1989) such as ore, wheat and wool formed the basis of the rural economy. Governments based in colonial hubs sought to mobilise, and in turn draw in resources from the regions, to support colonial (and in turn urban) settlements and to exploit economic opportunities through exporting Australian products. (Hogan and Young, 2015b, 3).

Map 1. REGIONAL DEVELOPMENT AUSTRALIA NATIONAL NETWORK



Source: Regional Development Australia's role in Regional Trade and Investment. Australian Government <https://rdabrisbane.org.au/images/trade2018/RDA-Trade-2018-Liz-Bennett.pdf> (page4)

While broad government policies in education, health, transport, planning and environmental management have framed life and development in country areas of Australia, 'regional' policy has focused on various infrastructure projects and on competitive grants programs. The Australian use of the concept of 'region' is in itself quite distinctive, in that it is focused on country Australia beyond the large metropolitan capital cities which are mostly on the coast. Indeed, in Victoria, the legislation on regional development specifically ties it to non-metropolitan Victoria.

Australia has six states and two territories, each with their own Government and civil service. Each state has a system of municipal government which is enacted by state legislature and therefore subject to revision from time to time. Since 2010, the Federal Government has established Regional Development Australia (RDA) as an intergovernmental partnership to support development in a network of 52 regions across Australia (see Map 1). Population in these regions varies greatly depending on proximity to the major cities and the degree of remoteness.

More recently, the Federal Government's role in this fabric of policy and program was described in a policy pamphlet, *Regions 2030: Unlocking Opportunity* (2017). It proposed a new 'whole of government' approach under the headings of jobs and economic development; infrastructure; health; education; and communications. An infographic identified more than 20 initiatives with associated spending of A\$20 billion, approximately, on proposed recurrent and infrastructure spending. The pamphlet emphasised that:

It is only logical that we should invest in Australia's regions because Australia's regions power Australia's economy. Investing in our regions pays massive dividends for our nation—strong regions are the foundation of a strong Australia. This year's Budget builds on the substantial investments that the Australian Government has made in regional Australia. (Australian Government 2017, 3).

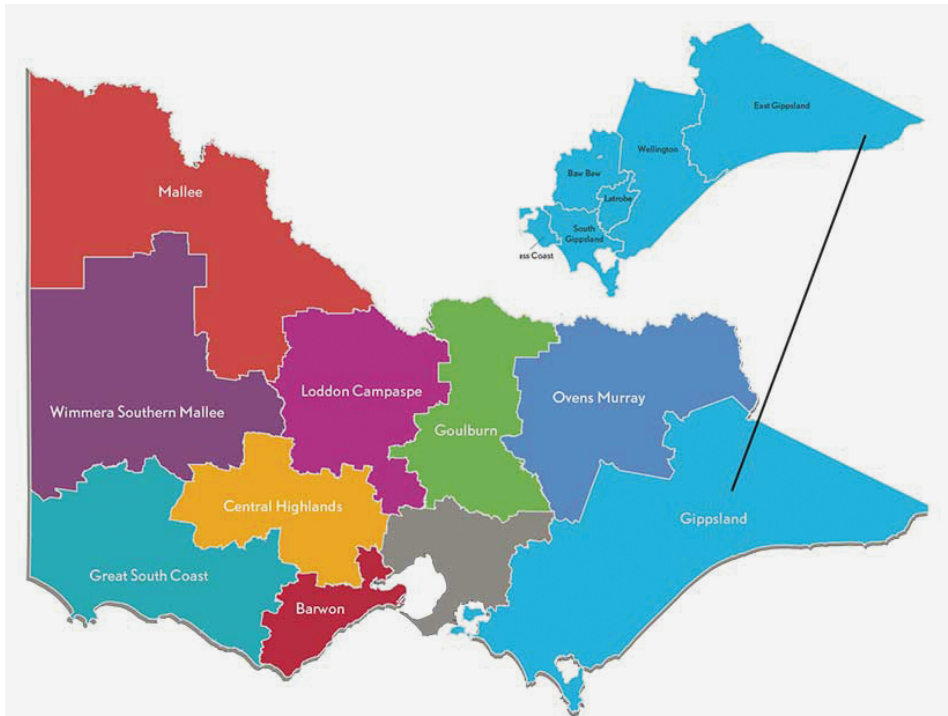
However, notwithstanding the scale of public investment in services and programs directed at 'regional' Australia, the very idea of a coherent regional policy in Australia has been questioned. Collits has pointed out that:

