



SUBMISSION TO THE INQUIRY INTO AUSTRALIA'S FUTURE IN RESEARCH AND INNOVATION

The Australian Academy of the Humanities welcomes the opportunity to provide a submission to the Inquiry into Australia's Future in Research and Innovation.

The Academy is one of Australia's four Learned Academies, established to advance knowledge and the pursuit of excellence in the humanities for the benefit of the nation. A key role of the Academy is to provide independent expert advice to government and policy makers, promoting the social significance of humanities scholarship and its vital importance in shaping effective public policy.

The Academy has a strong interest in the effective utilisation of Australia's research and innovation capacity. If Australia is to shift gears and truly embrace an innovation mindset, new, broader approaches are needed which look to harness innovative potential across Australian society, the economy and the research sector.

In this submission, the Academy wishes to draw the Committee's attention to several key areas of untapped and/or unacknowledged innovative potential. The Academy considers that by adopting the following principles, the Government will come closer to achieving its aim of creating the conditions to encourage trade and investment growth.

- 1. Adopt a 'smart engagement' approach to Australia's regional economic relationships**
- 2. Embrace a broad view of innovation**
- 3. Recognise the foundational role of basic research to the innovation system**
- 4. Recognise and foster the skills mixes and methods that lead to innovation**
- 5. Maximise the potential of the R&D tax incentive**
- 6. Draw on advice from a broad range of participants in the innovation system**

1. Adopt a 'smart engagement' approach to Australia's regional economic relationships

The Government should adopt a 'smart engagement' approach to Australia's regional economic relationships by leveraging existing partnerships and collaborations in research, culture and business.

The Academy has been collaborating on a series of multidisciplinary projects via the Australian Council of Learned Academies (ACOLA) which report to the Chief Scientist and Commonwealth Science Council. Two recent have a direct bearing on ways in which Australia stands to gain from recognising and harnessing the skills, knowledge and networks of its Asian diasporas:

- The *Smart Engagement with Asia* report (2015) shows that recent patterns of migration and mobility are having a game-changing effect on the nature and intensity of Australia's relations with countries in the region. Australia's research, scientific and cultural relations are increasingly led by skilled migrants from India, China and other neighbouring countries who are building pathways for innovation and growth.¹
- The *Business Diasporas in Australia* project (due to report in May 2016) is taking this work further in examining the significant role played by Australia's Chinese and Indian business diasporas in trade, investment and skills and knowledge transfer.²
- Targeted investment in research to identify, evaluate, and harness Asian-Australian diaspora linkages in science, research, business, sport, education, tourism and other sectors would assist with early recognition and take-up of marketing opportunities for Australian innovation in the region.

2. Embrace a broad view of innovation

Australia needs to embrace a new, broader view of innovation that explicitly acknowledges the fundamental role of non-technological innovation to Australia's future. A key finding of a report on the role of science, research and technology in lifting Australia's productivity, published by ACOLA, found that "Innovation involves more than technical skills. It also needs people who understand systems, cultures and the way society uses and adopts new ideas".³

Innovations that take into account the social contexts of change, and are designed from the outset with people's cultural and social needs in mind, tend to be adopted more quickly, to impact more deeply on society and to interact more efficiently with existing ways of doing things.

Policy settings need to be geared towards harnessing innovative potential for both technical and non-technical industries and applications, including in higher education and research. Innovative potential across all disciplines needs to be mobilised if the nation is to benefit from the full range of expertise vested in Australia's higher education and research community.

In the United States, a report by the US National Academy of Science emphasises the need to support "the comprehensive nature of the research university" across the full gamut of disciplines, including the humanities "that enable it to provide the broad research and education programmes required by a knowledge- and innovation-driven global economy".⁴ This includes programmes to encourage international engagement; to support the development of research infrastructure; to encourage interdisciplinary collaboration between HASS and STEM researchers; and to promote industry and other end-user engagement.

Higher education and research policy which is segmented along discipline lines or by aims to improve outcomes in only one area risks inhibiting the potential of the overall system to deliver social, economic and environmental benefits to the nation.

3. Recognise the foundational role of basic research to the innovation system

Basic discovery-led research across the disciplines underpins discovery and innovation. The Productivity Commission's 2007 review acknowledged that "even though much basic research is not directed at developing new or improved products or services (in the short term), it often plays the most

crucial role in supporting successful innovation over the medium to longer term”.⁵ The Business Council of Australia concurs: “Evidence demonstrates that investment and funding of basic research contributes positively to long-run innovation outcomes. We need to ensure that we continue to invest in growing our stock of knowledge, which takes time to develop”.⁶

Basic research gives the research and innovation system its core capacity. It provides the platform for multidisciplinary approaches to problem-based research, and ultimately enables Australia to identify emerging opportunities in its global engagements and also to prepare for and respond to unforeseen societal challenges.

