

INQUIRY INTO FUTURE DEVELOPMENT OF THE NSW TERTIARY EDUCATION SECTOR

Organisation: NSW Government

Date Received: 3 August 2020

Submission to the Inquiry into the future development of the NSW tertiary education sector

This is a cross-cluster submission from the NSW State Government for the Inquiry into the future development of the NSW tertiary education sector.

Introduction

This submission seeks to respond to the majority of the Terms of Reference for this inquiry. It is noted that some of the Terms of Reference relate solely to universities, while others focus on the broader tertiary education sector. The term 'tertiary education' encompasses all universities, non-university higher education providers, and vocational education and training (VET) providers.

There are a number of ongoing reviews that focus on the VET sector at the NSW and Commonwealth level. For example, the Review of the NSW Vocational Education and Training sector being conducted by David Gonski AC and Peter Shergold AC, and the Commonwealth Productivity Commission's review of the National Agreement for Skills and Workforce Development. Considering these reviews, this submission does not comment on issues regarding the VET sector generally. The focus of this submission is largely on the NSW university sector, with additional content on TAFE NSW where appropriate.

The Commonwealth Government has primary responsibility for the funding, regulation and reporting of Australian universities. Many of the issues raised in this inquiry sit with the Commonwealth and are out of the scope of the NSW Government. This submission does not comment on issues that are best left to federal agencies, or the higher education sector itself.

This submission covers the following aspects of the NSW tertiary education sector:

- Role of NSW Government: coordination and support provided to NSW universities
- Regulation of the higher education sector
- Economic and social role of tertiary education
- International students in the NSW tertiary education sector
- Quality of university teaching and research
- Integration of higher education with industry
- Pathways between university and VET

Role of NSW Government: coordination and support provided to NSW universities

Terms of Reference addressed:

(h) *Current levels of coordination and/or support provided to NSW universities by the NSW Government*

The NSW Government works closely with the higher education sector. This includes collaboration on programs, projects, research, and engagement with the sector and industry.

Recent examples that demonstrate the extent of engagement and collaboration between the NSW Government and the university sector include:

- **Loan Guarantee Scheme:** The NSW Government recently introduced a loan guarantee scheme to help universities recover from the financial impact of COVID-19. Under the scheme, the NSW Government will guarantee up to \$750 million in commercial loans in total. The loss of international student fees and other revenue due to COVID-19 has had a significant impact on university finances.
- **Higher Education Strategy:** The NSW Higher Education Strategy is being developed through consultation with the NSW Vice-Chancellors' Committee, individual universities and government agencies. The Strategy aims to identify shared priorities to improve outcomes for the people of NSW and the State's universities.
- **NSW Public Policy Institute:** The NSW Public Policy Institute was recently established by the NSW Government as an enduring and independent organisation. The Institute is operated by a consortia of the University of Sydney, University of Technology Sydney and Western Sydney University. Leading academics will work with government to improve social, environmental, cultural and economic outcomes for the community of NSW through rigorous public policy research. The NSW Public Policy Institute will work to transform the relationship between government and universities, in turn generating far-reaching benefits to NSW communities. It will develop a national profile through the impact of its research and translation, as well as its unique independent, collaborative, and multidisciplinary model.
- **Waratah Research Network:** The Waratah Research Network (WRN) was established by the then Minister for Education, in late 2018 as a mechanism for government, universities and the broader research community to work more strategically together on NSW priorities and emerging issues to deliver social, economic and environmental benefits through high-impact research. The WRN is a whole-of-government initiative chaired by the NSW Chief Scientist & Engineer, Professor Hugh Durrant-Whyte, with the Secretariat sitting in the Department of Education. NSW universities are represented on the WRN by the Chair of the Deputy Vice Chancellors' (Research) (DVCR) Committee and other DVCRs. During 2019, the WRN scoped the NSW government's level and nature of support for

universities and its investment in research and development, and is working to make NSW government priorities and funding programs more transparent. The WRN website went live in March 2020 and, while a work in progress, will provide improved information about the NSW government's investment in research across agencies and link to university research.