... the area of regional policy is problematic at many levels, in Australia as elsewhere. First, there is no broadly accepted definition and measure of 'success' with regional policy, nor agreement over its reach...; second, as is the case in many other areas of policy, there is no consensus as to which level of government should do what in relation to regional policy; third, there is no universally accepted explanatory theory of what drives regional growth and decline...; fourth, drivers of regional 'success' are known to vary and to be (largely) beyond the capacity of governments to control or even influence...; fifth, interventions occur over many time scales and their

impact, in any case, is routinely questioned and remains largely unknown. (Collits 2015, 19).

Against this background, this article tells a story of policy experimentation and learning which is place-focused in one part of Australia, a recent example of policy and practice development which points to ‘new directions in regional strategies’ (see Map 2). This initiative is an example initially of policy mobility, drawing on European Union experience with Smart Specialisation, but the local experimentation has promoted regional strategies which are not only very new in the Australian context, but add an important dimension to European experience. Central to these strategies, driven by an underlying imperative for sustainability interventions, is a focus on place-based socioecological innovation as a means to industrial transition in small communities.

Map 2. **GIPPSLAND REGION, IN THE STATE OF VICTORIA**



Source: Gippsland Regional Partnership. Regional Development Victoria <https://www.rdv.vic.gov.au/regional-partnerships/gippsland>

The article begins with an acknowledgement of the emergence of smart specialisation in Europe, before locating the Australian developments in the context created by a priority on emissions reduction and climate action. It provides a brief review of

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2. THE CONTEXT OF REGIONAL DEVELOPMENT IN AUSTRALIA

2.1. A New Global Perspective

The Australian approach to regional policy was challenged in a program of work launched by the Organisation for Economic Cooperation and Development (OECD) in 2009. This stimulated an international debate about regional policy priorities drawing on research which the OECD undertook on both regional performance and national regional policy across all member states. A number of publications from 2009 onwards reported on this research and on its key findings. At the heart of the perspective promoted by the OECD was:

OECD countries have promoted a new approach to regional policy, moving from subsidising businesses and employment in poorer regions to promoting growth in all types of regions. This new approach is more complex and nuanced than earlier versions, and as such it is also potentially more fruitful... the accent is rather on the positive sum game of mobilising resources, notably by encouraging innovative business (and public sector) practices. (OECD 2009, 11).

The timing of the reporting of this research coincided with debates in the European Commission (EC) on how best to promote closer links between the knowledge generating sector and industry (Foray *et al.*, 2009) and on the advantages of a stronger focus on place-based interventions in regional policy and in the application of the Cohesion Funds (Barca, 2011).

This coincidence led to the EC working with the OECD on developing a new policy framework which brought together a place-based orientation with promotion of an entrepreneurial approach to regional innovation. Known as Smart Specialisation (OECD, 2013), this new approach was introduced as a defining characteristic of the EC's approach to disbursement of Cohesion Funds. In the 2014-21 EU budget period, the development of a Smart Specialisation Strategy became an *ex-ante* condition of regions being able to attract a significant portion of Cohesion Funds. A slightly modified approach was continued for 2021-27.

In contrast, Australian governments continued the essential orientation of the existing policy framework. In 2011, a new program of Regional Development Aus-

tralia Committees was set up, bringing together multiple, neighbouring local government areas according to perceived regional identity (Crean, 2011). Committees included representatives from different levels of government, business and other local organisations. The role remained focused on developing plans for future development, and on preparing submissions for funding, most of which was linked with infrastructure and construction of one sort or another.

