



Queensland University of Technology

**Response to the Australian Research Council
discussion paper on its
Policy Review of the National Competitive Grants Program**

QUT thanks the Australian Research Council (ARC) for the opportunity to respond to the considerations aired in the discussion paper concerning its Policy Review of the National Competitive Grants Program (NCGP). For the sake of expediency at the ARC end we have structured our feedback strictly within the rubric of the questions asked in the discussion paper.

QUT wishes to preface those responses with several additional general points:

- a) We emphasise our vigorous support for the NCGP and for the ARC's stewardship of it;
- b) We argue in the strongest terms that the NCGP's unique role in supporting and enabling fundamental research must be preserved and strengthened, and must take priority over other considerations, in light of the proliferation of other programs and schemes across government that support and direct research effort towards application, commercialisation and foreseeable end-use;
- c) Further to this, we note the NCGP's unique role in supporting research in the humanities, creative arts and social sciences in Australia, and urge the ARC to take account of that dependency in the evaluation and development of all policy and programs – not as inconveniently non-standard fields with a set of outlier concerns, but as disciplines that are absolutely central to the ARC's core value proposition; and
- d) We observe that the NCGP is currently funded below historical levels and well below current and future need, and therefore call for an increase in NCGP program funding, to enable the currently under-utilised (because under-resourced) university research workforce to contribute to the full extent of its capability to national ingenuity, innovation, prosperity, security, inclusion, cohesion, cultural maturity and economic development, including through the Government's laudable Future Made in Australia initiative.

All of our responses below should be read in conjunction with and in the context of these overarching views. This submission should also be read alongside that of Universities Australia, with which we are in broad agreement.

1. What are the best guiding objectives for the NCGP to support excellent pure basic, strategic basic and applied research that will enable it to deliver economic, social, environmental, and cultural benefits for Australia?

Most of the objectives articulated are fit for purpose.

However, it is not the place of the NCGP to promote Research Translation as a core objective, as this type of activity is supported via other well-funded activities such as Australia's Economic Accelerator.

It is also not the case that the need to demonstrate Research Impact is particular to university research, as distinct from forms of more strategic and applied research across the spectrum of government-funded research support programs: indeed, mission-directed research is arguably more accountable for demonstrated short-term impact than pure basic discovery research, where the

benefit can be specific to the knowledge domain, delayed and gradual where it does take effect outside academia, and/or difficult to predict, identify and quantify. We therefore suggest that the demonstration of the impact of specific research projects and programs should be a key concern of the whole-of-government research and innovation review recommended by the Universities Accord Review in its Final Report.

To address both these issues, we recommend that the NCGP should focus on identifying and supporting the research within its remit – with regard to excellence, workforce pipeline, equity, sustainability and related matters – and refer problems around the demonstration of the outcomes of all publicly funded research – including impact and translation – to a set of coherent and comprehensive common mechanisms across the Australian R&D system.

Should the decision be taken to retain Research Impact and Research Translation in the NCGP objectives, then the list absolutely must include the additional objective of Fundamental Research. As the NCGP is the only program engaged in supporting non-medical fundamental research, alongside literally dozens of programs promoting translation and impact (however called), it is critical that the fundamental research objective is articulated at at least the same level and with at least the same prominence as any mention of impact or translation.

We recommend that the Research Capacity objective explicitly mentions Early Career Researchers (ECRs) and Mid-Career Researchers (MCRs), as well as global talent recruitment.

We also suggest the addition of Research Sustainability to this list of objectives, to ensure sufficient investment is made towards a priority area for a sustained period of time to deliver meaningful impact.

2. How can the NCGP further support and encourage:

a. high-calibre research that drives the advancement of knowledge?

Under the current assessment processes, high-calibre research is identified and much of it supported, although many high quality projects and researchers with great potential do not receive funding due to resource constraints. The ARC requires more investment to deliver on this requirement. In addition to a straight boost to funding under the Federal Budget process (similar to the doubling of the ARC grants budget in 2001 under Backing Australia's Ability), another mechanism towards this end would be harvesting the various pots of research funding that are in other federal government departments to support similar activities. This change would harmonise effort, reduce bureaucracy and amplify outcomes.

The ARC could also consider mechanisms for supporting Australian researchers to engage in larger, global initiatives.

