National Early Career Response

Who are we?

We are a collective of Early Career Researchers (ECRs) who are involved in ECR advocacy across the country in different sectors and institutions. This submission brings together our responses and discussions about the MBIE Green paper.

Summary

New Zealand's research, science, and innovation (RSI) sector is set up in a way that encourages institutions to employ researchers, especially early-mid career researchers, in precarious and unsustainable positions. In tandem, its funding and grants system leaves them without adequate means to both produce quality research and live whilst doing so. These features disproportionately impact Māori and Pacific researchers, undermining their critical role in a future-oriented sector and in protecting and supporting knowledge valuable to Aotearoa and its wider community. This document demonstrates that a meaningfully redesigned research sector has the potential to undo these problems, and offers innovative suggestions for beginning this necessary work.

Summary of Recommendations

- The RSI system reform must commit to providing clear and stable career paths to early-career participants, including international students and postdocs welcomed into our system.
- Reform should help us move from competition to collaboration, building a future for Aotearoa together.
- Mātauranga Māori and Māori scholars must be enabled and supported to exist in our institutions, as well as enabled and supported to develop Māori-led institutions and surrounding structures.
- We support the submission made by ECR Tangata Whenua and Tagata o le Moana: Building a Tiriti World. We also support calls for a review of racism in the sector to be carried out.
- Priorities, their design and their governance must be responsive to all involved. This definition must span the current workforce, the future workforce and all end-users or collaborators while being decoupled from political influence and the electoral system.
- Reduced competition, centralisation of resources, enabling of mobility and removal of institutional barriers can enable greater career stability and better outcomes for individuals and research programmes through enabling knowledge exchange.

- Core infrastructure must be accessible across the research system and at all career levels. A wider view should be taken of infrastructure that includes the administrative support and information access necessary for all researchers to carry out their work.
- Above all, the reform process must recognise that research is done by people, for the benefit of all our people, and that a functional RSI system is one that uplifts and supports the people within it.

NGĀ WHAKAAROTAU RANGAHAU
RESEARCH PRIORITIES

1. **How we design these priorities. For example, what should be the size, scope and focus of the priorities?**

Although research priorities are essential in ensuring that issues of specific interest to Aotearoa are included in the RSI Strategy, there are some concerns regarding their scope and focus. Specifically, there is concern that strictly set research priorities may lead to overfunding certain disciplines and research with the secondary impact of defunding other important research and disciplines (particularly the humanities and social sciences), and that they may favour commercial research over valuable blue-sky/basic research as a critical foundation for innovative research. These concerns must be mitigated in designing research priorities.

Designing research priorities also must practically consider the current research workforce. Creating adequate research priorities demands flexible, long *and* short-term priorities to ensure researchers can remain mobile between priorities and organisations, and so are developing their expertise and careers in meaningful and valuable ways whilst also enjoying employment and life stability.

2. **How we decide what these priorities are. What process should we use for determining these priorities and who should be involved in the decision-making process?**

Decisions on research priorities must actively involve researchers, specifically ECRs, in their design. As much as priorities are designed to reflect future expertise, they must also maximise the use of the current research workforce or risk creating a cycle where short-term funding decisions cause poor retention of highly skilled researchers after a huge investment in their training. To involve ECRs in the design process is to involve those with the best knowledge as to how to ensure flexibility for the future whilst maintaining a skilled, experienced workforce.

One possible option in this regard is including specific funding categories for basic research as a foundation for other, seemingly more pressing research, which creates rationale and a basis for long and short term priorities as well as mobility between each. Additionally measures, such as building a national research career strategy enable necessary workforce planning and will generate strength and researcher retention in priority areas.

Further, any decision-making panels or groups must be cross-disciplinary and comprise a variety of expertise and disciplines to ensure that different research is afforded the specific resourcing it needs. These same panels and groups must also possess adequate levels of diversity, and any community stakeholders who are intended to benefit from a priority must be involved in the design.