- **Education's Strategic Research Fund:** The Department of Education's Strategic Research Fund will launch in 2020, and is designed to leverage and translate university research expertise against NSW strategic priorities to benefit the people and communities of NSW. This is one of many research grant programs across government that work with universities on key issues impacting NSW.
- **Support for international education:** The NSW Government recently made available almost \$21 million in support for international students affected by COVID-19. The package provides temporary crisis accommodation to students in need, additional funding to the International Student Legal Advice Service, and a new dedicated 24/7 international student advice hotline. Study NSW is the agency primarily responsible for promoting NSW as an international student destination and supporting international students while they are here.

Office of Chief Scientist & Engineer – Programs to support tertiary education sector

The Office of the Chief Scientist & Engineer (OCSE) has strong ties to the university sector in NSW through its programs, networks and policy review projects. The OCSE relies heavily on university expertise to help inform the work it does in reviewing issues for Government ministers. Recent review projects have included the NSW Decarbonisation Strategy, the NSW Koala Strategy, the Independent Expert Panel for Mining in the Catchment and the Assessment of Summer Preparedness for the NSW Energy Market.

In addition, the Chief Scientist & Engineer (CSE) regularly meets with the Vice-Chancellors' Committee and the Deputy Vice-Chancellors' (Research) Committee to discuss matters of mutual interest and issues affecting the universities. The CSE also has a key role advising government on innovation precincts and industry sector strategies where universities play a critical role, and is a conduit for sharing knowledge and expertise between government and academia.

In 2019/20, the NSW Government allocated \$16.2 million in funding to support innovation and investment in the State's research and development capacity through the **Research Attraction and Acceleration Program (RAAP)**. The RAAP is an annual fund managed by the OCSE and used to encourage and support high-quality, high-impact research, and increase innovation in the state's research and development system. RAAP funding is primarily allocated through competitive grants rounds using a rigorous selection process – and used to leverage funds from national and international bodies.

RAAP funding has been crucial for:

- Supporting Australian Research Council Centres of Excellence and critical research infrastructure under the National Collaborative Research Infrastructure Strategy (NCRIS) for our state's universities. The OCSE also invests in Cooperative Research Centres (CRCs) and the ARC Industrial Transformation Research Program. Since 2006/07 the OCSE has invested more than \$80 million into NSW universities to support these and associated programs.
- Establishing the NSW Research Networks - the NSW Smart Sensing Network (NSSN), the NSW Defence Innovation Network (DIN) and NSW Circular. The Networks are comprised of university members and target areas of strategic importance, existing research and industry strength and with a need for great collaboration and capability. The Networks have been very successful in building an ecosystem of university-business engagements and supporting high-growth companies in developing new markets and new products.
- Providing targeted support for high-impact research projects in emerging areas such as synthetic biology, ag-robotics photonics, primarily led by our state's universities.
- Science engagement and outreach activities in NSW. These include:
 - the NSW Premier's Prizes for Science & Engineering which recognise excellence in science and engineering, and reward leading NSW researchers with cutting-edge work that has generated economic, environmental, health, social or technological benefits for the State.
 - the NSW Science & Research Breakfast Seminar Series at Parliament House which showcases excellence in research and development by featuring the State's best and brightest scientists, highlighting NSW research strengths across a diverse range of disciplines.

The Sydney Quantum Academy

The OCSE also manages the \$26 million Quantum Computing Fund (QCF), announced by the Deputy Premier on 25 July 2017. As part of the QCF, the Sydney Quantum Academy is a \$15.4 million collaborative initiative that brings together the strengths of the four partner universities (University of Sydney, Macquarie University, University of Technology Sydney and UNSW Sydney) to develop combined teaching and training programs that will make Sydney a hub for training in quantum engineering and other related disciplines.