The ARC could also be reformed to introduce an investment fund similar to the Medical Research Future Fund (MRFF) to tackle priority-driven research challenges outside the medical domain. This type of fund promotes the collaborative partnerships required to tackle problems at scale for a sustained period.

The discipline funding profile needs to be rebalanced to encourage more applications from Humanities and Creative Arts (HCA) researchers. Anecdotal evidence from across the sector strongly suggests that these disciplines have lapsed into despair of ever being funded by the ARC, with the result that application volumes are no longer any indication of potential in the sector. Since HCA projects can be relatively inexpensive overall, a modest adjustment could produce a disproportionately large benefit to the sector.

Additionally, applicants from small subject areas should be confident that assessors from their own fields are providing expert input – this is particularly important for those disciplines who produce

non-traditional research outputs, where assessors from purportedly cognate fields can actually be harmful to their prospects. (Within current practices, for example, an applicant from Creative Writing 360201 may literally be better off being assessed by a particle physicist (510703) – who can be expected to know what they don't know about Creative Writing, harbour no neighbourly resentments or misapprehensions, and at least give the applicant the benefit of the doubt – than by available colleagues from Australian Literature (470502) or Music Composition (360302), who may assign themselves greater familiarity with and understanding of the disciplinary norms of Creative Writing than they actually possess. Obviously assessment by other Creative Writing researchers is the preferred arrangement – one that every mainstream discipline expects as a minimum standard, but which is not offered to every applicant.)

b. the utilisation, translation or commercialisation of research to deliver benefits to Australia's society, economy, and community?

As discussed above, the utilisation, translation and commercialisation of research is supported by a number of other initiatives across the sector; it is not clear that this should be a core concern of the NCGP as well, when so many programs designed specifically for this purpose are operating in this space. However, if the ARC were to take this function on in a serious way, operations in this space must be funded by new money and not transferred away from NCGP grant funds.

The ARC should include a serious review step at the completion of all Discovery Projects (DP) and Linkage Projects (LP) – as part of the final report acceptance process – whereby the funder (+industry partner for LP) could offer to selected research teams another brief period of investment (1-2 years, say) to progress the outcomes to a stage where they are more attractive and robust for further external investment.

Consideration could be given to directing some LP fellowship funding towards a joint appointment fellowship scheme (50% industry / 50% university) at all levels of seniority, with a view to normalising the movement between industry and academia all along the pipeline rather than depending entirely on the 'professor of practice' model to bring industry sensibilities, concerns and priorities into the academy.

3. How can the outcomes, impact and contribution of NCGP funded research be best identified and communicated?

The ARC does a good job at communicating outcomes, but it should consider nuancing different communication strategies for different audiences (e.g. road shows to high schools, industry sector groups, etc.).

It is important to distinguish between demonstrating the impact of ARC-funded research overall – which is definitely ARC core business and in its own interests – and demonstrating the impact of every individual research project, which is a much more nuanced and uneven prospect, especially for pure basic research (and especially when 'impact' is defined to exclude contributions to discipline knowledge).

The demonstration of the benefit of the sum of NCGP-funded research should be an ongoing collaboration between the ARC and the university sector. There are literally dozens of great research stories emerging every day, but we have been less effective as a sector than we need to be in the collation and promotion of these stories to convey to the public the benefit they derive from their investments through the ARC. There are great dividends to be had for both the agency and the sector in improving our collective effort on this. Consideration could be given to the establishment of a common resource that helps collect and showcase ARC-funded university research.

For individual projects, there are very sound arguments that the kind of impact assessment attempted under the defunct Impact and Engagement (IE) exercise is in fact not achievable without making the regime itself incoherent due to factors such as the period to non-academic impact, the difficulty in capturing non-economic impacts, the heavy skew towards certain disciplines and away from others, etc. Any attempt at the reintroduction of an impact assessment regime must include open and robust review prior to design or implementation.

4. What structure and design of the NCGP would:

a. best support the NCGP's objectives?

b. reduce complexity and deliver grants more efficiently?

c. rebalance risk settings to encourage frontier basic research with potentially transformative outcomes?

d. set the right balance between different scheme types and duration?

e. use peer review in the most effective way?

f. leverage the opportunities and manage the risks of using artificial intelligence?