3. **How we operationalise and implement these priorities. We need to determine who will be involved in determining the strategy for each priority, how they will be governed and how the priorities will operate on a day-to-day basis?**

Once again, researchers and particularly ECRs must be involved in the operationalising and implementing of research priorities, as must all other stakeholders involved in carrying out or benefiting from each priority.

Given the natural diversity of leadership and organisational preferences of these groups, they must be provided with a platform to offer feedback to the management of each priority, which will assist in developing effective collaborative organisations and implementation strategies. Additionally, there have been previous issues with a lack of training and support offered to those involved in implementing research initiatives, which has burdened individual researchers and precluded the initiative from reaching its full potential. It is vital, then, that provisions be made that fully support and train these collaborating researchers, ECRs, and other groups where required.

Finally, any system being used to operationalise and implement research priorities must be separate from election cycles to ensure they have time to be fully developed.

TE TIRITI, MĀTAURANGA MĀORI ME NGĀ WAWATA O TE MĀORI
TE TIRITI, MĀTAURANGA MĀORI, AND SUPPORTING MĀORI ASPIRATIONS

We support the submission made by ECR Tangata Whenua and Tagata o le Moana: *Te Korenga*. We also support calls for a review of racism in the sector to be carried out.

4. **How would you like to be engaged throughout the Future Pathways programme?**

We invite MBIE to reach out to our collective to discuss issues in this area specific to ECRs.

5. **What are your thoughts on how to enable and protect mātauranga Māori in the research system?**

Outside the existing system, funding must be made available to support institutional development for and by Māori, governed by Māori communities and researchers. It is ultimately up to them to decide how they want to interface with the parts of the system that are not led by or built to prioritise Māori needs. This will not exonerate the rest of the RSI system from doing the mahi to enable and protect mātauranga, but it acknowledges that mātauranga belongs to

and comes from Māori communities, who deserve spaces where they hold governance to nurture it.

Within the existing system, enabling and protecting mātauranga in the research system involves the encouragement of Māori to pursue science through developing pathways and networks beginning in kura kaupapa and running through to highschool. In higher education, fully funded summer internship and lab positions for Māori students will attract more Māori postgraduate students and academics and set an example for rangatahi. Targeted funding may also alleviate issues with supporting Māori students from undergraduate into postgraduate degrees and postdoctoral research.

Additionally, the existing research workforce would benefit from sufficient resources and funded cultural competency training and specific consultation mechanisms to support non-Māori researchers to implement Vision Mātauranga appropriately. Formal cultural competency and Vision Mātauranga consultancy systems should be developed to enable systemic upskilling, pride and understanding of Te Ao Māori including mātauranga Māori for all. Māori researchers who offer/ provide consultation should be fully compensated and supported for such work until a longer-term formal solution is put in place.

Finally, relationship building with Māori communities takes an extended period of time, so stable long-term funding for research interacting with mātauranga is necessary to enable and protect it in the research system.

6. **What are your thoughts on regionally based Māori knowledge hubs?**

Regional Māori knowledge hubs may be useful in connecting existing research institutions and Māori communities. These might be modelled after existing hubs such as Te Waharoa ki te Toi and the Moko Foundation, who have a well established relationship with the Maurice Wilkins Centre, thereby connecting research with mātauranga and with Māori communities. Additionally such a hub may be able to connect interested Māori communities with not only research but also commercialisation opportunities. They provide an obvious home for Māori-led institutions as described above. Knowledge hubs would necessarily be separated from election cycles and fully funded from a separate and specific funding pool to ensure their long term maintenance and that they are genuinely empowering and effective.

TE TUKU PŪTEA
FUNDING

7. **How should we determine what constitutes a core function and how do we fund them?**

Clear, sustainable career pathways and a commitment to workforce development for ECRs should be a core function of the RSI. This is key to allow succession planning and promote sustainability of research priorities. Strategies addressing this core function should incorporate

consultations with students, graduates, and ECRs. They should consider their visions for their distinct needs and barriers, how secure they feel, and what futures they see for themselves in research. Career stability for researchers not only values the workforce but also values the research they do. Incorporating personnel stability as part of the RSI will underpin better continuity of research programmes, reduce leakage of skills and knowledge and provide space to researchers to work on connectivity and innovation.