Accelerating Research & Development in NSW Advisory Council

The Accelerating Research & Development in NSW Advisory Council (ARDAC) was established by the Parliamentary Secretary to the Premier, the Hon Gabrielle Upton MP, to examine how NSW can get the most out of NSW Government's research and development activity and how to support and improve the research and development and commercialisation ecosystem more generally.

The ARDAC is comprised of eminent leaders in innovation, business, government and the tertiary education sector to provide insights and advice to the NSW Government. It is chaired by David Gonski AC and includes Maxine Brenner, Jillian Broadbent AC, Phil Marcus Clark AO, Professor Hugh Durrant-Whyte, Professor Barney Glover AO, Professor Brigid Heywood, Catherine Livingstone AO, Professor Mary O’Kane AC, Daniel Petre AO, Professor Michelle Simmons AO, and Jennifer Westacott AO.

The ARDAC has been discussing a range of areas where research and development has the potential to make a major contribution to solving NSW’s big challenges. It will deliver a Plan of Action in 2020.

Regulation of the higher education sector

Terms of Reference addressed:

(j) *Appropriateness of current NSW legislation regulating, overseeing and enabling tertiary education*

The higher education sector is regulated by the Commonwealth under the *Tertiary Education Quality and Standards Agency Act 2011*. The ten NSW public universities remain subject to financial audit by the NSW Auditor-General’s Office under the *Public Finance and Audit Act 1983* and must also provide an annual report to the responsible NSW minister and the Treasurer in accordance with the *Annual Reports (Statutory Bodies) Act 1984*.

Each of the ten NSW public universities is established under its own NSW act. The acts are very similar and have been subject to broad reforms over the last ten years. The tenor of those reforms was to give universities greater independence, improve governance and have more consistency.

The *Universities Governing Bodies Act 2011* modernised some aspects of governance across the ten public university acts. It also set out standard governing body provisions which individual universities could adopt at their own choosing and time. The provisions were progressively adopted by individual universities with the University of Sydney and Western Sydney University being the last two in 2017 and 2019 respectively. Having done its work the *Universities Governing Bodies Act* has now been repealed.

The *University Legislation Amendment (Regulatory Reforms) Act 2014* dealt with a range of issues including greater freedoms in financial management, land dealings and governing body election procedures. The Act followed a detailed process of consultation with universities through the NSW Vice-Chancellors’ Committee and was led by then Parliamentary Secretary for Tertiary Education and Skills, Gabrielle Upton.

Minor amendments to the university acts have been and continue to be made under the statute law revision process to address specific, uncontroversial issues. Examples include

the change of name of Western Sydney University and permitting the University of Wollongong to have more than one Deputy Chancellor.

NSW universities are also subject to NSW legislation with general application, such as anti-discrimination, privacy, crimes and workplace health and safety laws.

TAFE NSW and higher education

TAFE NSW has been delivering higher education programs since 2011. TAFE NSW responds to demand for higher level skills within the labour market by developing higher education courses that meet industry needs, have a strong vocational emphasis, combine practical and theoretical education and are delivered by industry experts.

TAFE NSW delivers 31 TEQSA accredited higher education programs, along with 6 other higher education programs on behalf of university partners. During 2019, TAFE NSW delivered 22 higher education qualifications, with combined domestic and international enrolments of 2,399.

In 2020, TAFE NSW was successful in securing Commonwealth Supported Places to deliver two online short courses under the Commonwealth Government's COVID-19 higher education relief package. Otherwise, TAFE NSW higher education students (both domestic and international) pay full fees. Domestic students have access to FEE-HELP.

