

RESPONSE – Transitioning Regional Economies

Productivity Commission Initial Report



The University of Newcastle (UON) welcomes the opportunity to respond to the Productivity Commission's Initial Report on *Transitioning Regional Economies*. We are also encouraged by the dialogue established between the Productivity Commission and our own Hunter Research Foundation Centre in further testing and refining the proposed 'adaptive capacity' index.

The Federal Government and the Productivity Commission are commended for initiating an open dialogue on the impact of the end of Australia's resource boom on regional areas. We also applaud the development of a framework / metric that allows for appropriate distribution of government funding and support to enable needed economic and social transitions.

As identified in the Productivity Commission's *Transitioning Regional Economies* report (p. 15), long-term industrial restructuring in both agriculture and manufacturing has adversely impacted many Australian regions. The Hunter region is an often-cited case study of successes in transition following the dominance of the steel industry and its associated mining / manufacturing businesses. Since the closure of BHP in Newcastle in the early 1990's, the region has weathered the economic and social shock of losing its dominant industry base. It has – and continues to – shift toward a more service and knowledge based economy. In the international context, it has been argued that - with the growth of the knowledge economy and dominance of service sectors - new institutions have emerged as anchors of their communities. Newcastle central business district (CBD) and the Newcastle metropolitan area are thriving examples of reinvention and renewal. The University of Newcastle is playing an important anchoring role in the city's regeneration. Unprecedented public and private investment is occurring in the CBD and metropolitan area with economic and social dividends on display.

Kleiman *et al.*, (2015:3) argue that universities, medical centres and hospitals are crucial anchor institutions and the obvious partners for local leadership because *"more than just local job engines, anchor institutions are the exact kind of business most communities want in today's knowledge-based economy, where product value emanates from innovation, not mass production. Medical centres and research universities foster an entrepreneurial climate that attracts other young professionals and leads to spin-off companies in the growing tech economy ... provide a knowledge foundation for their home cities by educating many local teachers and issuing professional degrees in high-demand fields ... and have transformed large swaths of abandoned and under-used land and breathed new life into downtown areas"* (p.3).

At the most basic level, universities act as purchasers of local goods and services and contributors to the local cultural and built environment. In some communities, like Newcastle, the university has become the largest single employer. The European Union (2011) notes that the regional investment in infrastructure for a university to support the core business of research and teaching has a passive regional multiplier effect (creating additional jobs), even if a university is not actively supporting regional development.

Universities can also make a more active range of contributions (EU, 2011:1-2):

- **Supporting the local innovation ecosystem:** Universities, through their core functions of knowledge generation and transfer, are uniquely placed to link local innovators to knowledge generation facilities and expertise, and to help match local economic opportunities/challenges to market or technological solutions. They have a role in increasing

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the pool of local problem solvers, entrepreneurs and consultants in the innovation community via their graduates (Moonen and Clark, 2017), and provide the opportunity for innovative industry to increase their capacity through student internships. Such functions are particularly important given that the Hunter region's ongoing diversification is likely to depend on sustained innovation (State of Regions Report, 2017-18). Knowledge-creation capacity underpins innovation and is strongly networked, locally, nationally and internationally, requiring a density of interaction best supported in metropolitan areas (NIEIR, 2017) - universities have a particular role in bridging these gaps in regional Australia. The establishment of the Integrated Innovation Network (I2N), further outlined in this submission, by our University is a good working example of the pivotal role universities play in developing a healthy innovation ecosystem.

- **Through land acquisition and investment in physical infrastructure** Universities have the scale and capacity to affect the spatial shape of the city and beyond (Moonen and Clark, 2017; Kleiman et al., 2015; University Alliance, 2011). The recently opened \$95 million landmark building, in the University's city precinct, is part of a deliberate strategy, supported by State and Federal government, to drive city centre renewal and regeneration within the Greater Newcastle metropolitan region. As such, it will be an important catalyst to increase the vibrancy and international connection of Greater Newcastle (Moonen and Clark, 2017).
- **Knowledge and talent creation:** Universities can act as a powerful magnet for attracting and retaining talented students and staff into the region. Via their teaching function universities also increase the stock of regional human capital, particularly where graduates are retained in the region. Universities constitute a 'gateway' through which knowledge exchange between research and teaching and industry can take place (EU, 2011:2).
- **Social and economic development:** Universities have a key role to play in social as well as economic cohesion within and between regions, such as through access programs designed to widen local participation in higher education (EU, 2011:2), and research focussed on regional social challenges.

