



The importance of TAFE Queensland to Queensland's prosperity

Final Report

November 2018



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The findings in this report have been formed on the above basis.

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Key findings

TAFE Queensland

is the largest and most experienced provider of vocational education and training in Queensland.

TAFE Queensland is a **commercially focused and community-minded organisation** serving the length and breadth of the state.

Economic contribution

In 2017

TAFE Queensland contributed



\$1.8 billion

to **QLD's Gross State Product**



TAFE Queensland contributes towards significant improvement in employment outcomes for its student cohort

63.9% employment prior to training
to **72.1%** employment after training



TAFE Queensland lifts the overall productivity of QLD's workforce

Every \$1

spent by TAFE Queensland supports



\$2.55

of value-added in the QLD economy

TAFE Queensland has over

120,851

unique students



88 Per cent

of students are **satisfied with the quality of TAFE Queensland training**



TAFE Queensland's **international students contribute over**



\$125 million

QLD's Gross State Product

94 Per cent

of employers are **satisfied with TAFE Queensland training**



TAFE Queensland directly employs over

3,980

full-time equivalent staff





KPMG's report identified six key themes where TAFE Queensland contribute to Queensland's prosperity.

Many of the key themes highlighted are interrelated, and demonstrate TAFE Queensland's holistic impact on the QLD community and economy.

Social contribution

Through a broad range of **strong partnerships with industry, government and the community**, TAFE Queensland helps drive innovation and growth across the state

Working alongside local government and businesses, TAFE Queensland **helps to create and grow industries**

TAFE Queensland provides **opportunities for 'hands-on' practical training**, which results in **work-force ready graduates**

Across almost 50 locations in QLD, TAFE Queensland **provides access to education and employment opportunities in regional and remote areas**

TAFE Queensland **delivers contemporary skills and training** to prepare graduates for the **jobs of today**, and the required **upskilling and reskilling for the jobs of tomorrow**

Across the state, TAFE Queensland **develops new offerings to respond to local needs and skills shortages**

TAFE Queensland **provides access and equity to training, enrolling students from diverse education and socio-economic backgrounds**, and improving the economic prospects for some of Australia's most disadvantaged persons



TAFE Queensland **attracts international students to study in QLD**, and **supports international VET delivery**, ultimately **contributing to an international orientation** for its student and staff cohort

TAFE Queensland has some **world class facilities and courses**

Shaping QLD's Future State

TAFE Queensland supports Queensland to address ongoing challenges to its prosperity through:

- supporting Government priorities to advance Queensland
- responding to industry demand and skill shortages in key sectors to allow the economy to grow
- supporting businesses to innovate and grow



1. Executive Summary

INTRODUCTION

TAFE Queensland is the largest and most experienced provider of vocational education and training (VET) in Queensland, with 136 years of history. TAFE Queensland is a commercially focused and community-minded organisation serving the length and breadth of the state.

TAFE Queensland offers practical, industry relevant training in over 530 qualifications from foundation skills and entry level workforce qualifications to higher education degrees across more than 50 locations in Queensland. In 2017, TAFE Queensland had over 120,000 student enrolments. TAFE Queensland students are predominantly from Queensland (93 per cent), approximately 54 per cent are over 25 years of age, and a significant proportion of students study part time (83 per cent).

TAFE Queensland's mission is to deliver quality education and training that enables the careers of its students and the development of the industries and communities it serves – it is timely therefore, to assess and demonstrate the contribution TAFE Queensland makes to the economic and social prosperity of Queensland.

SCOPE

KPMG has been engaged by TAFE Queensland to undertake analysis of its contribution to Queensland's prosperity.

In undertaking its analysis, KPMG used a variety of data sources, including TAFE Queensland student data and financial data, and data from the Australian Bureau of Statistics (ABS), National Centre for Vocational Education Research (NCVER), Commonwealth Department of Education and Training, Commonwealth Department of Jobs and Small Business, analysis based on Household, Income and Labour Dynamics in Australia (HILDA) Survey data, and Tourism Research Australia. These sources have been used to guide the assessment of the social and economic benefits of TAFE Queensland – including identification of the direct economic impacts, and indirect economic and social impacts.

KEY FINDINGS

KPMG's analysis found that TAFE Queensland makes a vital contribution to the Queensland economy through productivity benefits, employment opportunities, and the provision of a higher skilled labour force.

TAFE Queensland works collaboratively with industry and government to shape education and training, and to equip the workforce with skills in a range of sectors important for Queensland, now and into the future.

TAFE Queensland continues to demonstrate that it has a broader remit than the delivery of training and education alone, with a role in providing substantial services to the public and in supporting local communities. TAFE Queensland is regionally engaged and supports local growth; partners with industry to help drive innovation and meet business needs; is globally focused and a destination for international students; and champions equity and access to education and training for all Queenslanders.

KPMG's economic modelling estimates that:

- TAFE Queensland makes a vital contribution to the Queensland economy. In 2017, **TAFE Queensland contributed \$1.8 billion to the Gross State Product (GSP)**. This comprised:
 - **Household consumption of \$649 million**, relating to education spending and additional consumption due to higher household incomes as a result of a more productive workforce and increased household wages.
 - International and inter-regional exports that **enable Queensland industries to export goods and services of \$677 million**. International students directly contribute to larger exports, whilst a more productive workforce lowers production costs for Queensland industries relative to other states and overseas competitors, which also increases exports.
 - **Investment of \$448 million**, which includes the direct investment by the Queensland Government in the state-owned training assets used by TAFE Queensland, as well as increased investment by other industries as a result of increased output.¹
- **Every \$1.00 spent by TAFE Queensland, combined with the attraction of international students and the upskilling of the workforce, supported \$2.55 of value-added in the Queensland economy.**

KPMG's analysis highlights that TAFE Queensland, in its role as a public provider, has a broader remit than the delivery of quality training and education alone, with a role in providing substantial services to the public and in supporting local communities. **The public charter that TAFE Queensland fulfils is extensive and differentiates it from other providers** – commitments related to this role are wide-ranging, and include the breadth of education and training offered, even when there may be low demand, and the extensive locations of TAFE campuses across the state, including support and services provided into regional communities.

Through TAFE Queensland's training, an increase in skilled labour supply allows industries to fill labour shortages and produce more output, providing growth for the Queensland economy, with a range of sectors benefitting directly from the skills provided by TAFE Queensland-trained students. In 2017, **productivity benefits as a result of upskilling students supported an additional \$1.1 billion of industry value-added in the Queensland economy.**

TAFE Queensland works collaboratively with government, industry and all tiers of educational institutions to deliver training to meet the future needs of Queensland's economy, and in the process is supporting the Queensland Government's ability to deliver on its investments, particularly in sectors and job clusters that are aligned with economic growth areas. TAFE Queensland is responsive to the needs of the state, working with the Queensland Government to respond to new policy, frameworks or data, to deliver the required training to meet the demand for future skills. For example, Jobs Queensland undertakes research and provides advice regarding future scenarios and trends in the labour market; TAFE Queensland aligns its offerings to areas of need to ensure the appropriate training and education offerings are available and delivered to support Queensland, and the nation.

TAFE Queensland has kept ahead of changes to industry sectors in Queensland as growth and transformation has occurred, influencing jobs and the skills required to perform them. Through this work, **TAFE Queensland contributes to the workforce of the future** across key industries, including in contemporary disciplines such as aged health care, community services and responding to the National Disability Investment Scheme, and drone operations in engineering, and ICT training in cyber security. With a global focus on responding to the evolving labour market and the need for highly skilled and adaptable workers, **TAFE Queensland is delivering contemporary and relevant skills and training to prepare graduates for the jobs of today, and the necessary upskilling and reskilling for the jobs of tomorrow.**

Within regional and remote areas, **TAFE Queensland plays a critical role in working alongside local governments and businesses to create and grow industries.** Across the state, TAFE Queensland develops new offerings to respond to local needs and skills shortages – for example, in multiple locations including its Mooloolaba campus and in Queen's Wharf Brisbane, new programs have been designed in

¹ In addition to these three components, the remaining contributors to GSP are higher government expenditure and imports. Higher imports have a negative impact on GSP and, as such, the net effect of these two impacts is a small increase in Queensland GSP, leading to the \$1.8 billion result.

collaboration with business to fill growing industry demand in the region across the hospitality and tourism sector, a key economic priority for the Queensland Government.

TAFE Queensland is committed to providing access to education in regional and remote areas through the introduction of new, and a refresh of existing, campuses in areas of high population growth, prioritising the alignment of delivery locations to demand for education and training offerings.

TAFE Queensland has a broad range of strong partnerships and linkages with industry, which support innovation and help businesses to grow. These relationships are critical, particularly to ensure that **TAFE Queensland aligns training delivery in areas of emerging need, and to meet the demands for new skills as rapid industry transformation occurs**. For example, through a 10 year partnership with a leading Australian health provider Ramsay Health Care, TAFE Queensland designed training to equip graduates with workforce skills that are essential when entering the job market, particularly in an industry sector facing skills shortages. TAFE Queensland also has a longstanding partnership with Toyota Motor Corporation Australia, to deliver a highly customised training program to ensure Toyota's apprentices meet both international standards and national training system requirements. **Of the occupations with skill shortages in Queensland, a substantial proportion relate to occupations supported by VET qualifications rather than higher education qualifications.**

TAFE Queensland has a focus on **providing a range of opportunities for 'hands-on' practical training, and results in workforce-ready graduates**. The results of TAFE Queensland's work are evident in the high student employment outcomes – **employment in TAFE Queensland's student cohort increased from 63.9 per cent prior to training to 72.1 per cent after training**, and at the aggregate level, TAFE Queensland's training **contributes to a reduction in Queensland's unemployment rate**.

In addition, **TAFE Queensland provides students with a high level of flexibility, allowing them to access lifelong learning** and skill development as required throughout their careers. Through this approach, TAFE Queensland provides students with quality training and innovative courses that give them technical knowledge and competency that allows them to gain more highly skilled roles in the workforce. **TAFE Queensland provides training that enables students to move from traditionally lower skilled industries to higher skilled industries**, benefiting students through higher pay, and employers through access to more productive workers and the ability to fill labour shortages.

TAFE Queensland visibly demonstrates its **commitment to public good by providing access and equity to training, enrolling students from diverse education and socio-economic backgrounds**, and offering and managing flexible payment plans to increase the affordability of training for students. This provides critical and unique benefits to improve economic prospects for some of Australia's most disadvantaged persons, through providing training that leads to employment or a pathway to further education.

TAFE Queensland also plays a leadership role within the Queensland community by proactively introducing and managing initiatives designed to create changes in the community, including the **Transition 2 Success** Program and a community-based **Aboriginal and Torres Strait Islanders teacher education** program. Furthermore, the Commonwealth Government awarded TAFE Queensland the contract to provide the **Adult Migrant English Program**, and **Skills for Education and Employment** services, for Queensland after a competitive process.

As an indicator of its contributions to social inclusion, **TAFE Queensland students are more likely to be Indigenous or identify as having a disability** than students of private providers in Queensland.

Through its inbound and outbound students, TAFE Queensland supports Queensland's strategies to grow the state's international education and training sector. Overall, **TAFE Queensland international students contribute \$125 million of value-added in the Queensland economy**. TAFE Queensland's international focus supports two-way international engagement, by also providing opportunities to its students and staff to access global learning and teaching experiences, including through the Australia-Pacific Training Coalition, and other education, training and consultancy engagements across the globe. This global focus contributes to a greater sense of multiculturalism in Queensland, providing students and staff with a global outlook, while also significantly contributing to Queensland's economy.

CONCLUSION

As a public provider of VET, TAFE Queensland is a trusted brand and carries a reputation in industry that gives employers a level of assurance around the skills and knowledge of potential employees, delivering the full scope of training and services to support and drive the Queensland economy and its communities.

As Queensland faces skill shortages in key growth sectors, the growing need for workforce upskilling, and ongoing industry transformation, TAFE Queensland has a critical role in sustaining and growing Queensland's prosperity into the future.

Through TAFE Queensland's strong industry partnerships, investments in developing training to meet changing employer needs, and the leadership role of TAFE Queensland in engaging with rural and remote regions and reaching out to Queensland's more marginal student cohorts, TAFE Queensland demonstrably makes a significant contribution to the state, highlighted through:

- Generating \$2.55 of value-added in the Queensland economy for every \$1.00 spent by TAFE Queensland
- Contributing \$1.8 billion to Queensland's Gross State Product (GSP)
- Productivity benefits supporting an additional \$1.1 billion of industry value-added in the Queensland economy
- Increasing employment in its student cohort from 63.9 per cent before, to 72.1 per cent after, training
- Attracting over 10,000 international student enrolments in Queensland.

1.1 Scope of work

KPMG was engaged by TAFE Queensland to undertake an analysis of its economic and social contribution to Queensland.

As part of this engagement, a range of data sources were used to guide the assessment of the economic and social benefits of TAFE Queensland to Queensland – this includes identification of the direct economic impacts, and indirect economic and social impacts.

To support the economic modelling and broader analysis that was undertaken as part of this engagement, KPMG assessed both TAFE Queensland data and publicly available data sources. KPMG received student and financial data from TAFE Queensland, and sourced additional inputs for analysis from the National Centre for Vocational Education Research (NCVER), Australian Bureau of Statistics (ABS), HILDA, and other relevant Commonwealth Department data (refer to Appendix A.3 for further discussion).

To estimate the *economic contribution* of TAFE Queensland to Queensland, KPMG used computable general equilibrium (CGE) modelling, a comprehensive tool for estimating economy-wide effects. Economy-wide impacts consist of the direct and indirect (or flow-on) effects of TAFE Queensland's activity on the economy and the broader community. The analysis applied KPMG's sophisticated in-house regional CGE model (KPMG-REG), which has been used extensively to analyse policy reforms and economic impacts at the state level. Detailed information regarding the KPMG-REG model is provided in Appendix A.3.

To analyse the *social impact* that TAFE Queensland makes to Queensland, a comprehensive and strategic analysis of current literature was undertaken to identify emerging themes, including reference to domestic and international evidence. To support the key themes emerging from the social impact analysis, case studies were sourced to provide additional context and tangible examples of the wider benefits to individuals, businesses, and communities. Case studies were provided by TAFE Queensland and supplemented by publicly available sources, including annual reports and other published materials.

1.2 Structure of this report

This report is structured around the following sections:

- **Infographics:** The infographic at the start of this report provides a graphical overview of the key findings and insights contained throughout this report.
- **Section 1 – Executive Summary:** The Executive Summary provides an overview of the development of the report and its key messages.
- **Section 2 – Introduction (this section):** The introduction outlines the scope of work that KPMG has been engaged to provide, and the methodology for developing this report.
- **Section 3 – Overview of TAFE Queensland's role in Queensland:** This section provides an overview of TAFE Queensland, its distinct role in Queensland's education system, and a brief overview of its student data.
- **Section 4 – Impact Analysis:** This section provides detailed analysis and discussion of each of the key messages contained in this report. Each of the economic and social impacts is supported by case studies which illustrate specific practical examples of the contribution of TAFE Queensland.
- **Section 5 – Appendices:** This section provides technical details regarding key aspects of the analysis undertaken as part of this report.

Throughout this report, case studies have been included to bring to life the breadth of tangible examples where TAFE Queensland is delivering outcomes for Queensland's economy and community.

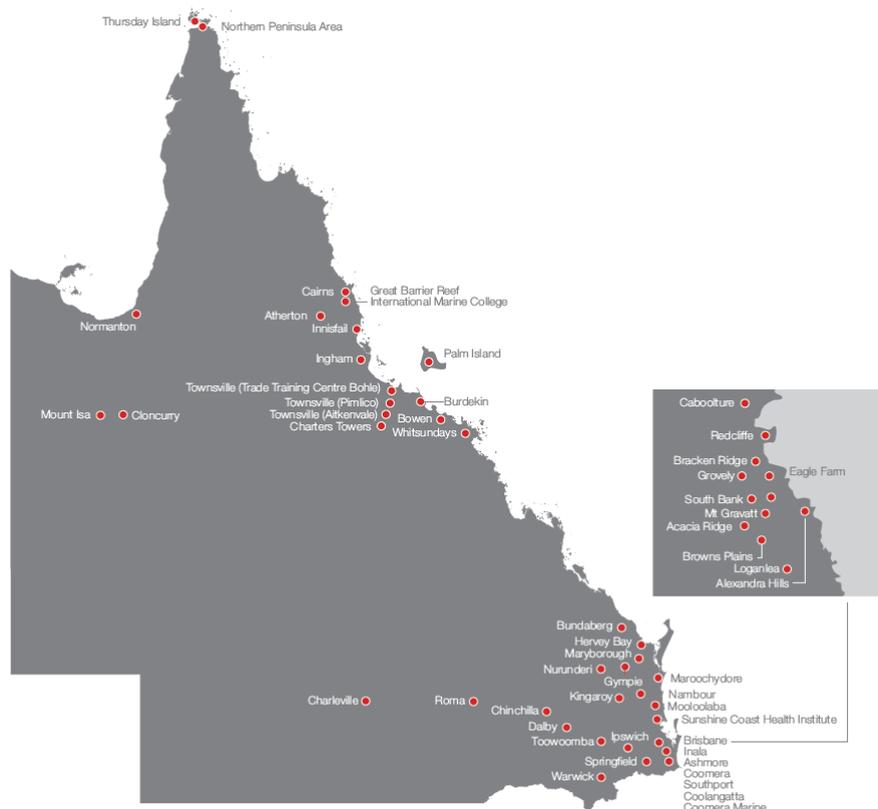
2. Overview of TAFE Queensland's role in Queensland

2.1 Overview of TAFE Queensland

With 136 years of history and through an extensive state-wide network, TAFE Queensland is the largest and most experienced provider of vocational education and training (VET) in Queensland. TAFE Queensland is a commercially focused and community-minded organisation serving the length and breadth of the state², with a mission to deliver quality education and training that enables the careers of its students and the development of the industries and communities it serves.³

In alignment with the Queensland VET Quality Framework and compliance with the Standards for Registered Training Organisations (RTOs) 2015, TAFE Queensland offers practical, industry relevant training in over 530 qualifications from foundation skills and entry level workforce qualifications to higher education degrees across more than 50 locations in Queensland (**Figure 1**).

Figure 1: TAFE Queensland locations across Queensland



Source: TAFE Queensland

² TAFE Queensland Annual Report 2016-17

³ TAFE Queensland Annual Report 2017-18

TAFE Queensland’s physical footprint is extensive, and covers an area from Thursday Island in the North, Coolangatta in the South and Hervey Bay in the East, to Mount Isa in the West.

TAFE Queensland offers quality and flexible training through a variety of modes, including traditional classroom delivery, distance learning, online tuition, workplace training, and a blended method combining two or more delivery modes.

TAFE Queensland delivers apprenticeship training, vocational certificates, skillsets and short courses, diplomas, advanced diplomas, and higher education Bachelor degree qualifications – meeting the needs of industry and ensuring graduates are job-ready and leaders in their chosen occupations. As the largest provider of trade and technician training in the state, TAFE Queensland apprentices and trainees learn skills, expertise and technologies currently used in the workplace as Queensland’s teachers are both personally and professionally connected to many specialists and organisations in their industry.

2.2 TAFE Queensland enrolments

In 2017, TAFE Queensland had a total of 196,993 program enrolments.⁴ Program enrolments within TAFE Queensland increased by nearly 14 per cent in 2017, compared with 2016. Across this period, TAFE Queensland’s international student enrolments increased by 21 per cent. There was a decline in the number of total graduates (-1.92 per cent) between 2017 and 2016 within TAFE Queensland (**Table 1**).