Economic and social role of tertiary education

Terms of Reference addressed:

- (a) *Tertiary education's economic development role, especially university campuses and Country University Centres (CUCs) in regional NSW*
- (b) *The mission of NSW universities with a particular focus on the role of universities to serve specific geographic communities*

Higher education makes a major economic contribution to NSW in three main ways:

1. Universities are large institutions whose operational activities drive economic output and employment. NSW universities directly employ 45,000 people but also generate many additional jobs in associated industries. The impact of operational activities by each university has been estimated by a 2015 Deloitte report as being up to \$1.8B per annum for the larger universities.
2. Educating graduates that raise the skill level and productivity of the state. It has been estimated that the productivity gains generated by university qualifications

increase Australia's GDP by 8.5%.¹ This effect is likely to increase in the future, as by 2036 more than half of projected skill demand will require a higher education qualification. While it is difficult to quantify the total financial impact of raising skill levels, a 2015 Deloitte report estimated that within NSW, the impact of graduates from the University of NSW alone is projected to add \$204 million to GDP each year for each graduating cohort of students during their working life.

3. Research activities that drive innovation, employment and better social outcomes. The knowledge stock generated by Australian universities was valued at \$160 billion p.a. in 2014, equivalent to approximately 10% of GDP. The same 2015 Deloitte report also estimated that each dollar invested into research at UNSW is projected to return \$5-10 of value by 2050. A recent ACIL Allen report, 'Economic impact of the University of Sydney' estimated that the contribution of university-related expenditure to the NSW economy in 2019 was around \$5.3 billion.

Tertiary institutions play a key role for their local communities, providing lifelong learning and employment opportunities for the people in their region and access to community facilities.

Regional Education and Country Universities Centres

The higher education sector is critical to driving economic and social outcomes in the regions. Regional universities employ local workers and serve the industries around them by specialising in region-specific research. Co-location of research activity with industry through regional campuses is a strong driver of regional business innovation. Regional universities are also crucial to skilling regional workforces. For example, the first job of 70% of graduates from Charles Sturt University was outside of a metropolitan area.²

Despite the growing importance of a highly skilled regional population, regional students are underrepresented in higher education and degree attainment. According to ABS Census data, in 2016 43% of people aged 15 and over living in major cities in NSW had a bachelor-level qualification or above. In comparison only 23% of people living outside a major city have the same qualifications.

¹ GDP data is based on research undertaken by Deloitte as commissioned by Universities Australia. Accessed at - <https://www2.deloitte.com/au/en/pages/economics/articles/importance-universities-australias-prosperity.html>

² Department of Industry, Innovation and Science, How Regional Universities Drive Regional Innovation, 2016, p.41

There is a thriving network of regional universities and sites across NSW, but regional students are still twice as likely as metropolitan students to move away from home to pursue higher education. Others remain in their communities and study online. However, online education is associated with lower student retention.

To help address this gap, the NSW Government has invested in the Country Universities Centre (CUC) model since 2017.

Based on the successful Snowy Monaro CUC established in Cooma in 2013, CUCs provide facilities for regional students to study tertiary courses locally, delivered by any university in Australia. The CUC model:

- allows students in rural and regional NSW to pursue higher education while remaining in their own communities;
- provides students with campus-like facilities, tutorials, mentoring and peer support, state-of-the-art technologies and high bandwidth to support distance education;
- enables group learning;
- helps reduce the loss of talent from country to city areas; and
- assists industry and employers with access to a local, skilled and qualified workforce.

NSW committed \$8 million to the program in 2017, with five centres already enrolling students. This includes:

- CUC Far West (Broken Hill)
- CUC Goulburn
- CUC Western Riverina (Griffith and Leeton)
- CUC North West (Narrabri and Moree)
- CUC Clarence Valley (Grafton)

Having successfully delivered on these initial five centres, the NSW Government allocated a further \$8 million to establish an additional five centres between 2020 and 2022. In six years of operation, the CUC Network has supported over 1,000 students studying more than 300 unique courses at 35 universities. Early data shows that the model is attractive to students from a range of backgrounds, including low-SES, Aboriginal and first-in-family students.

The Commonwealth is also investing in the concept of regional study hubs, through its Regional Universities Centre (RUC) program and has provided funding for some of the CUC centres in NSW. To date the Commonwealth's program, first announced in November 2018, has supported 25 centres across Australia. On 19 June 2020, the Hon Dan Tehan MP, Minister for Education, announced an expansion of the RUC program.