Incentives to encourage the commercialisation of research are needed, but this should not be at the expense of the vital investments needed to support basic research.

4. Foster the skills mixes and methods that lead to innovation

The Government’s Innovation and Science Agenda offers an opportunity for Australia to re-imagine the possibilities for innovation and research. As the Academy has previously said, the science, technology, engineering and mathematics (STEM) disciplines cannot do it alone. The humanities, arts and social sciences (HASS) constitute half the higher education system and have a massive contribution to make to an ideas-driven agenda for Australian innovation.⁷ There is a need to fuel creative solutions across industry and the public sector from ICT to healthcare, education to agriculture, and defence and transport. This will mean harnessing innovative potential across the research and education system, and will require workforces that encourage dynamic interaction of technical and non-technical skills.

In many respects it will be through collaboration between HASS and STEM that Australia will realise its broader innovation agenda. The ACOLA report, *The Role of Science, Research and Technology in Lifting Productivity*, found that cross-sectoral collaboration between HASS and STEM leads to “innovative solutions to problems; development of commercial products; collaboration with community services; more diverse education opportunities; and a more engaged public and end-users”.⁸ The *Capabilities for Australian Enterprise Innovation* project (another ACOLA project due to report in June 2016) is now focussed on the way in which high-performing Australian businesses seek to recruit and develop a broad range of technical and non-technical capabilities to drive innovation and productivity.

To take just one example, one of the key obstacles to the growth of services exports to Asia is the underdevelopment of Asia-capabilities in Australia’s workforce. In a global age, innovation will be underpinned by language proficiency and inter-cultural competence. These knowledge sets and skills must be recognised as core competencies in the innovation system. They also demand the close policy attention that other skills and knowledge deficits have attracted in recent years.

5. Maximise the potential of the R&D tax incentive

The current industry tax concessions for R&D expenditure explicitly exclude research in the humanities and social sciences from core R&D activities, thereby restricting opportunities to engage in collaborative and industry-based research. Government policy in this area should be reviewed with a view to examining the efficacy of these provisions to ensure that cultural industries, digital R&D, design for social innovation, and future service-oriented industries embracing social enterprises are not disadvantaged by these tax arrangements.

6. Draw on advice from a broad range of participants in the innovation system

The Academy strongly encourages Government to draw on advice from a broad range of participants in the innovation system. On the understanding that a diversity of perspectives reflecting gender equity and cultural diversity improves decision making, Australia's corporate boards "are increasingly looking to diversify their membership with the view to improving decision-making, company performance and corporate governance."⁹ Harnessing innovation for national advantage requires similar attention to issues of diversity. Further, To make informed decisions about Australia's research and innovation system, the government needs diverse and authoritative input from across the research community, including the STEM and HASS sectors, on key advisory and decision making bodies, including the Commonwealth Science Council and the new Innovation and Science Board.

The Academy would be very pleased to elaborate on any of the observations contained in this brief submission. Please direct your initial queries to the Academy's Executive Director, Dr Christina Parolin via email to christina.parolin@humanities.org.au or phone on (02) 6125 9860.

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References

¹ Ang, I., Tambiah, Y., and Mar, P. (2015) *Smart Engagement with Asia: Leveraging Language, Research and Culture*, Australian Council of Learned Academies. <http://www.acola.org.au>

² See <http://www.acola.org.au/index.php/projects/securing-australia-s-future/saf11>

³ Bell, J, Frater, B, Butterfield, L, Cunningham, S, Dodgson, M, Fox, K, Spurling, T and Webster, E (2014) *The Role of Science, Research and Technology in Lifting Australia's Productivity*, Australian Council of Learned Academies, p.9. <http://www.acola.org.au>

⁴ National Academy of Sciences (2012), *Research Universities and the Future of America: Ten Breakthrough Actions Vital to Our Nation's Prosperity and Security*, p.6.

⁵ Productivity Commission (2007) *Public Support for Science and Innovation*, Australian Government, p.7. http://www.pc.gov.au/data/assets/pdf_file/0016/37123/science.pdf

⁶ Business Council of Australia (2014) *Building Australia's Innovation System*, p.17. <http://www.bca.com.au/publications/building-australias-innovation-system>

⁷ Turner, G. and Brass, K. (2014) *Mapping the Humanities, Arts and Social Sciences in Australia*, Australian Academy of the Humanities. http://www.humanities.org.au/Portals/0/documents/Policy/Research/MappingProject/txt/Mapping_HASS_Aust_FinalReport_All_Oct2014.pdf

⁸ Bell, J, op.cit, p.96.

⁹ Business Council of Australia (2013), *Increasing the Number of Women in Senior Executive Positions*, <http://www.bca.com.au/publications/increasing-the-number-of-women-in-senior-executive-positions>