#126

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Friday, February 04, 2022 7:40:47 AM
Last Modified: Wednesday, March 16, 2022 3:30:40 PM
Time Spent: Over a month

Page 2: Section 1: submitter contact information

Q1

Name

Professor Ian Wright

Q2

Email address

Privacy - 9(2)(a)

Q3 **Yes**

Can MBIE publish your name and contact information with your submission?Confidentiality notice: Responding “no” to this question does not guarantee that we will not release the name and contact information your provided, if any, as we may be required to do so by law. It does mean that we will contact you if we are considering releasing submitter contact information that you have asked that we keep in confidence, and we will take your request for confidentiality into account when making a decision on whether to release it.

Q4 **Yes**

Can MBIE contact you in relation to your submission?

Page 3: Section 2: Submitter information

Q5 **Organisation**

Are you submitting as an individual or on behalf of an organisation?

Page 4: Section 2: Submitter information - individual

Q6 **Respondent skipped this question**

Are you a researcher or scientist?

Q7

Age

Respondent skipped this question

Q8

Gender

Respondent skipped this question

Q9

In which region do you primarily work?

Respondent skipped this question

Q10

Ethnicity

Respondent skipped this question

Page 5: Section 2: Submitter information - individual

Q11

What is your iwi affiliation?

Respondent skipped this question

Page 6: Section 2: Submitter information - individual

Q12

If you wish, please specify to which Pacific ethnicity you identify

Respondent skipped this question

Page 7: Section 2: Submitter information - individual

Q13

What type of organisation do you work for?

Respondent skipped this question

Q14

Is it a Māori-led organisation?

Respondent skipped this question

Q15

Which disciplines are most relevant to your work?

Respondent skipped this question

Q16

What best describes the use of Mātauranga Māori (Māori knowledge) in your work?

Respondent skipped this question

Page 8: Section 2: Submitter information - organisation

Q17

Organisation name

University of Canterbury

Q18 Organisation type	**University**
Q19 Is it a Māori-led organisation?	**No**
Q20 Where is the headquarters of the organisation?	**Canterbury & Chatham Islands**
Q21 What best describes the use of Mātauranga Māori (Māori knowledge) in your organisation?	**There is some Mātauranga Māori, but it is not the main science knowledge**

Page 9: Section 3: Research Priorities

Q22

Priorities design: What principles could be used to determine the scope and focus of research Priorities?(See page 27 of the Green Paper for additional information related to this question)

We endorse the RSNZ view that a vision and values are needed before designing scope and focus of priorities.

The principles used to determine the vision and value of investment should include Te Tiriti.

Broad public consultation should also be used to ensure the general public (as the ultimate funder) is both supportive and engaged in determining the vision.

Q23

Priority-setting process: What principles should guide a national research Priority-setting process, and how can the process best give effect to Te Tiriti?(See pages 28-29 of the Green Paper for additional information related to this question)

UC endorse UNZ submission on Te Ara Paerangi proposing an independent governance body “research council” as decision maker with Te Tiriti embedded at this top table. The process should be apolitical, skills-based, diverse, including thought leaders and futurists.

Selection of national research priorities should be identified via a transparent decision-making framework. Lessons and mistakes from the first phase of National Science Challenging commissioning should be recognised in any new national research, science, and innovation prioritising process where research priority (or national mission), best research “team”, and hosting entity are determined both by “best in class” process and in that order.

The new national priorities should be broad in focus and balanced to the needs of both established users and emerging sectors.

A hybrid between top down and codesigned national research priorities are likely to achieve the most benefit. We recommend funding stakeholder groups to make a case (evidence of needs and opportunities) for national research priorities before public consultation and selection. The groups can demonstrate they can work together under a united vision, the co-design of priorities, appropriate connections and demonstrate their commitment to uptake and impact.

There will be a very long list of needs for national research priorities going by the large number of government and sector based national strategies. Some NZ needs will be enduring, requiring a very long term strategy more suited to long term core funding. National research priorities will need long term commitments too (10-15 years) but will probably be finite in duration. It would be useful to have a clear separation between long term and shorter term priorities both for efficient governance and transparency. In order for the system to also be agile, decision makers will need to regularly revisit priorities and be autonomous enough to add additional priorities.

