# #42

#### COMPLETE

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Page 2: Section 1: submitter contact information

#### Q1

Name

Charles Lee

## Q2

Email address

Privacy - 9(2)(a)

## Q3

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	Individual
	Are you submitting as an individual or on behalf of an organisation?	
	Page 4: Section 2: Submitter information - individual	
	Q6	Yes

Yes

Are you a researcher or scientist?

## Te Ara Paerangi - Future Pathways submission form

<b>Q7</b> Age	Privacy - 9(2)(a)
Q8 Gender	
Q9 In which region do you primarily work?	
<b>Q10</b> Ethnicity	
Page 5: Section 2: Submitter information - individual <b>Q11</b> What is your iwi affiliation?	Respondent skipped this question
Page 6: Section 2: Submitter information - individual <b>Q12</b> If you wish, please specify to which Pacific ethnicity you identify	Respondent skipped this question
Page 7: Section 2: Submitter information - individual <b>Q13</b> What type of organisation do you work for?	University
Q14 Is it a Māori-led organisation?	Νο
<b>Q15</b> Which disciplines are most relevant to your work?	Biological sciences, Environmental sciences
<b>Q16</b> What best describes the use of Mātauranga Māori (Māori knowledge) in your work?	There is some Mātauranga Māori, but it is not the main science knowledge

Page 8: Section 2: Submitter information - organisation

Q17	Respondent skipped this question
Organisation name	
<b>Q18</b> Organisation type	Respondent skipped this question
<b>Q19</b> Is it a Māori-led organisation?	Respondent skipped this question
<b>Q20</b> Where is the headquarters of the organisation?	Respondent skipped this question
<b>Q21</b> What best describes the use of Mātauranga Māori (Māori knowledge) in your organisation?	Respondent skipped this question

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)

No response.

## 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)

No response.

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)

If the Priorities are positioned as a replacement for NSCs and CoREs, then I think the proposed design will be fit-for-purpose. Endeavour and SSIF are relatively nimble mechanisms and play really important roles within a healthy funding system, and they should be retained. However, their relative roles should be clarified, overlaps minimised, and clear pathways identified from Endeavour SI to Endeavour RP, SSIF, and Priorities--this mixture will ensure funding stability for the most important science challenges for the nation but maintain a consistently high requirement for excellence. Furthermore, elements of the proposed design can be extended to SSIF and Endeavour.

The Priorities should be fairly prescriptive of the desired outcome, the primary approaches, and explicitly explain why this work needs to be carried out in New Zealand. The Priority-setting process can include the following steps

- [information and analysis] Proposals describing these high-level attributes should be solicited and consolidated. This is where co-design with Māori and inputs from stakeholders will likely have the greatest effect.

- [consultation] focused consultation can be held to define scope and focus (no point funding research that cannot be supported by the New Zealand RSI system). These consultations need to be contextualised by expert input throughout to ensure feasibility.

- [expert or executive decision-making] negotiated tenders are written and refined based on reviewer feedback. This step will be led by the researchers, but there should be consistent oversight to ensure that the research plan is inclusive and gives effect to Te Tiriti.

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)

No response.

#### 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)

No response.

#### 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)

No response.

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)

No response.

Yes

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)

## 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)

A base grant funding will improve the stability of research organisations, but we must recognise that universities are not homogeneous entities that are predominantly funded through teaching-related and PBRF income. Certain departments, schools, and divisions within most New Zealand universities are in fact research-focused and derive most of their income through research contracts and research-based postgraduate teaching. If the base grant funding model does not include those entities, we will be at risk of severely under-funding many of the most productive researchers and research groups in the motu.

#### 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)

No response.

#### 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)

No response.

#### 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)

No response.

#### 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)

No response.

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)

No response.

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)

If aronga takirua and burnout is already a serious issue with Māori researchers, then the priority should be on training more Māori researchers. Otherwise, additional requirements to meaningfully engage Māori and give effects to Te Tiriti will simply exacerbate the burden on existing Māori researchers.

#### 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)

It may be worth considering using base grants as a merit-based mechanism that explicitly supports research-focused positions so that 5-year or even 8-year contracts (subject to mid-contract review) are possible. In other words, base grants should be used to encourage institutions to hire a young and diverse workforce (which can be seen as risky if hired on continuing contracts to start with), and those who possess the necessary merits (following a sufficiently long contract for performance to be effectively evaluated) can work with institutions to find financial arrangments that enable them to transition to a continuing contract. If an institution consistently fails to train researchers that are retained in the New Zealand RSI system under continuing contracts, their base grant should be reduced and potentially suspended. Allowing institutions to use base grants as a way to pay for the salary of established continuing employees at the sacrifice of early-career researchers is an outcome that must be avoided.

#### 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)

Investigator-led postdoctoral opportunities (e.g., the former FRST PD Fellowship) is where diversity is likely to be the greatest and desirable outcomes such as co-design and interdisciplinary collaborations encounter the least resistance. New funding mechanisms such as base grants should have a specific emphasis on or requirements for those opportunities.

Page 14: Section 8: Research infrastructure

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)

In addition to considering major research infrastructures such as high-performance computing clusters and research vessels, it is necessary to consider medium-sized (i.e., between \$200k and \$10m) specialised laboratory and field instruments and how they can be provisioned more effectively for the New Zealand RSI system. Many of the highly specialised instruments requiring dedicated support personnel are sporadically used within individual institutions and often only by a handful of users per institution, yet they can only be purchased and maintained by a single institution within the current system. Providing commercial service is often necessary to make the business case viable for these investments, but commercial demands rarely meet the projection, and institutions regrettably but reasonably withdraw support for the required personnel, rendering the instruments useless. Examples of such instruments include research-grade NMR, electron microscopes, research-grade mass spectrometers (including ICP/MS, Raman microscope, and numerous other variants) as well as field instruments such as research-grade LiDAR and hyperspectral imagers. One potential solution is creating national centres of capability where instruments can be co-located, and dedicated support personnel can look after multiple instruments that require similar support expertise. Such centres will not necessarily require major funding from the government, but the RSI system needs to provide incentives for multiple institutions to purchase and co-locate their instruments.

I propose that shared infrastructure be managed using market-like mechanisms or at least mechanisms that substantially incorporate bottom-up feedback (e.g., NeSI). The amount of resources should reflect the actual investment and contributions, and if a user wishes to use more than its share (reflective of its relative contribution), it needs to "purchase" resources from users that under-utilised its share. Contributions can be tweaked annually based on a three-year average to ensure that users really pay.