Table 1: TAFE Queensland training delivery in 2016 and 2017

	2016	2017	Percentage Change
Program enrolments	172,899	196,993	13.94%
International enrolments	9,087	10,994	21%
Graduates (excl. Statement of Attainments)	27,580	27,049	-1.92%

Source: NCVER VOCSTATS, Calendar Years 2016- 2017, KPMG analysis.

Table 2 below shows the number of TAFE Queensland graduates by level of training, indicating a decline in Certificate IV graduates, and a significant increase in the Certificate I graduates. Across this period, graduates from Diploma or higher level training increased by over 5 per cent.

Table 2: TAFE Queensland graduates by level of training in 2016 and 2017

	2016	2017	Percentage Change
Diploma or higher	7,369	7,746	5.11%
Certificate IV	6,062	4,527	-25.33%
Certificate III	10,642	10,927	2.67%
Certificate II	3,122	3,249	4.06%
Certificate I	385	601	56.21%

Source: NCVER VOCSTATS, Calendar Years 2016- 2017, KPMG analysis.

⁴ NCVER VOCSTATS, Calendar Years 2016- 2017

In 2017, 93 per cent of students were from Queensland, with another 1.1 per cent from New South Wales, 1.2 per cent from other states, and the balance of students were from overseas (4.6 per cent).⁵ As outlined in **Table 3** below, approximately 54 per cent of TAFE Queensland students are over 25 years of age, and a significant proportion of TAFE Queensland students study part-time (83 per cent).

Table 3: TAFE Queensland Student comparative cohort 2017 – age and full-time status

	TAFE Queensland	Australian TAFE	Queensland private VET providers
Age – Under 25 years	46%	45%	26%
Age – 25 years and over	54%	55%	74%
Status – Part-time	83%	82%	92%
Status – Full-time	17%	18%	8%

Source: NCVET Total VET students and courses 2017 Data slicer – estimates of students, KPMG analysis

2.3 TAFE Queensland’s operating environment

TAFE Queensland contributes to the Queensland Government’s objectives for the community through industry engagement and skills development to align to industry requirements and job opportunities, student growth and community presence.⁶

The Queensland Government is committed to advancing Queensland’s priorities, and *Our Future State* provides a clear plan for addressing the major challenges facing the state.⁷

Figure 2: Our Future State – Advancing Queensland’s Priorities



Source: *Our Future State, Advancing Queensland's Priorities, State of Queensland, April 2018*

⁵ TAFE Queensland data

⁶ TAFE Queensland Annual Report 2017-18

⁷ *Our Future State, Advancing Queensland's Priorities, State of Queensland, April 2018*

The Government continues to make investments which aim to support the creation of jobs in a strong economy, including growth and innovation in key sectors within Queensland such as mining, energy and water; farms, fishing and forestry; hospitality, tourism and sport; transport and logistics; building, property and development; science, IT and creative industries; and manufacturing and retail.⁸

Education and training provided by TAFE Queensland is intended to underpin the success of this agenda through skilling for the future, and ensuring young Queenslanders will thrive in the changing world of work.⁹ TAFE Queensland's mission is to deliver quality education and training that enables the careers of its students and the development of the industries and communities it serves – aligned with the Government's objective to drive higher levels of engagement in education that meets the demands of the future economy and ensures individuals can skill and upskill to remain agile and responsive throughout their careers.¹⁰

⁸ Queensland Government, Business Queensland – Investing in Queensland, <https://www.business.qld.gov.au/>, Accessed 13 Nov 2018

⁹ Our Future State, Advancing Queensland's Priorities, State of Queensland, April 2018

¹⁰ Our Future State, Advancing Queensland's Priorities, State of Queensland, April 2018

3. Impact Analysis

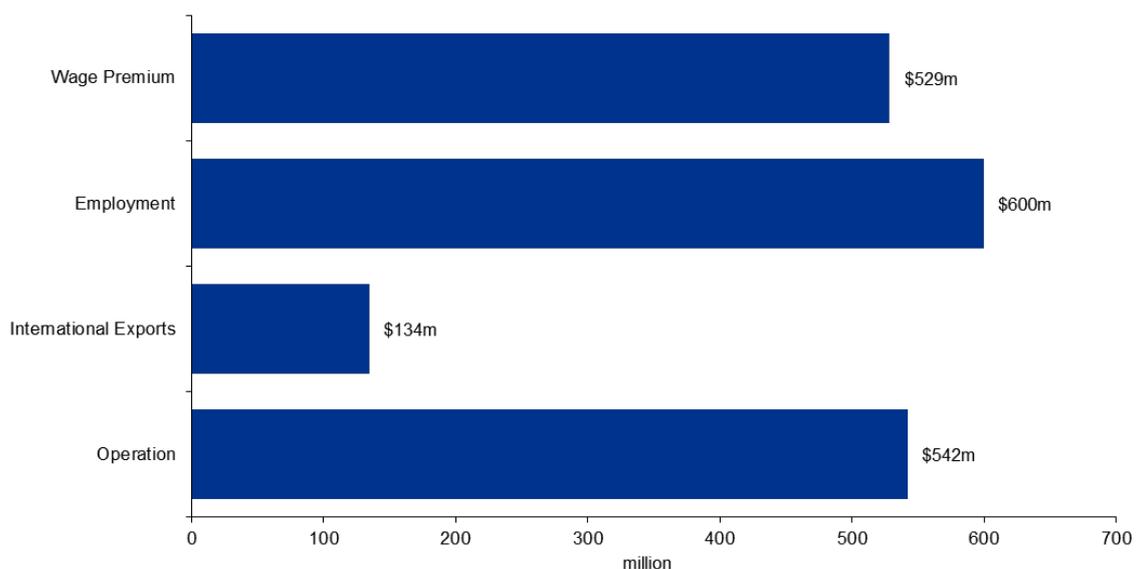
3.1 Economic modelling overview

KPMG’s economic analysis found that **TAFE Queensland makes a vital contribution to the Queensland economy.**

TAFE Queensland provides pathways for students to enter the labour force, upskill, increase productivity, and achieve higher wages. As a result, Queensland businesses, and the Queensland economy as a whole, benefit from a more productive workforce. Through its training programs, TAFE Queensland provides strong employment opportunities for Queensland students, and its operational expenditure supports local industries. Further, international TAFE Queensland students studying in Queensland deliver benefits to the economy via education fees and consumption spending that supports local business.

The headline aggregate result of KPMG’s modelling of these economic impacts is that **in 2017 TAFE Queensland contributed \$1.8 billion to Queensland’s GSP** (refer to Sections A.3 and A.4). **Figure 3** shows the importance of the four main effects of TAFE Queensland to the higher GSP of \$1.8 billion. The three major contributors are higher productivity (\$529 million), improved employment outcomes (\$600 million), and Queensland TAFE’s direct operations (\$542 million). International exports contribute much less at \$134 million.

Figure 3: Dollar change in Queensland GSP due to TAFE Queensland



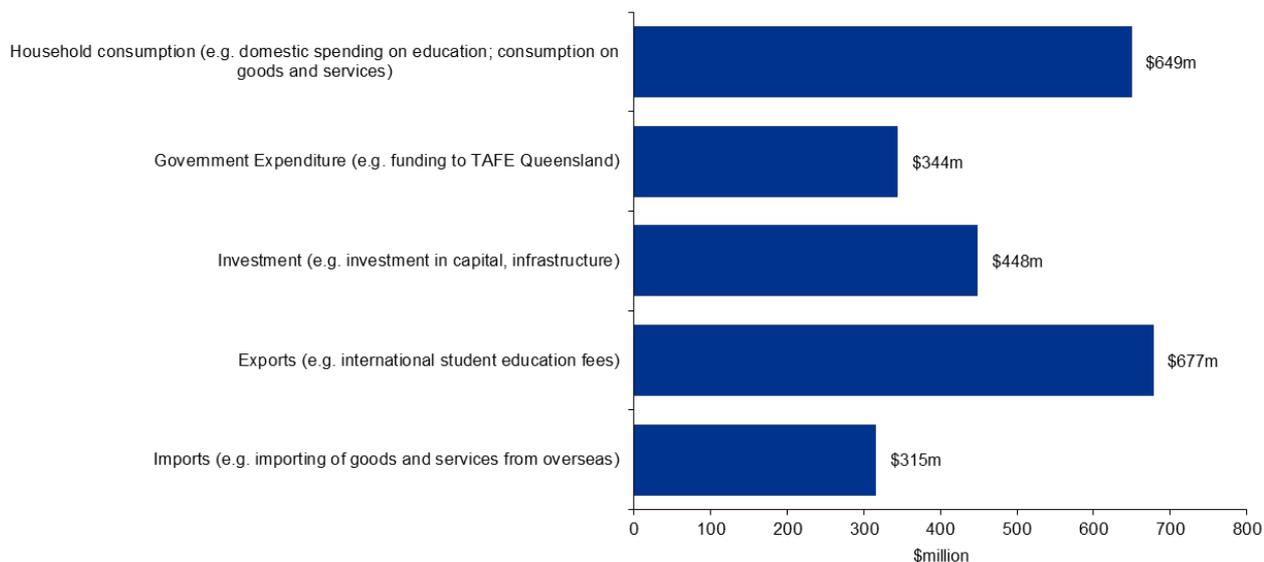
Source: KPMG-REG model

Note: $GSP = Household\ Consumption + Government\ Expenditure + Investment + (Exports - Imports)$

All Queensland businesses and individuals benefit from the operations of TAFE Queensland. In addition to expenditure in the local economy, TAFE Queensland delivers productivity benefits that enhance the productive capacity of Queensland industries, raise employment rates for the students they train and attract international students that increase exports. Total expenditure to support the operation of TAFE Queensland was around \$707 million in 2017 and the total economic value realised by Queensland was \$1.8 billion. That is, **every dollar spent by TAFE Queensland, combined with the attraction of international students and the upskilling of the labour force, supported around \$2.55 of value-added in the Queensland**

economy – this demonstrates the substantial contribution of TAFE Queensland to the Queensland economy.

Figure 4: Dollar change in components of real expenditure-side GSP (Queensland)



Source: KPMG-REG model

Note: $GSP = Household\ Consumption + Government\ Expenditure + Investment + (Exports - Imports)$.

The increase in the size of the Queensland economy occurs as follows:

- The largest contributor to **higher GSP is household consumption of \$649 million**. This relates to education spending and additional consumption due to higher household incomes as a result of a more productive workforce and higher household wages.
- The second largest contributor to higher GSP is international and inter-regional exports that **enable Queensland industries to export goods and services of \$677 million**. International students directly contribute to larger exports, whilst a more productive workforce lowers production costs for Queensland industries relative to other states and overseas competitors, which also increases exports.
- The third largest contributor to higher GSP is investment at \$448 million; this includes the direct investment by the Queensland Government into the state-owned training assets used by TAFE Queensland, as well as increased investment by other industries as a result of increased output.
- The remaining contributors to GSP are higher government spending on grants, and imports. Higher government spending offset the higher imports so that the net contribution to Queensland GSP is a small positive.

For further discussion regarding the economic modelling methodology, refer to Sections A.3 and A.4.

3.2 Key findings overview

The remainder of this section steps through the key impact themes identified through the development of this report. A snapshot of our key findings relating to our analysis is set out below, and is then discussed in further detail in the following pages.

1	Future-focused training	Education and training provided by TAFE Queensland is intended to underpin the success of the Queensland Government's investments through skilling for the future, and ensuring young Queenslanders will thrive in the changing world of work. TAFE Queensland's leadership in providing training to support government initiatives, and developing products and services, across key growth areas, is equipping the future workforce and delivering benefits to the Queensland economy.
2	Regionally engaged and supporting growth	TAFE Queensland has an extensive footprint across the state, providing industry focused training and graduates with the appropriate work-ready skills, which are essential for meeting the specific needs of business and industry, and attracting new industries to regions. In its role as the public provider, TAFE Queensland has a broader remit than the delivery of training alone, as it provides other services to the public and support to local communities.
3	Responsive to industry needs	TAFE Queensland has a broad range of strong partnerships and linkages with industry, which support innovation and help businesses to transform and grow. These relationships are critical, particularly to align with training delivery in areas of emerging need, and to meet the demand for new skills as rapid industry transformation occurs. TAFE Queensland works in collaboration with industry to provide 'hands-on' training and partner on a range of applied research initiatives.
4	Building, upskilling and reskilling Queensland	TAFE Queensland has a focus on building the skills of new graduates, upskilling existing employees and reskilling those that are transitioning into new sectors or roles. This focus provides students with high levels of flexibility, allowing them access to lifelong learning and to enrol, exit, and re-enter study as required. This translates into high student employment outcomes, supporting the Queensland economy through meeting skills needs across the state.
5	Inclusive training environment	TAFE Queensland demonstrates its commitment to public good by providing access and equity to training, including in thin markets, and enrolling students from diverse education and socio-economic backgrounds. This provides critical and unique benefits to improve the economic prospects for some of Australia's most disadvantaged persons, through providing training that leads to employment or a pathway to further education.
6	International focus	TAFE Queensland maintains an international focus, including attracting students to Queensland to undertake training at TAFE and supporting its students to train overseas. This global focus contributes to a greater sense of multiculturalism in Queensland and provides the broader student cohort with a global outlook, while also significantly contributing to the state's economy.

3.3 Future focused training

Future-focused training

1

Education and training provided by TAFE Queensland is intended to underpin the success of the Queensland Government's investments through skilling for the future, and ensuring young Queenslanders will thrive in the changing world of work. TAFE Queensland's leadership in providing training to support government initiatives, and developing products and services, across key growth areas, is equipping the future workforce and delivering benefits to the Queensland economy.

The development of skills are critical for Australia's economic and social prosperity – given that 'skills have become the global currency of the 21st century'.¹¹ Research indicates that disruptive technologies are influencing the demand for both technical and soft skills in many occupations, with some skills in decline and others in higher demand.¹² Accordingly, increasingly education and training must be future focused and teach broader skills and attributes that will allow students to be prepared to undertake the jobs of the future.¹³

TAFE Queensland is operating in a broader training and education environment that is rapidly evolving; more than ever before, the current and future workforce need to prepare for the changing requirements of jobs – both the jobs themselves, and the skill profiles within jobs – a situation that provides both challenge and opportunity for the TAFE system in responding to the rapidly changing needs of employers, as well as the job aspirations of students.¹⁴ As the largest provider of education and training in Queensland, TAFE Queensland is a leading training organisation that is growing the region's talent by developing and delivering innovative training to meet the needs of new and emerging industries.

The need to anticipate changes in the market and prepare for upskilling are critical priorities to equip employees with the skills and capabilities needed for the future. In the workplace, employees seek to acquire contemporary and relevant skills to gain employment, and importantly, to build and retain transferable skills to maintain employment. To meet these needs, a wide range of stakeholders, including industry, government, and all tiers of educational institutions, need to collaborate and share resources. TAFE Queensland is already working collaboratively across these boundaries to deliver benefit to Queensland, taking the lead in this area as Queensland's largest public provider committed to ensuring the community has the skills and capabilities needed for the future workplace. For example, TAFE Queensland SkillsTech provides leading edge specialist trade training across a wide variety of industry areas to support Queensland and the state's emerging industry (see *Case Study for more information*).

In addition to a focus on meeting future training needs, TAFE Queensland contributes to Australia's innovative capacity, particularly through its broad range of successful partnerships and linkages with industry, which support innovation and help businesses to transform and grow.¹⁵ These relationships are critical, particularly in aligning training delivery in areas of emerging and future industry need, e.g. to assist in the offset of losses in sectors experiencing transformation and/or support sectors where job growth is occurring or expected.

Through links with industry, TAFE Queensland helps translate new knowledge into the workforce, supporting the diffusion of innovation more broadly. In parallel, through their partnerships with TAFE Queensland, businesses are able to access a range of services, including research capability, training

¹¹ OECD, 'Better Skills, Better Jobs, Better Lives', OECD Publishing, 2012.

¹² Seet P, Jones J, Spoehr J and Hordacre A, 'The Fourth industrial Revolution: the implications of technological disruption for Australian VET', National Centre for Vocational Education Research, 2018

¹³ Mann, A. (2015) How should our schools respond to the changing demands of the twenty first century? Education & Skills Today. Available online: <http://oecdeducationtoday.blogspot.com/2015/03/how-should-our-schools-respond-to.html>

¹⁴ KPMG, 'The Importance of TAFE to Victoria's prosperity', 2018; 3. McCrindle Research 2014, Job mobility in Australia using HILDA and Department of Education data, <http://mccrindle.com.au/the-mccrindle-blog/jobmobility-in-australia>

¹⁵ TAFE Queensland Annual Report 2017-18

expertise, and infrastructure, to explore their pressing challenges and drive their innovation agenda.¹⁶ For example, TAFE Queensland established its High Density Polyethylene (HDPE) Training Centre of Excellence, working with industry partners to address a critical gap in skills training of HDPE welders to support the Queensland growing coal seam gas domestic and international export markets.¹⁷

In addition, TAFE Queensland has partnered with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) to deliver unique applied research that charts a course for future proofing Australia's changing workforce from the impacts of digital disruption and technological advancement.¹⁸ 'The VET Era' report analyses occupational trends and external impacts that are predicted to change the Australian economy to identify the skills that will be critical to organisations, and to ensure that products and services meet the needs of tomorrow's workforce.

TAFE Queensland has also embraced a future-focused approach to providing training and support for fostering innovation amongst entrepreneurs, start-ups, and small businesses across the state (see *Case Study for more information*). These activities support the Queensland Government to achieve a strong economy and drive innovation through the development of a future workforce with skills in a range of sectors and job clusters that are aligned to Queensland's economic growth areas, including health, agriculture and horticulture, building and construction, hospitality, ICT, tourism, and manufacturing and design.¹⁹

With a global focus in responding to the evolving labour market of the future and the need for highly skilled and adaptable workers, TAFE Queensland is delivering contemporary and relevant skills and training to prepare graduates for the jobs of today, and tomorrow.

Productivity growth is one of the key pillars of long-term growth in the economy. Education and training has substantial benefits for individuals and the economy by providing them with the skills to improve their productivity.

The skills and technical abilities provided to students by TAFE Queensland contributes to more productive employees, which in turn results in a larger Queensland economy. Having more productive employees in one industry also results in flow-through benefits for other industries (i.e. higher productivity in industry A will mean lower output prices that will benefit other industries using the output of industry A).

KPMG estimates that in 2017, **productivity benefits** as a result of upskilling students through TAFE Queensland **supported \$1.1 billion of value-added in the Queensland economy**.

¹⁶ Beddie F, Simon L, 'VET applied research: driving VET's role in the innovation system', National Centre for Vocational Education Research, 2017

¹⁷ TAFE Queensland, ARIES Case Studies 2016, Centre for Applied Research and Innovation, 2016

¹⁸ TAFE Queensland Solutions

¹⁹ Queensland Government, Business Queensland – Investing in Queensland, <https://www.business.qld.gov.au/>, Accessed 13 Nov 2018

Case Study

Delivering the skills and capabilities needed for the future workplace

TAFE Queensland SkillsTech works closely with industry to ensure that future workers have the required skills as technology continues to evolve.

TAFE Queensland SkillsTech offers the broadest range of automotive training in the state for apprentices, licensing and advanced automotive skills. It has over \$60 million invested in large scale automotive training facilities, and there is a strong working relationship with employers, for example mutually developing the skills of apprentices within the workplace.

TAFE Queensland SkillsTech staff identified that mandatory six-week training blocks that students had to undertake were inconvenient for employers – especially small to medium sized businesses – where their absence from the workplace created staff shortfalls, stretched capacity and led to a loss of productivity.