Whilst there has been significant local renewal, the Hunter region is still heavily relied upon by our nation and global trade partners for its coal extraction and export. The global reliance on thermal coal for electricity generation is expected to wane with increased attention to climate change. As a result, the Hunter is experiencing significant transitions and challenges and it would therefore be an over-simplification to simply consider the region as homogenously adapting. Indeed, there are many towns and communities in the Hunter region that have amplified negative economic and social issues to contend with post-resource boom. Muswellbrook in the Upper Hunter region is a great case in point and is summarised later in this submission. So in this regard the Hunter's transition continues, there is more to do.

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Examples of the University of Newcastle's crucial role our region's development

The University of Newcastle has played a crucial role in the success stories during this transition for the Hunter region. Its role as a knowledge and relationship broker make it a central element in the region's innovation ecosystem. This experience suggests that the important role that **universities and innovation** can play in transitioning regional economies impacted by the economic and social repercussions of a post-resource boom phenomenon deserves more attention in the Initial Report on Transitioning Regional Economies.

A recent report by the Australian Government's Office of the Chief Scientist (Office of the Chief Scientist 2015) emphasises nurturing entrepreneurship and how "universities are central" in developing the skills and attitudes that graduates require in becoming the next generation of Australian entrepreneurs. With 65% of future high growth jobs projected to not yet exist (Future of Jobs 2016) entrepreneurial skills are becoming increasingly important, and increasing numbers of students are stating that they wish to follow this path. Analysis by PricewaterhouseCoopers (PwC) shows that increasing the number of high-impact entrepreneurs by a factor of 20 within a supportive ecosystem, could add A\$100 billion to Australia's Gross Domestic Product by 2033 (PricewaterhouseCoopers and Google Australia 2013). According to Universities Australia's Chief Executive Belinda Robinson start-ups are projected to create *"more than half a million jobs over the coming decades and are already contributing more than \$160 billion to the Australian economy"* (Universities: The Driving Force In Australia's Startup Economy 2017). Universities and government have pivotal roles to play in creating a culture that breeds innovation and boosts entrepreneurship.

As a knowledge and relationship broker, we have recently established a stronger presence in Newcastle's CBD, with the opening of our landmark "NeW Space" building which will enhance our business, industry and community engagement in the city. This \$95 million facility represents a shared investment of \$30 million from the Federal Government, \$25 million NSW Governments as well as the \$40 million from the University.

Equipped with cutting edge teaching technologies and collaborative working and learning spaces, NeW Space will provide an exceptional educational experience for up to 3,000 students. It also signals the University's commitment to the future economic success of the region. Already the investment has delivered significant value – NeW Space will contribute \$1.3bn economic impact (2013-2022) to Newcastle and the Hunter Region, including almost \$200 million to the regional economy during construction, and a further \$134 million annually flowing from the emergence of the CBD as a vibrant student hub.

Building on our city precinct, we will be opening an Innovation Hub in the city in 2019, with a smaller scaled version already operating known as Three76, leveraging the great work underway by Newcastle City Council in establishing Newcastle as a 'smart city'. Similarly, we are ensuring access to our intellectual capabilities and applied research in areas such as Muswellbrook in the Upper Hunter and the region's burgeoning defence and aeronautical precinct at Williamstown.

Whilst we consider the University's knowledge and relationship broker role in the Hunter region's transition successful to date, we are committed to continuing and furthering our engagement and contribution. A good example of this is our commitment to establishing a number of Global Impact

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Clusters (GICs) to address global challenges, ranging from health care access, cyber security to the energy-food-water nexus. The GICs will be built on the base of our research concentrations, such as medicine and engineering, but they will work across disciplines and national boundaries.

Consultation with internal and external stakeholders identified 4 cluster themes for our University that complement our region and nation's strengths and challenges:

- Energy, Resources, Food and Water
- Better Health, Healthcare and Treatment
- Future Industries
- Strong Cities, Communities and Regions.

GICs are enablers for industry collaboration and research translation at a broad level. The University intends to ensure that the GICs will be adaptive and change to meet global and national trends, aligning with government and industry sector priorities. We hope they will help to shape the development of new models for collaboration and competition in multidisciplinary research and provide global leadership into the future.

A GIC has the following basic characteristics:

- Adaptability to change to global and national trends and a responsiveness to re-shape UON's research priorities to align with government and industry sector priorities
- Capacity to build on existing strengths and to take advantage of areas of opportunity
- An organisational structure that is flexible and is underpinned by critical research and innovation support
- Well-connected to industry, business and government nationally, and increasingly internationally
- Engaged with industry, entrepreneurs and venture capital networks both on and external to our campuses
- Provide opportunities to integrate undergraduate and higher degree research students and to improve institutional research capability.