2.2. The Challenge of Climate Action

In 2015, United Nations (UN) decisions on the Global Agenda to 2030, with 17 Sustainable Development Goals, and in Paris on climate change put a sharp focus again the implications of climate events for Australians, and created an opportunity to think differently about the policies necessary to deliver longer term prosperity and sustainability. While some local and city government authorities engaged with this agenda (undertaking Voluntary Local Reviews against the SGDs, for example), little interest or support was shown for comprehensive, cohesive initiatives at state or Federal Government level. While climate action itself became an important policy area for state governments (with particular attention to emissions reduction and renewable energy sources), little impetus came from Federal Government sources, notwithstanding a growing pattern of devastating weather events including drought, fires, flooding, and typhoons, until the Labor Party won elections to become the Federal Government in 2022. New national targets for emissions reduction were established, and work began on a broad policy framework to manage transition.

Indeed, it was a climate-related initiative which created the conditions for a new direction in Australian regional strategies to be tried. In 2017, the French company, Engie, chose to close the Hazelwood coal mine and power generator in the Latrobe Valley, an industrial area in the country to the east of Melbourne in the state of Victoria.

This decision had very significant consequences, signalling the beginning of the end of coal mining and power generation in the region. The Latrobe Valley had provided Victoria's electricity resources for a century but it was apparent that both the demand for emissions reduction and also the increasing challenges of maintaining facilities and of finance would mean that this sector would close completely over the subsequent 20-30 years. More immediately, there was direct impact on 700 workers' livelihoods and indirectly, many more (Parliament of Victoria, 2022).

The Victorian Government responded by establishing the Latrobe Valley Authority (LVA) with strong local connections in the Gippsland region surrounding the Latrobe Valley. The LVA was a new kind of regional authority, set up as a discrete agency within the Victorian Government's Department of Premier and Cabinet – that is to say, it was a regional entity focused on the Latrobe Valley and the surrounding Gippsland region, but with access to 'whole of government' powers

which could overcome internal silos and mobilise other key arms of government in Victoria. This provided a unique framework for collaboration with the six municipal governments which constituted the current framework of local government in Gippsland.

2.3. The Need to Rethink Regional Development in Australia

Industrial transition was not new in this part of country Australia. It had been a coal-mining, power generating region for a century, critical to the post-war development of the urban manufacturing sector. However, the state-owned assets were privatised in the 1990s leading to dramatic loss of employment and significant weakening of the local economy. The impact of this period was documented in a special issue of the *Australasian Journal of Regional Studies*. Weller, for example, commented that:

The industrial Valley's multifaceted contemporary problems include: a continuing over-reliance on a single industry (electricity production), a lack of alternative employment options, a lack of new private sector investment, entrenched social disadvantage, declining population, stagnant property values, political volatility, a perceived lack of local leadership, a reputation for industrial unrest, physical isolation, a lingering local resentment of Melbourne's dominance, and now also notoriety as a flashpoint for climate change adaptation. (Weller 2017, 383).

Fairbrother added:

In the context of climate change and transition to low carbon arrangements, the challenge is to develop a series of inter-linked steps in relation to both immediate transition and long-term transformation. In this instance transition refers to the immediate and developing situation of mass closure to a circumstance where all involved, workers, households, retailers, related businesses and others, have their futures addressed in achievable ways; transformation refers to robust and sustainable long-term change and development. Achieving viable outcomes for the locality requires engaged, inclusive and reflexive ways of proceeding. (Fairbrother 2017, 412).

So the challenge for the newly appointed LVA in 2017 was not only to intervene in the transition so as to support individual workers who lost jobs and businesses that were affected indirectly, but also to adopt a strategy for future development that would lead to a productive and prosperous future for the region. This was very much a practical challenge, but also about building a foundation for cohesive and confident engagement amongst a broad range of industry, government and community stakeholders that would offer hope for the future. In this latter objective, there was huge advantage in the recruitment of local people to drive the transition, including senior management who had worked across the region for decades. This

offered an existing framework of strong relationships and a basis for establishing some measure of trust. Even though the agency was part of the Victorian Government, and hence had significant powers and resources, it was able to position itself as being of the region.

In looking for an approach to future regional development, the LVA undertook a review of global best practice. This led to awareness of the EU's Smart Specialisation initiative. With support from an academic team from the University of Melbourne and RMIT University, Smart Specialisation became the central language of the regional strategies adopted by the LVA for the reconstruction of the Gippsland economy (Goedegebuure, 2020; Ward *et al.*, 2021; Veldhuizen and Coenen, 2022).

