

#65

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Friday, March 11, 2022 10:05:44 AM
Last Modified: Friday, March 11, 2022 10:49:19 AM
Time Spent: 00:43:34

Page 2: Section 1: submitter contact information

Q1

Name

Ben Wylie-van Eerd

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

Individual

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

Page 4: Section 2: Submitter information - individual

Q6

Yes

Are you a researcher or scientist?

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

Respondent skipped this question

What is your iwi affiliation?

Page 6: Section 2: Submitter information - individual

Q12

Respondent skipped this question

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

Page 7: Section 2: Submitter information - individual

Q13

Crown Research Institute or Callaghan Innovation

What type of organisation do you work for?

Q14

No

Is it a Māori-led organisation?

Q15

Biomedical and clinical sciences,

Which disciplines are most relevant to your work?

Physical sciences

Q16

It does not contain Mātauranga Māori

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

Page 8: Section 2: Submitter information - organisation

Q17

Respondent skipped this question

Organisation name

Q18

Respondent skipped this question

Organisation type

Q19

Respondent skipped this question

Is it a Māori-led organisation?

Q20

Respondent skipped this question

Where is the headquarters of the organisation?

Q21

Respondent skipped this question

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

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)

On your request for feedback about research priorities, I want to put in feedback that what's presented in section 1.2.1 is unusually good. Everything about this is the right choice and nothing unnecessary is present that detracts from it. The conception of Priorities is perfect, do not change a thing.

Principles that should be considered for Priorities: New Zealand's existing research excellence; New Zealand's existing industrial capacity; New Zealand's existing market access; Future trends of global importance; Existing competition in any Priority areas; New Zealand's natural advantages and disadvantages; Public consent for large public funding in one area; Impact a Priority could have on citizen wellbeing outside of market/financial ones.

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)

I feel that the type of focus which has a SMART goal is preferable. Define a capability that you would like to achieve or a problem you would like to solve (provide scalable carbon sequestration at NZD\$100 per tonne; Eliminate our vulnerability to varoa bee mite; bring the average house price down to NZD\$500k; develop a technology that increases average human lifespan by 4 years. The goal will help focus research efforts and public support (because it's easy to understand and assess).

I further feel that citizens' assemblies should form part of the decision process as a way to include public input which is not prone to capture by special interests or misinformation.

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)

On choosing what the priorities should be, my personal preference is for a shortlist of candidates for Priorities be developed by experts aided by information. Experts should compose - research experts, who know how to conduct research; commercialisation experts, who know how to take research outputs and turn them into impact; and industry and government experts, who know the capacity of New Zealand to absorb and implement findings of research. This should generate a list of options, all of which should be good ones. We can then employ citizens assemblies to bring the public into the decision making process. I would be comfortable with the citizens assembly having the final say, or with them delivering a verdict, some expert council delivering a verdict and then ministers deciding based on their input. (the verdicts could be preference ordering of the shortlist candidates). I would also like to express a strong preference for the funding to be over longer periods of time. Ten years might be a minimum that I would consider. Anything shorter won't give us time to reap the benefits of developing deep expertise and let that spread over into industry.

(1.4.1) Please consider industry-government matched funding as a possible way of balancing individual stakeholder needs with the broader goals within a Priority. This would allow Priority leaders to access additional government funding to advance their Priority conditional on them coming to agreement to meet a need for stakeholders who have their own skin in the game; stakeholders in industry or the broader public or charitable sectors. Note that there of course still has to be unconditional funding in addition to the matched funding - if the matched funding is too essential then Priority leaders will have no real negotiating power, and be unable to meet the longer-term and broader needs of the research Priority. The deals must be win-win for stakeholders and Priority leaders, Priority leaders must have a realistic option to decline an offer that they judge as not good enough.

(1.4.2) In considering the governance and operation of Priorities, again - please consider public accountability. I don't here mean accountability to government or to specialists within the public sector - there should be easily accessible and proactively promoted information on what the Priorities are doing that are written at a level that the general public are able to understand and engage with. The Priorities should, after all, be a point of national pride on par with high-performance athletics. An active attempt to foster excellence.

Also in considering the governance and operation of Priorities, I would like to express a preference that the leadership must be from the experts in the field - scientists, entrepreneurs rather than people whose profession is leadership but not necessarily from a scientific or entrepreneurial background. It's happened far too often in my experience that exec-level leaders don't have deep enough knowledge of the practice of science to make good decisions and earn the trust of science staff. Which is not to say I think that leadership professionals shouldn't be part of the Priorities, I just think executive power is best placed in people within science and innovation itself.

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)

Consult with existing Māori businesses, a large proportion of these are already on innovation journeys and will have the most relevant experience. Iwi organisations and urban Māori authorities should also of course be consulted.