Understanding and supporting regional students' transitions to university

In 2017, the NSW Government commissioned researchers from the National Centre for Student Equity in Higher Education to investigate why high achieving students (ATAR 75+) from regional schools were transitioning to university at low rates.

Researchers interviewed over 500 students in inner-regional government and non-government schools. The final research report shows that many students had concerns over money, relocation, and knowing what to do when they finished school. Half of the students indicated they planned to take a gap year.

The NSW Department of Education has made a grant of \$550,000 available to a group of universities to deliver information that will help regional students, their families and their teachers navigate the transition to university and the 'gap year'. The resources are suitable for both students still in Year 11 and 12 and those already on their gap year. There is also information tailored to teachers, parents and carers.

The group is led by the University of Sydney, in partnership with the University of Wollongong, the University of Canberra and the Country Education Foundation.

TAFE NSW in regional NSW

TAFE NSW is Australia's largest vocational education provider. It has 133 campuses across NSW including 92 in regional and remote NSW. TAFE NSW plays a crucial role in supporting local communities. In many small communities TAFE NSW is the only post-secondary training provider. It provides training for in-demand skills as identified by local industry and community.

International students in the NSW tertiary education sector

Terms of Reference addressed:

- (c) *The post-pandemic return of foreign student numbers and the financial sustainability and risk management strategies of NSW tertiary education institutions*

International students are valued members of NSW society and an important part of the higher education community. International education is the second largest export sector for NSW, generating \$13.2 billion in 2019. International students are important to a variety of sectors across NSW including through their use of hospitality, accommodation and other services.

Additionally, international students and their families contribute a substantial amount to NSW's tourism sector, with educational activities responsible for 38 per cent of total tourism spend in Australia.³

Further to these economic benefits, international students lead to a rich world-wide network of alumni. They offer NSW a very positive connection with governments, industry and leaders across the world. International student alumni continue to improve our reputation within the region.

For NSW universities, international students have become an increasingly important cohort, with international student fees making up 32% of the total revenue of NSW universities in 2019. A significant proportion of university research is funded from international student income. A decline in international student revenues will have a substantial impact on the ability of universities to continue conducting world-class research.

As at 10 May 2020, NSW has the largest cohort of current visa holders outside Australia; 48,188 student visa holders within the broad education system (22%). Approximately 30,000 of these are enrolled in NSW universities. The percentage of international students as a proportion of the total student body varies widely across NSW universities, ranging from 4.32% to 38.49% of all students as displayed in Figure 1. As these students are vital to both NSW as a whole and NSW universities in particular, supporting them through the COVID-19 pandemic and helping them return to Australia afterwards are essential to the sector.

³ Data sources from [Austrade](#)