3. **FIRST CASE STUDY: SMART SPECIALISATION, GIPPSLAND STYLE**

A number of contextual factors have meant that Smart Specialisation has varied somewhat from European practices. Initially, the Guide published by the European Commission (2012) provided some valuable direction, and considerable priority was placed on undertaking thorough regional context analyses (Goedegebuure *et al.*, 2020; Ward *et al.*, 2021; Wilson, 2021). In the early years, the Gippsland S3 approach emphasised:

- 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;
- A culture of learning (Goedegebuure *et al.*, 2020).

Practically, the S3 in Gippsland focused on sectors rather than economic activities, with great emphasis being placed on bringing industry stakeholders together with researchers with relevant expertise, government officials and community representatives (the quadruple helix) as a means of developing confidence in the kind of collaboration necessary for successful innovation. A major challenge was the availability of relevant data on local expertise and innovation experience, which meant that from an early stage, the development of Regional Context Analyses came to depend heavily on qualitative data derived from extensive interviewing with key stakeholders. Over time, it became apparent that this approach delivered much richer and contemporary data, with the advantage of mobilising active engagement in, even commitment to, the implementation of Smart Specialisation innovation projects (Goedegebuure *et al.*, 2020).

Identifying key assets and building quadruple helix collaboration has not been easy. Despite its proximity to Melbourne, the second largest city in Australia,

Gippsland is a relatively sparsely populated region with limited presence of university or research institutes. There is a campus of Federation University adjacent to the Latrobe Valley, but its central administration is to the west of Melbourne. There are a few large businesses, typically with headquarters either in urban centres or internationally. Over several years, various innovation projects, founded on regional assets, have helped to develop collaboration amongst industry and researchers, with government and community stakeholders, making explicit the potential of developing a stronger regional innovation system. New initiatives in the food and fibre and the new energy sectors (especially geothermal, bioenergy and offshore wind) have revealed the potential where there is dynamic and constructive interaction amongst researchers and industry partners, with government and community engagement.

The qualitative approach to data gathering also generated a more inclusive approach to identifying assets in the region which could support innovation. In other words, the Regional Context Analyses enabled the identification not only of a number of technological innovation opportunities but also established some momentum for socio-ecological innovation. After some 3 years of this experimentation in Gippsland, the publication of Coenen and Morgan's (2020) exploration of why innovation matters added greater clarity to the understanding of socio-ecological innovation: it is to be encouraged not only because of its contribution to place-based capacity for generating economic activity and livelihoods, but also because it is necessary for responding to intractable problems – achieving the ambition of emissions reductions might be one example of such a problem.

4. FRAMING THE SECOND CASE STUDY: AN EMERGING FOCUS ON SOCIO-ECOLOGICAL INNOVATION

4.1. 'Local Development Strategies'

This perspective became a crucial element of thinking about 'innovation' in the second case study. Coenen and Morgan had suggested that from the outset, in the European Commission's Guide to Smart Specialisation (European Commission 2012), that there is encouragement not only for the Science and Technology model of innovation, but also a model which could be described as socio-ecological innovation. They identify five ways in which this dimension of innovation adds considerably to the purposefulness of a policy focus on place-based innovation:

- Models of socio-ecological innovation 'draw attention to other innovating agents (not just actors), including the firm but also beyond it';
- 'Innovation is not limited to achieving competitive advantage in the market-place but view the rationale for innovation explicitly in response to social needs';

- Socio-ecological innovation ‘explicitly recognize innovation as an act of deliberative, collective problem solving’;
- ‘The relationships between actors are less transactional but explicitly transformational’; and
- ‘More capacious conceptualizations of innovation draw attention to institutional entrepreneurship operating in tandem with technological change and, very importantly, are mindful of the politics, conflicts and contestations implied in innovation.’ (Coenen and Morgan, 2020, 5).

