ENGINEERS
AUSTRALIA

New Managed Growth and Needs-based Funding

Engineers Australia's response to the Department of Education's implementation consultation papers

August 2024

New Managed Growth and Needs-based Funding implementation consultation paper submission

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Engineers Australia
11 National Circuit, Barton ACT 2600
Tel: +61 2 6270 6555
Email: policy@engineersaustralia.org.au

engineersaustralia.org.au

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About Engineers Australia

As Australia's national body for engineering, we are the voice and champion of our 120,000-plus members. We provide them with the resources, connections, and growth they need to do ethical, competent and high-value work in our communities. A mission-based, not-for-profit professional body, Engineers Australia is constituted by Royal Charter to advance the science and practice of engineering for the benefit of the community.

Engineers Australia maintains national professional standards, benchmarked against international norms. As Australia's signatory to the International Engineering Alliance, this includes accreditation of undergraduate university engineering programs.

Contact

Engineers Australia values the opportunity to contribute to the consultation on the New Managed Growth and Needs-based Funding Implementation. We look forward to continued engagement on these important initiatives. Please feel free to contact Caitlin Buttress, Head of Advocacy, at cbuttress@engineersaustralia.org.au for further information.

Introduction

Engineers Australia welcomes the opportunity to provide feedback to the Department of Education regarding the New Managed Growth Funding and Needs-based Funding implementation consultation papers. As the professional association representing engineers in Australia, our submission focuses on ensuring the proposed funding models support the growth and sustainability of engineering education, which is crucial to meeting Australia's future skills needs.

Summary of recommendations

1. **Clarify funding impacts for disciplines:** Provide detailed guidelines on how the new model will accommodate differences in program delivery costs to avoid incentivising universities to limit places in higher-cost disciplines.
2. **Clarify predictability and flexibility:** The model should account for fluctuations in student demand and offer universities the flexibility to adjust their programs in response to emerging skills needs.
3. **Ensure transparency:** Clarify the number of funded places and the allocation process to help universities plan and allocate resources effectively.
4. **Support regional institutions:** Prevent incentives that may lead universities to increase application numbers without corresponding enrolments, which could disproportionately affect regional institutions. Ensure the funding model supports the sustainability of regional universities, which play a crucial role in developing skills to address regional issues and maintaining community ties.
5. **Include a discipline lens on needs-based funding:** Address specific fields like engineering as well as cohorts, to ensure targeted support for disciplines who have greater equity disparities.
6. **Promote holistic system support:** Ensure funding supports holistic outreach and preparation programs that encourage and prepare underrepresented groups for university education before they enrol and invest in support services that facilitate student success, including tutoring, career counselling, and financial aid.

New Managed Growth Funding

The proposed shift in university funding models in Australia could have significant implications for various academic disciplines. Engineering programs, being among the most expensive to deliver per equivalent full-time student load (EFTSL), stand to benefit from a funding structure that mitigates

financial limitations. However, the effectiveness of the new funding model in addressing these disparities remains uncertain, particularly regarding the variability in program delivery costs and the predictability of student enrolments.

Discipline impacts by university funding

The new funding model seems to provide universities with fewer cost limitations for offering places for disciplines that were disadvantaged by the previous funding model. There is a significant variation between different disciplines when examining the cost of delivery for university programs[1]. Engineering bachelors, for example, are the third most expensive per equivalent full-time student load (EFTSL). The mitigation of funding places over a fixed allocation could alleviate some of the disadvantage felt by the current model of funding.

Under the current system, universities do not have fixed allocations or targets for Commonwealth supported places (CSPs) subsidised by the federal government, except for medical courses and First Nations students. Funding is provided in dollars rather than specific student places, with each university having a maximum public funding grant. As the subsidy per student varies between courses, universities receive only A$1,236 per year for each CSP in business, law, and most arts disciplines, which could support over 800 student places with a million-dollar grant. In contrast, engineering receives a higher Commonwealth contribution of $18,292, allowing a million dollars to support only 55 engineering places. Having a new funding system based on the number of student places would mean that universities may not have to reduce total enrolments to increase the number of student places in disciplines like engineering. This approach could potentially alleviate some of the financial pressures currently faced by universities when expanding engineering programs and increase student enrolments in engineering helping to address the engineering skills challenges being faced in Australia.

However, it is not clear how the New Managed Growth Funding model will allow for the variation in program cost delivery. If a university is to receive overall less funding under the new model due to student application numbers, then there may still be an incentive to limit places for disciplines that require higher investment to deliver, such as engineering.

More detail is required to determine the specific impact this model would have on different disciplines. Without clear information, it is challenging to fully understand how the new model will affect funding allocations and support across various fields of study, including engineering.

Predictability and availability of funding

A significant issue with the new model is the predictability of student enrolments and preferences year-to-year, and the flexibility of universities to respond to skills needs. The new model needs to account for variations in student demand and provide universities with the agility to adjust their offerings to meet emerging skills requirements, especially in engineering. The engineering profession is critical to addressing Australia's future infrastructure, technological, and environmental challenges, and the funding model must support the dynamic nature of these demands.

Additionally, it is unclear how many places will actually be available and the extent to which they will be funded. This lack of clarity could hinder universities' ability to plan and allocate resources effectively, potentially impacting the availability of engineering places. A clear and transparent allocation process is necessary to ensure that the engineering discipline receives adequate support to meet national skills needs.