A balance will also need to be struck between priorities of regional hubs and national priority setting.

The priority setting needs to be cognisant of international priorities such as the sustainable development goals, renewable energy, food production, and climate change where we can leverage significant international investment and expertise while also championing uniquely NZ issues.

The priority setting also needs to be cognisant of issues unique to NZ and where our size, flexibility, and bi-cultural society can be tapped to be world leading and/or create maximum benefit to NZ.

With large investments there needs to be an exit strategy to ensure impacts are realized and the capability developed is not lost. This exit strategy needs to include measures to determine when the area is no longer a priority and needs to be a whole government approach. The more recent TEC-funded CoRE process, though wholly appropriate within the bounds of that scheme, has led to a poor exit strategy (in the context of NZ Inc), where medical technology and brain research have been effectively shuttered including significant development of emerging Māori and Pasifika research capacity in those specific fields.

We should include a regular portfolio review as a principle to assess whether the work and outcomes are still relevant. Efficient use of resources including monetary components should also be a part of decision-making criteria on research investment. That being said, seeking the ‘cheapest’ delivery of research is not always in the best interests for quality outcomes, so efficiency and effectiveness need to be weighed against one another.

Q24

Operationalising Priorities: How should the strategy for each national research Priority be set and how do we operationalise them?(See pages 30-33 of the Green Paper for additional information related to this question)

The setting of strategy for National Science Challenges was a significant learning experience. The challenges were announced, organisations had to self-organize, there was no funding to support engagement and it was largely driven by self-interest. There was not much guidance from MBIE on what was required. It was not until a contract was signed with the host organisation that more considered engagement and strategy could be developed. The process was much more robust a few years later when the tranche 2 strategies were developed. The lessons learned were to select a host first, recognise the real costs of engagement and the time required for multiple stakeholders to begin working together cohesively, not compromise the mission by underfunding and be realistic about a contract period that encompasses translation and impact delivery (a process that in many sectors can take 20+ years). As indicated above the lessons from the first phase of National Science Challenging commissioning should be recognised in a new national research, science, and innovation prioritising process where research priority, best national research "team" and impact pathway, and hosting entity are determined in that order.

The National Science Challenges are seen by many as overly bureaucratic, nevertheless there were many approaches trialled and substantial improvements in process and development of best practice across challenges which will be useful in establishing consistent legal agreements, approaches to IP ownership and commercialisation, reporting systems and processes.

A new framework is required to facilitate research that has impact. Specifically, around process used to undertake research that supports and informs revision of new products and innovation, business and environmental practice, NZ standards and legislation.

Decision panels need to consist of a wide variety of stakeholders including economists, sociologists, businesses, Māori, futurists and young people.

Develop a multi-phase approach to funding projects where many seed projects are funded in Phase 1, then a smaller number that are panning out are funded further with significant development funds available to programmes that have delivered milestones. Currently, there is a massive imbalance between Endeavour Funding and follow on KiwiNet investment. Also, the lack of domestic investment funds for ideas that require significant investment are forced offshore with benefits mostly realised offshore.

More use of lottery allocation mechanisms where bids have met an excellence/impact threshold. This avoids the majority of funding going to 'known' names and allows mid-career researchers to further develop and grow, bringing others along with them.

Page 10: Section 4: Te Tiriti, mātauranga Māori, and Māori aspirations

Q25

Engagement: How should we engage with Māori and Treaty Partners?(See page 38 of the Green Paper for additional information related to this question)

As alluded to above it is important to take Te tiriti to the heart of the Research and Innovation system. Māori need to be part of determining the vision and values of our public research system, and the follow-on economic, environmental and societal benefits to NZ society. There should be co-governance / co-management systems by default, but will require further growth and investment of capability.

MBIE should also consider investing in more specialised roles for staff who understand Te Ao Māori and can help MBIE become more bi-culturally competent in their principles and processes.