Further work to elaborate socio-ecological innovation and to link it with the EU’s focus on the Sustainable Development Goals was undertaken by the EU’s Joint Research Centre (JRC). Miedzinski *et al.* (2021) addressed the expectation that S3 should be contributing towards the achievement of the SDGs and drew of sustainability transitions and challenge-led innovation theorising to suggest a new theoretical underpinning of the Smart Specialisation process. They mapped carefully the various phases of Smart Specialisation work against key insights from these broader perspectives. They concluded that:

The framework should encourage all regions to re-engage in the vision-building and discovery process, this time with a focus on sustainability challenges, and provide a framework for deliberation and choices of transition pathways towards high-level sustainability goals (Miedzinski *et al.* 2021, 57).

When the Local Development Strategies program was initiated in 2020, this conceptualisation of the distinct features of socio-ecological innovation proved very useful in assisting with analysis of the kinds of innovation activities arising from the application of Smart Specialisation to the futures of small communities. This will be explored further below.

4.2. A New Impetus for Sustainability Transition: The Closure of Old Forest Logging

The potential for this evolution of Smart Specialisation to address major social challenges became even more sharply apparent with a decision by the Victorian Government to end the logging of native old-growth forests. This decision was important for both mitigating climate change and protecting biodiversity, yet carried potentially severe economic and social implications for small communities which had supported timber mills, logging contractors and their workers for generations.

Following the experience in the Latrobe Valley after the closure of Hazelwood, the Victorian Government offered a significant program of support for the industrial transition of these communities. Two programs addressed short-term disruption and provided specific resources for timber workers and mills to shift their business model or leave the industry, and for firms with specific and immediate investment

proposals to establish new operations. However, the longer-term future of these districts was addressed through a third program which drew on the LVA's experience with the application of Smart Specialisation principles, albeit on a much smaller place-based scale than had ever been contemplated in Gippsland, let alone Europe.

The Local Development Strategies (LDS) program was expected to identify and develop innovation projects that could lead to the emergence of district innovation ecosystems that would promote new momentum and broaden the means for gaining a livelihood for local workers and their communities. In this context, 'district innovation ecosystems' should be distinguished clearly from the burgeoning number of examples of cities promoting 'innovation districts' or 'precincts'. In relation to the LDS, 'district' refers to the spatial significance of the communities as centres for surrounding agricultural, forest or coastal areas which constitute an important part of the identity and economy of the communities in question.

This is a unique program in Australia, and indeed, adds a significant dimension to global knowledge about Smart Specialisation. Eleven districts largely in the east of Victoria (six in the Gippsland region and four in the adjacent region of Ovens Murray) have been targeted to participate, with populations ranging from a few hundred residents to around 15,000 residents. Each district has a Project Officer supported by a team of Government transition officers and an academic team from RMIT University. The academic team from the outset has adopted an action research approach, systematically recording data from documents, interviews and participation in district processes and events. This section of the article draws on this action research approach, acknowledging that the project is ongoing.

In adapting S3 for place-based application in these small districts, the process has been simplified and key learning from the wider regional implementation in Gippsland has been very important.

- The first step has been a Regional Context Analysis (RCA), beginning with a purpose-driven dataset constructed specifically for the district's LDS, drawing on several data sources (principally the Australian Census, conducted every 5 years, most recently in 2021, and hence, lag data); relevant documents, typically produced by local government or by consultants; and interviews. The number of interviews has varied according to district, but in one town with less than 200 residents, 110 interviews were conducted. Typically, members of the academic team participated in data gathering and either in the preparation of the Context Analysis report, or at least in reviews of the report. While each Context Analysis did indeed provide an overview of the local context, the key purpose of the analysis was to identify the most significant assets, either in terms of key (unique) local expertise, natural assets (topography, fauna or flora), or unique circumstances (history or sector) in the district.

As more districts have completed their RCAs, it has become apparent that the calibre and thoroughness of the RCA is crucial to the clarity and effectiveness of the subsequent stages. In this respect, the depth of detail about distinctive local expertise or natural assets has been important both in demonstrating to local stakeholders that certain assets do (or do not) have sufficient critical mass, distinctiveness or accessibility to underpin potential innovation opportunities.

