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Page 2: Section 1: submitter contact information

Q1

Name

Jim McLeod

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

Q7 Age Q8 Gender Q9 In which region do you primarily work? Q10 Ethnicity	Privacy - 9(2)(a)
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?	Other (please specify): Community groups
Q14 Is it a Māori-led organisation?	No
Q15 Which disciplines are most relevant to your work?	Biological sciences, Built environment and design, Earth sciences, Environmental sciences, Human society, Information and computing sciences, Language, communication and culture, Physical sciences

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: Section	2: Submitter	information -	organisation
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Q17 Organisation name	Respondent skipped this question
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)

I agree and support the 1.2. design features.

With respect to feature 7, there must also be a clearly identified recipient of the RSI system product. A party ready and able to receive and apply the transferred knowledge. This might be a community-of-practice. Ideally, the recipient party is involved in the identification and scoping of the need. If a knowledge recipient doesn't exist, should the RSI system act as the business incubator?

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)

Agree with the three components of 1.3.1. The analysis should be done by the subject-matter experts. Consultation should be with the general public and interested groups. Decisions should be the domain of Te Tiriti partners. The priority-setting process should:

- a) do a stock-take of existing capabilities and programmes (info and analysis)
- b) identify which are relevant to existing challenges (including identification of dependencies) (consult, decide)
- c) identify emerging needs (info & analysis, consult, decide).

This process should be run every 6 years or sooner if a nationally significant RSI event occurs?

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)

My experience in establishing successful multi-party endeavours has hinged on the following steps:

- 1. Identifying and establishing a Community of Practice.
- 2. Identify interested parties and a lead Party / Advocate (Circulation of a Terms of Reference a defining problem / challenge and a vision)
- 3. Business Case (for presentation to a Governance Board)
 - Roles, responsibilities, accountabilities Advisory Group (Senior Executives) Shareholding Budget Communication / reporting
- 4. Establish service
 - Business Plan

A critical step is the identifying and / or establishing a Community of Practice (CoP) funded by a sponsor.

CoPs are judgment–free zone where people can give, ask for or exchange information. Community participants can pull needed information from peers or experts and, when necessary, the sponsor can push out subject related information to a specific audience. This two way push-pull knowledge exchange is a foundation of community purpose.

Communities cannot exist without a common purpose, a means of communication and basic organisation.

- The CoP is a set of interconnected elements that help knowledge workers collaborate.
- supporting tools and processes (such as Web pages or methods of managing community content),
- collaborative structures (such as SIGs (Special Interest Group) or conference calls) and
- people (such as a leader).

People use the community tools to collaborate.

Community Leader

The organiser and catalyst who develops and sustains a healthy community.

They must be a respected member of a peer group.

They may be a facilitator or subject matter expert (SME),

They motivate others to contribute to improve their reputation, get greater exposure and receive peer recognition.

Executive Sponsor

The most important factor in recruiting members and obtaining funding.

Without executive sponsorship and encouragement from management, members will lose their enthusiasm and interest when they see that upper management does not value community efforts.

An executive sponsor not only recognises achievements but also advocates KM behaviours to his or her peers and the wider organisation.

Community profile

To ensure that the community is aligned with an objective.

A statement of the community's focus.

A declarative statement about how to perpetuate the membership and structure the community.

Once the above structure is in place then I suggest for each RSI Priority the following:

1. Scope and focus of the RSI Priority

The support and maintenance of existing relevant infrastructure (70% of attention / resources)

Improving the existing RSI infrastructure, ensuring it is effective and sweating it to ensure it is efficient (20% of attention / resources)

New, over the horizon stuff relevant to the Priority (10% of attention / resources)

2. Focus on the international context of the Priority NZ specific, (70% of resources)Pacific specific, (20% of resources)International (10% of resources) 3. Sector focus
Non-business community aspects of the Priority (70% of resources)
Industrial/business (20% of resources)
Pure science (10% of resources)

A critical operational/infrastructural component of the RSI Priority is a collaboration/communication platform. This must be an online platform that enables effective and efficient collaboration. It should be a platform that is common to all the Priorities allowing multiple levels of communication and information exchange both within NZ and internationally.