Accordingly, TAFE Queensland SkillsTech set about increasing the flexibility of training delivery, designing and implementing a new model where educators and their facilities would go to the workplace. Three mobile automotive training vans, set up like mini-classrooms, were made available to deliver training in the workplace, in an innovative solution not seen before in Queensland. Feedback from both employers and students indicates high levels of satisfaction with the new concept.

Additionally, TAFE Queensland SkillsTech has been instrumental in developing a program to increase industry capacity to meet international welding standards in support of major defence projects such as the Rheinmetall Land400 projects, using latest technology Augmented Reality welding simulators.

TAFE Queensland SkillsTech meets industry needs not only in how it delivers training, but also through the breadth of training offerings provided. Through a partnership with the electrical contracting sector, TAFE Queensland SkillsTech has developed certified apprentices to support industry as it rapidly innovates.

For example, in the field of telecoms cabling, historically apprentices undertook 'CAT5' network cabling certification, which evolved to CAT5E (enhanced cabling) and was then replaced by CAT6 (ethernet cabling) training. As equipment in this field has evolved and improved, so too has the role of electrical contractor become more diversified. As such, the curriculum required for accreditation now has more options available to ensure students have access to the appropriate specialisations to meet industry needs and deliver learning outcomes appropriate for the contemporary workplace. Ten years ago, a typical electrician would have a Certificate III in electrical wiring, and now a typical electrical contractor may have a Certificate III in telecommunications and a Certificate IV in engineering (HVAC – air conditioning).

Success outcomes for TAFE Queensland from the introduction of new training specialisations and innovative delivery modes include high completion rates and nearly 100 per cent employment rates after graduation.



Case Study

Support for fostering innovation in local business and for up-and-coming entrepreneurs

TAFE Queensland has embraced a future-focused approach to providing training and support for fostering innovation amongst entrepreneurs, start-ups, and small businesses across the state.

Answering the calls of local business owners for a community co-working space, TAFE Queensland has unveiled a new shared-space at their Gympie campus.

TAFE Queensland East Coast region's Centre Director for Creative and Digital said "the percentage of start-ups in this region is phenomenal and as an organisation that strongly encourages innovation and is dedicated to supporting local business, TAFE Queensland felt it was important to provide Gympie's community with access to professional facilities where they can work, hold meetings and undertake workshops".

It is anticipated that the co-working space will directly benefit those local businesses that access the facilities, while also helping to foster innovation among the Gympie business community more broadly.

In addition, TAFE Queensland is actively driving entrepreneurial skill development in school-age students. Students in years 11 and 12 across the Sunshine Coast are now being given the chance to get ahead in the start-up space, following the introduction of an innovative training program at TAFE Queensland's Mooloolaba campus earlier this year.

Based on the proportion of the population who own their own business, the Sunshine Coast is arguably the entrepreneurial capital of Australia – and with the introduction of the international submarine cable, the number of start-ups on the Coast are only going to grow as the region develops.

Launched at the beginning of 2018, with the support of Mountain Creek State High School's Coding and Innovation Hub, Regional Development Australia (RDA) – Sunshine Coast and SPARK Bureau, the program provides high school students with a Certificate III in Information and Digital Media Technology. But what is truly ground-breaking about the program is its focus on developing our next generation's ability to think in an entrepreneurial sense and embrace innovative ideas.

As part of the course's focus on innovation, students participate in workshops and receive presentations from local start-up success stories, which provide insight into entrepreneurship in the new economy.

Through these activities, TAFE Queensland is supporting the Queensland Government to achieve a strong economy and drive innovation through the development of a future workforce with skills in a range of sectors and job clusters that are aligned to Queensland's economic growth areas.



3.4 Regionally engaged and supporting growth

2

Regionally engaged and supporting growth

TAFE Queensland has an extensive footprint across the state, providing industry focused training and graduates with the appropriate work-ready skills, which are essential for meeting the specific needs of business and industry, and attracting new industries to regions. In its role as the public provider, TAFE Queensland has a broader remit than the delivery of training alone, as it provides other services to the public and support to local communities.

In its role as Queensland's largest public provider, TAFE Queensland has a broader remit than the delivery of training and education alone, with a role in providing substantial services to the public and in supporting local communities. The public charter that TAFE Queensland fulfils is extensive and differentiates it from other providers – commitments related to this role are wide-ranging, and include the breadth of education and training offered, even when there may be low demand, and the extensive locations of TAFE campuses across the state.

In regional Queensland, TAFE is vital to supporting economic development. The role of TAFE Queensland in these areas cannot be understated, where it has a transformative impact as the exclusive public provider in regional, rural and remote settings delivering education, training, industry support and partnerships, community engagement and vital infrastructure. It is also a major employer and provides critical community linkages.

Within regional and remote areas, TAFE Queensland plays a critical role in working alongside local governments and businesses to help create and grow industries. Through TAFE Queensland's extensive regional presence, it is committed to delivering sustainable and responsive services that maximise training and skills outcomes for Queensland communities, now and into the future.²⁰ In these locations, there is an ongoing expectation that the public provider will deliver for the 'difficult to service' markets, where student numbers are low, delivery resources are scarce and costs are high.²¹

Across the state, TAFE Queensland develops new offerings to respond to local needs and skills shortages – often training is developed as a collaboration between TAFE Queensland, industry, community partners and other education providers, to overcome major challenges. For example, as part of a consortia, TAFE Queensland helped address a gap in large scale skills recognition and assessment for Aboriginal and Torres Strait Island Health Workers in North Queensland, and in its Mooloolaba campus new programs have been designed to fill growing industry demand in the region across the hospitality and tourism sector (see *Case Study for more information*).

TAFE Queensland is committed to providing access to education in regional and remote areas through the introduction of new, and refresh of existing, campuses in areas of high population growth, prioritising the alignment of delivery locations to demand for education and training offerings.²² For example, TAFE Queensland expanded its services for Charleville and Cunnamulla by providing new courses and study opportunities for people further west of Roma – this was made possible by working closely with the community and regional councils, with study opportunities designed to equip people in these regions to find available work or start their own business, to grow the local economy. TAFE Queensland also opened the Aitkenvale campus in November 2017, taking the number of Townsville-based campuses to three. The majority of students who attend TAFE Queensland in North Queensland are above the age of 25 and the Aitkenvale campus is, therefore, designed to provide a flexible and interactive learning experience.

In addition, TAFE Queensland maintains infrastructure across the state which is accessible to the public, providing counselling, library services, and student facilities at scale and often with access provided to the broader community.

²⁰ TAFE Queensland Annual Report 2017-18

²¹ TAFE Directors Australia, 'The Role of TAFE in Regional and Remote Australia', 2004

²² TAFE Queensland Annual Report 2017-18

Beyond the use of services and facilities, community engagement also encompasses a range of activities, such as social consultancy, contributions to regional governance and planning, and education outreach including hosting community forums, events and festivals, and student-led community initiatives.²³ Often TAFEs and their campuses play a prominent role in their local community, demonstrating an explicit commitment to local engagement. As an exemplar, TAFE Queensland was a tier one sponsor of the Gold Coast 2018 Commonwealth Games – through this initiative, 15 Indigenous small-to-medium sized enterprises participated in TAFE Queensland’s supply chain program, in an approach so successful it was nominated for a Queensland Reconciliation Award. TAFE Queensland was the official training partner for the event, developing and delivering bespoke training to over 15,000 volunteers across 200 different roles.²⁴ In recognition of the integral role TAFE Queensland played in the Gold Coast 2018 Commonwealth Games, it was awarded the Best Achievement in Event Education and Training at the 2018 Australian Event Awards, which recognise the nation’s event professionals for their achievements in Australia’s best events and event-related goods, services, and innovations.

TAFE Queensland is demonstrably committed to working collaboratively with industry, communities, and the State Government, to ensure that Queenslanders are given quality training and skills needed to enhance regional and remote community prosperity and social impact. TAFE Queensland has developed and implemented many different models of engaging with industry and community to ensure that skills shortages can be addressed, ideally with the employment of local people, and is focused on delivering strong outcomes to maximise local jobs, particularly in regional and remote areas of Queensland.

²³ Deloitte Access Economics, 'The importance of universities to Australia's prosperity: A report prepared for Universities Australia' 2015

²⁴ TAFE Queensland Annual Report 2016-17



Case Study

New offerings that respond to local needs and skills shortages

TAFE Queensland has an extensive footprint across Queensland, providing industry focused training and graduates with the appropriate work-ready skills, which are essential for meeting the specific demands of business and industry, and attracting new industries to regions.

Across the state, TAFE Queensland develops new offerings to respond to local needs and skills shortages. Often this training is developed as a collaboration between TAFE Queensland, industry, community partners and other education providers, to overcome major challenges.

For example, in its Mooloolaba campus, TAFE Queensland has designed and introduced new programs to fill growing industry demand in the region across the hospitality and tourism sector.

According to the Australian Government's Department of Jobs and Small Business Labour Market Information Portal, the accommodation and food services sector is set to grow by 14.2 per cent from 2017 to 2022 – higher than the national average of 11.5 per cent.

Two new dual qualifications, the Diploma of Travel and Tourism Management/Diploma of Event Management and the Diploma of Hospitality Management/Diploma of Business, are providing students enrolled in the programs with the practical training, experience, and knowledge they need to take advantage of skills shortage created by the region's growing tourism industry.

TAFE Queensland East Coast region's Centre Director for Business, Language and Hospitality said the programs offered students an opportunity unique to the Sunshine Coast. "These dual courses are currently only available on the Sunshine Coast and provide students with a broad range of skills that will allow them to excel in multiple management and coordinator roles within the hospitality and tourism industry".

"The Sunshine Coast is already popular with tourists thanks to its natural beauty, and new tourism and accommodation developments like the expansion of Sunshine Coast Airport, are fuelling further growth in the local hospitality and tourism industry."

Through TAFE Queensland's extensive regional presence across the state, it is committed to delivering sustainable and responsive services that maximise training and skills outcomes for Queensland communities and strengthen workforces, now and into the future.

Case Study

Delivering sustainable and responsive services that build partnerships and maximise training outcomes

TAFE Queensland's Great Barrier Reef International Marine College (GBRIMC) has been providing quality maritime training to the Torres Strait region for many years.

TAFE Queensland has developed strong relationships with Education Queensland (EQ), Torres Strait Regional Authority (TSRA), Marine Safety Qld (MSQ), Australian Maritime Safety Authority (AMSA), and other government entities, integral in providing quality maritime training programs to this region.

Through the GBRIMC, TAFE Queensland is currently delivering training in TAGAI Secondary College for the Growing Our Own program, an initiative of TSRA and TAGAI – the program has provided skills and knowledge in the maritime sector in a format that ensures students are job-ready in the industry.

TAFE Queensland has also been delivering coxswain training as part of the Torres Strait Marine Pathways Program (TSMPP). This training delivered through the GBRIMC is an essential requirement for the commercial cray fishermen of the Torres Strait region; and the GBRIMC has also worked with third party contractors to deliver effective training in a variety of locations in the Northern Peninsula Area (NPA).

In addition, the GBRIMC provides training in safety and fire to the Australian Border Force (ABF) that is tailored specifically for the recently launched "Cape Class" vessel, and industry-standard support for the Royal Australian Navy (RAN) to conduct their pre-workup training for the "Armidale" Patrol Boat crews. These offerings represent genuine partnership activity, which has relied on both organisations contributing their relative expertise, their knowledge and their enthusiasm to deliver a training program that meets the needs of an ever-changing ABF and RAN.

Through its extensive footprint, TAFE Queensland is positioned as a significant contributor to maritime training in Northern Australia and the Pacific region, and is able to provide industry focused training, which can be deployed in local industries and organisations leading to positive economic growth for communities.



3.5 Responsive to industry needs

3

Responsive to industry needs

TAFE Queensland has a broad range of strong partnerships and linkages with industry, which support innovation and help businesses to transform and grow. These relationships are critical, particularly to align with training delivery in areas of emerging need, and to meet the demand for new skills as rapid industry transformation occurs. TAFE Queensland works in collaboration with industry to provide 'hands-on' training and partner on a range of applied research initiatives.

TAFE Queensland plays a critical role in working and collaborating with employers and industry partners across Queensland to determine their current and future skilling needs. This work delivers value and supports the economic viability of local small to medium sized businesses, and in turn, makes a significant contribution to building stronger communities, providing positive economic and social impact and improving the overall state economy.

Strong industry and employer links are the very foundation of TAFE Queensland's delivery model, that is, the provision of industry relevant skills. TAFE Queensland has a broad range of successful partnerships and linkages with industry, which support innovation and help businesses transform and grow. These relationships are critical, particularly in aligning with training delivery in areas of emerging industry need, e.g. in sectors where job growth is occurring, or to assist in the offset of losses in other sectors experiencing transformation. Working in collaboration with industry, TAFE Queensland provides 'hands-on', practical training to equip graduates with workforce skills that are essential for entering the job market.

The breadth of partnerships that TAFE Queensland has with industry and community organisations throughout the state highlights the central role it plays in the life of the community across all regions of Queensland and a broad range of sectors, including Tourism, Hospitality and Events, Leadership and Management, Cyber Security, and Health and Community Services.²⁵

For example, a partnership between the Star Entertainment Group and TAFE Queensland was initiated to ensure industry needs for growing numbers of hospitality workers in Brisbane (and across Queensland) could be met. Underpinning this activity, in 2015 TAFE Queensland and Star Entertainment jointly launched the Queensland Hotel and Hospitality School (*see Case Study for more information*).

TAFE Queensland also has hundreds of partnerships with local and regional businesses, industry groups and community organisations that provide various initiatives ranging from relevant on-the-job training and work experience, scholarships and rewards programs, pro bono mentoring and training programs, and opportunities to develop new products and services, which all have a positive impact on the students and the community.²⁶

As the trusted and most widely recognised provider in the state, TAFE Queensland plays a critical role in ensuring a skilled workforce for Queensland.²⁷ TAFE Queensland's industry partnerships ensure it is able to rapidly respond to local employment needs and that it remains aware of business challenges, providing the organisation with intelligence on industry trends and potential opportunities to develop new products and services, including customised training to meet business needs.

The award-winning TAFE Queensland Small Business Solutions program illustrates the organisation's commitment to engaging with industry and responding to their needs – in this exemplar, TAFE Queensland offers immediate and practical assistance to small to medium enterprises across Queensland (*see Case Study for more information*).

TAFE Queensland also provides a range of opportunities for 'hands-on', practical training to equip graduates with workforce skills that are essential for entering the job market, including through industry-linked apprenticeship and traineeship schemes. The core feature of the apprenticeship model, which integrates

²⁵ TAFE Queensland Annual Report 2017-18

²⁶ TAFE Queensland Annual Report 2016-17

²⁷ TAFE Queensland Annual Report 2017-18

on-and off-the-job training and establishes a partnership between the employer, apprentice and training provider, has stood the test of time.^{28 29} TAFE Queensland has a longstanding partnership with Toyota Motor Corporation Australia, to deliver a highly customised training program to ensure Toyota’s apprentices meet both international standards and national training system requirements. TAFE Queensland graduates demonstrate excellence in their fields, including being awarded the 2017 Australian Apprentice of the Year and the 2017 HIA Regional Apprentice of the Year, recognising quality work and excellent academic results.³⁰

The critical contribution TAFE Queensland delivers to business is underscored by recent employer satisfaction levels, with 94 per cent of employers indicating they were satisfied with TAFE Queensland training. While data sources are not directly comparable, this appears to be higher than the average employer satisfaction across all Australian states and territories.³¹ In parallel with ongoing close collaboration with local businesses and community, TAFE Queensland plays a pivotal role in providing skills training and support to its students and lifting the region’s skills capability.

Through quality training, in-demand courses and links to industry, TAFE Queensland provides improved employment prospects for students, trainees and apprentices. Training and skills can lead to higher employment and higher participation in the workforce. The difference between the employment rates in the below table before and after training show the beneficial employment impact attributable to TAFE education in Queensland for the cohort of students completing study in 2017.^{32,33}

Table 4: Labour force outcomes for TAFE Queensland students, pre- and post-training, 2017

Labour Force Status	Before training	After training	Before training	After training
Employed	35,011	39,481	63.9%	72.1%
Not employed	19,774	15,305	36.1%	27.9%
Unemployed	7,784	7,465		
Not in labour force	11,990	7,840		

Source: NCVER Student Outcomes 2017.

Note: Students who did not state their labour force status are counted as ‘not in labour force’.

An additional **4,496 persons** became employed after completion of study in 2017. This comprised **2,833** people employed on a **full-time basis** and **1,637 people** employed on a **part-time basis**. The increase in the share of those employed in the student cohort went from **63.9 per cent prior to training to 72.1 per cent after training**, reducing the share of those not employed in the student cohort from **36.1 per cent prior to training to 27.9 per cent after training**.

In addition, **the participation rate of the student cohort increased** (meaning that a greater proportion of the student cohort is choosing to participate in the labour force). The labour force participation rate of TAFE students increased from 78.1 per cent prior to study to 85.7 per cent after completion of study. The employment rate (the share of those employed who are looking for work) increased from 81.1 per cent prior to study to 84.1 per cent after completion of study. At the aggregate level, KPMG estimates that a **reduction of 0.02 percentage points in Queensland’s 2017 unemployment rate is attributable to TAFE training**.

²⁸ Hargeaves J, Stanwick J, Skujins P, ‘The changing nature of apprenticeships: 1996-2016, National Centre for Vocational Education Research, 2017

²⁹ Atkinson, G, Stanwick J, ‘Trends in VET: Policy and Participation’, 2016, National Centre of Vocational Education Research

³⁰ TAFE Queensland Annual Report 2017-18

³¹ NCVER, Survey of Employer Use and Views 2017. Note: result is based on Table 11: Employers satisfied with training as a way of meeting their skill needs by type of training and employer characteristics, 2015 and 2017, for the category ‘Employers using nationally recognised training’. Note that the TAFE Queensland employer satisfaction and NCVER employer satisfaction results may not be directly comparable, given that TAFE Queensland satisfaction data is administered through the TAFE Queensland 2017 Employer Satisfaction Survey which may result in different approaches from survey respondents.

³² NCVER VOCSTATS, National Student Outcomes 2017

³³ Data has been filtered to only include TAFE students (subject completers & graduates), by Student State of Residence (Queensland). Data limitations restrict our ability to filter the data by State of Training Institution.

Case Study

Providing practical training underpinning small business growth

TAFE Queensland recognises the importance of small to medium enterprises (SMEs) to the Queensland economy and has responded by creating the award winning Small Business Solutions program.

The Small Business Solutions program is the only service in Australia that offers accessibility, both financially and regionally, the inclusion of clients from culturally diverse or disadvantaged background, and awards high level VET qualifications upon completion.

TAFE Queensland designed the program to be delivered through a series of workshops and one-on-one mentoring, providing real life practical solutions for SMEs, including conducting business health checks, mentoring programs, workshops, and helping business owners apply for funding opportunities.

Currently, SMEs are a major employer in the Australian economy, employing 70 per cent of the Australian workforce (SMEA 2016). Critical to the Queensland economy, the small business sector faces its own unique challenges, including high turnover rates, and a large number of businesses that fail.

TAFE Queensland recognises that each small business is unique, and as such, can tailor the Small Business Solutions program to the needs of individual participants. Each participant in the program is given mentoring services with a TAFE Business mentor indicating that “Every piece of advice provided direct to you is based solely on you and your business”.