Funding for core functions is currently inadequate and must be reshaped to ensure stable career pathways for ECRs. Recommendations for properly funding these include ensuring funding for overheads is transparently allocated in addition to the monetary value of the grant; a lottery model to remove track record as a key element of success in receiving grants; a split funding structure between early, mid, and late career researchers to reduce unfair competition; a streamlined application process and standardised application form to reduce time and cost spent writing unsuccessful applications; development of a wider variety of grant options available to suit the variance between less costly or pilot research and more ambitious, expensive projects; and to expand and diversify funding to enhance options and stability for PhD and international students.

8. **Do you think a base grant funding model will improve stability and resilience for organisations? How should we go about designing and implementing such a funding model?**

A base grant funding model may improve stability and resilience for organisations, provided it is implemented and designed with care and transparency so as not to worsen career instability. The purpose of such a model must be to ensure job security for researchers.

Accordingly, the design process of a base grant funding model must include consideration of career stability, trajectory and incentives for organisations to invest in ECRs, in turn developing this stability. Providing career stability for ECRs also supports succession planning which alleviates a significant risk for many research groups who currently must ensure long-term research continuity and skills retention through competitive funding rounds. Caution must be taken to ensure that there is a meaningful reduction in overhead costs, base funding is realistic, matches inflation, clearly defines what the grant can and cannot be used for, and allows for the maintenance or extension of research infrastructure, or there is a risk that the implementation of such a model will become redundant over time.

One possible option may be the creation of a national research council that allocates base funding to researchers, rather than providing for its allocation through institutions, reducing institutional bias towards established career researchers alongside STEM over humanities and social sciences research.

NGĀ HINONGA
INSTITUTIONS

9. **How do we design collaborative, adaptive and agile research institutions that will serve our current and future needs?**

In supporting the notion of adaptive, mobile research institutions, it is also important to emphasise how improved stability within these institutions can underpin retention and development of specialised skills and knowledge.

To increase collaboration between institutions, developing an inter-connected research sector that reduces competition for funding between institutions is vital. The centralisation of research infrastructure and resources, support of transdisciplinary training, an innovative approach to the sector through means such as joint graduate school programmes and partnerships between universities, NGOs, public sector organisations, and businesses.

10. **How can institutions be designed to better support capability, skills and workforce development?**

The research sector must be designed to provide more defined career pathways for researchers (alongside adequate funding and liveable incomes). In rethinking the grants and funding allocation system (see Note 7), the reduction of competition for funding and enhanced opportunities for accessing resources and infrastructure must be central. Further, this redesign must also address gender, ethnic, and disability pay gaps, alongside equity and diversity targets. **Given recent events, we think that a review into racism in our research institutions - including supporting institutions such as funders - is urgently needed, to provide the foundations for designing better institutions that can attract and retain a diverse workforce reflecting the make-up of Aotearoa.**

Several incentives may be used to support capability, skills, and workforce development within institutions. An increased focus on, including well-managed support for, CoREs and other centralised research infrastructure and resources would enhance collaboration between institutions, and thus their overall capability, workforce skill set, employment opportunities, and stability. Consideration may also be given to co-locating CRIs with existing university facilities, reducing system-wide inefficiencies and barriers to cross-institutional collaboration and freeing funding to be invested into researcher support and training. Although crude, a tool for ensuring institutional investment in their workforce could include penalising base grant funding or reducing overhead costs allocated to institutions that fail to provide evidence of having improved the capabilities and skills of their ECR workforce.

11. **How should we make decisions on large property and capital investments under a more coordinated approach?**

Decisions made on large property and capital investments must hold commitments to Te Tiriti, inclusivity, carbon-zero, and collaboration at their core. It must be recognised that most large research institutions' initial capital was sourced through the sale of stolen Māori land. Further, physical buildings being considered for investment must encourage collaboration, investments

and research infrastructure should be included under the public sector carbon neutral scheme, and current and future property should be subject to an accessibility audit.