Secondly, the interview dimension of data gathering has been important in enabling local stakeholders, whether from business, community or government to see themselves as contributing to the future of their district. It is a simple mechanism but many Australians outside of metropolitan areas do not believe that their views are 'heard' by key decision-makers. Involving them in the data gathering, reporting back to them in a way that was accessible and grounded, and pointing to distinctive (sometimes profound) assets in their districts was important in generating momentum in support for the transition process.

- The second step in the LDS process has been 4-5 Entrepreneurial Discovery Process workshops. Each workshop was structured for a day-long engagement of key quadruple helix stakeholders to interrogate the validity of the RCA knowledge claims on a particular asset and to explore the innovation possibilities associated with that asset. Typically, EDP workshops have brought together between 15 and 30 participants, who were invited because of their particular knowledge about the local asset (specifically in relation to business and community stakeholders, also researchers), or of the broader scientific or policy/program domains (in relation to researchers and government participants, who might be drawn from well beyond the district – it is their expertise that matters). The purpose of the workshop is to verify whether the local asset (expertise or natural) has serious substance, and to establish whether viable innovation pathways might be possible. If the workshop verdict is positive at the end of the day, the next step is to establish Innovation Working Groups (IWGs) to work towards realising the innovation opportunity.
- IWGs typically bring together many of the same participants as in the EDP process but will invite others with particular contributions to make. The actual process followed by IWGs varies according to local context, the nature of the asset and the innovation. The actual outcome will depend on the nature of the innovative activity, and might identify expanded products or services for existing entities; a new entity, whether a social enterprise or joint venture; possibly new governance arrangements; and investment sources. Typically, it is anticipated that a mix of public and private financing will be necessary.

Overall, the IWG process is informed by 14 ‘design principles’, developed by the LVA from Gippsland Smart Specialisation stakeholders, and informed by successive projects. These principles guide detailed mapping of supply chains, global market scans, further research and organisational design work, as appropriate. Ultimately, the IWG might deliver a prospectus, a business case, or a specific proposal for adoption by an existing entity.

The LDS work has been underway in the first pilot district since February 2020. Orbost is a small town on the eastern coast of Victoria, surrounded by forest, coastal and river wilderness. Details of the ‘Future of Orbost’ project can be found at <https://www.orbostregion.com.au/future>. Despite significant interruptions caused Covid and the disasters of ‘black summer’ bushfires in 2019-2020, floods and storms, significant progress has been made, such that the first IWG is nearing the point where a concrete proposition will be delivered. While the focus to date has been on innovation projects, the underlying objective is the development of the district’s innovation ecosystem so that over time, collaboration amongst quadruple helix partners to deliver innovation becomes accepted practice.

Looking broadly across the districts where LDS work is into the second or third stage, possibilities for socio-ecological innovation related to sustainability challenges have emerged consistently. Some examples have encompassed topics such as circular economy, forest management, regenerative agriculture, allied health initiatives, and infrastructures for learning and skills development. Each of these examples has arisen from key local assets and has involved processes to engage the kind of collaboration amongst industry/researchers/government/community necessary to deliver innovative initiatives which build on one or the other of the key assets.

A ‘Partnerships for Regional Innovation (PRI)’ Community of Practice has become an important means of connecting the LDS project officers from each of the districts in order to facilitate knowledge sharing and support amongst those responsible actively for project implementation. The naming of the community of practice as Partnerships for Regional Innovation echoes a new, more ambitious EU initiative, which has aimed to encourage a more integrative and place-focused approach to innovation policy, together with the broadening of the transformation agenda itself. In explaining the choice of title for *The Square*, a recent JRC publication to support the PRI initiative, the authors explained that as a public space for all, the ‘square’:

... is not only the place where the consequences of climate change and declining biodiversity will be felt most directly but also the place most given to broadening further participation and building in a spirit of trust-based and timely partnerships among all relevant actors addressing transformative innovation. (Schwaag Serger et al., 2023, 9).

The communities where the LDS is being implemented are already affected directly by the consequences of climate change and biodiversity. As a grounded participative process, the LDS's focus on local expertise and natural assets is the foundation for building trusting partnerships amongst quadruple helix actors in order to promote transformative innovation.