Several ideas for changes to the structure and design of the NCGP that could warrant consideration are proposed below. While these are not fully developed proposals, they are advanced in the spirit of the ARC's request to open our thinking and make suggestions without inhibition.

- Adopt a holistic view of the research investment landscape to ensure each component from basic research through to commercialisation is well funded and that the pathways from ARC funded initiatives to other pathways are clear and streamlined. For example, an ARC Linkage-Project with strong commercial outcomes could be automatically or preferentially funded by the Australian Economic Accelerator or Collaborative Research Centre (CRC) Projects for the next stage. Asking academics and industry partners to constantly apply and re-apply for support is onerous and time-consuming, reduces momentum and actively discourages industry engagement.
- Increase the engagement of ECRs in both DP and LP by allowing their salaries to be covered under the grant. This would be a gamechanger.
- Consider folding Industry fellowships into Linkage projects rather than having a stand-alone scheme. This would embed fellows into project teams, reduce industry confusion and paperwork, while also enabling two rounds of LP fellowship applications per year.
- Alternatively, if ARC fellows can't be rolled into LP, consider consolidating DP and LP fellowships into one fellowship scheme (Classic/Industry) with two rounds per year.
- Without inadvertently creating a cradle-to-grave funding platform (which we advocate against), the ARC must address dead spots in the research pipeline to ensure researchers are not left stranded of support options due to their stage of career. This is particularly relevant to MCRs who fall between the enthusiastically-supported, newly-minted postdocs and the prestigious, privileged senior researchers with reputation and institutional influence.
- Consider implanting an ARC Linkage Pilot Project scheme for (say) \$50-100k p.a. for one or two years – perhaps assessed by the Executive Directors only. If outcomes from that short burst of additional funding are high quality and promising, these may receive preferential treatment in a fresh application under the general ARC Linkage Projects scheme.
- Create mechanisms for Australian researchers to engage productively in large international initiatives.
- LP schemes can be reduced in number and beefed up by bringing federal government funding from different departments into the ARC to support government research priorities.
- Consider automatically extending DP and LP projects on the basis of final report outcomes that are outstanding, transformative and clearly predisposed to acceleration by extension

through additional funding.

- Consider a proactive discipline engagement service that helps identify and secure the next funding tranche after the ARC investment -this will help stop the relentless, time-wasting application cycle for demonstrated high-performance researchers.
- Consider reducing the emphasis on the team and individuals from DP to increase the focus on the idea itself, to encourage more out of the box thinking.
- Post-award, the ARC should permit the project to start straight away: the ARC should let the administering organisation deal with ethics and agreements with partners – which, after all, are within their purview and are risks borne primarily by the institutions. The failure to streamline this aspect generates literally thousands of variations every year.
- In addition, require only variations of significance to obtain approval from the ARC, with trivial or low-risk clerical variations handled within the administering organisation.
- Retain the recently-adopted transparency of assessor scores.

5. How can the NCGP best support collaboration between disciplines (between and across HASS and STEM) among researchers (both national and international), across sectors and funding programs?

The ARC could implement assessment criteria that explicitly acknowledge these types of collaboration, train panels to assess them appropriately, and convene carefully constituted panels for inter-, trans- and cross-disciplinary applications to ensure they are not disadvantaged through ‘falling between stools’ of more traditionally siloed disciplinary panels.

In collaboration with the National Health and Medical Research Council (NHMRC) and the MRFF, the ARC could introduce NCGP assessment processes that explicitly acknowledge and support collaboration between disciplines, when required by the discipline mix.

The ARC could consider introducing specific project calls that give preference to HASS/STEM collaboration, perhaps targeting ECRs and MCRs to build this type of collaboration logic early in the academic career pathway.

There is merit in supporting academics to build international connections with world-class researchers in their discipline: once trust and confidence are established then collaborative projects will follow. There is a perception in foreign research systems (e.g. Europe) that Australia is not open for business in science and research cooperation – the ARC could play a critical role in rectifying this by reaching out to and responding to inbound enquiries with enthusiasm, and brokering connections with university researchers using its knowledge of the Australian research ecosystem and the expertise of the College of Experts.