12. **How do we design Te Tiriti enabled institutions?**

We support the submission made by ECR Tangata Whenua and Tagata o le Moana: *Te Korengo* and other Māori led submissions as we believe it is important that this conversation is guided by Tangata Whenua. Designing Te Tiriti enabled institutions must be Māori-led. The process of this design and its implementation must be properly funded and resourced, including provisions made for training non-Māori researchers to be proficient in Te Tiriti.

13. **How do we better support knowledge exchange and impact generation? What should be the role of research institutions in transferring knowledge into operational environments and technologies?**

There are several possible means of supporting knowledge exchange. Forming opportunities for researchers to move between and work across various institutions, public and private, might include creating opportunities for CRI researchers to hold adjunct academic positions. In addition, sourcing joint PhD funding between industry and universities provides both a means for enabling collaboration as well as providing more depth of training for those students. Finally, developing science parks or centralised resources that can form knowledge hubs and facilitate skills/technology access.

TE HUNGA MAHI RANGAHAU
WORKFORCE

14. **How should we include workforce considerations in the design of research Priorities?**

ECRs should be directly involved in the design of research priorities. Efforts must be made to ensure the development of stable, long-term, sustainable career pathways for members of the research workforce (including international students and researchers) is considered when designing research priorities. This work involves, for instance, the remediation of issues such as the lack of diversity in career paths promoted to doctoral graduates, the lack of professional positions available, steering of researchers away from collaboration, a favouring of researchers with significant overseas experience, and the insularity of academia and its problematic performance metrics.

The design of research priorities should promote workforce equity and diversity. Research teams established for each priority should meet equity criteria beyond simply representation by offering training and professional development opportunities for marginalised groups. Similarly, these equity considerations must consider the broader socio-economic conditions that enable marginalised researchers to succeed and provide adequate funding to support them. Finally, attention must be drawn to the ‘double shift’ experienced by Indigenous researchers,

demanding they do extra, unpaid work. Research priorities must be designed in such a way that does not require this additional labour.

15. What impact would a base grant have on the research workforce?

Many current problems within the research workforce are caused by precarity and inadequate funding, which a carefully executed base grant funding model (see Note 8) may assist in remedying. Base grant funding has the potential to grow transdisciplinary research and build a collaborative workforce, as well as levelling out institutional biases towards certain kinds of research. Moreover, it provides clear, stable career pathways for the workforce, particularly when tied to research priorities.

More specifically, base grants would go some way as to address this myriad of problems affecting the research workforce: the lack of fellowships that support career progression and existing ones being insufficient, current funding having no provisions for academics' time-consuming service requirements, current models of funding relying on problematic metrics such as grant history, poor access to research infrastructure and resources, excessive institutional overheads, and the exploitation of the precarious labour of PhD students.

16. How do we design new funding mechanisms that strongly focus on workforce outcomes?

It is essential that *any* new funding mechanism must not further entrench the existing precarity within the research workforce, instead actively undoing it and creating secure, long-term career pathways. Redesign of funding systems must include greater and better allocation of financial resources and generate greater contract-stability and clear, diverse pathways into permanent positions for the research workforce, coupled with funded skill development opportunities. In addition to addressing precarity, new funding mechanisms should be wholly transparent and streamlined.

Specific tools to be incorporated might include developing funding mechanisms that actively incentivises institutions to support the career development and retention of ECRs, post-doctoral researchers, and technicians, and reward them for doing so. For instance, funding may be tied to positive metrics regarding staff career progression, or a limit might be placed on the number of fixed-term contracts and contract duration under which an institution can employ a researcher.