Review the investment decision making process, which asks assessors, including internationals to consider how well a proposal addresses Vision Mātauranga – this might be better done by a specialist assessment panel skilled in the area.

MBIE could also consider creating a nationwide network of Māori engagement specialists to share and develop expertise in this area (similar to KiwiNet). Such a network needs to include research support and Māori business representatives.

UC has embarked on this process announcing in September 2021 a new Office of Treaty Partnership, believed to be the first of its kind among Aotearoa universities, which embeds mana whenua – Te Rūnanga o Ngāi Tahu – into the structure of Te Whare Wānanga o Waitaha University of Canterbury. The establishment of the Ngāi Tahu Research Centre will create a tangible space that represents the partnership and works directly with the university governance and management to oversee the implementation of the partnership agreement and provide strong Māori academic leadership on a pan-university basis.

Q26

Mātauranga Māori: What are your thoughts on how to enable and protect mātauranga Māori in the research system? (See pages 38-39 of the Green Paper for additional information related to this question)

The National Science Challenges have developed good approaches to Vision Mātauranga. We recommend that MBIE refer to the NSC Vision Mātauranga group for advice on how to improve the approach to an extended Vision Mātauranga strategy.

Māori need a greater variety in funding schemes (how they operate and what they fund) to better support Māori researchers, Māori research interests and Mātauranga Māori.

As part of MBIE's commitment to Equity Diversity and Inclusiveness, it should introduce tools to reduce the unconscious bias and provide mandatory training in Vision Mātauranga assessment to all members of its College of Assessors. Ensure Māori representation on all assessment panels to properly assess Vision Mātauranga.

Māori and Pasifika research and innovation capacity in Aotearoa New Zealand requires greater coordination between the research and innovation system, and education system to ensure seamless and coordinated investment to grow further a pipeline of capability.

Further, the disconnect between funding cycles and the multi-generational view of Māori, requires a mechanism and funding to build and nourish strong, long-term co-design relationships between iwi and research providers, that moves past transient and transactional relationships.

Mātauranga Māori should be protected through clear IP and other appropriate ownership and use policy, regulations and legislation. As it now stands, the ownership of research findings tends to sit with the researcher (depending on the Mātauranga in question) and without clear process and policy on who should own the knowledge, who should benefit from the knowledge (and how), and who has the right to disseminate the knowledge (and the most appropriate ways to disseminate it), researchers may not have the capacity/skills/knowledge/motivation to set this up themselves. The funding agency should make these clear and ensure they are followed.

Q27

Regionally based Māori knowledge hubs: What are your thoughts on regionally based Māori knowledge hubs?(See page 39 of the Green Paper for additional information related to this question)

Iwi and Hapu management plans provide a significant opportunity to identify interests of Māori organisations and link these to research occurring at a national scale.

MBIE need to engage with regional iwi to better understand their priorities and needs and proactively fund these areas.

For many Rūnunga there are no dedicated positions to engage with researchers. Dedicated positions that enable connection would make a huge difference in identifying research priorities and liaison with the research community. This issue is not though specific to Māori, generalists that can connect with various stakeholders is a huge gap in the innovation system which would make research much more productive but also increase trust in the sector.

Page 11: Section 5: Funding

Q28

Core Functions: How should we decide what constitutes a core function, and how do we fund them?(See pages 44-46 of the Green Paper for additional information related to this question)

Clarity on what differentiates a national research priority from a core function or indeed base grant funding is needed.

It is important that there is a distinction between national research priorities and core funding specifically because of a perceived duplication of resources and competitive advantage. We have interpreted core funding as supporting enduring needs (and national priorities as finite) but are unclear whether there is a distinction between core funding and base grant funding.

There are issues when large finite grants in areas of public good terminate and there is not a clear or financially sustainable exit strategy. One example is TEC Centres of Research Excellence terminating due to the highly contestable nature of this fund. There was no new funding in the last round which meant important areas of capability development needed to be terminated in order to fund anything new.

If core funding is to support critical capability (human capital and infrastructure) that New Zealand needs for its own independence and resilience, then it should not be captured in any one location or entity.