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)

The RSI system should seek to have Māori present in all roles identified in Q3. However, there should be specific places allocated for Māori in the Governance / Board roles and in the Community of Practice. A deliverable of the Priority should be the transfer of knowledge to Māori and ideally the identification of kaitiaki.

In my experience a challenge is likely to be finding and developing people able to meet the demands of this expectation.

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)

I have worked, and continue to work, in teams that have people from a range of disciplines and include Iwi representatives. The iwi representatives are respected by their people and invariably are highly qualified including some with PhDs.

The purpose of the teams is the promotion of sustainable management of natural and physical resources. The teams peer review; numeric, geochemical, hydrological, ecological, geophysical, and geotechnical information, methodologies and processes. The iwi representatives are able to convey information between the review team and their iwi, and if needed can arrange for the review team to present directly to an iwi hui.

A challenge here is the role and form of mātauranga Māori. A level of rangatiratanga is provided as iwi have some control over the access to the actual physical resource. A greater challenge is the control of data and information derived from interaction with the resource and the need to confirm the robustness of this information via tests including repeatability and reproducibility. Tests that are needed to progress and transfer knowledge.

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 fully support Māori knowledge hubs. I suggest that they could be built into the RSI collaboration/communication platform mentioned in Q3. There might be physical manifestations of these hubs in the Regions, but they would mainly exist as online Communities of Practice. Being online allows participation from any internet connected physical location and can accommodate asynchronous engagement. Covid has shown this is possible and identified opportunities where the engagement experience can be substantially improved.

Physical regional Māori knowledge hubs could be collocated with RSI infrastructure at universities and these in turn connected via large bandwidth links to field stations and secondary sensor networks. Telepresence should be one of the key enabling technologies that is incorporated into the RSI Infrastructure.

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)

Core functions should also include the core function infrastructure. Including an RSI online collaboration platform mentioned previously.

The databases, collections and monitoring data should also include the data needed to audit the efficacy of Central Government Policy including aspects of Regional Council Policy that should be nationally consistent especially data needed to audit efficacy of natural and physical resource policy. These data, their collection and curation costs should be funded by the Central Government Department responsible for the Policy. Natural and physical resource data collected and funded by commercial organisations as part of resource consents should also be lodged and curated as part of RSI core functions. These data are part of NZ's natural and physical resources and as such should be gathered and curated in an appropriate manner, not appropriated by private organisations.

The RSI Core Functions should be treated in a similar way to an RSI Priority. Once identified the Core Function funding should be prorated as follows:

1) The support and maintenance of existing relevant Core Function infrastructure (70% of attention / resources)

2) Improving the existing Core Function infrastructure, ensuring it is effective and sweating it to ensure it is efficient (20% of attention / resources)

3) New, over the horizon stuff relevant to the Core Function (10% of attention / resources)

Funding should be sourced from those who require the function for they also need to identify and prioritise the function attributes.

The RSI system governance board should be responsible for prioritising and securing funding for RSI Core Functions. RSI Priorities should identify and develop to and operational state any new additions to RSI 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)

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)

Yes, I agree that there should be long-term base grant funding and that where RSI is funded by central government the funding should be organisation agnostic. However, the RSI funding should be prorated as above to ensure that the functions so funded are kept fit for purpose. I also agree that the number of CRI's should be reduced so there isn't an unnecessary duplication of administration services and overheads.

I think base grant funding should be provided to organisations delivering RSI Priorities and/or RSI Core Functions. The base grant should cover corporate overheads and core researcher salaries. The funding should be activity based with a regular comparison made across organisations so that best-practice is identified, developed, and promoted.

Page 12: Section 6: Institutions

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)

The core RSI should have one governance entity that oversees RSI Core Functions, and RSI Priorities.

