

AUSTRALIAN GEOSCIENCE COUNCIL¹ RESPONSE TO THE AUSTRALIAN UNIVERSITIES ACCORD DISCUSSION PAPER

Preamble:

The university sector fulfils many purposes in Australia. These include provision of education programs across the full spectrum of disciplines and professions, generation and communication of pure and applied research, and a forum for debate on various societal issues. University education and research, in turn, underpin the modern Australian economy and our competitiveness in global trade.

Much of the research funding in Australia is targeted. This includes some national competitive grants schemes, CRCs and contract research provided to government and industry. Conversely, delivery of educational programs, especially at the undergraduate level, is largely dependent on market demand. Planning for future disciplinary needs in the private or public sectors by government, and strategies to meet those needs, appear only weakly linked to university funding models.

Universities seek to offer as broad a range of academic programs as possible, with the income generated by high demand areas (such as business) used to support other disciplines deemed strategically important by a university but where the cost of program delivery exceeds income from fees and government contributions (including some areas within science and the humanities). Universities must balance their budgets, including the large costs involved in underwriting the delivery of research and maintaining infrastructure. Hence, even disciplines of national importance may need to be sacrificed to balance the books.

Response to the Accord Questions:

Our submission relates to four sections of the discussion paper (2.4 - 2.6 and 3.2.1):

Challenges and opportunities for Australia

2.4 International Engagement, global security and geopolitical competition

2.5 Sustainability, environmental challenges and biosecurity

2.6 Economic transformation, changing jobs, industries and capabilities

Challenges and opportunities for the higher education system

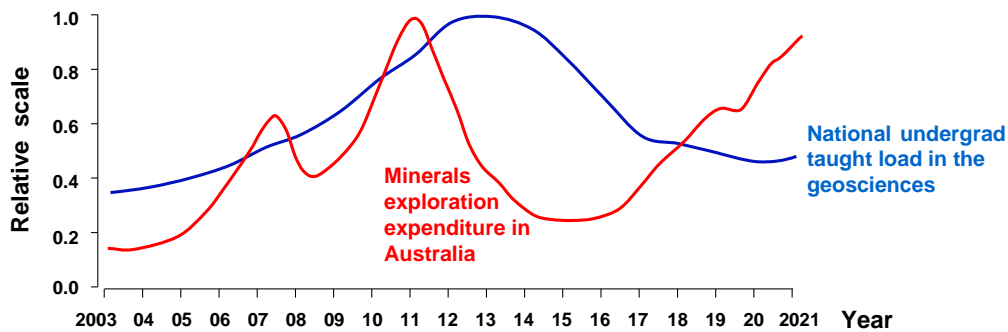
3.2.1 Meeting skills needs through higher education

Student demand and the resulting teaching income that partly determines a university's capacity or desire to deliver degree programs or majors, is not always linked to the importance of a discipline to the Australian economy. An example is the resources industry, which is both a major contributor to Australia's GDP and export income, and central to the global transition to a low-carbon economy and other initiatives at federal and state government levels. The supply of the next generation(s) of geoscientists is critical if new mineral resources are to be discovered and extracted. The geosciences also play a major role in environmental monitoring and management, natural hazard assessments and risk mitigation, and within the agricultural sectors. There are growing opportunities in "geotourism".

Recent geopolitical events underline the danger for nations who are dependent on the supply of raw materials from other countries or regions. The same events also influence the ability of companies and government agencies to hire geoscience professionals from overseas.

¹ The Australian Geoscience Council is the peak body representing ~8,000 professional geoscientists in industry, government and academia. AGC members are the eight major geoscience organisations – Geological Society of Australia, Australian Institute of Geoscientists, Australian Institute of Mining and Metallurgy, Association of Applied Geochemists, Petroleum Exploration Society of Australia, Australian Society of Exploration Geophysicists, International Association of Hydrogeologists and Australian-New Zealand Geomorphology Group. www.agc.org.au

Yet, the majority of geoscience departments across the country face near-continual threat of staff reductions or even closure due to both cyclical variations² in student demand and the high cost of geoscience program delivery. This is a flaw in the demand-driven system.



(From Cohen, 2022)

While universities and industry (including peak bodies such as the AGC) have a responsibility to find ways of attracting students into geoscience programs, some responsibility lies with the Federal Government in the design of funding models for universities that mitigate against the pronounced cyclicity in student demand and the very high cost of geoscience program delivery that has existed for decades.

Q5 How do the current structures of institutions, regulation and funding in higher education help or hinder Australia's ability to meet these challenges? What needs to change?

General operating costs of universities (staff, systems and buildings) are largely covered by CSP funding, student contributions and international student fees. While CSP and student contributions income partly reflects the cost of delivery (via the different contributions bands), and universities do cross-subsidies programs, this approach has however resulted in the loss of geoscience and other science majors in recent years. Reducing the maximum student contributions for science students in 2021, without an associated increase in CSP funding, did not delivered the desired increase in science enrolments at most institutions.

Consideration should be given to schemes that supplement per capita teaching income with base funding for specific disciplines. Such base funding might be determined by way of direct agreements between individual universities and the Federal Government or through a national competitive fund to which universities can bid. Allocations of such funds would require assessment of national strategic needs and various university performance indicators.

Q9 How should Australia ensure enough students are studying courses that align with the changing needs of the economy and society?

The suggestions in relation to Question 5 above are only half of the solution to maintaining a flow of graduates in key areas such as the geosciences. The capacity of universities to mount degree programs will not benefit the Australian economy unless students take up places. The AGC will continue to promote the wide range of excellent career opportunities available to graduates from geoscience programs to attract students (as will equivalent bodies covering other areas of STEM). We believe, however, there is value in the provision of targeted scholarships with associated commitments for graduates to work in the sector for a period. The *Rural Allied Health Undergraduate Scholarships* is an example of an existing model. Geoscience is not the only discipline that might benefit from such an approach, with teacher education and mathematics two other areas (amongst others).

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President of the Australian Geoscience Council

² Cohen, D.R., 2022. *Australian Geoscience Tertiary Education Profile 2003-2021*. Report to the Australian Geoscience Council. <https://www.agc.org.au/resources/reports/australian-geoscience-council-report/>.