As demonstrated by the COVID-19 pandemic, PSA in kiwifruit, and the Canterbury earthquakes broad and core expertise and functions that can be deployed for particular issues lies within both universities and CRI's.

Q29

Establishing a base grant and base grant design: Do you think a base grant funding model will improve stability and resilience for research organisations?(See pages 46-49 of the Green Paper for additional information related to this question)

Yes

Q30

Establishing a base grant and base grant design: How should we go about designing and implementing such a funding model?(See pages 46-49 of the Green Paper for additional information related to this question)

Any re-design of the New Zealand research and innovation system (or part thereof) needs to be premised on the principle that the system is highly efficient, and resource limited. Re-designs of any funding mechanisms is very unlikely to release further efficiencies of delivery research and innovation. Enabling and not efficiency gain needs to be the basis of any further change. One thing we have learned over the last 10 years is that broad discipline expertise and capacity, that may not be directly related to national research priorities, need to be available. System shocks such as the COVID-19 pandemic, PSA in kiwifruit or the Canterbury earthquakes provide examples of the need for broad expertise. The national research priorities will drive capacity in specific areas and it will become potentially difficult to maintain some critical disciplines. Base grants that ensure retention of expertise in areas at risk of complete loss is strongly recommended via an independent and transparent assessment process.
A base grant should not be used to target national research priorities where it duplicates other funding streams (such as national research priority funding) as this would create additional competition and is inefficient.

A base grant at its simplest level could be determined based on success in contestable funding. This would not resolve issues of institutional stability and long-term planning. If it were to cover the overheads on postdocs this would address postdoc affordability problems in contestable grants and therefore go some way to supporting more early career researchers.

A base grant could replace overheads of research institutions which would reduce the fluctuations in funding enabling longer term planning. This would require a mechanism to calculate gross overheads consistent across all institutions.

A base grant which funds a quantum of postdocs with multiple selection processes across institutions will probably not be the most efficient way to administer postdoc funding. MBIE should instead reinstitute the national postdoc funding that was unilaterally slashed from the govt budget 11 years ago (a TEC postdoc scheme was also cut the same year). Postdoc funding schemes will help address a gap in funding for graduates thus reducing the brain drain overseas and give them more experience and time to look for permanent roles in New Zealand. This is only a holding pattern and more needs to be done to develop career pathways for postdocs.

A base grant should support a recognised need for more soft skills in graduates and postdocs. Developing industry skills in graduates, internships and making bridging grants more attractive to industry would help deliver more value in the marketplace.

A base grant could address the issue of connection (a focus of the previous draft RS&I strategy) to drive a mission based / problem solving approach among researchers. Furthermore, it should go further by addressing gaps around translation services for research post contract (currently funding only exists for commercialisation). Some national coordination is required to ensure connections don’t become areas of competition. KPIs for a base grant for these activities should be measured in terms of activity rather than the impact itself (other than perhaps a few case studies). Impact assessment exercises as used overseas have become a huge drain on their research systems and should be avoided.

Page 12: Section 6: Institutions

Q31

Institution design: How do we design collaborative, adaptive and agile research institutions that will serve current and future needs?(See pages 57-58 of the Green Paper for additional information related to this question)

Collaboration at a national level around national research priorities, core funding, base funding and shared infrastructure will all contribute to addressing this question.

UC is open to CRIs being co-located on its campus. Researchers work together better when co-located providing access to student capability and would benefit from shared infrastructure, and career progression.

There has been significant work undertaken to unify IP practises and agreements across Universities and we understand there is similar work occurring across CRIs that would be good to bring together to make it easier for researchers to collaborate under the same principles.

Models where CRI and universities are working in much closer partnership is absolutely critical. The disconnect between CRIs and universities is counterproductive for careers, research capacity, and infrastructure duplication. The Joint Postgraduate School Food Transitions 2050 is a new partnership initiative between five research organisations located in the Canterbury region: the University of Canterbury, Lincoln University, Plant & Food Research, Manaaki Whenua Landcare Research, and AgResearch. It is a high trust low admin model that is working well generating capability that can thrive in a collaborative and cross-disciplinary environment (see separate submission for more details), but is ultimately funded around sharing a common and co-designed research and impact vision.

