Charles Sturt University

Vice-Chancellor
The Grange Chancellery
Panorama Avenue
Bathurst NSW 2795

Tel: +61 2 6338 4209

Email: vc@csu.edu.au

www.csu.edu.au

11 February 2016

Ms Stephanie Mikac
Joint Select Committee on Trade and Investment Growth
Parliament House
CANBERRA ACT 2600

Dear Ms Mikac

On behalf of Charles Sturt University (CSU) I am delighted to respond to the Joint Select Committee on Trade and Investment Growth's Inquiry into Australia's Future in Research and Innovation.

Thank you for the opportunity to provide information and comment on the role universities and the research and innovation sectors may play in overcoming the various barriers, such as geographic, economic and labour market, to growth in Australia's trade economy.

CSU strongly believes that universities are, and must remain, at the centre of using innovation and academic research to affect growth in investment and trade opportunities.

It is critical that policymakers establish a framework that creates jobs and opportunities across the Australian economy, encompassing rural and regional areas.

It is vital the unique opportunities and challenges faced in rural and regional Australia are taken into account when considering the role of research and innovation in meeting growth challenges.

It is also important to note that rural and regional Australia is home to a significant volume of cutting edge, industry-focused and collaborative research and innovation, born from a position of working with the private sector, and other stakeholders, to best position graduates and research knowledge as a tool to boost economic activity.

In fields from agriculture and agrisciences, to engineering and health, rural and regional universities are at the forefront of developing solutions to the geographic, labour and economic barriers Australia faces, as well as broadening and enlarging the economies of regional and rural communities.

While CSU welcomes the various regional-specific portions of the Commonwealth Government's National Innovation and Science Agenda, our submission also includes a number of recommendations to better support the work undertaken by institutions such as CSU in rural and regional Australia, and therefore support increased growth in trade and investment focused economic activity.

I would be delighted to provide the Committee with further information and evidence that will assist its work in examining the importance of innovation and research in regional communities across Australia.

Professor Andrew Vann
Vice-Chancellor

Charles Sturt University

11 February 2016

SUBMISSION TO JOINT SELECT COMMITTEE ON TRADE AND INVESTMENT GROWTH, INQUIRY INTO AUSTRALIA'S FUTURE IN RESEARCH AND INNOVATION

Charles Sturt University

SUMMARY

Charles Sturt University is delighted to provide this submission to the Inquiry into Australia's Future in Research and Innovation.

As Australia's largest regional university, and an institution with a long and proud history of industry-focussed, regionally centred innovative research, we fully support the significant focus of Commonwealth Parliament on the vital role research and innovation plays in the Australian economy, particularly in growing trade and investment opportunities within regional and rural communities.

Charles Sturt University notes the submission made to this inquiry by Universities Australia (UA). However, our submission highlights the specific, and important role played by rural and regional research in boosting Australia's trade performance.

The research and innovation carried out by rural and regional universities remains crucial to overcoming geographic challenges to Australia's trade performance, and driving the economic and labour developments that best position rural and regional Australia to increase its role in Australia's export orientated economy.

Compared to metropolitan areas, rural and regional Australia continues to face a series of complex challenges in accessing the necessary educational and labour capital required by industry to meet the demands of a trade focussed economy. Rural and regional universities, such as ours, play a vital role in addressing such barriers, with research at the core of such solutions.

Similarly, given the strong community focus of rural and regional universities, research and innovation at such institutions has a history of strong links with industry. Working in a collaborative manner, we can best support development of solutions and economic conditions suited to increase export and trade related activity, improve employment conditions, and overall benefit both local and national economies.

Both industry linkage and employability are central to the recently announced National Innovation and Science Agenda (NISA) which provides the policy platform on which research and innovation at the university level can continue advance Australia's trade economy.

BACKGROUND TO CHARLES STURT UNIVERSITY

Charles Sturt University (CSU) is Australia's largest regional university, with more than 35,000 students and approximately 2100 staff. Established in 1989, the University traces its roots to the formation of the Bathurst Experimental Farm and Wagga Wagga Experimental Farm in the 1890s. In one form or another, research, innovation and education has been integral to the University's character and mission for more than a century.

CSU is a unique multi-campus institution with campuses at Albury-Wodonga, Bathurst, Canberra, Dubbo, Goulburn, Manly, Orange, Parramatta, Port Macquarie and Wagga Wagga, as well as various study centres.