Impacts on regional institutions

The proposed funding model risks incentivising universities to increase application numbers, even from students who may not be admitted, potentially leading to inefficiencies and a disconnect between

[1] Croucher, G. 'Working paper: What does it cost to educate a university student in Australia?' *University of Melbourne* (November 2021) https://melbourne-cshe.unimelb.edu.au/__data/assets/pdf_file/0003/3952110/what-does-it-cost-to-educate.pdf

demand and actual enrolments[2]. This incentive would disproportionately impact regional institutions and other underrepresented cohorts that rely on those institutions.

Regional universities play a crucial role in attracting and developing engineering skills needed in the regions. Regional Australia will have significant skills requirements in the coming decades for regional infrastructure projects, net zero transitions, and other major developments. These institutions support local educational opportunities and maintain strong community ties. Declining funding and student numbers could result in reduced staff, facilities, and services at these institutions, exacerbating regional skill shortages. This decline could also severely impact equity and limit access for First Nations students, who are often served by these regional providers, creating the opposite of the intended consequence.

It is essential to address these risks to ensure the funding model supports the sustainability of regional institutions and effectively contributes to the development of engineering expertise needed for critical regional projects.

Needs-based funding model

The needs-based funding model should strategically target both disciplines and specific cohorts to address disparities in representation and support more equitable outcomes. Disciplines such as engineering face significant challenges with underrepresentation of certain groups, including women and First Nations peoples. By explicitly including these groups in the funding model, we can improve support for fields where inequities are most pronounced.

Recent data reveal a troubling trend in engineering enrolments: from 2011 to 2019, there was a substantial decline in equity group enrolments through both ATAR and non-ATAR pathways. Non-ATAR pathway enrolments in engineering dropped from approximately 4.5% to 1.4%, reflecting a broader issue in attracting diverse students to this critical field[3]. This decline jeopardises the diversity of the future engineering workforce, which is crucial for addressing key challenges such as infrastructure development, the net zero transition, and technological innovation.

To effectively address these disparities, the needs-based funding model must focus on specific equity challenges:

- **Women in STEM:** Women remain underrepresented in engineering and other science, technology, engineering and mathematics (STEM) fields[4]. Targeted funding should support initiatives that encourage female students to pursue engineering, such as scholarships, mentorship programs, and outreach activities that highlight the impact of engineering on society and career opportunities.
- **Social, cultural and economic factors:** Young people of low socioeconomic status (SES) are more likely to enrol in fields such as Nursing, Education, Commerce, and Society & Culture, while engineering remains less sought[5]. Outreach and support are essential to demonstrate the value of engineering and provide pathways to make this field more attainable and attractive for first-generation university students.

[2] Woodthorpe, K. and Walker, K. 'Submission to the Australian Universities Accord Post-Budget Implementation Consultation Papers' *ATSE* (July 2024) https://www.atse.org.au/media/pnpd00dn/sbm-2024-07-26-aua-implementation-submission-unsigned.pdf
[3] Li, I., Carroll, D. and Jackson, D. 'Equity implications of non-ATAR pathways: Participation, academic outcomes, and student experience' *Perth: National Centre for Student Equity in Higher Education, Curtin University* (2022) https://www.acses.edu.au/app/uploads/2022/02/Li_UWA_Final.pdf
[4] Department of Education. 'Student Equity in Higher Degrees by Research' *Australian Government* (August 2019)
[5] National Centre for Student Equity in Higher Education 'Facilitating Student Equity in Australian Higher Education' *Curtin University* (2016) https://www.acses.edu.au/app/uploads/2016/08/Facilitating-Student-Equity-in-Australian-Higher-Education.pdf

- **First Nations students:** First Nations students are significantly underrepresented in engineering, with only 2.6% compared to 5.6% of non-First Nations students[6] (by contrast, 32.2% of First Nations enrolments were in the discipline category of Society and Culture). Targeted support could include culturally-sensitive programs, scholarships, and partnerships with First Nations organisations to increase participation and retention in engineering.
- **Regional and Remote students:** These students are underrepresented in engineering and related technologies[7]. Funding should support initiatives that improve access to education in regional areas, such as online learning opportunities, regional campus programs, and travel grants to reduce barriers to entry and support local talent development.

By targeting needs-based funding to address these specific challenges, we can foster a more inclusive and diverse engineering workforce. This approach will not only help meet the Australian Government's equity participation targets but also ensure that engineering programs are better equipped to address Australia's future needs and drive innovation.

Holistic system funding

Needs-based funding should encompass holistic system support to encourage and prepare underrepresented groups for university education well before they receive funding for attendance. This includes funding for outreach programs, mentoring, and support services crucial for increasing participation and success in higher education.

Engineers Australia urges the government to ensure the new funding model supports the sustainability of regional institutions and contributes effectively to developing engineering expertise for critical regional projects. The model must provide universities with flexibility to respond to evolving demands, ensure adequate funding for engineering programs, and support a diverse and inclusive engineering workforce.

We appreciate the opportunity to contribute to this discussion and look forward to continued engagement on these critical issues. Engineers Australia is committed to collaborating with the government and educational institutions to ensure the new funding models align with the needs of the engineering profession and support Australia's future growth and development.

[6] Universities Australia '2022 Higher Education Facts and Figures' *Universities Australia* (June 2022) https://universitiesaustralia.edu.au/wp-content/uploads/2022/09/220207-HE-Facts-and-Figures-2022_2.0.pdf
[7] Department of Education. 'Student Equity in Higher Degrees by Research' *Australian Government* (August 2019)