Q32

Role of institutions in workforce development: How can institutions be designed to better support capability, skill and workforce development?(See page 58 of the Green Paper for additional information related to this question)

TEC should be involved in the development of national research priorities and core funding. There are educational constraints that will need to be addressed to align any new capability development initiatives. It will take several years to develop programmes and consider relevant disciplines, whether new programmes will be viable, trade-offs with regards to existing programmes, and appointment of any new staff.

Adaptable funding models for joint degree programmes between institutions needs to ensure that future capacity is aligned with “grand challenges” / national research priorities (e.g., energy transitions, biosecurity) so that multi-institution and cross-disciplinary programmes can be developed.

Develop an early career international exchange fellowship to both broaden experience and connections of graduates and increase capability of NZ science/research.

There is a recognised need for development of more soft skills in graduates and postdocs. Developing industry skills in graduates, internships and making bridging grants more attractive to industry would help deliver more value in the “marketplace”.

Q33

Better coordinated property and capital investment: How should we make decisions on large property and capital investments under a more coordinated approach?(See pages 58-59 of the Green Paper for additional information related to this question)

A research council to oversee investment in national infrastructure based on the national research strategy. All countries have finite capacity to invest in their respective national research and innovation systems. Current levels of private and public R&D investment in New Zealand necessitates every investment in large property and capital investments needs to be “smart”. New Zealand will hinder its research and innovation capacity if it continues to have a fragmented, siloed, and institutionally-confining investment. The Government has a role through a putative research council to facilitate alignment and co-investment between universities, CRI’s, and private sector (and with Government investment). The investment limits of a single entity to ~$100 M for property, and ~$5 M for research infrastructure, means that important nationally-scaled facilities are not being conceived, proposed and developed. Co-location of universities and CRI’s can be beneficial, but needs to be rooted in shared research vision and agenda, rather than top down directives of campus sharing.

Q34

Institution design and Te Tiriti: How do we design Tiriti-enabled institutions? (See page 59 of the Green Paper for additional information related to this question)

UC is working towards an education system that includes te ao Māori, Māori world views, and mātauranga Māori, Māori indigenous knowledge systems, the land and their relationships with Tangata Tiriti. It goes beyond an awareness of, or sensitivity to, another culture to include the ability to use that knowledge in cross-cultural situations. It is focused upon the inclusion of mātauranga Māori and mātauranga Ngāi Tahu, Ngāi Tahu knowledge, within undergraduate degrees. The sense of belonging and commitment to Māori aspirations is made manifest for Māori.

A new Office of Treaty Partnership, believed to be the first of its kind among Aotearoa universities, will embed mana whenua – Te Rūnanga o Ngāi Tahu – into the structure of Te Whare Wānanga o Waitaha University of Canterbury.

Filling new professor positions is one of the first tasks ahead for Kā Waimaero, in such areas as science, law and economics/business. It is expected the new professorships will attract tangata whenua academic talent back from positions all over the world.

Q35

Knowledge exchange: 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?(See pages 60-63 of the Green Paper for additional information related to this question)

In comparison with what is invested in Endeavour funding comparatively little is spent in PSAF, commercialisation, and technology deployment. The Government needs to expand funding for translation of commercial research and address gaps in support for other areas of innovation including policy and community. Delivering impact is essentially not funded in short term funding agreements. Implementation can take many years so it makes sense to support this activity through an alternate funding mechanism, either by funding post-research contract activities separately or contracting organisations to do this via base grant funding. A significant gap exists in translating technology and innovation for direct public benefit via central and local government (e.g, operational Govt agencies MPI, Department of Conservation and local councils) rather than commercialisation via private industry enterprise.

Create a mechanism for extension agents/knowledge brokers to provide connection and advance knowledge dissemination for research uptake and New Zealand benefit. This will add an additional career pathway for graduates to translate research into action.