The University's commitment to the development and sustainability of rural and regional Australia is informed by the unique research focus undertaken, and the partnerships it has formed with each of its campus local communities, local industry, and with the broader regions it serves.

CSU offers a comprehensive suite of research and academic programs that focus on addressing rural and regional labour market needs, and growing regional economies.

As one of Australia's largest online and distance education providers, CSU has been able to leverage its course profile and special expertise in professional education to deliver nationally available study programs supporting labour market skills development regardless of location.

The success of the University is demonstrated by its sector-leading performance in work-integrated learning, graduate employment and graduate incomes. Underpinning this success is the close links that the University has forged with industry, both regionally and nationally.

For example, the University is internationally recognised as a leader in work-integrated learning with students spending extended periods in employment with our industry partners as part of their degree learning and applying their knowledge in practice.

Research excellence, with a strong commitment to addressing the complex regional needs through innovation, has long been at the centre of CSU's mission.

As evidenced by the recent Excellence in Research for Australia results (ERA 2015), Charles Sturt University is recognised internationally for competitive research strengths in agricultural science, horticultural production, food and wine sciences, crop and pasture production, veterinary science, animal production, education, curriculum and pedagogy, environmental science, applied ethics, philosophy, religious studies, criminology, nursing and marketing.

The University's researchers work in consultation and collaboration with end-users, industry, the professions and communities for the public good.

CSU has a proud tradition of delivering high-quality research that creates new knowledge, benefits people's lives, enhances the profitability of regional industries and helps communities grow and

flourish. Through its higher degree by research programs, CSU is training the next generation of researchers and professionals who use critical thinking and seek to influence the world for the better.

The recently announced CSU AgriSciences Research and Business Park, to be located on the Wagga Wagga campus exemplifies our industry focus.

The AgriPark will facilitate industry engagement and collaboration, economic growth, wealth creation, employment and skills development. Success will be evidenced by the recognition of Wagga Wagga as a world-standard centre for agricultural innovation, research and development, extension, education and training.

Today, CSU continues a 100-year tradition of engagement and leadership with our local communities, of research and innovation in collaboration with industry, and expansion in the educational opportunities offered to our diverse student body.

Driving Innovation and Industry Linkage

For regional Australia, a key facet of university research must be to drive the innovation that propels regional economies to the forefront of Australia's national trade economy. For example, in the Riverina, CSU delivers world-standard agricultural, food and wine research to the benefit of our region.

Currently, two separate agricultural export sectors sit in Australia's top ten export industries, and the investment in this research at CSU supports these sectors.

CSU is home to a number of research centres built upon long-term partnership with industry and government, which position the university to address the challenges facing some of Australia's largest export industries. The Graham Centre for Agricultural Innovation is an alliance between CSU and the NSW Department of Primary Industries, and the National Wine and Grape Industry Centre is an alliance between CSU, the NSW Department of Primary Industries and the NSW Wine Industry Association.

One of the greatest developments worldwide has been the rapid advances in information and communications technology (ICT) over previous decades. Research institutions have a significant role to play in further advancing these technologies and fostering their adoption so that Australia can achieve greater integration with world markets. An example of this is the work that Charles Sturt University's cyber-security researchers are undertaking to ensure that computerised systems, web servers, networks and applications are sufficiently secure. Such research will allow Australian businesses to continue to take advantage of the wide array of export markets that are now open to Australia as a result of improved ICT systems.

A final example of CSU's strong industry focus, and track record of collaborating and partnering with private industry is the university's success in accessing industry funded external research grants. More than a third of CSU's external research funding comes from direct industry partnerships, working towards common solutions and practical developments. This figure is more than double the sector average.

Recommendation:

CSU strongly supports the long-term funding of incentives for bi-directional industry-university collaboration through new, imaginative and sustainable models. The expectations of and benefits from investment need to be clearly articulated and become integral to research program design at the micro and macro levels. This includes levels of investment, timelines for delivery and the ability to gain advantage from every part of the innovation and research sector.

CSU recommends that advancement in this area on the world stage, while informed by and perhaps modelled on international best practice, must be tailored to what makes Australia unique in terms of research excellence, export potential, product and skilled workforce.

In addition, CSU would emphasise the importance of ensuring such incentives include measures inclusive of regional and rural industry, recognising the unique environment and challenges faced.

Employability and Economic Capital

Any expansion of Australia's trade economy and opportunities for increased exports relies on improved skills and labour markets. Partnerships between universities and industry in research and innovation can help to drive this. This is especially the case in regional and rural Australia, which on average suffer higher unemployment and lower wages compared to metropolitan centres. Rural and regional universities are key to addressing such needs, and propelling regional and rural employment markets.

