#81

COMPLETE

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Page 2: Section 1: submitter contact information

Q1

Name

Axel Heiser

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	
5	
Q6	Yes

Yes

Are you a researcher or scientist?

Te Ara Paerangi - Future Pathways submission form

Q7 Age	Privacy - 9(2)(a)	
Q8 Gender		
Q9 In which region do you primarily work?		
Q10 Ethnicity		
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?	Crown Research Institute or Callaghan Innovation	
Q14 Is it a Māori-led organisation?	Νο	
Q15 Which disciplines are most relevant to your work?	Agricultural, veterinary and food sciences, Biological sciences, Biomedical and clinical sciences, Health sciences, Mātauranga Māori (Māori Knowledge)	

QT0

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: S	Section 2:	Submitter	information	- organisation
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Q17	Respondent skipped this question
Organisation name	
Q18 Organisation type	Respondent skipped this question
Q19 Is it a Māori-led organisation?	Respondent skipped this question
Q20 Where is the headquarters of the organisation?	Respondent skipped this question
Q21 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)

National research priorities should be identified mainly by their relevance to Māori and/or the majority of all NZ's citizens; they should focus on "public good" more than "industry good" research; in their entirety they should provide a good balance of more foundational research and more applied research & development.

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)

Determining the scope and focus of national research priorities is a political decision that should be made by the NZ parliament supported by the government and in consultation with relevant social groups and the science community. A National Science Council or a National Academy of Sciences could serve in an advisory role.

Effect to Te Tiriti can be given by the process being co-designed and co-led by Māori; by setting national research priorities that are co-designed and co-led by Māori.

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)

I personally believe that the model of the National Science Challenges has not worked well because it generated a much too big overhead of administration. Strategies and "operationalisation pathways" for national research priorities should be set in close consultation with active scientists, e.g. through a National Science Council or a National Academy of Sciences.

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 a non-Māori, I want to engage on a "per programme/project" base, where I have relevant science expertise to contribute.

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)

By ensuring that any research is designed with an open mind towards mātauranga Māori and under consideration of if and how mātauranga Māori can be acknowledged and applied.

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)

I believe Māori knowledge hubs are a good way to maintain and develop Māori knowledge. For research, a major challenge is to distinguish between Māori knowledge and mythology; both can have a place in our society but for research it is important to focus on the Māori knowledge and being permitted to scrutinise it with scientific methods.

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)

It is very difficult if not impossible to separate core functions from research activities. Core functions form the base for almost any research and in return which base functions are required is defined by the research that is conducted. Hence, core functions will change over time. My recommendation is to have a National Science Council or a National Academy of Sciences define the core functions.

Q29

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)

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 efficient research system needs to strike a balance between stability and agility which then results in resilience. I strongly believe in the success of research funding models modelled after the German Max-Planck Institutes, with small, scientist-led institutes that have a focus on a science discipline, and an umbrella organisation that provides managerial and administrative support. Research in NZ and other countries of the developed world suffers from being over-managed and overly high overhead cost; a slimmer, more science-focused and scientist-centric funding model is desirable. I propose a four=pronged funding approach: (1) base funding (e.g. for umbrella organisation(s); (2) targeted funding (research target (the "what") defined by government, mission-led; with precise RfPs (the "how"), drafted in consultation with active scientists and mātauranga tohunga with relevant expertise; (3) non-targeted, investigator-led research, which could at least partly be granted through a grant lottery; (4) merit-based grants for acknowledged top scientists, which gives them the long-term stability needed to build teams and the next generation of scientists; these scientist could be independent leaders of research institutes under an umbrella organisation.

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)

By encouraging, rewarding, and training collaborative, adaptive and agile researchers. The less "institution" is involved the better this will work, because by nature institutions become slow and competitive. A science-focused and scientist-centric funding model is desirable; I strongly believe in the success of research funding models modelled after the German Max-Planck Institutes, with small, scientist-led institutes that have a focus on a science discipline, and an umbrella organisation that provides managerial and administrative support.

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)

This might be different for scientist and technical staff (with the separation admittedly being fluid). Based on their "market-value" scientist should be able to select employers/institutions that support them best; I believe long-term funding is often contraproductive; high-performing scientist are similar to high-performing athletes: nobody would expect an All Black to get a life-time position, even less so for a regional league player. However, equally important to scientists is the technical staff they work with, which (a) needs to be funded (and decreasingly is) and (b) needs to be funded long-term to maintain institutional knowledge and offer an attractive career path.

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)

I strongly believe that a National Science Council or a National Academy of Sciences should advise government in this regard. As 'science community' they should be able to prioritise while avoiding duplication and "prestige objects".

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)

Via co-design and co-leadership by Māori.

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)

(1) By providing funding (were applicable and relevant) to fund publication and implementation of R&D outcomes; risks can be mitigated by requesting staged research and implementation proposals with defined, success-based Stop/Go decisions. (2) By developing objective impact measurements and allow funding to apply them after the end of a research programme/project.

Research funding should be granted to research teams, while funding for implementation and impact assessment could be granted to the institution, which then becomes responsible to deliver toward impact.

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)

NZ has certain areas of research were we have s strong workforce and are able to compete globally and are world-leading. If these areas are still relevant, they should be funded to maintain the competitive advantage. At the same time research capability needs to be maintained and/or build where future needs can be identified and research needs to be done regionally (i.e. in NZ), e.g. biosecurity.

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)

This might be different for scientist and technical staff (with the separation admittedly being fluid). Based on their "market-value" scientist should be able to select employers/institutions that support them best; I believe long-term funding is often contraproductive; high-performing scientist are similar to high-performing athletes: nobody would expect an All Black to get a life-time position, even less so for a regional league player. However, equally important to scientists is the technical staff they work with, which (a) needs to be funded (and decreasingly is) and (b) needs to be funded long-term to maintain institutional knowledge and offer an attractive career path.

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)

Two suggestions: (1) a specific fund for early career scientists that have demonstrated outstanding capability, that allows them to build a teams around them over 5-10 years. (2) funding for technical staff hat have demonstrated outstanding capability to either further qualify and specialise or to obtain further degrees.

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)

I strongly believe that a National Science Council or a National Academy of Sciences should advise government in this regard. As 'science community' they should be able to prioritise while avoiding duplication and "prestige objects".