6. How can the NCGP promote a strong and diverse research sector, including through supporting research training and opportunities for early career researchers, women researchers and other under-represented groups?

As mentioned previously, the salaries of ECRs could be covered by the ARC, to encourage greater engagement and ensure talented junior academics no longer remain invisible in budgets as postdoctoral fellows.

A move away from a reliance on the individual, including track record, as part of the assessment process towards a focus on the project itself would increase opportunities for ECRs, women researchers and other under-represented groups.

The ARC could look at stronger interventions intended to generate real change, such as:

- mandating demographic requirements around team composition for multi-Chief Investigator (CI) applications;
- reserving some allocations for teams led by women in areas where women are under-represented;
- manifesting greater cognisance of the gender continuum beyond the simplistic binary division, including work on how best to support researchers who do not identify as male or female;
- introducing formal checkpoints during the college ranking meeting to reflect on and quantify the gender breakdown of selected projects so far (i.e. at more than one point prior to the final overview); and
- Explicitly value the excellent research outputs, translation and impact of high performing academics with successful commercial research experience. This should be seen as an advantage, not a disadvantage or an irrelevance.

7. Are there aspects of the NCGP that could be strengthened or redeveloped to advance support for:

a. Indigenous Australian research, incorporating Indigenous knowledge and knowledge systems (where appropriate)?

b. Indigenous researchers, irrespective of their areas of research?

An entirely new approach is required to appropriately and adequately support Indigenous Australian research and Indigenous Australian researchers. For example, scheme design, including application forms, guidelines and instructions to applicants, must be co-designed with Indigenous Australian representatives. It is critical to understand how indigenous researchers would like to apply for funding rather than assuming the way we have been doing things, in accordance with standardised western practices, would be appropriate. This important work is well beyond the scope of a single item in an overall policy review of the NCGP – this matter must be addressed by a dedicated review conducted by a panel of eminent Indigenous Australian researchers in concert with the ARC.

8. In the context of other government funding for research and development:

a. How should the NCGP promote an appropriate balance of basic and applied research?

In any adjudication of the appropriate balance of resourcing between pure basic, strategic basic and applied research, the full array of funding sources available for each type should be considered. Given the ARC's role as the unique funder of pure basic research (which in effect makes it the sole funder of all research in certain disciplines, especially within the humanities and creative arts), there must be a minimum commitment to substantial funding of fundamental research. The current framework already disadvantages fundamental research; it is imperative that future changes not only safeguard funding for fundamental research but expands it.

b. How can the NCGP improve its connectedness to the research ecosystem to help progress the research it funds further along the pipeline towards translation and impact?

The key approach for the ARC to further this goal is articulation with the plethora of existing programs, rather than attempting to stand up anything new. There are more than enough programs already aimed at this outcome and it would be counter-productive and wasteful for the ARC to embark on this path as well. To mitigate this risk, the question should be given serious consideration through the sort of constructive, comprehensive, whole-of-government, cross-sectoral review contemplated by the Universities Accord Review Panel in their Final Report, to ensure all components of the research investment landscape are well funded, synchronised and streamlined. The ARC must take care to avoid

duplicating effort with its scarce resources, and above all must not leap into the field without first conducting a thorough analysis of existing capability, with its primary goal to identify insertion points and means of articulation rather than ab initio structures and processes.

Tailored concierge services could assist with this goal, if they are delivered by academic business managers with commercial experience and the authority to fast-track next steps (not just supply funding scheme information). It is likely that the best locus for such a service would be in another part of the Government research support apparatus, but the ARC and NHMRC would be the primary upstream partners in the chain of advice and support for all forms of application towards impact.

9. How should the NCGP be structured to best support and deliver on national research priorities, as they evolve over time?

To the extent that national research priorities (NRPs) are aligned with industry needs, the NCGP's processes should be overtly geared to industry's more rapid timelines and limited appetite for administrative burden. This will be particularly important as the nation introduces policies to reinvigorate Australian manufacturing.

An embedded and normalised process for periodic (or even continuous) review of the NCGP at the direction of the ARC Board would help the Program retain currency. Alternatively the ARC could articulate a set of review triggers, such as the publication of refreshed NRPs, to ensure the NCGP remains relevant to the wider research ecosystem.

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