From its creation, CSU has sought to focus on education and research in fields and disciplines that provide the intellectual capital amongst graduates required by industry in our regions. Working in collaboration with industry, we have targeted our course offerings and research training at meeting such shortfalls, and ensuring students are prepared for the job market and have strong outcomes.

Measuring the impact of CSU alone, we are responsible for the employment of more than 6000 FTE positions, gross regional product of more than $800 million annually across our sites, and income of just under half a billion dollars. However, the impact of regional universities and their ability to overcome economic and labour challenges towards economic expansion and expansion of Australia's trade economy, go beyond the straight statistics of institutions' own employment and contribution levels.

Annually, more than 70 per cent of CSU graduates from rural and regional areas remain employed and living in rural and regional, with significant flow on economic impact including economic consumption, local rates and taxes, and other activities.

As CSU argued in its submission to the Senate Standing Committee on Rural and Regional Affairs and Transport Inquiry into the Future Role and Contribution of Regional Capitals to Australia, one of the major barriers to expansion of industry, and realisation of economic potential is limited access for industry to human capital with required skills and training.

Rural and regional universities are at the forefront of research and innovation, with strong industry linkages, and outcomes. These have grown rural and regional industry as well as playing an important role in the general economic expansion of regional economies.

Though barriers continue to exist in terms of infrastructure and geography, numerous advantages also exist such as cost and other associated benefits. However, continued work is required to ensure rural and regional universities remain at the forefront of both harnessing opportunities, overcoming the challenges, and broadening regional economies hand-in-hand with the private sector and other partners.

CSU's new engineering degree, for example, is designed specifically to address local industry concerns and make use of innovative engagement with the private sector from the earliest possible point. Given NISA's focus on STEM skills, and the potential for these to drive export industry, CSU engineering combines the basic Bachelor of Engineering degree with a Master of Engineering in a streamlined structure, with all students undertaken alternating six-month placements within industry from 18 months into the program.

These placements, combined with continued online education, ensure graduates gain an understanding of what is required to work as an engineer, and drive innovative portions of the Australian economy, rather than only possessing a theoretical understanding of the subject matter.

Upon graduation these students will already possess an understanding of how to pitch business ideas, undertake and manage engineering projects, and other industry skills.

Recommendation:

Given the strong track record of rural and regional universities, such as CSU, and the numerous varied opportunities in our local communities, CSU strongly supports policy outcomes and initiatives that recognise the work already being undertaken in rural and regional Australia, and support using those advantages inherent in a regional setting.

Such policies and outcomes are not about money or funding, but instead an acknowledgment and appreciation of the role played by rural and regional universities and their partners across the country, instead of a uniform view of the sector and its work based on metropolitan experiences.

Underlying Regional Infrastructure and Innovation

Numerous parliamentary inquiries have acknowledged that rural and regional Australia faces various barriers and shortfalls in infrastructure to support innovative economic activity and expansion. These include telecommunications, transport and logistics, as well as social infrastructure required by industry in such areas if expansion is to occur.

Currently CSU's communities across central New South Wales experience significant doctor shortages, specifically accessing GPs. Shortages have been exacerbated by an overreliance on overseas trained GPs, with all current medical degrees requiring relocation from the region.

In coordination with LaTrobe University, CSU has proposed the Murray Darling Medical School (MDMS). A uniquely rural and regional medical school, split across campuses in Wagga Wagga, Orange and Bendigo. It would recruit at minimum 80 per cent of students from rural and regional prospective student bodies, with strict eligibility criteria. It would also offer specific pathways for indigenous students.

Most importantly, the MDMS would allow rural and regional students to attain a medical education without leaving regional Australia. Over 70 per cent of CSU health graduates remain in practice in a rural or regional setting. Reproduced in medicine would see local doctors with an innate knowledge of, and background in, the regions.

The MDMS would also provide a strong platform for further research and innovation in regional and rural focussed aspects of medicine, and provide a fertile environment to expand such trade-focussed industries as health, medicine and pharmaceuticals within a rural and regional context.

Further, it would provide additional opportunities to capture the university-industry linkages and partnerships that are a core focus of NISA.

Recommendation:

CSU recommends the committee take a broad view towards the importance of infrastructure underpinning trade and economic growth, particularly the need for innovative models such as the MDMS.