5. DISCUSSION: 'NEW DIRECTIONS IN REGIONAL STRATEGIES'?

In the Australian context, the first case study, Gippsland Smart Specialisation, represented a significant and deliberate break from previous Australian policy initiatives. Ward *et al.* suggested that:

From an Australian perspective, the policy experimentation has had a number of features:

- A focus on strengths and assets rather than gaps and inadequacies in local resources;
- An exploration of the innovation potential associated with natural assets, as well as science and related knowledge assets;
- An emphasis on collaboration rather than competition;
- Diverse models of place-based innovation; and
- Exploration of appropriate governance arrangements. (Ward *et al.*, 2021, 321-322).

Each of these areas of learning has been extended significantly with the implementation of the LDS, not least because of the implications of having a much tighter place-based focus, at times in very small communities. There are now even more diverse models of place-based innovation to explore, with a more extensive consideration of governance arrangements.

The exploration of the possibilities of socio-ecological innovation, the further extension of focus to the everyday economy beyond the traded economy, has offered another dimension of policy learning. Using the framework outlined by Coenen and Morgan (2020, 5), several observations can be made:

- Socio-ecological innovation 'draw attention to other innovating agents ...'. As part of building capability, all Gippsland and LDS innovation projects include business participants, including both individual firms and industry association representatives but 'community' participants bring a passion for local amenity (forest, for example), often an appreciation of distinctive qualities and the kind of imagination that can point to new possibilities. Key knowledge assets are found sometimes well outside formal research institutes. Overall, while challenging in Australia (because quadruple helix collaboration is relatively uncommon), the engagement of diverse innovation

partners has demonstrated that the different agendas and interests can shape initiatives which contribute to the sustainability agenda.

- ‘Innovation is not limited to achieving competitive advantage in the market-place but ... in response to social needs’. All of the innovation projects initiated under the LDS are alert to questions of competitive advantage, specifically in relation to attracting the private investment or revenue necessary for ongoing viability. However, some of the initiatives under consideration, in relation to forests for example, have been focused on both social needs (health, for example) but also ecological outcomes (enhancing forest health, for example).
- Socio-ecological innovation ‘explicitly recognize innovation as an act of deliberative, collective problem solving’. This understanding of innovation has been central to all of the Smart Specialisation work undertaken in Gippsland and to the LDS. In the LDS process, the level of interaction through interviews, workshops and associated community meetings has promoted broad recognition amongst stakeholders that each district has valuable assets which can support innovation possibilities, and that collaborative partnerships will be necessary to realise those opportunities. While some parts of an IWG’s work might refer technical work to be undertaken by a specialist organisation, most activity is focused on getting quadruple helix participants to address various design questions that must be resolved in order to advance thinking about the innovation proposition.
- ‘Relationships between actors are less transactional but explicitly transformational’. As the LDS is responding explicitly to an industrial transition driven by sustainability priorities, an integral part of the learning is how to build constructive relationships amongst actors with a history of conflicting political perspectives. Examples of socio-ecological innovation demonstrate that the LDS process can promote a priority on delivering mutually beneficial social or ecological outcomes – however, such initiatives might not be transformative. Some examples of socio-ecological innovation (for example, circular economy) can be seen minimising pressures (waste) which might otherwise have prompted transformative action.
- ‘More capacious conceptualizations of innovation ... are mindful of the politics, conflicts and contestations implied in innovation’. The breadth of innovation opportunities across economic and socio-ecological possibilities that has inevitably exposed tensions, perhaps relating to historical alignments or to new uncertainties. However, stakeholders in every district have developed an appreciation of the political sensitivities which surround transition and the almost inevitable challenge in some measure or other to vested interests. Political tensions have emerged in each district, perhaps

amongst different business sectors, within municipal and state government departments, and between stakeholders from government and community or business. Sometimes, conflict can be understood as a reflection of different languages, rules or resources, whereas in others, it is very much interests that are stake.

Each of these aspects of learning prompted by socio-ecological innovation can be challenging in themselves. Both the regional and the district application of Smart Specialisation in Australia has been framed in a context shaped specifically by sustainability interventions, closure of coal-mining and coal-fired electricity generation, on the one hand, and the end of forestry logging on the other. In both cases, the corporate/government intervention framed thinking about alternative futures. More important, perhaps, was the challenge in Gippsland and in the forestry communities of identifying key assets – the absence of visible and substantive research knowledge inevitably led to natural assets, alongside less institutionalised expertise, being identified as potential assets to support innovation projects.