Q26

Respondent skipped this question

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)

Q27

Respondent skipped this question

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)

Page 11: Section 5: Funding

Q28

Respondent skipped this question

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)

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 think a base grant funding model will improve stability and resilience. A lot of effort is spent and wasted in on trying to write the very best proposals so that the institutes can survive and peoples' jobs can continue. This additional effort each institute puts into writing and the funding bodies put into assessing proposals does not benefit anyone, it is a purely zero-sum game. There are far more good research proposals than there is money to fund them, and the extra resource spent on assessment does not provide any more accurate information about which ten of the top hundred proposals will give the greatest benefit in the end. Providing base funding will allow research institutes to reduce some of the wasted overhead of gold-plating research proposals and seek other sources of funding - ie, industry. Industry will be happy to have more time and attention from the CRIs. (Further steps to reduce the effort spent on gold-plating proposals is also a good idea, though possibly outside the scope of this green paper. Drawing lots from among the proposals that have been shortlisted might be one way of going about this).

On the question of who gets a base grant, is it feasible to allow non-permanent members of the base grant club to receive base grant funding in additional to the contestable funding for the duration of any grant they win? (permanent members would always be receiving base grant funding). If so that would probably simplify the problem. If it is a small enough proportion of total base grant funding, I don't imagine this being impractical.

On the question of how the base grant would change over time, I don't think it makes any sense to deliver it in a performance-based system - the contestable funding will still exist and it will deliver the function of funding based on performance. Better to focus on other factors such as government priority or size of operations.

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)

(4.2.5) Very keen to see co-ordination of major scientific equipment within the public sector. We're a small country so we need to be smarter about cooperating for purchasing and using major investments. I want to see a register of what's out there, what's available for other people to use/collaborate, and an ability for people to note a desire for some piece of equipment that they can't justify the cost of on their own but could well do with another interested party. That would be a relatively low-cost high impact systemic improvement. This is also useful for complementary equipment, for example vacuum thin-film deposition systems and clean-room facilities (they're better together).

(4.3) I agree that we have poor connections between New Zealand firms and public research institutions. I agree that this should be a goal of Callaghan Innovation, and probably needs a different approach. Not sure what a good solution is here, sorry, although I think moving to a Priorities model will probably help create Schelling Points for connection. I think it ought to also be made an explicit goal of Callaghan Innovation to promote connection between researchers themselves. Focusing on research-business connections is important, but so is research-research connections and nobody in New Zealand is better placed to carry out this work than Callaghan. It will require new activities and teams dedicated to that goal.

(4.4.1) I'm not convinced that smaller organisations are necessarily more agile in pursuing emerging opportunities. I feel that a significant factor in the speed at which a research institution can respond to opportunities and changes is in the time it takes researchers to develop expertise in the emerging areas. A larger organisation may well have more capacity to allow staff to dedicate themselves to retraining for this purpose than a smaller one which requires staff to stay on their existing projects.

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)

(4.4.2) Giving researchers stability in their career paths, particularly at the beginning of their careers is the most important improvement that can be made.

Many researchers in New Zealand, including myself, do much of their work in the commercial sphere (even though we work in public sector organisations). This severely reduces our opportunities to publish papers due to the need to protect IP, and therefore makes our CVs look less impressive. Researchers in my position need greater opportunities to apply for and secure jobs in the wider research sector, other factors than publication records must become important and respected in the new form of our institutions and research Priorities. Of course, private sector research jobs are another solution to this problem but given New Zealand has one of the smaller proportions of private research jobs compared to other OECD countries, it seems reasonable for public sector jobs to have routes into them not dependent on publications records. This will help researchers starting out to give attention to businesses or other impact that won't have a direct publications record output.

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)

(4.4.3) In regards to co-location, It sounds correct that having the academic, public, and private parts of the research sector working physically closer together would make it easier for the whole to form and maintain connections. On the other hand, my workplace at Callaghan Innovation in Lower Hutt is just across the street from one of the GNS campuses and I can count the number of times I've visited them or vice versa on one hand. Co-location alone will not be enough, people in positions of responsibility in all relevant organisations should take steps to make shared meetings and scientific presentations happen.

(4.2.5) Very keen to see co-ordination of major scientific equipment within the public sector. We're a small country so we need to be smarter about cooperating for purchasing and using major investments. I want to see a register of what's out there, what's available for other people to use/collaborate, and an ability for people to note a desire for some piece of equipment that they can't justify the cost of on their own but could well do with another interested party. That would be a relatively low-cost high impact systemic improvement. This is also useful for complementary equipment, for example vacuum thin-film deposition systems and clean-room facilities (they're better together).

Q34

Respondent skipped this question

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)

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)

(4.6) It certainly feels true that impact is not the primary goal of our research organisations. At universities for example, it is very strongly highly cited publications that are the outputs the system is engineered around. CRIs, due to having existing links with industry and public sector organisations, are in a somewhat better position. The research part of Callaghan Innovation is strongly oriented to the goal of selling fee-for-service research to companies, and so has incentives better aligned for output. However, the output measurement often stops at the 'customer bought our research' step rather than the 'our research helped the customer to develop a new product and grew their sales by \$x million' step. Callaghan research's strong focus on immediate customer needs is often an impediment to developing deep expertise to stay ahead of future industry needs. Whereas most of our institutions could probably benefit from moving closer towards industry, Callaghan might be in a better position if it rebalances back the other way somewhat.