The program is centred around offering real life practical training for participants. “The Small Business Solutions workshops and mentor program covers every aspect of business including legalities, insurances, marketing, the mission statement and goal setting” as described by participants from Complete Body Health and Fitness.

Small Business Solutions highlights the responsiveness of TAFE Queensland to industry needs, tailoring program offerings to deliver real life practical training to help small business succeed and grow.



Case Study

Key partnership helping meet demands for new skills

TAFE Queensland and the Star Entertainment Group have partnered in a linkage designed to support the hospitality and hotel industry, which in turn supports the wider tourism sector in Queensland.

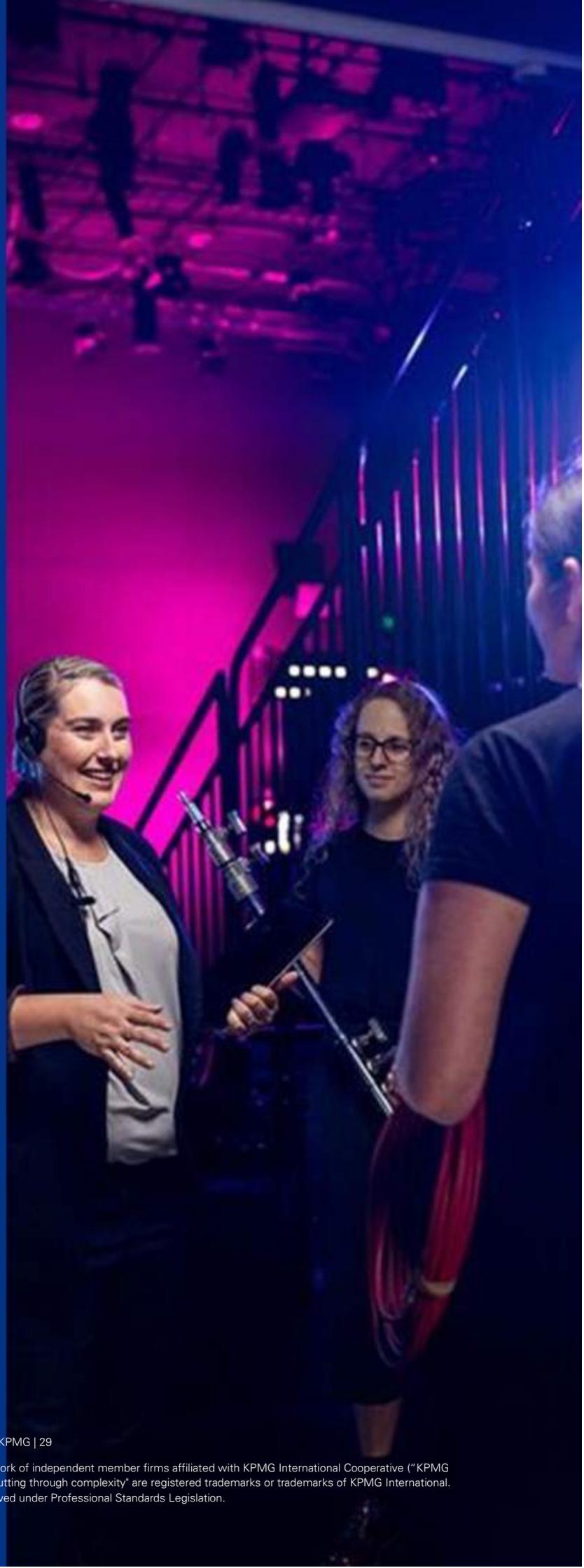
Through the partnership, TAFE Queensland and the Star Entertainment Group opened the Queensland Hotel and Hospitality school in 2015, providing tailored programs and qualifications to meet developing industry requirements and international standards.

The Queensland Hotel and Hospitality school will provide the 6 star training required to fill 8,000 operational roles that will be needed as the Queens Wharf Development is completed in 2022. The Managing Director of the Star Entertainment Group indicated “We are delighted with the great outcomes the school is achieving”, with 30 per cent of graduates who secure work employed by the Star Entertainment Group.

Indeed, in the first year of operation 90 per cent of graduates from the Queensland Hotel and Hospitality school were fast tracked into employment – the benefits from the partnership are felt throughout the wider hospitality industry with 70 per cent of graduates being employed outside of the Star Entertainment Group, “which showcases that the schools value goes beyond our business” as indicated by Star Entertainment Group Managing Director.

TAFE Queensland plays a central role in supporting the training of future hospitality workers who are integral to Queensland’s significant tourism industry. The tourism sector employs a total of 217,000 people in the state of Queensland, with the tourism gross state product valued at \$25.4 billion in FY17.

This successful partnership highlights TAFE Queensland’s ability to work collaboratively with industry partners to ensure the delivery of practical training to equip graduates with workforce skills that are essential for their chosen job markets, now and into the future.



3.6 Building, upskilling and reskilling Queensland

4

Building, upskilling and reskilling Queensland

TAFE Queensland has a focus on building the skills of new graduates, upskilling existing employees and reskilling those that are transitioning into new sectors or roles. This focus provides students with high levels of flexibility, allowing them access to quality lifelong learning and to enrol, exit, and re-enter study as required. This translates into high student employment outcomes, supporting the Queensland economy through meeting skills needs across the state.

In understanding the future of work, Australians will need to be more flexible across careers and industries, requiring a robust and adaptable education environment.³⁴ Employer needs and expectations can change quickly over time, meaning that training providers must continually adapt and innovate to ensure that their students meet employer needs.³⁵

TAFE Queensland provides students with high levels of flexibility, allowing them to enrol, exit, and re-enter study as required. Opportunities for ongoing lifelong learning and to access education to specialise, reskill, or change careers, with pathways that are designed for all types of students and at all ages are central to TAFE Queensland's training offerings. These education pathways align with contemporary approaches to workforce professional development supporting rapid industry transformation, and further contribute to the socio-economic prosperity of individuals, including through higher levels of per capita income related to higher living standards and social prosperity.³⁶

Through these pathways, TAFE Queensland provides the opportunity to access education at all points and across a student's career. For example, of the 336,000 domestic students commencing higher education qualifications in 2010, around 30,000, or 9 per cent, had previously undertaken VET courses indicating an important alternate pathway to universities in Australia, particularly for graduates who have completed higher-level VET qualifications³⁷.

Ensuring that TAFE Queensland's graduates are workforce-ready is a critical contribution to the Queensland economy. TAFE Queensland provides students with quality training and innovative courses that give them the technical knowledge and competency that allows them to gain more highly skilled roles in the workforce. For example, a 10 year partnership between one of Australia's leading health care employees, Ramsay Health Care, and TAFE Queensland, was designed to address the skills shortages in the health sector and provide well-trained and highly motivated employees that the company needs to operate efficiently.³⁸ The strength of the partnership and the breadth of the training students receive is testament to TAFE Queensland's commitment to partner with business to meet the demands for unmet, or new, skills development (*see Case Study for more information*).

As a leading provider of practical training and workforce development, TAFE Queensland prioritises the delivery of education pathways and learning experiences at an exceptional standard. Indeed, TAFE Queensland is noted by the Queensland Government "as a core provider of trade and technical training, pathways to higher education and statewide services through a network of campuses, and a quality benchmark for the system".³⁹

TAFE Queensland has introduced the University Embedded Model (UEM), which involves working in partnership with universities to deliver a VET qualification to students concurrently with their university study. This approach provides students with the practical and technical knowledge and skills needed to gain employment within the industry while they continue studying their university program. This strategy also

³⁴ Australian Technology Network of Universities, 'Lifelong Skills – Equipping Australian's for the future of work', 2018

³⁵ OCED, (2014) Skills Beyond School: Synthesis Report, OCED Reviews of Vocational Education and Training, OCED Publishing, Available online: https://read.oecd-ilibrary.org/education/skills-beyond-school_9789264214682-en#page3

³⁶ Deloitte Access Economics, 'The importance of universities to Australia's prosperity', 2015

³⁷ Griffin, T, 'Disadvantaged learners and VET to higher education transitions', National Centre for Vocational Education Research, 2014

³⁸ TAFE Queensland Media Release, 24 May 2018

³⁹ Annual VET Investment Plan 2018-19, Department of Employment, Small Business and Training, Queensland Government

provides students with additional skills and knowledge to enhance their employability options prior to and/or on graduation. For example, Biomedical Science students who completed a Certificate III in Pathology Collection had the necessary skills and knowledge for employment in organisations such as Queensland Medical Laboratories while they continued their university study, and students studying the Bachelor of Exercise Science can complete both the Certificate III and/or the Certificate IV in Fitness during their study program, resulting in the required qualifications to work in the sector as a personal trainer or gym instructor while completing their university degree. The UEM program has been delivered in partnership with Griffith University for several years with great success, receiving positive feedback from both students and industry stakeholders.

TAFE Queensland’s emphasis on quality training and education pathways is exemplified in the table below, indicating student satisfaction and selected outcome data – which shows that TAFE Queensland students are as satisfied with the overall quality of training (87.7 per cent) as the rest of Australian TAFE students (87.8 per cent), students in private VET providers in Queensland are slightly less satisfied (87.1 per cent), and that TAFE Queensland has a strong rate of students employed or in further study after training (85.3 per cent), comparable with Australian TAFEs generally (85.7 per cent) and slightly lower than private VET providers in Queensland (85.8 per cent).

Table 5: Student satisfaction with training, and employment rates post-training, 2017

	TAFE Queensland	Australian TAFE	Queensland Private VET providers
Student satisfaction with overall quality of training	87.7%	87.8%	87.1%
Students employed or in further study after training	85.3%	85.7%	85.8%

Source: NCVET Student Outcomes 2017.

TAFE Queensland also provides training that allows students to transition into higher paying industries and positions. This means benefits for students through higher pay, and for employers through access to more productive workers and the ability to fill labour shortages. The overall result is that TAFE Queensland’s activities grow the Queensland economy.

Queensland’s economy requires a significant number of skilled workers to support businesses, government and community organisations. Furthermore, of the occupations with skill shortages in Queensland, the vast majority relate to occupations supported by VET qualifications rather than higher education⁴⁰, highlighting the key role TAFE Queensland has in developing a workforce to drive the economy, through the provision of skills to meet demand. In addition, given the higher demand for areas of Certificate II, III or IV expertise, TAFE Queensland has an important role in supporting students to bridge gaps in skills and training to meet industry need.

This role is supported by commentary from Construction Skills Queensland (CSQ), an independent industry-funded body supporting the building and construction industry, who have highlighted the powerful nature of a VET qualification when it is embedded in the workforce, e.g. an apprenticeship or traineeship, and “when it is lock-step in line with economic activity and business need”, resulting in positive employment and earnings outcomes for students.⁴¹

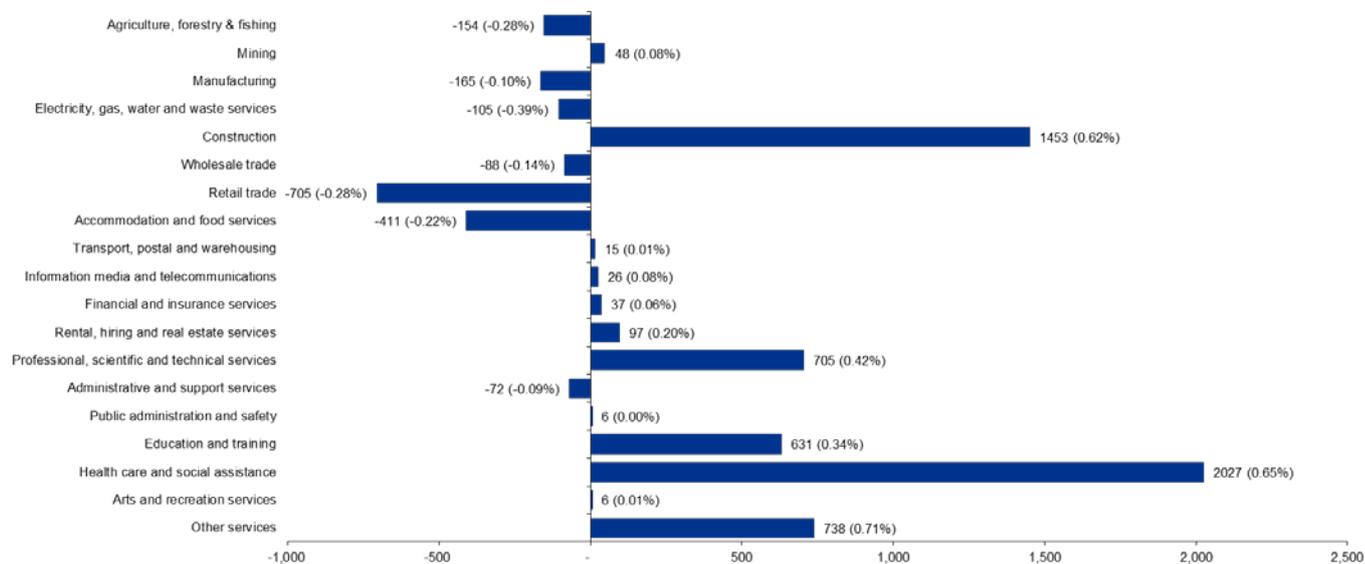
Figure 5 shows the labour market outcomes associated with TAFE Queensland's training for different industries. The figure shows that **TAFE Queensland provides training that enables students to move from traditionally lower skilled industries to higher skilled industries**. TAFE Queensland trains students who go on to become employed in higher skilled industries such as *Construction* and *Healthcare and Social*

⁴⁰ Department of Jobs and Small Business, September 2018, Labour market analysis of skilled occupations 2017. Available at <https://docs.jobs.gov.au/documents/ratings-summary-labour-market-analysis-skilled-occupations>

⁴¹ Apprenticeship Annual 20018, CSQ, Available at https://www.csq.org.au/csq/media/Common/Industry%20Insights/CSQ-2018_Apprentice-Annual_A4_Final_Print.pdf

Assistance, with completing students making up 0.62 per cent and 0.65 per cent of the total existing Queensland employees in these sectors each year respectively.

Figure 5: Change in industry of employment for TAFE Queensland students post-study (headcount), relative to Queensland labour market (%), 2017⁴²



Source: NCVER Student Outcomes 2017, ABS, KPMG. Labour outcomes include TAFE.

Note: Those who did not state industry of employment post-study are not included in this chart (n=383). Each bar shows the estimated relative change in the size of the labour market for each industry in the Queensland economy before and after TAFE study, and the total number of students for each industry is also shown next to each bar.

Students completing courses at TAFE Queensland move into the labour force with higher skill levels and better employment prospects than would otherwise be the case. The increased supply of skilled labour benefits particular Queensland industries, which is consistent with the results presented in **Figure 5**. With increased access to skilled employees, industries expand production by employing more Queensland residents and purchasing additional goods and services.

It is estimated that **in 2017, benefits from a larger workforce** as a result of additional upskilled students through TAFE Queensland **supported an additional \$1.1 billion of industry output in the Queensland economy**.

⁴² Note: Where an industry has a negative number, this indicates that the net students employed in the sector has decreased, which is the aggregate result of some students moving into the sector, and others moving out. For example, in relation to the accommodation and food services sector, the net result is a decrease in employment for that sector, however, this result represents some TAFE students moving into the sector as a result of high-skill hospitality training, with other TAFE students (who may have been studying part-time in the sector) moving out of the sector into other industries.



Case Study

Qualification development is a driving force for reskilling workers

TAFE Queensland and Ramsay Health Care partnered to create Australia's first contextualised and flexible online Diploma of Nursing with workplace integration at its centre.

The collaboration between TAFE Queensland Gold Coast Region and Ramsay Health Care commenced in April 2008 with the delivery of the Diploma of Nursing on site at Greenslopes Private Hospital (GPH), one of Australia's largest private teaching hospitals. The 10 year partnership has been a resounding success with 99 per cent of graduates offered employment, and a 98 per cent retention rate of students two years post-graduation, and continues to grow today.

Ramsay Health Care is Australia's largest private hospital operator and one of the top five hospital operators in the world. The program takes advantage of TAFE Queensland's training expertise and Ramsay's Health Care network, to offer participants online theoretical study, coupled with hands-on practical training.

The partnership has produced more than 1,500 qualified nursing staff – this outcome has been critical in helping address skills shortages across the health sector. Reskilling and upskilling Queensland health workers is key to the partnership with training focusing on evolving fields, including intravenous medications, mothers and babies, and a Certificate IV in Training and Assessment.

The success of the program has been attributed to the world class standard of training TAFE Queensland offers to students with Ramsey Health Care, Director of Clinical Services indicating, "We find the calibre of teaching staff and students to be of the highest standard".

In addition, Ramsay Health Care training coordinators have stated that the partnership has provided an underpinning for a "Positive workforce planning strategy, with student placements not only providing learning practical skills but also the Ramsay values".

Due to the success of the partnership and positive outcomes for students and employees, training has been rolled out across 19 Ramsay Health Care hospital locations around Queensland.

Through this course, TAFE Queensland has been successful in reskilling and upskilling workers within the Queensland health care sector. Providing theoretical education and practical training through a strategic partnership with Ramsay Health Care.

3.7 Inclusive training environment

5

Inclusive training environment

TAFE Queensland demonstrates its commitment to public good by providing access and equity to training, and enrolling students from diverse education and socio-economic backgrounds. This provides critical and unique benefits to improve the economic prospects for some of Australia's most disadvantaged persons, through providing training that leads to employment or a pathway to further education.

TAFE Queensland has a broader remit than the delivery of training and education alone. It also has a public service and engagement role to uphold.⁴³ TAFE Queensland is the state's largest and most experienced VET supplier and is a not-for-profit training provider, where the revenue it generates is actively reinvested back into the organisation to continue to support excellent educational outcomes and infrastructure that supports a high quality student experience, for the ongoing benefit of the state and the community.

Internationally, the OECD has recommended that a key focus of Australian VET must be continuing to "reach out to disconnected youth and prevent dropout at earlier stages of education".⁴⁴ The importance of this social role cannot be under-estimated, particularly given that "people with low levels of skills have poorer health, trust others less and are less likely to engage in community life and democratic processes than highly-skilled adults".⁴⁵

Within Australia, the role of TAFEs in supporting social cohesion has been explored, primarily through the role VET plays in improving social equity within communities – this is supported by a 2012 Australian study, which looked at the relationship between education and social exclusion⁴⁶, and demonstrated that improving even basic educational levels (which can be through VET) is a useful way of reducing social exclusion.

Other Australian reviews have looked at the effects of VET on various disadvantaged groups, including Indigenous Australians and people with disability who can be vulnerable to social exclusion; they reported other key benefits that education broadly can deliver to society, including increased social cohesion, inclusion and tolerance, reduced crime rates, strengthened social capital, increased charitable giving and participation in community service, and an improved ability to adapt to and use technology.⁴⁷

Nationally, Queensland stands out with the highest number of VET AQF qualifications completed by individuals who are Aboriginal and Torres Strait Islander, from remote or very remote areas, or who identify as having disability (Queensland total ('000): 99.6), when compared with other states (NSW: 99.2; VIC: 94.0; NT: 5.3, WA: 38.8; SA: 17.2; ACT: 4.7; TAS: 8.5).⁴⁸

Throughout its long history, TAFE has played a fundamental role in training individuals, preparing people for work and providing second chance education. Whilst the school and university sectors of education have clearly defined roles, the schools by age and the universities by awards, TAFE has traditionally filled all the other educational needs of the community and industry – from the entry-level VET requirements of 15–19 year olds, the special needs of disadvantaged groups within society, the retraining needs of those who wish to re-enter the workforce after an absence or as a result of redundancy, and those students displaced by the closure of some private providers.