An approach such as people-centred funding works to similar ends for the workforce, where allocating funding to researchers rather than projects enables flexible and collaborative research production whilst simultaneously enabling researchers to develop skills they understand as best suited to their career progression and life needs. Similarly, having greater availability of permanent part-time contracts, adequate leave provisions, more funded opportunities such as internships and placements, and revisions of existing performance evaluation methods also take

a people-centred approach, allowing researchers greater agency in their career and life choices. Such propositions may also function as equity measures.

TE HANGANGA RANGAHAU RESEARCH INFRASTRUCTURE

17. How do we support sustainable, efficient and enabling investment in research infrastructure?

Aside from an immediate increase in sustainable, efficient, and enabling investment in research infrastructure, several creative options may be of additional support. Primarily, the centralisation of facilities, equipment, researcher development, and resources would encourage across-institution collaboration and be more financially sustainable for individual institutions. We urge a wide view to be taken of 'infrastructure' which supports research, including other methods like streamlining administrative tasks and creating specific visas which would target investment into the research sector.

Additional concerns

The exclusion of the PBRF and structural or design changes for TEOs from the scope of this reform in particular, may be a limiting factor. Although the green paper acknowledges that "some organisations receive funding through both RSI and Tertiary Education mechanisms" (p. 8), funding is not the only factor at play here.

Data from Statistics New Zealand's Research and Development Survey suggests that in 2020, 63% of Aotearoa's researchers were based in the Higher Education sector and that 39% of all researchers were students. Valued at $315 million, the PBRF is a significant source of public research sector funding, and, as such, is a powerful focal point for many of our researchers' employers. In this regard, it is pertinent to recognise that many researchers applying for RSI funding may consider their applications through the lens of PBRF ranking and assessment, despite them being different funding schemes, as these assessments and rankings contribute towards researchers' continued employment and promotion. For many ECRs, PBRF ranking is a way of establishing research 'impact' and 'contribution' when applying for a permanent position. Given that the PBRF is also currently under evaluation, with new guidelines set for publication in 2025, there is great need (and opportunity) to ensure that the aims and eventual outcomes of both reforms are aligned. In particular, the revision of Evidence Portfolios (currently under consultation) and assessment criteria (forthcoming in July 2022) of the PBRF, will implicitly inform how many researchers and institutions engage with research.

Further, the exclusion of TEO structural changes in particular, will limit who can engage with the RSI sector and how they engage. For example, under the current system, budgetary decisions for research proposals are constrained by the steep overhead charges TEOs impose. These overheads include positions such as postdoctoral fellowships, and often exclude casual staff and student scholarships. This has a significant impact on ECRs, especially recent PhD graduates, who will struggle in the hyper-competitive postdoctoral landscape, and may instead be employed

in a casual capacity. Overheads also impact eligibility criteria for grants. Consider that the recent HRC ‘Emerging Researcher’ grant, aimed at ECRs within 6 years of graduation, explicitly stated that applicants would require salary support from elsewhere. This stipulation excludes many ECRs who are precarious from applying, and contributes to the lack of career pathways and workforce development in the sector.

Many of the issues we see in the current RSI sector are unintended consequences of the current settings and therefore any future changes need to be carefully considered to avoid further unintended consequences.

We wish to acknowledge the many hands behind putting this submission together: Lucy Stewart (Toha Science, New Zealand Association of Scientists), Aimee Simpson (Tertiary Education Action Group Aotearoa), Natalie Netzler (Maurice Wilkins Centre Early Career Steering Committee), Kate Lee (Maurice Wilkins Centre Early Career Steering Committee), Sien Yee Lau (FMHS Postdoctoral Society, University of Auckland), Benjamin Dickson (FMHS Postdoctoral Society, University of Auckland), Sarah Moss (Royal Society Te Apārangi Early Career Researcher Forum, Plant and Food Research), Sereana Naepi, (Royal Society Te Apārangi Early Career Researcher Forum), Georgia Carson (Malaghan Institute of Medical Research, New Zealand Association of Scientists Early Career Researchers Network), Khoon Lim (University of Otago, New Zealand Association of Scientists Early Career Researchers Network).

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