However, there are other important challenges that arise as well from the ongoing experimentation with Smart Specialisation. Clearly, even more than in the region of Gippsland, formal research institutes are absent with significant implications for local expertise and capability, both breadth and depth. This has led to difficulties in engaging researchers in some quadruple helix forums. Nevertheless, the evidence of important local assets (expertise as well as natural) in all districts has been striking. Even without the presence of research institutes, it has been surprising to find considerable evidence of researchers undertaking projects in these districts, either in gathering research data (particularly in the forests, for example) or as partners for advisory purposes, albeit apparently invisibly from the perspective of local residents. Their absence from local forums clearly inhibits building the dynamism necessary for an effective local ecosystem to develop.

Similarly, ‘government’ engagement will encompass representatives of local government authorities as well as from state government departments and agencies (depending on topic and availability), and perhaps federal agencies (such as CSIRO, the national research agency). These different levels of government tend to operate in their own silos and might have competing or parallel interests, all of which can hinder their capacity and willingness to collaborate (Collits, 2015). Nevertheless, there are important examples of the benefit of ensuring that government representatives do engage in listening to and working with business, research and community stakeholders (Goedegebuure *et al.*, 2020).

More generally, institutional capability is a constant issue. In country Australia in general, institutional capability is thin, and smaller places rely heavily on a limited number of people to contribute in multiple ways. This is a serious challenge for the longer-term implementation of the LDS process, as implementing innovation

projects is challenging conceptually, and in workload. Building the capability necessary to undertake all of the aspects of the three stages, from research to product design, not least leadership, to deliver on the new strategy is an integral challenge which will take time to address.

Similarly, governance of local ecosystems is challenging, and itself required inventive thinking. The LDS process has encouraged the formation of governance structures which encompass quadruple helix representation, engaging participants with authority to act in committing a contribution from their auspice. In practice, it has proved difficult to identify and get appropriate membership across all 10 towns. This approach raises practical questions also as the formation of these kinds of bodies can be seen to be at odds with the interests of other stakeholders such as municipal authorities.

6. CONCLUSION

This article has suggested that the adoption of the EU's Smart Specialisation focus on developing innovation ecosystems as a means of supporting regions and districts facing significant transition has offered Australia an opportunity to explore 'new directions in regional strategies'. The context of sustainability interventions, relating to energy emissions on the one hand and native forest logging, on the other, has provided also the EU with a different perspective on its own context for implementing the EU's Green Deal.

More distinctively still, the application of Smart Specialisation principles in small communities of a few hundred people is even more striking as an example of 'new directions'. Furthermore, the broadening of the framework of knowledge assets to encompass natural assets as the foundation of innovation initiatives also adds a quite distinct dimension to the policy experimentation underway in south-eastern Australia. This experience is of interest not only for EU policy makers but has now stimulated increasing interest in the potential for this approach to contribute to regional and transition policy more generally in Australia – and indeed, to challenge the framing and depth of Australian innovation policy.

However, significant work remains before the experimentation can be demonstrated to have delivered on the desired policy objectives, and to have led to enhanced economic, social and ecological outcomes for communities. For a start, it remains to be seen whether the resources available in small communities can be leveraged to address the current limitations in capability and governance.

While the current experience has revealed significant innovation opportunities and very capable people in every district, the institutional capability necessary to support quadruple helix collaboration and the sophisticated project management to realise the potential is lacking. The major issue in this regard is the concentration of public universities and research institutes in metropolitan centres, and their ab-

sence, for the most part, from the country districts where industrial transitions are likely to occur. Similar issues exist in relation to industry, government and community stakeholders.

This means that Smart Specialisation experimentation in Australia will need inevitably to focus on developing the kinds of intermediary organisations which can support capability development, in order that country districts can build the kinds of innovation ecosystems that will offer viable futures for their communities. If this can be achieved, 'new directions in regional strategies' in Australia will be consolidated.

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