TAFE Queensland visibly demonstrates its commitment to public good by providing access and equity to training, and enrolling students from diverse education and socio-economic backgrounds. This provides

⁴³ Atkinson, G, Stanwick J, 'Trends in VET: Policy and Participation', 2016, National Centre of Vocational Education Research

⁴⁴ OECD report, September 2017, Building Skills for All in Australia - Policy Insights from the Survey of Adult Skills. Page 13, available at https://read.oecd-ilibrary.org/education/building-skills-for-all-in-australia_9789264281110-en#page13

⁴⁵ OECD report, September 2017, Building Skills for All in Australia - Policy Insights from the Survey of Adult Skills. Pages 22-23, available at https://read.oecd-ilibrary.org/education/building-skills-for-all-in-australia_9789264281110-en

⁴⁶ Buddelmeyer, H, Leung, F, and Scutella, R, 'Education oneself out of social exclusion, Promoting social inclusion for disadvantaged groups through education and training' 2012, National Centre for Vocational Education Research

⁴⁷ Deloitte Access Economics, 'The economic and social benefit of increased participation by disadvantaged students in VET, 2011, National VET Equity Advisory Council

⁴⁸ Report on Government Services (ROGS), 2018

critical and unique benefits to improve economic prospects for some of Australia’s most disadvantaged persons, through providing training that leads to employment or a pathway to further education; this is particularly important in communities with higher proportions of socially vulnerable groups, including unemployed and disengaged youth, Indigenous Australians, and people with disability.

TAFE Queensland provides a range of services to actively support, and meet the varying needs of, a diverse student cohort, including learning support, counselling, career advice and employment services, fee assistance, youth support, migrant refugee support, and equity and disability support.⁴⁹

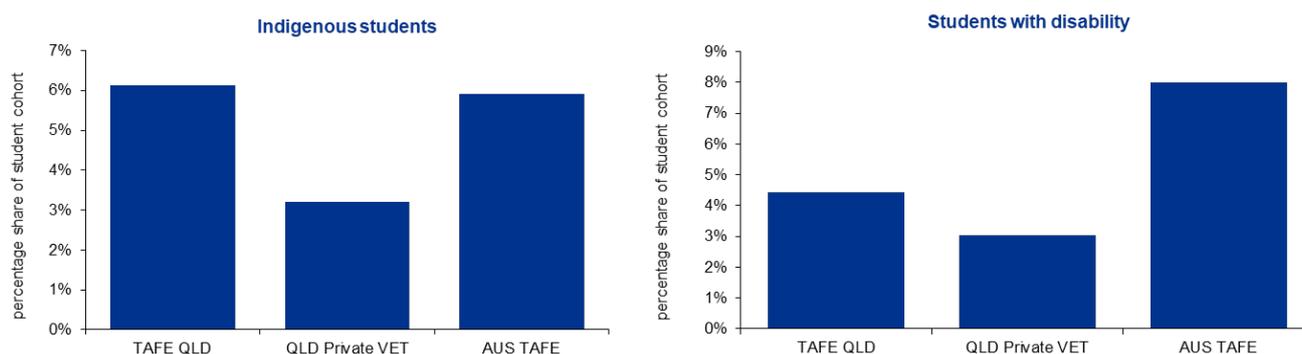
Beyond these day-to-day services, TAFE Queensland also plays a leadership role within the Queensland community by proactively introducing and managing initiatives, funded through state and federal government schemes, designed to create changes in the community. Examples of TAFE Queensland leadership in supporting social cohesion across Queensland include:

- Establishing the **Transition 2 Success Program**, a unique state-wide initiative run by the Townsville Youth Justice Services Centre, and aimed at engaging young offenders and youth disengaged with education to prepare them for work or to support them in study⁵⁰;
- TAFE Queensland’s **Back to Work program** designed to assist individuals looking to re-enter the paid workforce achieve positive employment outcomes⁵¹;
- The community-based **Aboriginal and Torres Strait Islander teacher education program**, a targeted workforce development strategy to ensure adequate numbers of Aboriginal and Torres Strait Islander teachers are located within local communities⁵²; and
- As the sole Queensland provider for the **Adult Migrant English Program** and **Skills for Education and Employment**, supporting migrants, including refugees and asylum seekers living in Queensland to develop the appropriate skills for work or further study⁵³ (see *Case Studies for more information*).

Through these activities, TAFE Queensland takes a leadership role as part of its commitment to support the Queensland community and reduce social exclusion, rather than through efforts to increase profits or pursue commercial objectives alone.

TAFE Queensland’s substantial efforts in creating a socially inclusive training environment are evident in its student cohort statistics. As outlined in **Figure 6**, TAFE Queensland’s students are significantly more likely to be Indigenous when compared to private VET providers in Queensland. In 2017, TAFE Queensland had 5,155 total Aboriginal and Torres Strait Islander students, including 1,024 enrolments. TAFE Queensland also provided 131 scholarships through its Indigenous Scholarship Program in 2017 alone. TAFE Queensland students are also more likely to identify as having a disability when compared to private VET providers in Queensland.

Figure 6: Key student cohort participation



Source: NCVER Total VET Activity Data. KPMG analysis

⁴⁹ TAFE Queensland Student Support Services. Accessed online: <https://tafeqld.edu.au/current-students/student-support-services/index.html>. (Accessed 19/11/18)

⁵⁰ TAFE Queensland Media Release, 7 June 2018

⁵¹ TAFE Queensland Annual Report 2017-18

⁵² TAFE Queensland Annual Report 2017-18

⁵³ TAFE Queensland Annual Report 2016-17



Case Study

Inclusive education is the driving force behind reshaping at risk youth

TAFE Queensland partnered with Transition to Success (T2S), a state-wide program run locally by the Townsville Youth Justice Service Centre, enabling young offenders who are disengaged with mainstream schooling to complete certificates through TAFE Queensland.

“T2S helps young people get back to school, into further education or into jobs with the ultimate goal of preventing re-offending”, Attorney General and Minister for Justice Yvette D’Ath.

TAFE Queensland play a vital role in the program by providing vulnerable youth with qualifications to help seek employment or access further education or schooling, which drastically reduces the rate of re-offending. Rather than only doing one short-term course, participants are given the chance to stay in the program for many months, which enables them to build up their skills and confidence to enter the workforce or go into further training.

The partnership, which began in 2016, has delivered a range of programs across broad fields, including certificates in Work and Vocational Pathways, e.g. literacy, language and numeracy foundation skills, Horticulture, Engineering Pathways and Automotive Vocational Preparation.

Indicatively more than 80 per cent of young people in the youth system re-offend after a year, testament to the success of the T2S program, more than two-thirds of graduates of the initiative do not reoffend within 12 months of completion.

TAFE Queensland’s partnership with T2S has made significant improvement to Queensland communities. “There has been a real positive shift in the way young people see themselves, in their relationships with their families, and the way the community sees them” expressed a T2S Coordinator.

Through their support of T2S, TAFE Queensland demonstrates its commitment to public service and engagement roles, while helping to create an inclusive training environment for at risk youth through the provision of practical skills and qualifications, supporting the Queensland community and reducing social exclusion.

Case Study

Supporting remote Aboriginal and Torres Strait Islander communities through education

TAFE Queensland offers a community based program supporting Aboriginal and Torres Strait Islanders to be trained and employed as teachers within their communities. The Remote Area Teacher Education Program (RATEP) is a partnership between TAFE Queensland, James Cook University, and the Queensland Department of Education.

Successful completion of a Certificate or Diploma course in Education or Child Care with TAFE Queensland provides pathways for students to a Bachelor of Education qualification at James Cook University.

“I believe that Indigenous teachers can play a vital part in helping young people see the value of school and stay motivated to learn” said Marshall Winkle, a TAFE Queensland graduate of RATEP.

In 2018, TAFE Queensland expanded the program to include a Certificate III and Diploma of Early Childhood and Care to its offerings as part of a workforce development strategy to ensure adequate future numbers of local Aboriginal and Torres Strait Islander teachers in schools that are located within Aboriginal and Torres Strait Islander communities.

TAFE Queensland recognises the importance and benefits of offering inclusive education. The Remote Area Teacher Education Program has successfully supported hundreds of students to transition and graduate from a Certificate IV in Education to a Bachelor of Education.

The program has focused on offering education to participants in their home regions – something of great importance to individuals living in remote communities. “The program allowed me to pursue being a teacher without having to leave my family and community” said Cass Ahern a graduate of the program.

Through investment in RATEP, TAFE Queensland is actively playing a role in improving social equity within communities through their tangible encouragement of access to training opportunities for individuals from diverse education and socio-economic background.



3.8 International focus

6

International focus

TAFE Queensland maintains an international focus, including attracting students to Queensland to undertake training at TAFE and supporting its students to train overseas. This global focus contributes to a greater sense of multiculturalism in Queensland and provides the broader student cohort with a global outlook, while also significantly contributing to the state's economy.

Queensland is a destination for international students – with a world class education system, outstanding lifestyle and unique tourism experiences.⁵⁴ Through its inbound and outbound students, TAFE Queensland supports Queensland's international engagement activities, driven by strategies to grow the international education and training sector, which adds to the state's economy and contributes to Queensland's knowledge-based economy.

TAFE Queensland forms one part of the international education market in Queensland, and contributes substantially to the state's economy by attracting international students to Queensland – these students come from over 90 countries, with the top markets including China, South Korea, Colombia, Brazil and Taiwan.

In 2017, there were 122,986 international student enrolments in Queensland, of which 45,705 were in higher education, and 34,626 in VET.⁵⁵ Of these international student VET enrolments, TAFE Queensland accounted for over a third (10,994 of the 34,626 enrolments in 2017).⁵⁶

International students contributed \$28 billion to the Australian economy in 2016-17, compared to \$16.9 billion in 2012-13.⁵⁷ The importance of this sector is also growing, with an increase in education export earnings between 2015-16 and 2016-17 of 16.1 per cent.⁵⁸ International education was Queensland's second largest service export in 2016-17 (accounting for 31.2 per cent of services trade exports, and valued at \$4,135 million).⁵⁹

International students training at TAFE Queensland pay tuition fees in Queensland, with onshore students also purchasing goods and services from Queensland businesses. In 2017, it is estimated that international students at TAFE Queensland spent:

- **\$34.5 million on education fees**, directly contributing to the Queensland and national export figures.
- An estimated **\$88.8 million in the local economy**, directly contributing to local industries.

The impact of TAFE Queensland attracting international students is that the income earned by TAFE Queensland through tuition fees is reinvested in local communities and businesses, and international students also purchase more goods and services from local businesses (such as groceries, furniture, cleaning services etc.).

Overall, there is a net benefit for the Queensland economy. International TAFE Queensland contributed **\$125 million of value-added in the Queensland economy** in 2017.

TAFE Queensland's international focus supports two-way international engagement, welcoming international students to Queensland, and providing opportunities to its students and staff to access global

⁵⁴ Queensland Government, Trade and Investment Queensland Australia, Available at <https://www.cabinet.qld.gov.au/documents/2016/Jun/IETSdraft/Attachments/DraftStrategy.pdf>

⁵⁵ Department of Education and Training (2018). International Student enrolments by Australian Statistical Geography Standard SA4 region. Available at <https://internationaleducation.gov.au/research/DataVisualisations/Pages/region.aspx>

⁵⁶ NCVER VOCSTATS, National Student Outcomes 2017

⁵⁷ Department of Education and Training (2017). Export income to Australia from international education activity in 2016-17, access at <https://internationaleducation.gov.au/research/Research-Snapshots/Documents/Export%20Income%20FY2016-17.pdf>

⁵⁸ Ibid

⁵⁹ Department of Foreign Affairs and Trade, 2018, Queensland Goods and Services Trade note. Available at <https://dfat.gov.au/trade/resources/Documents/qld.pdf>

learning and teaching experiences. TAFE Queensland provides overseas study abroad programs to a range of countries, which deepen students' understanding of international better practice in their training areas, and develop an appreciation of international cultural practices, enhanced language skills, and broader personal growth.

Through strategic links with clients and staff, TAFE Queensland is able to promote partnerships, programs and projects that showcase TAFE Queensland's education, training and consultancy expertise, across the globe.⁶⁰ For example, TAFE Queensland has delivered training to Papua New Guinea, the Solomon Islands, Indonesia, and Chile, to address trade skill deficiencies, to develop a national qualifications framework, and to help develop local VET systems through customised training solutions which build capacity of organisations to deliver value in-country.

Furthermore, TAFE Queensland is the managing contractor of the Australia-Pacific Training Coalition (APTC) – an Australian aid program – on behalf of the Department of Foreign Affairs and Trade, and is the sole RTO for the delivery of a broad range of Australian qualifications in demand by employers across the South Pacific Region, including in the automotive, manufacturing, construction, hospitality, tourism and health and community services sectors (*see Case Study for more information*).⁶¹

In combination with TAFE Queensland's on-campus international student presence, this outbound international activity supports Queensland students and staff to develop an appreciation of training and cultural practices globally, and aligns with Queensland Government strategies to promote the state as an education and training destination of choice.

⁶⁰ TAFE Queensland Global Engagement, Available at <https://international.tafeqld.edu.au/global-engagement>, Accessed 19/11/18

⁶¹TAFE Queensland Global Engagement, Available at <https://international.tafeqld.edu.au/global-engagement>, Accessed 19/11/18

Case Study

The Australia Pacific Training Coalition – Creating skills for life

The Australia Pacific Training Coalition (APTC) is Australia's flagship program for vocational skills training excellence. TAFE Queensland manages the APTC, which commenced in 2007 as the Australia-Pacific Technical College.

The APTC is an Australian aid program, supported through the Australian Government's Department of Foreign Affairs and Trade, established to deliver Australian qualifications from certificate to diploma level, and the program represents over \$340 million in investment to date.

TAFE Queensland delivers training programs at APTC campuses in five countries – Fiji, Papua New Guinea, Samoa, Vanuatu and Solomon Islands in a range of automotive, manufacturing, construction, hospitality, tourism, and health and community services areas, through TAFE Queensland educators based across the region.

Training at the APTC is demand driven, offering courses to develop real skills for employment important to the economic prosperity of Pacific Island countries. A strong program of stakeholder engagement, including support of a broad range of industry associations and participation in industry forums, provides feedback to ensure training is relevant to local employers and students in responding to demands in trade and technology expertise, and hospitality and community services.

The APTC is a unique initiative, operating as a training coalition, and working with Pacific partners to continuously improve VET quality in the region, including more local investment into skills and reform of VET provision. The approach is agile and flexible, ensuring the ability to innovate in response to changing context and circumstances within the region.

The TAFE Queensland led APTC delivers over 1,200 Australian international standard qualifications per year, and since its inception has trained over 13,000 graduates across the region, 41 per cent of whom were women.

Testament to its success, the APTC has 99 per cent student, and 98 per cent employer, satisfaction rates, with 85 per cent of APTC graduates recorded as being in employment post training, having gone on to advance their careers, start their own small businesses, or pursue work opportunities abroad.

In addition, in October 2018 the APTC was awarded the prestigious World Federation of Colleges and Polytechnics (WFCP) Awards of Excellence in the category of Access to Learning and Employment, which recognise outstanding contributions and accomplishments made by institutions in the sector.

Through TAFE Queensland, the training delivered by APTC is changing lives across the Pacific.

The transformative benefits are felt not only by the students who leave the APTC armed with new skills and confidence, but by the communities in which they live and work – with a more skilled, inclusive and productive workforce enhancing Pacific prosperity.



Appendices

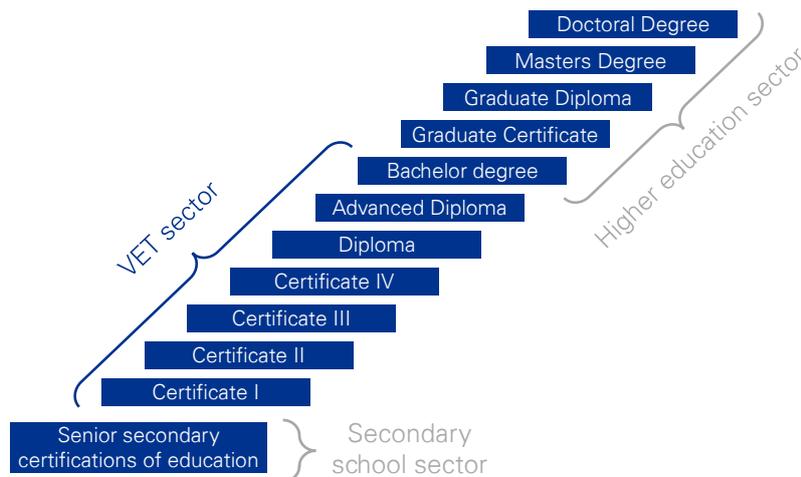
A.1 The VET sector in Australia

VET in Australia is provided in a range of ways, including via the public system, through technical and further education (TAFE) institutes, and by industry, community organisations, and private providers.⁶² In addition, some universities and schools also provide VET.

The Australian VET sector is the largest education sector in Australia.⁶³ VET includes courses which lead to formal qualifications in a wide range of trade and professional fields, in addition to course offerings aimed at developing or refining specific work-related skills or workplace practices⁶⁴, supporting business by providing a capable and highly skilled workforce, and giving employees the opportunity to gain higher-skill, higher-wage jobs.

The Australian Qualification Framework (AQF) was introduced in 1993, with the intention of providing a nationally consistent framework for all qualifications in post-school education and training. At a high level, the AQF includes 10 levels of qualifications (**Figure 7**) – within this framework, the VET sector provides education and training for Certificates I–IV, Diplomas, and Advanced Diplomas (in addition, VET Graduate Certificates, and VET Graduate Diplomas also fall within VET accreditation). There are some complexities with this structure, i.e. some VET providers are accredited to offer degrees, while others offer senior secondary school qualifications. This is not a linear framework – people can, and do, move up and down the framework during their lifetime.