When it comes to commercialisation of research internally generated, I feel we are torn in two directions. On the one hand, there is a desire for our institute not to hold IP, or to be an investor and make high risk high reward decisions - it is seen by some as not our role, or perhaps not the role of the public sector at all to be making entrepreneurial or investment decisions (I personally disagree with this, and prefer to see an entrepreneurial state a la Mariana Mazzucato, but that view is certainly present in our organisations). Even if it were our place, making those sorts of decisions is a specialised skill which would take time and money to build up capacity in within our institution. On the other hand, there is an acknowledgement that without some level of backing of our internally generated IP, it is not likely to go far or have much impact. I personally think this is something where coordination across the system could be of great benefit. There are not that many talented investors and entrepreneurs in New Zealand, expecting each research institute to build up this capacity individually is probably unfeasible in New Zealand, not an optimal use of our limited pools of money and talent. Better I think to have a unit that sits across all public research institutes and potentially the universities also who can hold that capacity and the duty to commercialise or otherwise increase the impact of our research. That body should have the financial resources to be able to back ventures and the experience to make wise investment decisions, and acting on behalf of all of the institutes it could really shift the dial for NZ I think. Such a body could have the scale to attract top talent, which is crucial in this area. Funding and/or experience/coaching/mentorship could be drawn from the government's existing successful investment arm, the New Zealand Superannuation Fund.

On the concept of how procurement interacts with this, I agree that the general government procurement model should be changed to allow it to consider crucial capacity building within New Zealand as an advantage worth being part of their decision. The naive lowest-cost model has been a disaster in procurement in my experience living in Wellington - the bus contracting and transmission gully PPP have been full of delays, poor service, and have been a giant waste of public funds.

On improving further the connections between research and formation of policy, I come back again to the links between the science sector and the general public. Politicians are the ones who ultimately make policy decisions based on evidence presented to them, and politicians make decisions that get them elected. If we want to have stronger links between the science system and policy formation, it is essential to strengthen the link between science and the general public, who elect politicians. We know that there are some stubborn wrong ideas that still drive policy formation despite being soundly rejected by the current evidence base. 'Tough on crime' policies are a classic example of this. Politicians run them because they are popular, most probably know they have negative rather than positive effects but it doesn't matter, it wins votes because the public still believes they will have positive impact. It cannot be left to politicians to try and convey science to the public, they have no incentive to do so. It is necessary for the science sector to take this task into our own hands. This is potentially an area where the universities are better suited than the strictly public sector research organisations due to their greater independence, but personally I think that the public sector principle of 'free and frank advice' gives us a duty to carry out that communication, regardless of to which politician the science is useful. Our duty is to the people of New Zealand, not to the ministers who direct us.

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)

(5.2) The obvious gap in the career progression for scientists in New Zealand is stable early-career jobs. Priorities should be designed such that they are able to fill this gap and give early and mid career researchers stability and confidence in progressing as scientists. This should increase the number of excellent senior scientists we develop who still have roots and links here and can choose to pursue their careers here. If Priorities do not directly employ people, then their agreements with the institutes that do should ensure that such jobs are provided.

The relative lack of women and Māori in the science sector is a definite sign that something is wrong, I support this being looked into but I am not best placed to know what would work best to attract women or Māori to, and help them retain, careers in research and science.

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)

One useful thing to consider is how Priorities can give institutions confidence that if work programmes change or contestable funding is lost, a scientist can adapt to a new task or field. Having confidence in that will mean institutions will see permanent or more stable employment contracts as a less risky proposition.

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)

I am honestly not sure what the right move is in regard to having funding focusing on attracting and retaining outstanding researchers. It's certainly true that an outsized proportion of influential publications are concentrated with the most outstanding scientists. But a major focus of this green paper is on developing our impact from science and developing country-led research Priorities to complement investigator-led research opportunities. I think it would be entirely possible to spend a lot of limited resource attracting top talent but then having that not translate to much impact for the country - that outstanding researcher would be making breakthrough discoveries wherever in the world they live, what benefit does New Zealand capture by having them work here instead of elsewhere? For that reason, I think that if funds are developed for attracting and retaining top talent, they should be in line with the research Priorities, where much effort is already planned to be spent on strengthening collaboration between science, industry and government. This will give us the best chance of maximising benefit to New Zealand from these outstanding scientists.

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)

(6.2.2) It is correctly pointed out that choosing between investment decisions of this magnitude aren't easy - all the options are in demand and we don't have enough to fund them all. I don't have much to add here except to repeat my suggestion from (4.2.5) that a national register be created to help individual institutions and groups within them coordinate their own infrastructure decisions. I hope and expect that the Priorities would all be in positions to invest in scientific infrastructure that will be of use to many within their Priority.