Page 13: Section 7: Research workforce

Q36

Workforce and research Priorities: How should we include workforce considerations in the design of national research Priorities?(See pages 69-70 of the Green Paper for additional information related to this question)

The focus of national research priorities should be on creating teams with the full complexity of skill sets required for innovation, as opposed to simply putting together ‘excellent’ people. Early career researchers need to be embedded in the codesign, leadership and delivery of the research and implementation. They should be given every opportunity to engage, develop new connections and hone their leadership skills. If we have research priorities and are confident they will remain for a decade, universities could be incentivised to train workforce capabilities for these areas.

Workforce priority areas should be included among the aspects that form research priorities.

Q37

Base grant and workforce: What impact would a base grant have on the research workforce?(See pages 70-71 of the Green Paper for additional information related to this question)

If a base grant were to cover the overheads on postdocs in full cost contestable government funding it would address postdoc affordability problems in contestable grants and we would expect to see a significant lift in the number of postdocs in capped funding instruments but possibly at the expense of postgraduate students. Currently researchers “game” the system whereby they substitute post-docs (which attract overheads) with postgraduate student scholarships (that don’t currently attract overheads), though the deployment of post-docs might be more efficient and impactful in the delivery of a particular research programme. In mission led research and short term investments it can be desirable for postdocs to be part of the research delivery team, to efficiently deliver research outcomes, whereas postgraduate students are less efficient in delivering research, but certainly develop long-term capacity.

A base grant which funds a quantum of postdocs with multiple selection processes across institutions will probably not be the most efficient way to administer postdoc funding. MBIE and TEC could reinstitute significant the national postdoc funding. A base grant could support a recognised need for more soft skills in PhD graduates and postdocs. Developing industry skills in graduates, internships and making bridging grants more attractive to industry would help deliver more value in the marketplace.

Q38

Better designed funding mechanisms: How do we design new funding mechanisms that strongly focus on workforce outcomes? (See page 72 of the Green Paper for additional information related to this question)

Review the results of the Workforce Survey to inform new mechanisms.

University of Canterbury supports initiatives that see more funding available to nurture and grow emerging researchers, including a range of options for different career stages. One way to do this would be to introduce a specific Endeavour-like Funding pool for emerging researchers, similar to the Marsden Fund 'Fast-Start'. The strategy should also consider supporting other careers needed in the pathway, such as impact brokers, engagement specialists, research managers, industry-based researchers etc. A further, immediate mechanism is to significantly increase the size of the PBRF investment (as recommended within the PBRF Review), but tie that increase to explicit and transparent investment within universities to ECR and post-doc career support and development.

New Zealand also needs to recognize that attraction and retention of research talent to New Zealand operates within a highly competitive international market. The very best researchers, post-doctoral fellows and graduating postgraduate students are a highly mobile workforce. Salaries, system and institutional resourcing, opportunities for developing and retention of professional networks, work-rights, and immigration status are all factors that cumulatively drive individual researcher decisions.

While most people focus on post-docs, the workforce starts with Master's degrees. Although base funding could be used to provide stipends for Master's students, it would be preferable if student allowance was reinstated for Master's students so that the flow on effect would increase the number of doctoral students, as well as increase equity as to which students can consider and undertake Masters degrees. Currently without funding, Master's students tend to come from the most well-off groups of students because they can afford to undertake full time study to better themselves without a stipend or working.

Page 14: Section 8: Research infrastructure

Q39

Funding research infrastructure: How do we support sustainable, efficient and enabling investment in research infrastructure?(See pages 77-78 of the Green Paper for additional information related to this question)

The development of sustainable and efficient investment in research infrastructure is a high-priority and needs to be linked with national research priorities (and overseen by an over-arching entity like a Research Council). Levels of research investment need to be coordinated and nested, at individual research provider level, regional research infrastructure hubs, and truly national-scaled infrastructure. At the regional and national levels, access needs to be on the basis of transparency and merit (aligned with research priorities), consistent and transparency of cost, pricing and access, and an attempt of deconvolving ownership, operation, and use. Access to this infrastructure should be on the basis of merit and research priority alignment and not a "paid club membership" model.