Figure 7: The Australian Qualifications Framework



Data provided through the National Centre for Vocational Education Research (NCVER) indicates that in 2016 in Australia there were:

- 4,279 VET training providers, a decrease of 1.2 per cent from 2015;
- approximately 4.2 million students undertaking some form of training, an increase of 4.9 per cent from 2015;
- 3.7 million program enrolments, an increase of 3.8 per cent from 2015;

⁶² 'Australia's VET sector', Australian Skills Quality Authority website, <http://www.asqa.gov.au/about/australias-vet-sector> (Accessed 20 February 2018)

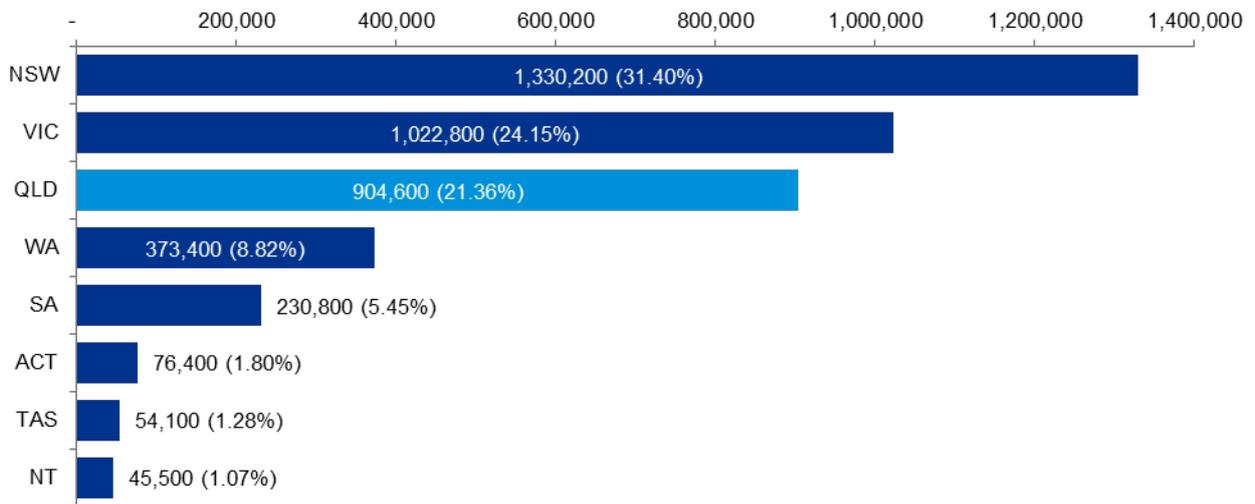
⁶³ Atkinson, G, Stanwick J, 'Trends in VET: Policy and Participation', 2016, National Centre of Vocational Education Research

⁶⁴ Australian Bureau of Statistics, 'Year Book Australia', 2012 (Reference Number: 1301.0)

- 30.1 million subject enrolments, an increase of 1.7 per cent from 2015; and
- 815.9 million hours of VET delivered, a decrease of 1.2 per cent from 2015.⁶⁵

The proportion of the Australian population aged 15–64 years who participated in some form of VET was estimated at 24.2 per cent in 2016, with the top 50 training providers accounting for 37.8 per cent of the enrolments of all VET students. VET is provided nation-wide, with distribution largely aligned to the overall population distribution (**Figure 8**).⁶⁶

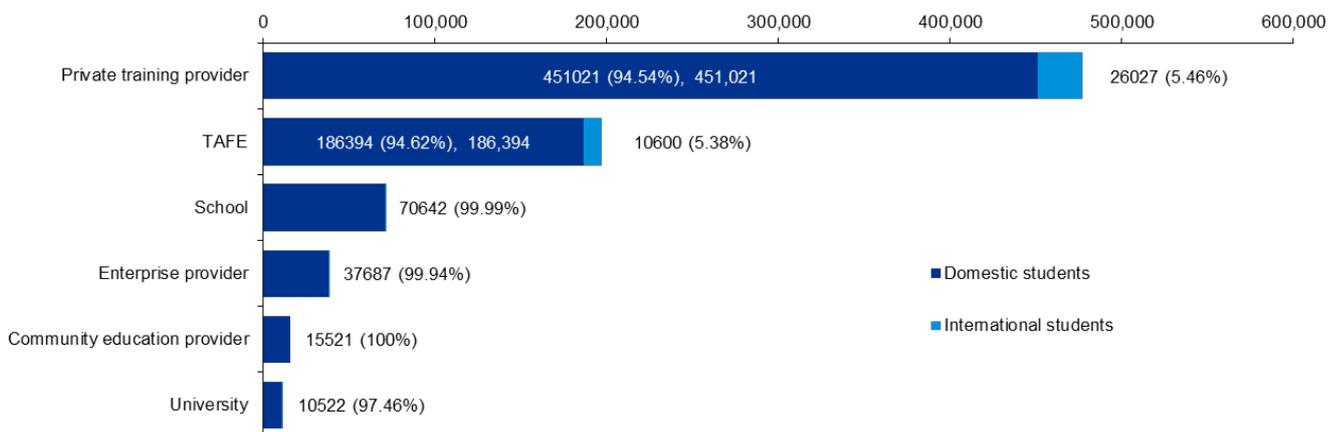
Figure 8: VET student enrolments by state and territory (2017)



Source: National Centre for Vocational Education Research (NCVER) 2016

Across Australia, private training providers deliver the highest proportion of VET, followed by TAFEs (**Figure 9**). Funding for these organisations comes via a variety of sources, including the Commonwealth and state governments, and domestic and international fee-paying students.

Figure 9: Queensland VET domestic and international enrolments by training provider type (2017)



Source: National Centre for Vocational Education Research (NCVER) 2016

⁶⁵ Total VET students and courses 2016, National Centre for Vocational Education Research (NCVER) <https://www.ncver.edu.au/data/data/infographics/total-vet-students-and-courses-2016-infographic> (Accessed 21 February)

⁶⁶ Total VET students and courses 2016, National Centre for Vocational Education Research (NCVER) <https://www.ncver.edu.au/data/data/infographics/total-vet-students-and-courses-2016-infographic> (Accessed 21 February)

The Australian VET sector has experienced significant change across the last two decades, driven in large part, from both State and Federal reforms. Across this time, the policy, funding and institutional environment in which VET operates has evolved considerably.

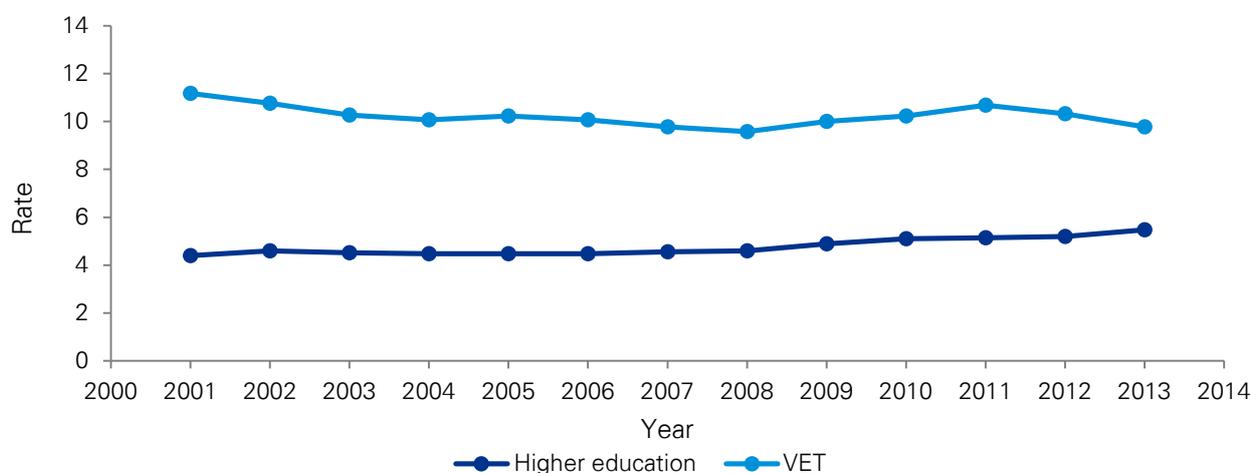
A.2 Policy and funding reform in VET

Traditionally, the states and territories have had responsibility for VET provision, a jurisdictional approach to funding and delivering VET which enables the system to respond to local and regional skills and labour market needs.⁶⁷ However, the Commonwealth Government has increasingly played a role in both the regulation and funding of vocational education and training.⁶⁸

In 2008, the Commonwealth and state and territory governments established a new Intergovernmental Agreement on Federal Financial Relations (IGAFRR). Under the IGAFRR, the Commonwealth and states entered into a National Agreement for Skills and Workforce Development (NASWD), marking a return to a collaborative and shared model for national VET policy and funding.⁶⁹ The NASWD indicated shared Commonwealth and state objectives for a renewed focus on VET improving national workforce skill levels. During the same period, the Commonwealth entered into separate, but complementary, National Partnership Agreements on Productivity Places Program (NPAPPP) with the states, which provided funding for industry-based training on a co-contribution basis between the Commonwealth (50 per cent), the states (40 per cent), and industry (10 per cent).⁷⁰

From 2009, there was a consistent increase in the rate of participation in both higher education and VET (**Figure 10**), until 2012 when participation rates in VET started to decrease, suggesting that while the demand-driven system has provided greater impetus for alternative education options, it has potentially drawn students away from VET offerings and, alternatively, towards a higher education pathway. Also in 2009, alongside the introduction of introductory student entitlement funding models, VET FEE-HELP loans were introduced to higher-level VET students (diploma and above) at any registered training organisation (RTO) approved to deliver VET FEE-HELP eligible courses.⁷¹

Figure 10: Participation in Higher Education and VET as a proportion of the 15-62 year-old population



Source: National Centre for Vocational Education Research (NCVER) 2016

In 2012, the NASWD was renewed, and at the same time, the Commonwealth and states also entered into a separate National Partnership Agreement on Skills Reform (NPASR). The NPASR sought to 'contribute to the reform of the VET system to deliver a productive and highly skilled workforce which contributes to Australia's economic future and enables all working age Australians to develop skills and qualifications

⁶⁷ Atkinson, G and Stanwick, J, 'Trends in VET: policy and participation', 2016, National Centre for Vocational Education Research (NCVER)

⁶⁸ Education and Employment References Committee, 'Getting out money's worth: the operation, regulation and funding of private vocational education and training (VET) providers in Australia, 2015, The Senate

⁶⁹ Noonan, P, VET Funding in Australia: Background, trends and future directions, 2016, Mitchell Institute, Melbourne

⁷⁰ Noonan, P, VET Funding in Australia: Background, trends and future directions, 2016, Mitchell Institute, Melbourne

⁷¹ Atkinson, G and Stanwick, J, 'Trends in VET: policy and participation', 2016, National Centre for Vocational Education Research (NCVER)

needed to participate effectively in the labour market'.⁷² The NPASR also introduced the National Training Entitlement, which guarantees a subsidised place for all working-age Australians for at least a Certificate III qualification at a provider of their choosing.

Through the NPASR, \$1.7 billion in was committed to the states and territories across 2012-17, contingent on the states' agreement to, and implementation of, agreed skills reforms and meeting completion targets set by the states and agreed with the Commonwealth. Based on the 2017-18 forward estimates, the end of NPASR funding to the states would potentially result in a \$500 million reduction to the VET sector, with ongoing VET funding provided only through the NASWD.

Alongside these policy reforms, a new scheme, VET FEE-HELP, was made available to students for whom study may not have otherwise been possible due to upfront training costs. Since the introduction of the loans, the number of students accessing VET FEE-HELP, and the number of eligible VET FEE-HELP providers, have increased significantly, leading to several years of exponential growth of the program (Error! Reference source not found.6).

Table 6: VET FEE-HELP trends 2009 – 2016

	2009	2010	2011	2012	2013	2014	2015	2016
No. students accessing VET FEE-HELP	5,229	25,879	38,706	54,216	98,023	192,557	272,026	193,868
VET FEE-HELP LOANS (\$ million)	25	117	204	323	696	1,1743	2,915	1,470
Average loan per student (\$)	4,858	4,520	5,281	5,962	7,101	9,054	10,717	7,582
No. VET FEE-HELP providers	39	55	85	105	197	254	261	271

Source: Department of Education and Training

Analysis by NCVET indicated that students enrolled with private RTOs have accessed the loans the most, with almost 75 per cent (~\$2 billion) of the total loan contributions across five years going to private providers, compared with the 25 per cent (~\$800 million) provided to students training with public providers.⁷³ However, while the scheme has been very popular, there is some evidence that it has been subject to some exploitation through opportunistic providers, aggressive marketing, and inappropriate targeting of vulnerable students, underpinned by inadequate regulatory control.⁷⁴

Accordingly, throughout 2015, the Commonwealth Government introduced measures to review and refine VET FEE-HELP policy settings, with a raft of changes introduced from January 2016, including strengthening the assessment criteria for RTOs, increased protection for students, and the introduction of new entry requirements for RTOs. Further, from 2017, the Commonwealth Government introduced a cap on loan levels for providers at 2015 levels (which, in some instances, has resulted in issues with funding for delivery of training being lower than the cost of training), along with a reduction in the number of course offerings eligible for VET FEE-HELP, resulting in an immediate \$1.5 billion funding reduction to the VET sector.

The national VET system is informed by industry and has an overarching client-orientation focused on delivering flexible, relevant and responsive education and training to meet the needs of employers, particularly through apprenticeships and traineeships. Due to the nature of the extensive training offerings and variety of pathways to entry, the Australian VET sector also has a key role in supporting those experiencing all forms of disadvantage, and helping them take steps towards greater economic and social

⁷² Council of Australian Governments, National Partnership for Skills Reform, 2012

⁷³ Atkinson, G and Stanwick, J, 'Trends in VET: policy and participation', 2016, National Centre for Vocational Education Research (NCVER)

⁷⁴ Education and Employment References Committee, 'Getting out money's worth: the operation, regulation and funding of private vocational education and training (VET) providers in Australia, 2015, The Senate

participation. The sector is complex with noteworthy differences in the size of registered providers, scope of registration, delivery models, ownership and governance models, and reliance on public funding.

A.3 The KPMG-REG Model

A.3.1 Overview

KPMG-REG is one of KPMG's proprietary computable general equilibrium models of the Australian economy. It has been specifically designed for policy analysis. KPMG-REG is a well-established model that has been used to model a wide range of policies and scenarios, including:

- **Canberra Institute of TAFE (CIT)** – A report completed by KPMG to determine the contribution of CIT to the ACT economy. Data on funding sources and vocational training was used to determine the impact CIT has on the ACT economy. KPMG found that CIT makes a substantial contribution to the ACT economy.
- **Victorian TAFE Association** – A 2018 report analysing the contribution of TAFEs to Victoria's prosperity. This involved quantifying the economic contribution of each TAFE funding source on the Victorian economy. The report found that Victorian TAFEs have a vital role in sustaining and growing Victoria's prosperity into the future.
- **Commonwealth Treasury Tax Review** – A major project that was undertaken during 2015-16 involving the provision of economic analysis and modelling of tax reform options for the Tax Review. This involved estimating marginal excess burdens for all major taxes and modelling a range of tax reform scenarios involving the GST, personal income tax and company income tax.
- **Financial Services Council (FSC)** – "The Economic Impact of a GST-funded Company Income Tax Cut" which examined the impacts of a 22 per cent company tax rate, lower personal income taxes, and a higher GST on a broader base. The proposed tax reform formed the basis of the FSC's 2015 submission to the Tax White Paper.
- **NSW Business Chamber (NSWBC)** – A 2015 report to the NSWBC entitled "Economic Modelling of Property Tax Reform Options" that quantified the economic effects on NSW and Australia of four scenarios to replace conveyancing stamp duties on property with land taxes.
- **Australian Mines and Metals Association (AMMA)** – Analysis of workplace relations and the competitiveness of the Australian resources sector. This report was part of the AMMA's submission to the Productivity Commission 2015 inquiry into Australia's workplace relations framework. The report focused on the competitiveness of the resources sector and economy-wide impacts associated with potential changes in the Australian workplace relations framework.
- **CPA Australia** – A study of the impacts of GST reform and tax simplification. This was a 2015 update of a similar 2011 study that analysed the potential impact on the Australian economy of CPA Australia's proposed GST-based tax reform agenda. Four GST reform scenarios were evaluated: (i) 10 per cent GST on a broader base; (ii) 15 per cent GST with current exemptions; (iii) 15 per cent GST and applied to health and education; and (iv) 15 per cent GST on a broader base.

In basic form, KPMG-REG distinguishes 114 sectors and commodities, based on the 2013-14 input-output tables published by the Australian Bureau of Statistics (see ABS (2016) Australian National Accounts: Input-Output Tables (Product Details), 2013-14, Cat. No. 5215.0.55.001). Primary factors are distinguished by 114 types of capital (one type per industry), eight occupations, owner-operator labour, two types of land, and natural resource endowments (one per industry).

KPMG-REG models the economy as a system of simultaneous equations that represent interrelated economic agents operating in competitive markets. Economic theory specifies the behaviour and market interactions of economic agents, including consumers, investors, producers and governments. These agents operate in domestic and foreign goods markets and capital and labour markets. Defining features of the theoretical structure of KPMG-REG include:

- Optimising behaviour by households and businesses in the context of competitive markets with explicit resource constraints and budget constraints;
- The price mechanism operates to clear markets for goods and primary factors; and
- At the margin, costs are equal to revenues in all economic activities.

A.3.2 Producer behaviour

A representative firm in each sector produces a single commodity. Commodities are distinguished between those destined for export markets and those destined for domestic markets. Production technology is represented by nested CRESH functions (Hanoch, G. (1971), 'CRESH production functions', *Econometrica*, vol. 39, September, pp. 695–712.) allowing a high degree of flexibility in the parameterisation of substitution and technology parameters. Energy goods are treated separately to other intermediate goods and services in production, and are complementary to capital.

A.3.3 Labour market

The supply of labour is determined by a labour-leisure trade-off that allows workers in each occupation to respond to changes in after-tax wage rates, thus determining the hours of work they offer to the labour market. The overall supply of labour is normalised on working-age population.

A.3.4 Household behaviour

Household consumption decisions are determined by a linear expenditure system (Stone, R. (1954), 'Linear Expenditure Systems and demand analysis: an application to the pattern of British demand', *The Economic Journal*, vol. LXIV, pp. 511–27) that distinguishes between subsistence (necessity) and discretionary (luxury) consumption. The linear expenditure system in KPMG-REG is calibrated using income and expenditure elasticities that have been estimated using Australian time series data on household income and expenditure.

Households can also change their mix of imported and domestically-produced commodities depending on relative prices and tastes. In the short term, total household spending moves with household disposable income. In the long term, total household spending adjusts to ensure there is a constraint on the economy's accumulation of net foreign liabilities.

A.3.5 Investment behaviour

Investment behaviour is industry specific and is positively related to the expected rate of return on capital. This rate takes into account company taxation, a variety of capital allowances and the structure of the dividend imputation system.

A.3.6 Foreign sector

Foreign asset and liability accumulation is explicitly modelled, as are the cross-border income flows they generate and that contribute to the evolution of the current account. Along with other foreign income flows such as labour payments and unrequited transfers, KPMG-REG takes into account primary and secondary income flows in the current account. These are particularly important for Australia as they typically comprise a significant share of the balance on the current account.

A.3.7 Government sector

KPMG-REG's theoretical structure and database facilitates detailed modelling of state government (including local) and Commonwealth government fiscal accounts and balance sheets, including the accumulation of public assets and liabilities. Detailed government revenue flows are modelled, including all major direct and indirect taxes, and income from government enterprises. Government spending includes public sector consumption, investment and the payment of various types of transfers (such as pensions and unemployment benefits).

A.3.8 Calibration

The key data inputs used by KPMG-REG are input-output tables. The tables quantify the flows of goods and services from producers to various uses: intermediate inputs to production, inputs to capital creation, household consumption, government consumption and exports. The input-output tables also quantify the flows associated with primary factor inputs: labour, capital, land and natural resources. In KPMG-REG, the data inputs are combined with the model's theoretical structure to quantify behavioural responses, including:

- Price and wage adjustments driven by resource constraints;

- Tax and government spending adjustments driven by budget constraints;
- Input substitution possibilities in production; and
- Responses by consumers, investors, foreigners and other agents to changes in prices, taxes, technical changes and taste changes.

A.3.9 Simulation design

KPMG-CGE has a flexible simulation design: it can be run in comparative-static or dynamic mode. In comparative-static form, the economy moves from the baseline equilibrium to a new equilibrium representing a long-term outcome, usually indicating the effects of a change 10 years after it has occurred. The long-term outcome is an equilibrium where adjustment is complete in all markets. Thus, industry investment and capital usage has fully responded to perturbations in rates of return. Similarly, the labour market has fully responded to perturbations in unemployment rates.

The dynamic mechanisms in KPMG-REG relate to the accumulation of physical capital, foreign liabilities and government debt. The dynamic properties of KPMG-REG provide for gradual adjustment of industry investment to perturbations in rates of return. Similarly, the labour market gradually returns to equilibrium after a perturbation to the unemployment rate.