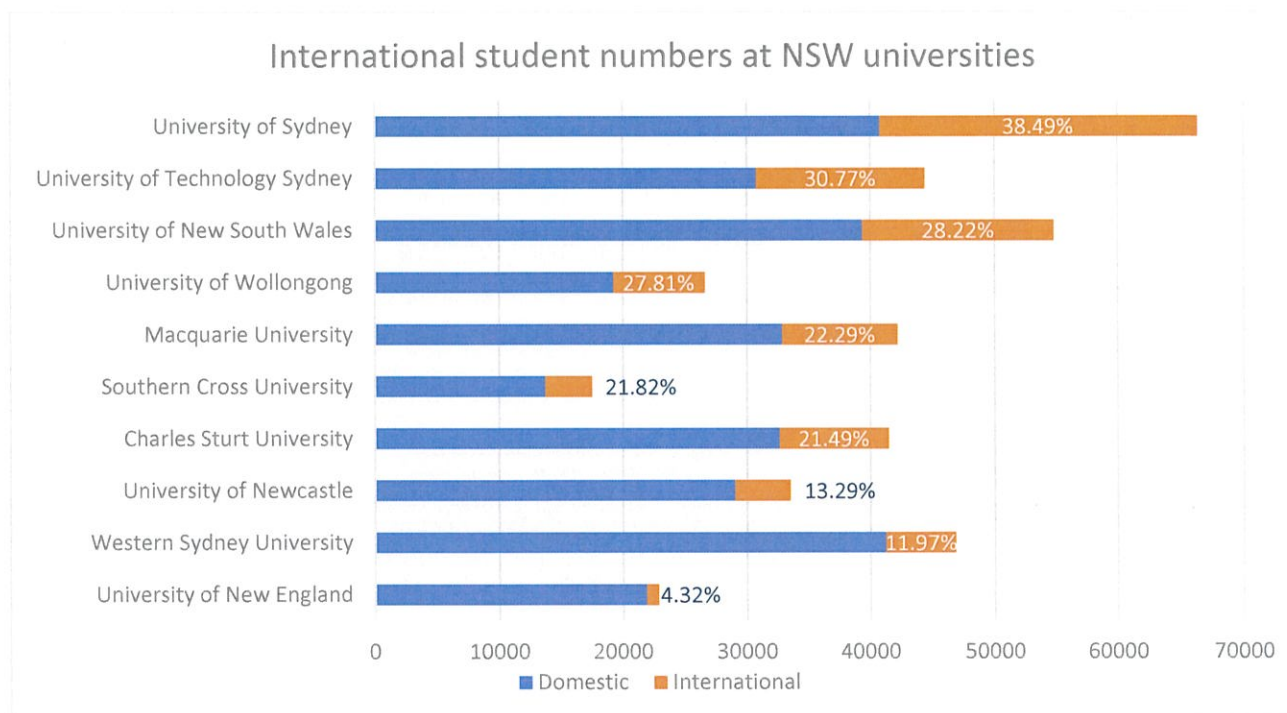


Figure 1. International students as a proportion to total students at NSW universities⁴

NSW is engaging with the Commonwealth to enable international students to re-enter NSW at the appropriate stage and strictly subject to when the public health requirements can be met. Study NSW is coordinating efforts, with the NSW Department of Education represented on the cross-agency Taskforce. These efforts will require Commonwealth support for entry, use of safe NSW quarantine and health processes involving suitable hotel accommodation, policing, security and flight arrangements.

A substantial share of the NSW international student market is made up of students from China, India and Nepal. Across the sector, students from these nations contribute \$2.4 billion to NSW universities, which is about the same level as the total revenue from domestic students. The level of reliance on students from these nations varies between universities. The Auditor-General's annual report on universities has highlighted that universities most dependent on students from these three countries for revenue are at risk from unexpected shifts in demand. NSW universities have been attempting to diversify their sources of international student income for a number of years.

⁴ 2018 data sourced from the Commonwealth Department of Education [Research Snapshot](#)

The NSW government continues to work with universities and the broader education sector to develop a plan for a financially sustainable international student sector.

International students at TAFE NSW

International students are a small percentage of TAFE NSW's student cohort. There were 4,581 international students enrolled in TAFE NSW in 2018, comprising less than two per cent of total enrolments. Of these students, 884 were enrolled in a higher education qualification.

Quality of university teaching and research

Terms of Reference addressed:

(d) *The quality of university teaching and research, including the extent and impact of insecure employment in the sector*

The quality of university teaching and research at NSW universities is rated highly by a number of external measures and rankings. University of Sydney and University of NSW are consistently ranked in the top 100 in world university ranking schemes (QS, ARWU and THE). These rankings aggregate scores based on teaching, research, internationalisation and staff/student ratios.

Australia's national research evaluation framework, Excellence in Research for Australia (ERA) 2018, shows that 67% of research disciplines assessed at NSW universities were rated at "above" and "well above" world standard. NSW universities have strengths in STEM research fields including environmental sciences, biological sciences and medical and health sciences where 9 of 10 NSW universities were ranked at "above" and "well above" world standard. Although every university in NSW has research disciplines ranked "above" or "well above" world standard, 42% are concentrated at the University of Sydney and the University of New South Wales

In 2018, NSW universities received 29% of total research income and funding. While NSW received more than any other state or territory, it lags behind other states in relation to its population share.