Bringing Research and Business Together in the Hunter Region Integrated Innovation Network (I2N)

Recently the University of Newcastle established its Integrated Innovation Network (I2N). I2N builds cross discipline entrepreneurial research links and fast-tracks viable start-ups. The network includes UON primary campuses; the Three76 Hub in Newcastle's CBD; Defence Hub at Williamstown Air and RAAF Base; Lake Macquarie City Council's DASH co-working space located at Charlestown; and the Upper Hunter Innovation Precinct at Muswellbrook.

The I2N is purposed to leverage the University's research capability and work closely with existing local businesses and emerging start-ups, generating new economic activity for the region, nation and the globe.

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Global experiences – Leveraging Anchoring Institutions for Regional Benefit

We encourage the Productivity Commission to consider the lessons and experiences of other regions in developed economies who have grappled with transitioning from economies reliant upon a resource and traditional manufacturing base to differentiated and diversified economies. Our University has reflected on global best practise for Universities in regional settings to ensure our research, education and innovation endeavours remain relevant and valuable to the communities and industries we serve.

Placing a lens on regions affected by a post-resource boom fallout, one might identify their innate strengths or challenges and marry them with their respective universities across the nation to align research discipline strengths with local challenges. In other words, developing formalised working relationships between Universities and respectively aligned regions may reduce the disruptive economic and social fallout of a post-resource boom. In addition fostering leadership connections between regions experiencing transition disruption would be beneficial to enable information sharing and learning.

A further useful reference is the critically acclaimed *The Smartest Places on Earth: Why Rustbelts Are the Emerging Hotspots of Global Innovation* by Antoine van Agtmael and Fred Bakker. The book examines a number of examples across the United States and Europe, addressing several cities in the Ohio rust belt of the US and Eindhoven in the Netherlands, where Philips Electronics long had its manufacturing base.

Crucial foundational parameters were identified through the investigation by Agtmael and Bakker. They cite:

- A university with a “strong research focus” – developing working relationships with local businesses and industries to unlock product or service innovation and developing new ways of doing business as central to success;
- An existing industry that is strong enough to grow and change – capitalising upon existing strengths in the workforce;
- An injection of money and infrastructure – this could include investing in innovation enabling infrastructure that assists a region carve out new areas of specialisation and that fuels knowledge transfer and innovation growth; and
- A connector – for example a local mayor or innovation leader. Having a champion who articulates a vision and drives change on the ground.

UON’s experience resonates with this prescription - that regions, particularly those with a research-intensive and industry-engaged university, can act as a catalyst for change. Those same regions have the capacity and tenacity to be the engine rooms of the new economy.

The Muswellbrook Experience

Muswellbrook Local Government Area in the Upper Hunter region is an example of a trade-exposed, mining dependent region that has experienced both the expansionary and contractionary impacts of the mining investment boom since 2013. Using unemployment rate data (four-quarter moving average) drawn from the Department of Employment Small Area Estimates ⁽¹⁾, unemployment rates within Muswellbrook Local Government Area (LGA) fell to 2.8 per cent in June 2012. Following the wind-back of capital intensive investment within the region's mining sector, rates peaked at 12.4 per cent in December 2015, although unemployment rates have fallen to 5.9 per cent in March 2017 of this year.

Muswellbrook's median house prices have undergone a similar trajectory, rising to a peak of \$335,000 in September 2013 and falling to a low of \$230,000 in March 2017 (a 46 per cent decline from their September 2013 peak). Anecdotally, the roll out of social housing stock at the height of the boom, and subsequent contraction of the private housing market in the deflationary period, has led to substantial increases in the number of social housing tenants within the Local Government Area.

There have also been changes in the socio-economic composition of the primary school population as a result of accompanying changes in the resident population. The social and economic impact of these changes on the local service system, business and community have not necessarily been fully anticipated or addressed via additional government funding.

Recently, the University of Newcastle's Family Action Centre, led by Professor Alan Hayes AM has taken the initiative in Muswellbrook to introduce the Strong Families—Capable Communities strategy. This strategy involves a collaborative partnership with the NSW Department of Premier and Cabinet (DPC) and the Muswellbrook CREATE Change Coalition (chaired by DPC and including senior officers of the Departments of Education, Family and Community Services, Health, Housing, Transport, the Police Local Area Command, the Muswellbrook Shire Council and the Social Housing Provider – Compass Housing).