In dynamic mode, KPMG-REG is run twice; first, to create a baseline (or business-as-usual) representation of the economy; and second, to create a policy scenario that includes the economic shock of interest (e.g., a tax change). The baseline scenario is designed to be a plausible projection of how the economy will evolve in the short term. In the long term, the baseline scenario evolves to a balanced growth path consistent with the long-term properties of well-specified dynamic macroeconomic models (McCandless, G. (2008), *The ABCs of RBCs: An Introduction to Dynamic Macroeconomic Models*, Harvard University Press, Cambridge, Massachusetts.). The policy scenario comprises the baseline scenario in addition to the economic shock of interest. The difference between the value of a particular variable in the policy scenario and its value in the baseline scenario quantifies the impact of the economic shock of interest on that variable.

A.4 Modelling outputs

This section discusses the detailed modelling approach that supports the economic impact findings presented throughout the body of this report.

A.4.1 Economic measures

Throughout this section, there are several key economic terms used to explain our modelling results. The analysis of the economic contribution of TAFE Queensland to Queensland is based on the components listed in the following figure.

Figure 11: Graphical representation of the difference between sales/output and value-added



Source: KPMG

- **Sales/Output** is a measure of the value of the goods and services produced by an industry or sector, where the value reflects the cost of inputs: labour, capital, and intermediate inputs of goods and services, including imports.

- **Value-added by industry** is equivalent to output less goods and services, sourced from other suppliers (including imports), and is the sector’s contribution to GSP. By excluding inputs of goods and services from other domestic industries and from overseas, ‘value added’ avoids double counting as it does not include the value added generated by other industries.
- **Employment** refers to the total number of people employed (full time and part time).
- **GSP** is a measure of the total value added of industry in Queensland plus indirect tax revenue received by government. GSP is a measure of productive activity in Queensland but does not account for the destination or nationality of those accruing income.

A.4.2 Labour force impacts

Education plays a key role in producing individuals capable of obtaining employment, higher wages and driving economic growth. Analysing the labour market outcomes of education and training provides a strong understanding of the benefits of education to individuals and the economy. An estimate of improved employment outcomes arising from TAFE education provided by TAFE Queensland can be derived through analysis of completing students’ employment prospects.

As shown in **Table 7**, the labour force participation rate of TAFE students increased to 85.7 per cent after completion of study (78.1 per cent prior), and the employment rate increased to 84.1 per cent after completion of study (81.8 per cent prior).

Table 7: TAFE Queensland labour force participation and employment, pre- and post-training, 2017

	Before training	After training
Participation Rate	78.1%	85.7%
Employment rate	81.8%	84.1%

Source: NCVER Student Outcomes 2017.

As this analysis considers impacts to the Queensland economy, labour force improvements need to be expressed relative to the Queensland labour market. **Table 8** presents Queensland labour force data,⁷⁵ with and without the annual impact of education provided by TAFE Queensland in 2017. The table shows that TAFE education results in a larger labour force and fewer unemployed persons. Note that unemployment, by definition, is the group of people choosing to participate in the labour force who cannot find work –the data shows that TAFE Queensland results in more people participating in the labour force while also having fewer people unemployed.

Table 8: Queensland labour force 2017 – Impact of TAFE provision

2017	Labour Force	Without TAFE addition	Unemployed Persons	Without TAFE reduction	Unemployment Rate	Without TAFE impact
Queensland	2,576,686	2,572,536	156,994	157,314	6.10%	6.12%

Source: NCVER Student Outcomes 2017, ABS, KPMG.

Results show that the annual labour force impact attributable to TAFE outcomes does have a positive effect on the labour force in Queensland. Whilst the stock and flow of the labour force is changing on a regular basis (that is, the total number of people in the labour force, and the number moving in and out of the labour force each year), **KPMG estimates there was a net positive difference of 0.02 percentage points in Queensland’s 2017 unemployment rate attributable to TAFE education attainment.**

To model the economy-wide impacts of the changes in the labour force outlined above, the labour force structure contained within the KPMG-REG model was modified to reflect these results. This method

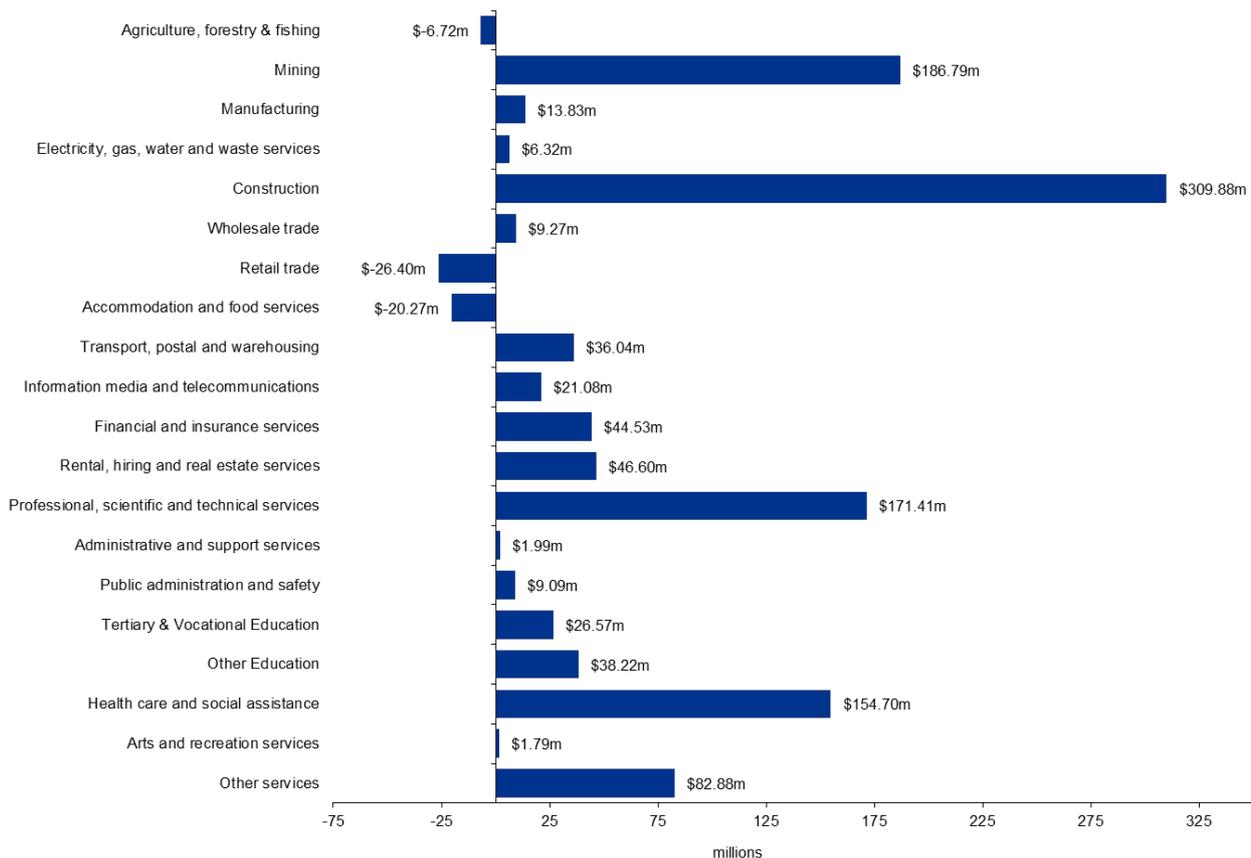
⁷⁵ ABS cat. 6202.0 - Labour Force, Australia, Jan 2018

provides a more comprehensive analysis of the economic impacts arising from labour force outcomes, considering whole-of-economy feedback effects.

Students completing an education at TAFE Queensland move into the labour force with higher skill levels and better employment prospects than would otherwise be the case. The increased supply of skilled labour benefits particular Queensland industries, consistent with the results presented in **Figure 12**. With increased access to skilled employees, industries expand production by employing more workers and purchasing additional goods and services.

It is estimated that **in 2017, benefits from a larger workforce** as a result of additional upskilling of students through TAFE Queensland has **supported an additional \$1.1 billion of value-added in the Queensland economy**.

Figure 12: Change in industry output (\$ million) as a result of labour market changes related to TAFE education in Queensland, 2017



Source: KPMG-REG simulation

The *Construction* sector has the largest increase in industry output, followed by *Mining* and *Professional, Scientific, and Technical services* sectors. The output increases are smaller for other industries, although the *Health care and social assistance* industry does see notable increases in output. The size of the output increases reflect the combined effect of the relative increase in skilled labour for each industry and the absolute size of the workforce in an industry.

A.4.3 Productivity benefits

The analysis below estimates the productivity improvements arising from a TAFE Queensland education through analysis of completing students' employment outcomes and wage premiums. NCVER provides detailed student outcome data relevant to this analysis, and Queensland labour force statistics are available from the ABS.

Wilkins (2015) analysed HILDA⁷⁶ data to derive wage premiums associated with educational outcomes controlling for demographic factors and cognitive ability.⁷⁷ Wilkins estimates wage premiums relative to a Year 11 education. Wilkins found a high wage premium to Certificate III/IV attainment for males (20 per cent), whilst results for females were not significant. Weekly wage premiums were also estimated for diplomas and advanced diplomas, with 28 per cent and 8 per cent higher wages than those who had only completed Year 11 for males and females respectively.

Wilkins (2015) estimated education wage premiums provide an indication of productivity improvements arising from education – that is, assuming workers are paid their marginal product or close to it, wage premiums attributable to educational attainment will reflect higher productivity by more educated workers. For example, this productivity is likely to be demonstrated through a better understanding of how to address technical issues within a sector, and is also likely to reflect improvements in transferable skills, such as better problem solving and teamwork.

In order to model the impacts of higher productivity, the KPMG-REG model uses the enhanced earnings capacity associated with educational attainment as a reflection of the improvement in the productivity of the individual completing study. Before applying a productivity shock to the Queensland labour force in KPMG-REG, the wage premium must first be scaled such that it represents only those productivity improvements related to the 2017 TAFE students who are employed after study (either re-trained, upskilled or are entering the workforce for the first time).

Firstly, Wilkins' findings are normalised across gender by taking a weighted average of the earnings premium associated with education attainment according to the proportions of the Queensland workforce who have attained such education and who are male or female.⁷⁸ Data is derived from the 2016 Census, considering employed persons by gender and highest education attainment where place of work is Queensland.⁷⁹

Table 9: Employed persons (Queensland) highest educational attainment

Employed persons by highest educational attainment, earnings premium				
Education Level	Males	Females	Persons	Wage premium (sex weighted average)
Certificate III/IV	333,077	156,216	489,289	14%
Diploma or Advanced Diploma	98,995	132,344	231,343	17%

Source: 2016 Census, Wilkins (2015), KPMG

After weighting the weekly earnings premiums for gender (using Queensland labour force data):

- Certificate III/IV attainment attracts a 14 per cent wage premium relative to those with a Year 11 education; and
- Diploma or Advanced Diploma attainment attracts a 17 per cent wage premium relative to those with a Year 11 education.

The final productivity shock to the KPMG-REG model is an average of the productivity improvement associated with educational attainment (Certificates, 14 per cent and Diplomas, 17 per cent), appropriately weighted for the portion of students graduating with certificates versus those with diplomas. Since labour productivity is industry-specific in KPMG-REG, we further weight the productivity improvement for the relative impact of those students entering the workforce on the existing stock of labour by industry. This allows the productivity shock to represent an **annual** improvement related to TAFE Queensland student

⁷⁶ The Household, Income and Labour Dynamics in Australia (HILDA) Survey is a household-based panel study that collects valuable information about economic and personal well-being, labour market dynamics and family life.

⁷⁷ Wilkins (amended), 2015, http://melbourneinstitute.unimelb.edu.au/_data/assets/pdf_file/0006/2155506/hilda-statreport-2015.pdf

⁷⁸ KPMG-REG does not distinguish between gender when computing productivity enhancements of the Queensland labour force

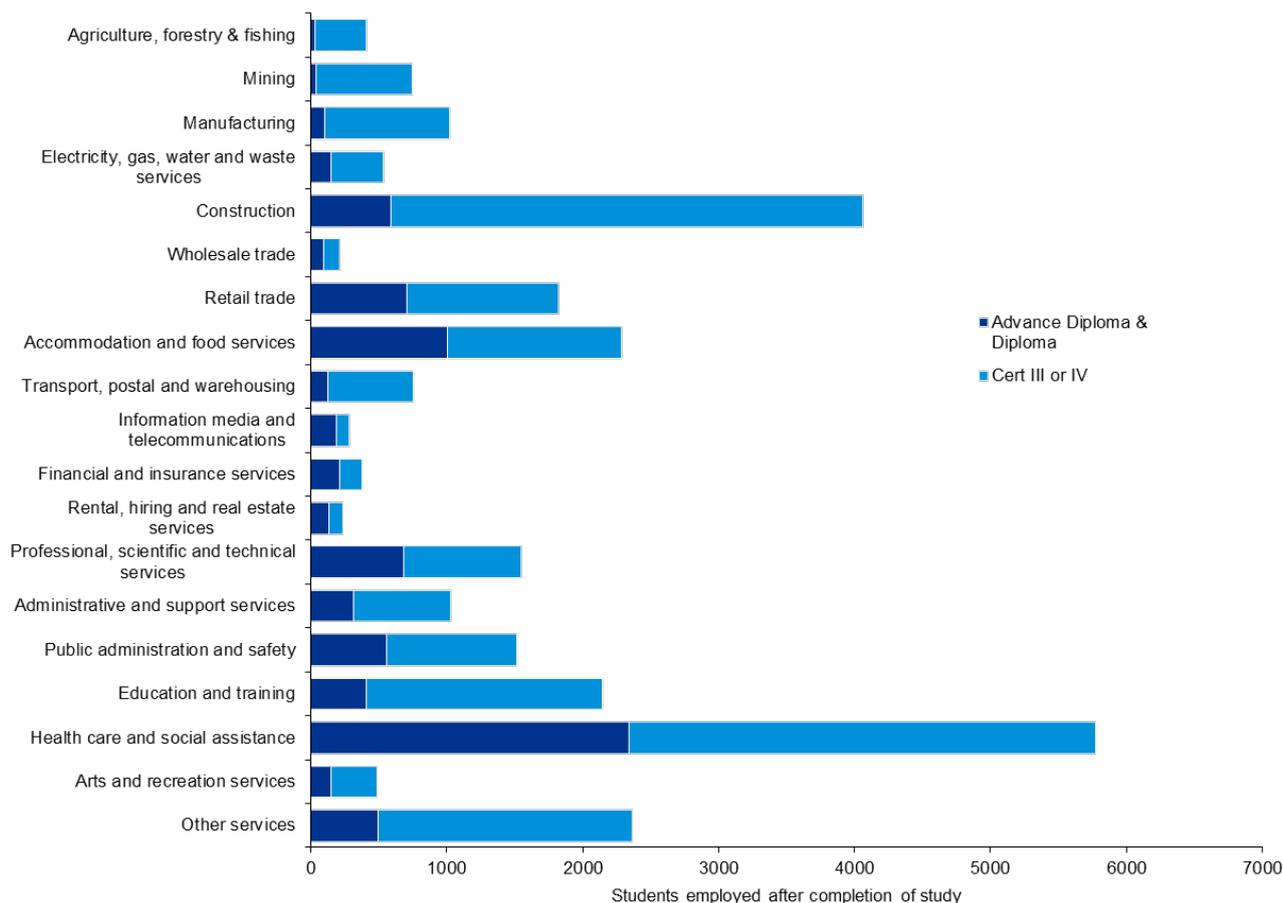
⁷⁹ 2016 Census – Counting Employed Persons, Place of Work (POW) (custom export from Table Builder Pro)

outcomes that recognises two important effects – firstly, that each Queensland industry benefits from productivity improvements to varying magnitudes; and secondly, that the flow-on benefits of improved labour force productivity will differ according by industry depending on their labour force pattern.

By considering productivity improvements across Queensland industries, the KPMG-REG model will better reflect the economic contribution of TAFE Queensland to the Queensland labour force.

To illustrate this methodology, **Figure 13** shows industry of employment post-study, by TAFE Queensland students completing study with either a Diploma/Advanced Diploma or a Certificate III/IV.

Figure 13: TAFE Queensland students industry of employment post-study, by education attainment, 2017

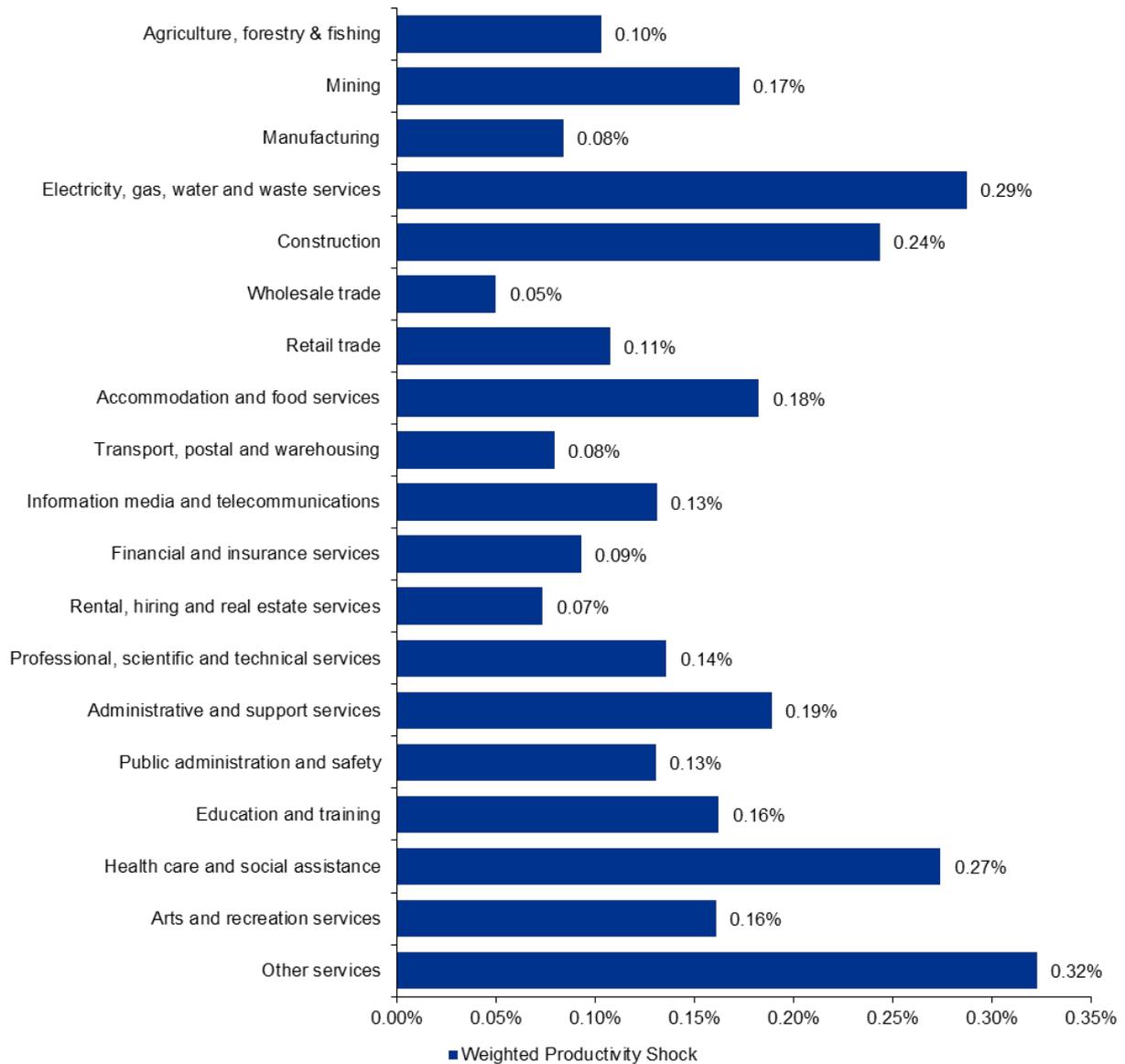


Source: KPMG analysis, NCVET Student Outcomes 2017.