The majority of Australian graduates express overall satisfaction with their course, teaching quality, and skills learnt. Overall graduate satisfaction with NSW universities is high, ranging from 76.1% at the University of Sydney to 85.4% at the University of New England in 2018 and 2019. This compares to an Australia wide average of 79.9%.

NSW graduates have excellent employment outcomes. The 2019 Graduate Outcomes Survey - Longitudinal (GOS-L) shows that the full-time employment rate of undergraduate university graduates rose from 72.6% to 90.1% three years after graduation. Nine out of

ten NSW universities exceeded the three year full-time employment rate for Australian graduates.

Impact of COVID-19 on university research

Universities are central to the research and innovation ecosystem in NSW. Across Australia, universities conduct 46% of all applied research. Universities across Australia have been significantly impacted through loss of student income (international and domestic) and decreases in industry research income.

It is estimated that the COVID-19 impact will result in a \$3.5 to \$6B loss of income for the NSW university sector.

Universities rely on and use income received from international and domestic student fees to cross-subsidise costs of research and development.

- Recent ABS data showed that over half (56%) of university expenditure on research and development in 2018 (as defined by Higher Education Resources Devoted to Research and Experimental Development (HERD)) was from general university funds.
- The Commonwealth Government contributed 16%. The proportion of general university funds allocated to HERD has been increasing over the last decade.

The Rapid Research Information Forum, chaired by Australia's Chief Scientist Dr Alan Finkel AO, predicts 21,000 university jobs will be lost due to COVID-19, of which 7,000 are directly related to research.

Travel bans and university shutdowns have impacted research and development efforts, international collaborations and knowledge transfer.

- Domestic and international post-graduate students make up 57% of the university research and development workforce. Barriers to travelling to NSW to commence or continue post-graduate studies or financial barriers can reduce research developments and outputs.
- Medical research labs that were not working on COVID-19 research were shutdown, pausing critical research and future advances in other medical fields.

There are likely to be significant impacts on regional universities post COVID-19, with Institutes and Cooperative Research Centres also heavily affected.

TAFE NSW higher education programs

TAFE NSW higher education programs achieve comparable outcomes to public universities. The QILT Graduate Destination Survey indicated that in 2017- 2018, TAFE NSW higher education students' rate of transition to employment after completing their course was 77.5% of 2018 graduates. Around 77.7% of undergraduate students rated their overall education experience highly. Around 84.5% were satisfied with skills development, while 80.8% were satisfied with teaching quality.

Integration of higher education with industry, and pathways between university and VET

Terms of Reference addressed:

(e) *Levels of integration of the tertiary education sector with industry*

Increasing the level and quality of collaboration between the higher education sector and industry is one of the key tenets of the NSW Government's proposed 2020-2025 NSW Higher Education Strategy. The Strategy emphasises the benefits of partnerships between higher education, VET and industry to address skills shortages in the state, bolster research outcomes, and support new educational models that combine higher education, VET and work-integrated learning.

Many university courses require industry engagement, clinical placements or experience to complete the degree or meet professional standards, such as health, allied health and education. Many of these placements are in NSW government facilities – hospitals, health clinics and schools.

The NSW Government has made significant investments in projects that have prompted collaboration between universities and industry, while delivering substantial outcomes for NSW. For example:

The NSW Government contributed \$25 million to establish the Sydney School of Entrepreneurship in 2016 with a number of NSW universities and TAFE NSW. The School has offered a project-based and applied entrepreneurial learning environment, in addition to developing pathways into industry.