Universities are education focused institutes but should have strong links to the RSI system as most researchers will come from the Universities.

A fundamental technology within the RSI system must be a nation-wide, internet based, online collaboration platform. That is the RSI system should be first and foremost a virtual system. Over 80% of RSI interactions and business should be via this online platform. Their will still be field stations, labs, physical collections, and other physical assets, but these should all be linked virtually by the online collaboration platform. The collaboration platform should be configured to foster and support Communities of Practice.

The RSI collaboration platform should be accessible to RSI agents working in organisations seeking to use RSI products. These agents must be familiar with the host organisations needs and act as a conduit to help identify user requirements, and transfer back RSI produced knowledge.

Each RSI Priority including the RSI Core Functions must have a business plan looking its intentions for the next 5, and 10 years. Reviewed every 5 years or earlier if there is a significant change in its Priority area. Progress against the business plan should be reported annually and cover business related risks and opportunities.

The RSI governance entity should be required to prorate resources and funding to reflect the 70, 20, 10 formulae. 70% of resources and funding should be applied to the support of existing functions / commitments, 20% to improving the operation of these existing functions and the reminding 10% applied to identification of and response to new emerging challenges.

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)

The RSI system should be tightly connected to university graduate programmes as universities will be the prime source of researchers who are and will be the generators of knowledge products and how knowledge is transferred to user organisations.

A critical RSI Infrastructure that will enable this is the RSI online collaboration platform mentioned before and the Communities of Practice fostered within this space.

Graduates engaging with the RSI system should be guaranteed a minimum reasonable remuneration that allows them to focus on their RSI work rather than continually seek grants or additional work that allows them to live and have a fulfilling career. (As a PhD Physics scholarship student in the 1980s, I was earning more money as a relief Courier driver (6am to 6pm) than I was getting from my scholarship. My studies were progressed in the six hours I wasn't driving or sleeping.)

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)

Property and capital investment should be a component of the RSI Business Plans mentioned above. Each RSI Priority including the RSI Core Function has a business plan that is reviewed and must be acceptable to the RSI governance board. The Business Plans are generated by the RSI Priorities with input from the Communities of Practice.

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)

Te Tiriti partners decide the form and members of the RSI Governance board and the definition of RSI Priorities. Iwi are also engaged in the Communities of Practice associated with each RSI Priority.

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)

This challenge is a core part of my work and personal interest. I have been involved with many successful and some stalled attempts to move RSI products from ideation to business operations in a local government organisation. The biggest impediment has been the amount of travel that has been necessary to build the relationships needed to enable the RSI transfer, and the funding of the travel and relationship building exercise. A reoccurring key component of successful RSI transfer has been the identification and framing of a user business need and matching that to an RSI product. A further key component is capable people and an advocate in the recipient senior management team.

Over the last 10 – 12 years I have shifted my workspace from a corporate office into an online environment. The last couple of years has accelerated this move for many people I work with, and also shown the potential opportunity that an RSI online collaborative platform could provide to the RSI system. I presently work closely with people in widely distributed locations and different time zones.

It will be easier to talk this through rather than write down the suggestions.

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)

I agree that research leaders are critical. However, my impression is that even when the need for the role has been identified, applicants for this role are usually required to have impressive publication records rather than knowledge of the recipient organisation business. Rather the prerequisite should be a good grounding as a researcher and experience in a leader or management role in an RSI recipient organisation.

It would also help if the role of RSI research leader was clearly identified and funded.

The research leaders should be encouraged to get the experience to lead a Community of Practice associated with an RSI Priority.

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)

I agree that a base grant attached to deliverables and other conditions would be helpful in the transfer of RSI products from the RSI system to recipient organisations. One of the benefits would be that the time needed to facilitate the transfer was protected rather than something that was done once other work has been completed.

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)

Page 14: Section 8: Research infrastructure

Q39

Respondent skipped this question

Respondent skipped this question

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)