

Submission to the Department of Education, Skills &  
Employment

# **Job-ready Graduates Package draft legislation**

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Technology & Engineering

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## JOB-READY GRADUATES PACKAGE DRAFT LEGISLATION

The Australian Academy of Technology and Engineering (ATSE)<sup>1</sup> commends the Australian Government's commitment to job readiness and industry relevance for students, research and universities. ATSE welcomes the proposed investments in training a science, technology, engineering and mathematics (STEM)-ready Australian workforce and connecting Australian industry with the tertiary research sector.

There is significant alignment between ATSE's objectives and activities, and those of these Australian Government proposals. ATSE is committed to enhancing technology and engineering career paths, supporting a strong, diverse, and appropriately skilled STEM workforce, and strengthening engagement with industry. We therefore welcome the Australian Government's proposed incentive for work-integrated learning such as internships, extending the Industry 4.0 advanced apprenticeship pilot and fostering closer university-industry research collaboration. ATSE's own Industry Mentoring Network in STEM (IMNIS) program has been successfully connecting motivated second-year PhD students with outstanding industry leaders from around Australia since 2015 – to the benefit of both groups.

ATSE also welcomes the intention to build tertiary education capacity in regional, rural and remote areas, and increased support for Aboriginal and Torres Strait Islander people to attend university through additional Commonwealth Supported Places (CSPs) and additional funding for regional delivery. In the spirit of these reforms and the recent National Agreement on Closing the Gap we encourage the government to consider extending its commitment to all Aboriginal and Torres Strait Islander students from any part of Australia.

ATSE further urges the Government and the tertiary education sector to work together towards achieving gender balance in STEM degrees and bridging the gender divide in Australia's STEM qualified workforce. Diversity is a key driver of innovation and has been consistently linked to improved organisational performance. Australia's STEM Workforce Report 2020 showed that these issues persist despite significant progress.<sup>2</sup>

The currently proposed Higher Education Reform Package represents some of the most significant changes to tertiary education in Australia in thirty years. The proposed reforms have the potential to hugely impact current and future generations of students in Australia.

ATSE welcomes the objective of the policy, and has long advocated for incentives to encourage domestic students to choose fields of education that lead to jobs of national priority, such as in STEM. However, it is disappointing that no new money will enter the higher education sector to achieve this outcome. Some analyses even suggest that the changes may result in less money available to support STEM places in the higher education system.<sup>3</sup>

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<sup>1</sup> The Australian Academy of Technology and Engineering is a Learned Academy of independent, non-political experts helping Australians understand and use technology to solve complex problems. Bringing together Australia's leading thinkers in applied science, technology and engineering, ATSE provides impartial, practical and evidence-based advice on how to achieve sustainable solutions and advance prosperity.

<sup>2</sup> <https://www.chiefscientist.gov.au/news-and-media/2020-australias-stem-workforce-report>

<sup>3</sup> <https://melbourne-cshe.unimelb.edu.au/events/public-seminar-series/what-will-the-tehan-changes-mean-for-students-and-universities>

The proposed package is aimed at influencing student choice of university courses by altering the cost to the student of selected study areas. The proposed changes are designed to cut costs to students by twenty per cent for applied science, IT and engineering degrees, which could encourage students to enrol in these degrees. However, ATSE has not seen compelling evidence that student fee changes linked to income-contingent loans will change student subject selection behaviour. Australia's world-leading HECS-HELP deferred student loan system means that such price signals are weak at best. ATSE applauds the objective but believes that this mechanism should be revisited to ensure the desired outcome.

The discussion paper accompanying the Higher Education Reform Package 2020 states (p.22) that the new model is informed by national public benefit considerations of the changing nature of the Australian workforce, and that science, technology, engineering and mathematics (STEM)-related disciplines will be important to Australia's future economy. The paper advises we must ensure there is a pipeline of skilled workers in these priority fields, and work to prevent future skills shortages that will impact the Australian economy. ATSE wholeheartedly agrees with these sentiments. However, our analysis suggests that the funding model accompanying the proposed policy may actually have the opposite effect.

The discussion paper states (p.23) that the changes to the fee structure will increase the share of costs met by the Government for courses that produce higher public returns or which contribute to identified national priorities. Preliminary analysis indicates that universities will actually receive less funding per STEM place under the proposed new funding model. Frank Larkins, Professor Emeritus and former Deputy Vice Chancellor at the University of Melbourne, has modelled the base funding for universities based on domestic student enrolment data, and estimates that these changes will actually increase the cost to universities of providing science and engineering degrees by around 16-17% per student.<sup>4</sup> This creates a financial disincentive against universities enrolling domestic students in STEM subjects, contrary to the objectives of the policy. Precise estimates will require analysis of the data which is unfortunately not possible in the short timeframe provided.

With a diminished incentive for universities to enrol students in important STEM disciplines, it is unclear that universities will make significant, if any, new places available to educate the next generation of STEM graduates to create new industries and jobs and drive the nation forward.

This policy has the potential to significantly disrupt the domestic student market, and ATSE is seriously concerned about the potential for perverse outcomes devastating to Australia's STEM workforce pipeline and future economy.

It is disappointing that while the proposed reforms represent a major change to the Act, only five working days have been allowed for consultation. The sector is already responding to a major crisis in the COVID-19 pandemic, and it is therefore a challenging time for them to also consider and respond to a proposal for major sectoral reform, particularly in the short timeframe provided. The lack of certainty over how research funding might change in light of the proposed legislation further presses the need for more careful analysis to avoid adverse unintended consequences.

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<sup>4</sup> <https://theconversation.com/the-government-is-making-job-ready-degrees-cheaper-for-students-but-cutting-funding-to-the-same-courses-141280>

ATSE strongly commends an extension of the consultation period, and genuine consultation appropriate to the significance of these reforms. This would allow ATSE's fellowship - leaders across Australian science, technology and engineering - to provide considered guidance on whether this policy will achieve the desired objective of strengthening Australia's skilled workforce, and through it, the future.

ATSE would welcome further discussions on this matter. Please contact ATSE CEO Kylie Walker on 0405 229 152 or [kylie.walker@atse.org.au](mailto:kylie.walker@atse.org.au)