The NSW government and the Western City & Aerotropolis Authority are currently working with the university sector, TAFE NSW, industry, schools, and Commonwealth regarding the Aerotropolis. The new multiversity to be developed at the Western Sydney Aerotropolis by the NUW Alliance (a collaboration between University of Newcastle, University of NSW, and University of Wollongong) and Western Sydney University will offer a STEM-focused blended education model which integrates higher education, VET and industry training into stackable micro-credentials. The multiversity will be co-located alongside leaders in the advanced manufacturing, aerospace, agribusiness and defence industries, offering increased opportunities for industry-relevant research and career options for students.

The NSW Government has also funded the development of a number of blended higher education and VET models with close ties to industry over the last decade through the [NSW Tertiary Pathways Project](#).

Universities have also independently pursued these models. For example, Charles Sturt University partnered with TAFE NSW to offer students an undergraduate program in IT

which includes multiple VET qualifications, a university degree and industry certification from Cisco Systems.

There are many other examples of the higher education and VET sectors collaborating for the benefit of students, industry and the state. These include hundreds of robust articulation arrangements (where universities and VET providers recognise prior learning and ease the transition into a range of certificates and degrees), co-location and shared use of facilities, joint projects and scholarships.

Several existing NSW Government initiatives seek to strengthen links between the higher education sector and industry to create innovative solutions and benefit the state's economy. Some examples include the Boosting Business Innovation Program, TechVouchers, the NSW Defence Innovation Network, the NSW Smart Sensing Network, NSW Circular Economy Network and the co-location of higher education institutions in over 40 innovation precincts across the state, such as the Aerotropolis, Liverpool, and Westmead.

Industry Advisory Boards operate at a range of NSW universities, providing input on emerging industry trends, connecting students with internships, arranging guest speakers and giving feedback on the research priorities and needs of industry.

Universities also secure research engagement income from industry and not-for-profit organisations. In 2018, the ten public NSW universities received \$259 million in research funding from domestic and international for-profit and not-for-profit organisations.⁵

TAFE NSW engagement with higher education

TAFE NSW is actively engaging with universities in collaborations to increase skill development and employment in priority precincts and locations. This includes NSW Government precincts under development for the Western Sydney Aerotropolis, where the NSW Government and Commonwealth Government have agreed to develop a multiversity campus and a Specialist Advanced Training Centre, and Liverpool and Wagga Wagga Precincts.

TAFE NSW higher education agreements range from articulation and credit transfer pathways, to integrated study programs where students co-enrol in both TAFE NSW and

⁵ 2018 Higher Education Research Data Collection, <https://docs.education.gov.au/node/47851>

university courses, to commercial third party delivery arrangements where TAFE NSW delivers degree qualifications awarded by the partner institution.

TAFE NSW has over 2,000 articulation and credit transfer agreements providing pathways from VET courses to higher education courses

There are 826 pathways for current TAFE NSW VET courses to higher education. The pathway agreements are with 12 university/higher education providers (including TAFE NSW Higher Education). TAFE NSW has articulation and pathways arrangements in place with the following universities:

- Australian Catholic University
- Charles Sturt University
- Deakin University
- Griffith University
- Southern Cross University
- University of Canberra
- University of Newcastle
- University of Southern Queensland
- UTS Sydney
- University of Wollongong
- Western Sydney University

In addition to articulation, pathways and co-design of programs, TAFE NSW also has campus sharing arrangements with a number of universities.

These include:

- Newcastle: TAFE NSW and University of Newcastle share campuses for mutually beneficial sharing of student services and facilities, provide options for students to transition between study pathways
- Coffs Harbour: TAFE NSW, Southern Cross University and a high school senior college, co-located to create an education precinct
- Ourimbah: TAFE NSW, University of Newcastle and Central Coast Community College

Endorsed: Martin Graham, Deputy Secretary Education Systems Reform, NSW
Department of Education

Date: 21 July 2020

Approved: The Hon Dr. Geoff Lee, Minister for Skills and Tertiary Education

Date: 30 July 2020

Approved: The Hon. Gladys Berejiklian, Premier of NSW

Date: 3 August 2020