Based on the effective, coordinated-service-delivery approach of the Communities for Children (CfC) initiative, the *Strong Families—Capable Communities* strategy will deploy an innovative, evidence-driven, prevention support system (PSS) (developed by Professor Ross Homel and his colleagues as a key element of the CREATE initiative led by Griffith University). This system is designed to intervene early in the pathways that can lead to disadvantage.

Deploying this system in Muswellbrook will involve applying research from the CfC initiative that has identified key drivers of success, including leveraging existing family strengths and enhancing community capability. It will also apply insights from the CfC initiative to the utilisation of data and management of collaborative partnerships. The longer-term aim is to gain insight into how to bring complex interventions to scale, and how successful outcomes can be sustained. The elements of the strategy will be supported by a 'backbone' Collective Impact Facilitator (CIF), to foster better integrated and synergised education, community services, healthcare, housing, child care, Indigenous services and criminal justice, among others, in close collaboration with state and local government as well as private enterprise.

We consider FAC's on- the-ground social innovation learnings may be highly valuable to other regions and communities impacted by the post-resource boom.

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Accessing an Education

“Talent and skills of our people is the engine behind Australia’s innovative capacity”, National Innovation and Science Agenda, Department of the Prime Minister and Cabinet, 2015

The Hunter region is an almost perfect reflection of the crossroads that we as a nation are facing. Home to nine-percent of the NSW population, the region is the largest growth centre in NSW outside the Sydney basin. The Hunter is wrestling with the significant challenges arising through the change in resource requirements and utilisation around the globe. The Hunter also has a track record of higher than national average youth unemployment, albeit recently 10.9% of our Hunter youth were recorded as unemployed (Hunter Research Foundation, March 2017) as compared to 12.7% (Australian Bureau of Statistics, May 2017). There is however likely to be significant variation between Local Government Areas, within the broader Hunter region.

The University of Newcastle is proud of its role in the regions it serves in providing accessible pathways for equity groups, such as first in family, Aboriginal and Torres Strait Islander students and low SES students. In 2016, 52% of our undergraduate enrolments were first in family to attend university, and 24.9% were in the Low SES category, a fraction that is well above the sector average of approximately 16%. Our University has the strongest intake and retention rate of Aboriginal and Torres Strait Islander students in the country. In 2016 we enrolled over 1000 Indigenous students for the first time, representing 3.5% of our student population- the largest number of Indigenous students at any Australian university.

Providing access across socio-economic divides is paramount when regions are transitioning out of a mining investment boom and looking to broaden their economic base. As the National and Science Agenda identified, the “talent and skills of our people is the engine behind Australia’s innovative capacity”. They ensure that a range of pathways into higher education is affordable and accessible, not only for those in the 16-25 year bracket, but also for older cohorts where re-training is necessary.

Investing in Regions Demonstrating Successful Transitional Characteristics

A message that underlies the Initial Report is that government may only direct its funding and resourcing efforts into regions demonstrating a poor adaptive capacity metric. We believe there is value also in considering how additional government investment in regions that are demonstrating positive adaptive characteristics may then fast track and unlock further economic and social benefits for their region and the nation. Accelerating adaptation will better ensure these regions gain ground before any further widening in required skill base to support future industries and thus be in the nation’s medium to long term interests.

Government investment in a region demonstrating positive transitioning hallmarks will send important signals in that same marketplace that their foundational transitional steps are valued. It will incentivise existing talent and skilled workers to stay, promote further diversification and product differentiation and thus create further positive multiplier effects beyond the regional boundary.

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Conclusion

The Productivity Commission's focus on identifying those regions and localities that face significant challenges in successfully transitioning to a more sustainable or diversified economic base is of great value to the nation. Equally, developing a good understanding of regions that are demonstrating stronger adaptive characteristics is worthy of interrogation to underpin a robust framework to guide future government investment in the nation's many regions. We encourage the Productivity Commission to further consider and acknowledge:

- ❖ The roles that universities currently play as anchor institutions, knowledge and relationship brokers and could further contribute to regions wrestling with the uneven impacts of an economy after a resource boom
- ❖ how universities can fuel innovation and contribute to establishing regional economies that are diversified, entrepreneurial and future proofed, shifting away from relying upon a single dominant employer to create sustained ongoing opportunities for the community in which it resides
- ❖ the opportunities that may be afforded by developing formalised working relationships between our nation's universities, their inherent discipline strengths and marrying those with regions with similar strengths or challenges
- ❖ fostering leadership connections between regions undergoing transition so that they can share and learn from each other
- ❖ the importance of equitable and accessible access to further education and training
- ❖ the benefits of rewarding regions that have embarked on developing their foundational transitional base and direct government investment toward these regions to fast track economic and social benefits for the region and nation's prosperity.

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