

Submission by



to the

Ministry of Business, Innovation, and Employment

on the

Te Ara Paerangi - Future Pathways
Research, Science, and Innovation
Green Paper

16th March 2022

GENERAL DISCUSSION

1. In addition to the information about Export New Zealand and Business New Zealand (ExportNZ/BusinessNZ) at the end of this submission, we also have a Chief Technology Officers Group. **This group consists of the CTOs of 20 of New Zealand's leading firms that invest the most in research and development in New Zealand.**
2. ExportNZ/BusinessNZ welcomes the opportunity to contribute at this early stage on the Ministry of Business, Innovation, and Employment's (MBIE) *Te Ara Paerangi – Future Pathways Green Paper* for the Research, Science, and Innovation (RSI) sector.
3. A thriving research and innovation sector is vital to keeping New Zealand businesses and exporters competitive on the international market, improving the sustainability of our business sectors, and ensuring that our future economy is productive, resilient, diverse, and able to leverage new opportunities.
4. ExportNZ/BusinessNZ welcomes **MBIE's review of the Research, Science, and Innovation** sector. Over the years, ExportNZ/BusinessNZ has contributed to various government reviews of the sector and we are committed to playing an active role throughout this new process, including participation in the upcoming reference group. Our comments in this submission will be more general and will form the basis of our position on the sector going forward.

COMMENT ON THE TE ARA PAERANGI – FUTURE PATHWAYS GREEN PAPER

1. Research Priorities

- 1.1 ExportNZ/BusinessNZ **believes New Zealand's research sector needs to prioritise its** focus on creating world-class research and innovations in a small number of areas where New Zealand is already seen as a leading player.
- 1.2 Any new research strategies and programmes need to be co-developed in partnership with the associated industry or sector.
- 1.3 Any new research strategies or programmes need to have clear key performance indicators (KPIs) or outcomes to achieve, and the results of the research must be adequately assessed to these KPIs.

- 1.4 ExportNZ/BusinessNZ does not think it is beneficial for New Zealand to focus its limited funding and capacity on research and innovations that are already being developed in other parts of the world. Nor would it be beneficial for New Zealand to begin investing in areas where the country is already lagging behind its international counterparts.
- 1.5 The reality is that New Zealand is a small player on the international playing field. **While we do “punch above our weight” on the international stage, we do so with a comparatively tiny budget that needs to be allocated efficiently.**
- 1.6 We must therefore ensure that we are prioritizing our research, science, and innovation (RSI) sector and our Crown Research Institutes (CRIs) focus in areas that can create better outcomes for New Zealand society and a **bigger “bang for our buck” in regards to commercial opportunities.**
- 1.7 New Zealand is an open economy and plays an active part in a globalized system. Our RSI **sector should understand where its strengths lie and play to our country’s advantages.**
- 1.8 ExportNZ/BusinessNZ would welcome the RSI sector prioritizing more of their work on achieving measurable outcomes and innovation that can be commercialised.

2. Te Tiriti, Mātauranga Māori, and Māori Aspirations

- 2.1 ExportNZ/BusinessNZ welcomes the ambitions for Mātauranga Māori listed in the Green paper.
- 2.2 From our perspective, the Māori economy is a vital part of the New Zealand economy. **Māori hold large shares of New Zealand’s primary industries and are crucial to the New Zealand export sector.**
- 2.3 There are huge opportunities to enhance the capabilities and efficiencies of our Māori business and community sectors and **this should be done in partnership with Māori operators.** To have Māori-led innovation and development could lead to further growth in this sector of the economy.

