



## Submission to the ARC consultation on the implementation of the National Research Priorities

The Academy strongly supports the principle of National Research Priorities (NRPs), and considers them essential to meeting our unique needs and pursuing transformational change. The Academy also recognises that world-class research not directly aligned to national priorities often impacts and informs national priority research, and should not be ignored.

This submission focusses on areas of scientific research, which is the Academy's purview. However, the Academy recognises the importance of research in all disciplines, including the humanities and social sciences, to the national interest.

It is the responsibility of government to determine national research priorities and to determine how best to support them. Research priority setting for government must meet the following requirements:

Australia must build capacity in research areas of national interest to Australia, such as, but not limited to, Southern Hemisphere climate science, Australian ecology, biodiversity discovery and conservation science (including the Great Barrier Reef and the Murray Darling System), dryland agriculture, new resources for critical minerals and energy systems. These are areas where Australia cannot rely on international research to meet Australian needs, and where Australian researchers can and do address our unique challenges.

Australia must identify and cultivate capacity in areas of existing research strength such as, but not limited to, Antarctic science, medical imaging, astronomy and Australian continental geoscience, and emerging research strength such as neurotechnology and quantum computing.

Australia must prioritise fundamental necessities of research, ensuring that research infrastructure is maintained and that the high-level technical capacity is available in the workforce. These are areas that ensure that Australia retains and enhances its competitive capacity in research. This includes maintaining international linkages, and ensuring that we maintain a broad base of research capacity in order to make best use of international research.

The NRPs are a system-level policy setting. It is important that all government research funding schemes have regard to the NRPs, and that the funding schemes are aligned to mutually support them. It is appropriate for the NRPs to be reviewed on a regular basis to account for changes in the research environment, to capitalise on new developments, to ensure that Australia's research needs are met, and to identify gaps that have emerged or become apparent. Such a review should include a detailed examination of the alignment between the NRPs and research funding in order to provide transparency for researchers and to ensure that the priorities are being met.

While it is important that research funding should be targeted to some extent towards these priorities, it must also remain flexible and responsive to emerging requirements. A balance is required between priority- and curiosity-driven research.



The NRPs inform the entire research system, and the national competitive grants are clearly not the only avenue for advancing them. National competitive grants – especially the Discovery Program – are investigator-driven research grants that support a wide range of research. Their intent is to harness research capacity in a number of areas, and it is a central tenet of these grants that researchers retain the freedom to direct their own research. The current mechanism allows investigators to identify whether their research contributes to the NRPs, and it allows data gathering for the ARC to determine the extent to which the grants support the NRPs. It also allows proposals to be judged on merit rather than other considerations, which is appropriate, and indeed necessary, for the competitive grants program to meet its requirements. The alignment between the ARC Linkage and Discovery grant programs illustrated in Figure 1 of the discussion paper (94% and 60% respectively) appears to be broadly appropriate: it represents an acceptable balance between research directly in support of the national priorities and research that goes beyond them. No strong need has been demonstrated to provide more concrete funding targets to align the competitive grants program with the NRPs.

Beyond this, because the NRPs do inform the entire research system, it is also important for ARC funding priorities to be aligned with research priorities in other areas of that system, such as those informing the National Health and Medical Research Council's competitive grants. There must be scope for the ARC and NHMRC to work collaboratively to ensure both funding systems support aligned strategic requirements and facilitate interdisciplinary work.

In its 2019 election statement, the Academy recommends development of a national science strategy with the NRPs as a centrepiece. Such a strategy must be embedded across the research ecosystem and include resourcing and infrastructure support.

To discuss or clarify any aspect of this submission, please contact Dr Stuart Barrow at [stuart.barrow@science.org.au](mailto:stuart.barrow@science.org.au) or 02 6201 9464.