Data from the NCVET Student Outcomes Survey highlights the differences in industry demand for education requirements. For example, 15 per cent of graduates entering the *Construction* industry hold a diploma or advanced diploma, whereas the remaining 85 per cent hold a Certificate III or IV. In comparison, for the *Information media and telecommunications* industry, 67 per cent of graduates hold a diploma or advanced diploma while the remaining 33 per cent hold a Certificate III or IV. The relative share of education attainment by industry has implications for the productivity shocks recalling that diplomas signal a slightly greater productivity level than certificates.

Figure 14 depicts the final annual productivity improvement by industry, after considering the relative impact of students entering each industry with either diplomas or certificates.

Figure 14: Annual productivity improvement related to TAFE Queensland students entering the Queensland labour force, by industry, 2017



Source: NCVET Student Outcomes 2017, ABS, KPMG.

The productivity improvement is largest in the *Other services* industry, mainly due to the volume of skilled workers entering this sector relative to the initial stock of workers. Productivity improvements are smaller in the other industries because fewer students work in these sectors after completing study, and the impact of the flow of students entering the workforce is small relative to the existing labour force. These productivity improvements are imposed on the KPMG-REG model by industry.

Example Productivity Shock

600 students graduated with a diploma and entered the *Construction* sector, representing 0.25% of the industry labour force; 0.25% multiplied by the diploma wage premium (17%) = $0.0025 \times 0.17 = 0.042\%$

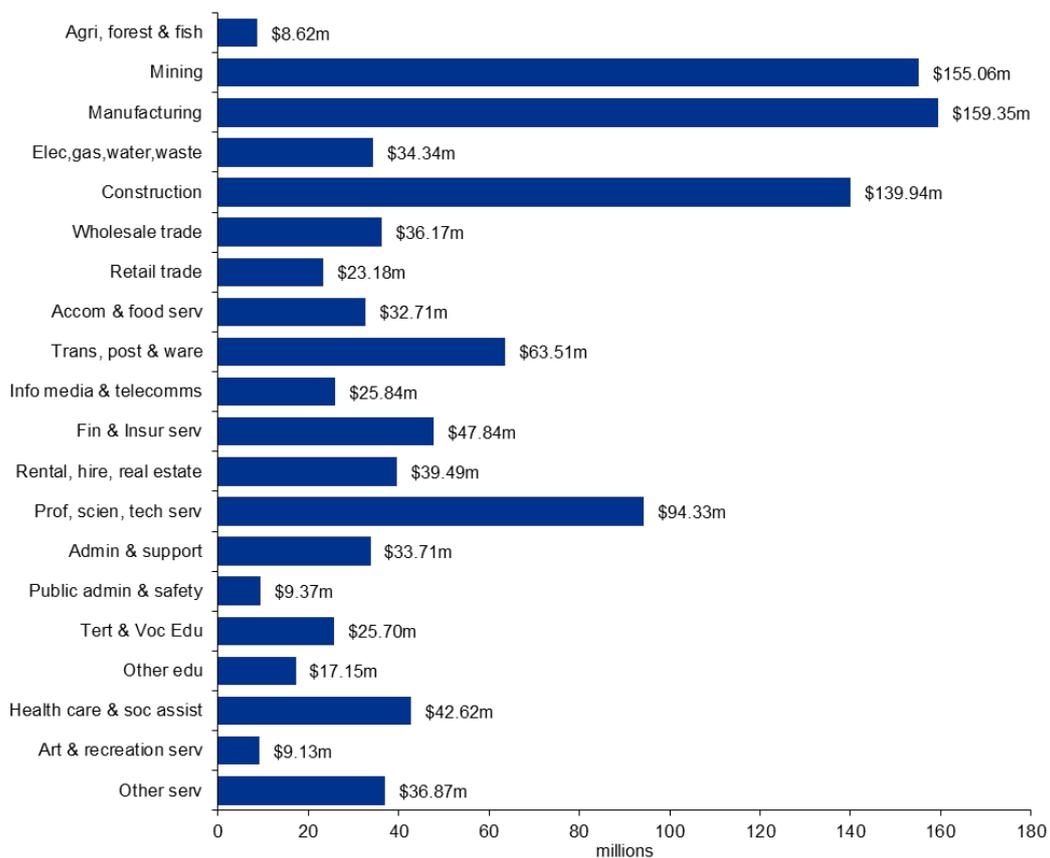
3500 students graduated with a certificate and entered the *Construction* sector, representing 1.5% of the industry labour force; 1.5% multiplied by the certificate wage premium (14%) = $0.015 \times 0.14 = 0.202\%$

Note: Rounding throughout example.

To model the impacts of the productivity improvements, the KPMG-REG model uses the enhanced earnings capacity associated with educational attainment as a reflection of the improvement in the productivity of the individual completing study.

The industry-level impacts are provided in the following figure. The skills and technical abilities provided to TAFE Queensland students makes them more productive employees, which increases output per worker and in turn results in a larger Queensland economy. More productive employees in one industry also results in flow-on benefits for other industries. **As can be seen in the following industry-level results, a more skilled and productive labour force is beneficial to all industries.** Industries employing higher skilled workers are able to produce more with a given amount of capital and labour.

Figure 15: Change in industry output (\$ million) due to productivity improvements signalled by TAFE Queensland related wage premiums, Queensland, 2017



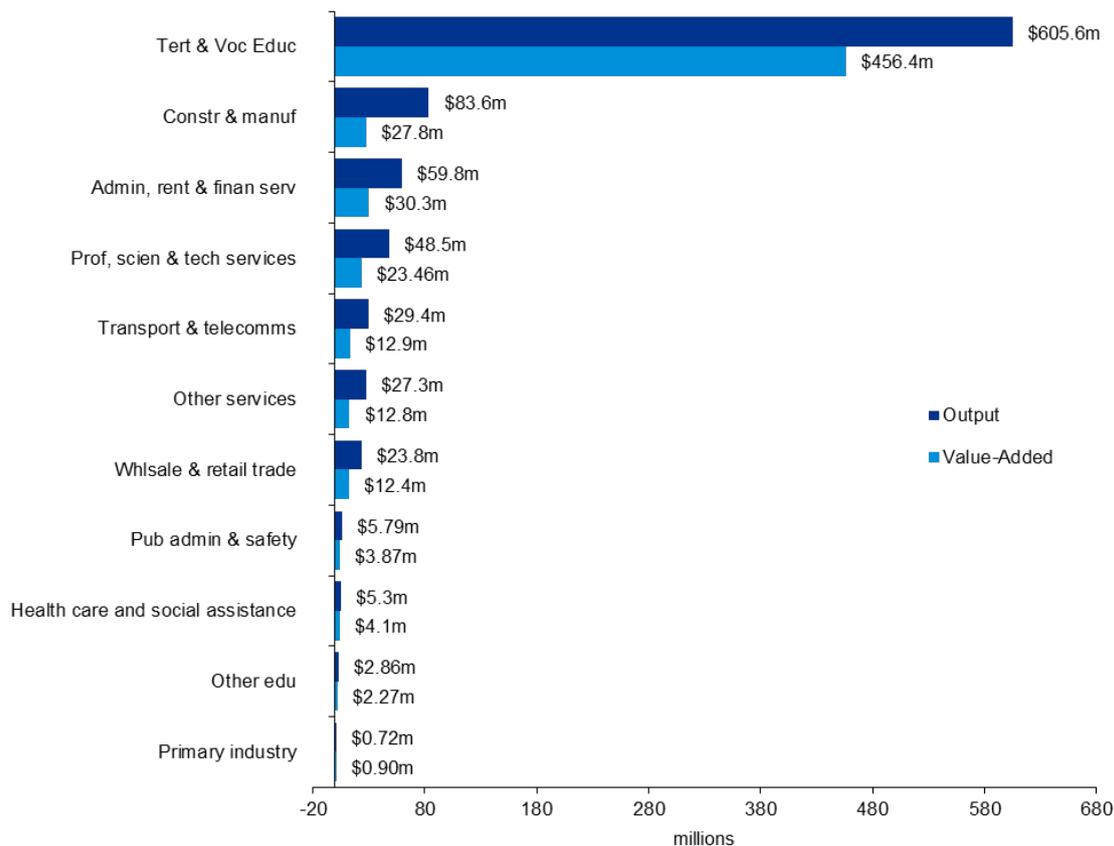
Source: KPMG-REG simulation

A.4.4 TAFE Queensland operations

KPMG has relied on primary data provided by TAFE Queensland to determine the level of employment and expenditure by TAFE Queensland. Additionally, in order to measure the extent with which TAFE Queensland is supported in its operations by the Queensland state government through state-owned training assets, data from the Department of Employment, Small Business and Training (DESBT) annual reports and Queensland state budget papers were used to develop an estimate of the yearly expenditure on depreciation, acquisitions and maintenance by the Queensland state government.

Figures relating to the operations of TAFE Queensland form direct inputs into the KPMG-REG model. The indirect and wider-economic benefits associated with TAFE Queensland's operational spending and employment are then considered as part of the total economic contribution of TAFE Queensland.

Figure 16: Change in industry output and value-added (\$ million) as a result of TAFE Queensland income generation, by industry, Queensland, 2017



Source: KPMG-REG.

Benefits accrue predominantly to the *Tertiary and Vocational Education* sector given that the main impact is a change in the level of income received by the TAFE sector. However, there are important ancillary benefits for local industries that supply inputs to the *Tertiary and Vocational Education* sector. In practice, these benefits result from direct spending of TAFE Queensland in the local economy to support their operations (e.g. for supplies, building maintenance, and capital purchases), and spending of TAFE employees in the local economy.

TAFE Queensland operations directly and significantly impact the Queensland economy through higher value-added, employment, and aggregate expenditure – these effects highlight the importance of the education and training sector to the Queensland economy.

In 2017, TAFE Queensland:

- Earned aggregate income of \$608.7 million, of which \$611.6 million was spent in the Queensland economy in the form of wages and other operating expenses; and
- Employed 3,978 staff.

The modelling of these activities shows that there are strong flow-on benefits to the Queensland economy from revenue generated by the operation of TAFE Queensland. It is estimated that in 2017, the **operations of TAFE Queensland supported \$891 million in industry output and \$585 million of value-added in the Queensland economy.**

As of 1 October 2017, Aviation Australia became a wholly owned subsidiary of TAFE Queensland, and part of general TAFE operations. As of 2017-18 Aviation Australia reported \$20.4 million revenue, employed 99 staff, and delivered 1951 new enrolments across all course offerings. Given the recent transition period for the purpose of this report, Aviation Australia financial information has not been included in the economic analysis.

A.4.5 Exports (international students)

In 2017 there were 7,511 international students attending TAFE Queensland. Student numbers are useful when considering the economic footprint of these students. For example, in addition to the fees generated international student expenditure by students living in Queensland on items such as accommodation, food and discretionary purchases all contribute to the local economy.

Expenditure by the 4,427 TAFE Queensland international students living in Queensland can be broken down into two broad export components – education course fees and expenditure on goods and services.

In 2017, international students attending TAFE Queensland and living in Queensland spent **\$34.5 million on education fees**, directly contributing to Queensland and national export figures.⁸⁰

The 4,427 international students living in Queensland spent an estimated **\$88.8 million in the local economy**. This estimate is calculated using international VET student goods and services expenditure data from the ABS⁸¹ and TAFE Queensland student numbers.

Table 10: Estimated TAFE Queensland student goods and services spending in Queensland

	2017
Total international VET student expenditure on goods and services	\$3,740,000,000
Total international VET students	186,280
Estimated spending per VET student	\$20,077
TAFE Queensland students in Queensland	4,427
Estimated TAFE Queensland international student goods & service spending in Queensland	\$88,882,220

Source: NCVER, Total VET students and courses 2017. Tourism Research Australia, Total trip expenditure by item of expenditure for international visitors by purpose of visiting Australia, 2017, TAFE Queensland.

To develop inputs for the KPMG-REG model, spending by industry has also been considered using survey data from Tourism Research Australia.⁸²

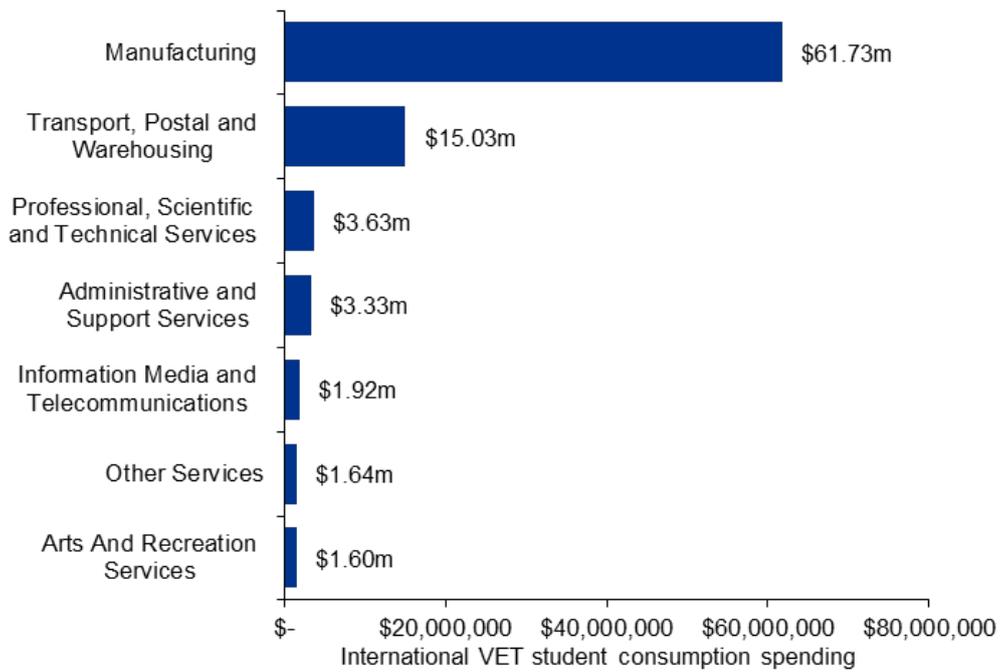
Spending on education fees and goods and services by international TAFE Queensland students living in Queensland are treated here as *exports*. This spending predominately creates value-added in the *Tertiary and Vocational Education* sector via education fees, with consumption supporting other Queensland industries.

⁸⁰ TAFE Queensland 2018

⁸¹ ABS 2017, cat 5368.0.55.004 International Trade in Services by Country - Table 11

⁸² Tourism Research Australia. Total trip expenditure by item of expenditure for international visitors by purpose of visiting Australia. 2017

Figure 17: Spending by international TAFE Queensland students studying in Queensland, by industry, 2017 (\$m)



Source: KPMG estimates based on data from Tourism Research Australia.

These international student export revenue figures (arising from international education and living expenses) form an input into the KPMG-REG model in order to estimate the economic benefits of such exports to the Queensland economy.

A.5 Economic Context: the Queensland economy

This section presents a snapshot of the Queensland economy to provide some context of Queensland’s economic structure and recent trends – the structure of the Queensland economy is mirrored within the KPMG-REG model as the ABS *State Accounts* (Cat. no 5220.0) are used to calibrate the representation of state and territory economies in the KPMG-REG database.

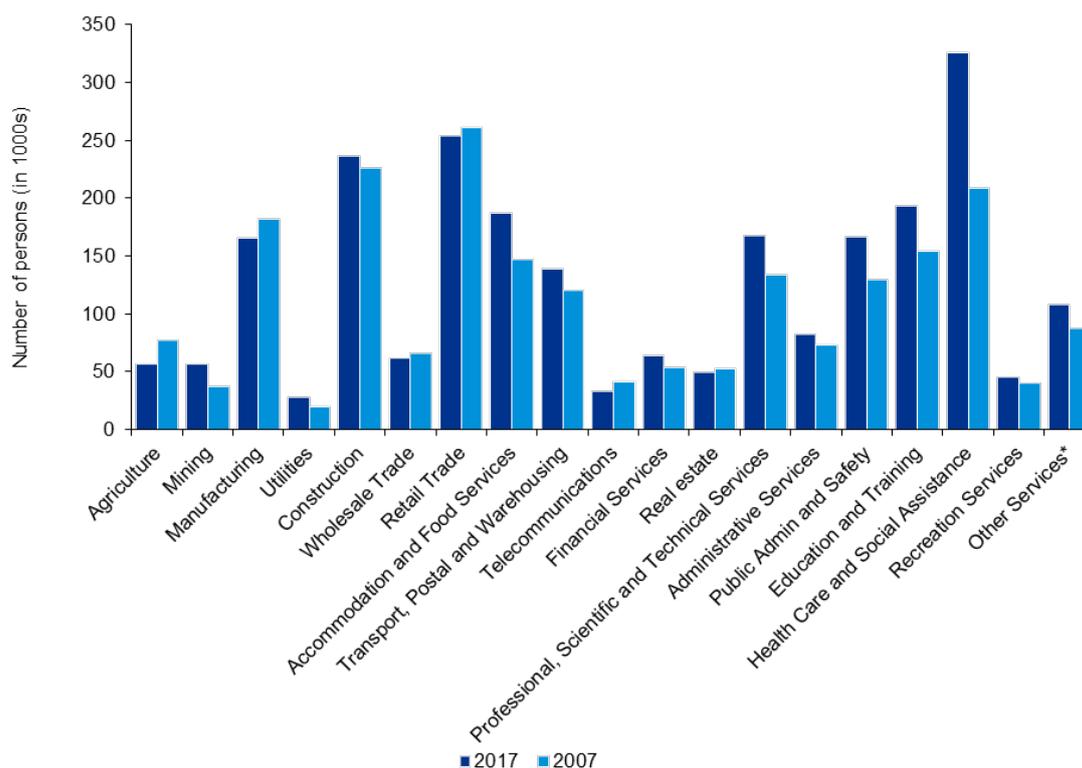
Queensland’s gross state product was \$326.9 billion in 2016-17, which represents 19 per cent of Australia’s gross domestic product. The annual growth of Queensland’s GSP between 2015-16 and 2016-17 was 1.8 per cent. Queensland’s annual population growth rate (1.6%) was equal to the national average, and was the highest rate of growth for both the Australian and Queensland populations since 2012–13.⁸³

There are approximately 2.5 million people employed in Queensland. Given that the population of Queensland is approximately 4.9 million people, around half the population of Queensland is employed in the labour force.

Figure 18 shows employment across industries in the last decade.

- Queensland’s *Health Care and Social Assistance* sector has grown to be the largest employer within Queensland, followed by the *Retail Trade* industry, employing around 326,000 and 253,000 workers. *Construction* remained significant over the last decade experiencing increased employment of around 10,000.
- Over the last decade, strong growth in employment was seen in the *Health Care and Social Assistance*, *Education and Training*, *Public Administration and Safety* and *Professional, Scientific and Technical services*.

Figure 18: Employment across industries in Queensland ('000 persons).



Source: ABS Labour force survey 2017.

⁸³ Queensland Government Statistician’s Office (QGSO) Population growth highlights and trends, Queensland, 2018 edition



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