3. Funding

- 3.1 While ExportNZ/BusinessNZ supports a performance-based model for funding tied to clear social or commercial outcomes depending on the research, this should be done via delivering results on key performance indicators and achieving pre-determined outcomes.
- 3.2 We also agree that CRIs should have the security of stable funding with regards to overheads and salaries.
- 3.3 We also understand that the grants system can lead to institutes chasing projects to survive, regardless of if they are the most suitable organisation to carry out the research or not.
- 3.4 **This can eat away at an organisation's productivity and can often be an inefficient use of time. Much like private companies bidding and putting in tenders for work, there is typically only one "winner" and can be an expensive exercise.**
- 3.5 ExportNZ/BusinessNZ would also support a funding strategy where revenue from commercialized intellectual property is then invested back into the institute or programme it is delivered from. A system such as this would provide a strong incentive and would reward successful research and innovation programmes with more funding to continue their work.
- 3.6 Part of the funding decision-making process needs to evaluate what research is best conducted in New Zealand and what is being developed overseas that can be imported or purchased from overseas.
- 3.7 If a cost-benefit analysis shows that overseas research and development is more effective both in research utilization and cost, then we must ensure that this is factored into account.
- 3.8 The core functions should link back into the priorities the sector outlines for itself, equally so the core function should take into account whether or not the research can be imported at a high quality. If so, then it is not a core function.

4. Innovations

Callaghan Innovation

- 4.1 ExportNZ/BusinessNZ would question some of the roles listed and responsibilities included in the paper for Callaghan Innovation.
- 4.2 **Namely, that it be an "advocate for businesses within government".**

- 4.3 As a government-funded organization, Callaghan Innovation should not play an active role in advocacy within the sector.
- 4.4 As an advocacy organization, ExportNZ/BusinessNZ understands the important need to separate advocacy support away from funding and financing as this can create a clear conflict of interest.
- 4.5 Government organisations also cannot **be seen to “play favourites” with individual institutes and/or businesses.**
- 4.6 We would suggest that the wording of this statement be carefully altered.

Stakeholder Relationships

- 4.7 The Green Paper acknowledges that stakeholder relationships can be constrained. This is certainly true in the feedback we receive regarding business relationships with CRIs and business participation in the public research sector.
- 4.8 Private firms can find it difficult working with public research institutes because they use different research models and have different motivations to those of research institutes.
- 4.9 Access to working with public institutes can also be difficult without a formal agreement. Many businesses find the bureaucracy required to work with the public sector overwhelming, too expensive, and too slow.
- 4.10 Private firms believe the perspective and approach from the institutes is different. For the institutes, they have a great idea that then looks for a customer. For businesses, it is the other way around – they have a customer that is looking for a solution.
- 4.11 The main issue, however, lies in the ability to commercialise the research and innovations developed by CRIs and university commercialization offices. Some of our members commented that Universities and Institutes want too much for their intellectual property (IP). If the value of the IP is \$1.00, the cost to commercialise it is \$100.00. This means that much of the research developed by the CRIs gets left on the shelf.
- 4.12 Often CRIs and universities will think that an initiative/product is closer to market than it actually is. There must be a more realistic approach to the valuation of IP coming out of our institutions and the time it takes to get to market.
- 4.13 If the institutes are going to develop better commercialisation pathways, they need to be consumer and business-led, not be institute-led. This will lead to more effective commercial outcomes that have a market readily available.

4.14 The Review could also look at the contributions of independent research associations within the RSI sector, particularly as they generally have a close working relationship to the industries their research relates to.

5. Research Workforce

5.1 One suggestion to enable better relationships between the public research institutes and private businesses is to encourage flows of talent and expertise between the public and private sectors. But we acknowledge that both sides need to get the incentives right to encourage talent flows.

5.2 It is unfortunate the Performance-Based Research Fund is not within the scope of this review, as it incentivises researchers to publish to progress their academic careers. Whereas publishing is the opposite of what **is required to protect a business' IP** in the private sector.

5.3 Researchers are also rewarded (career-wise) for staying within the University system and get no credit for private sector experience. This is not the case in Europe and as a result, we see much better interaction between industry and research organisations in countries like Germany, Denmark and the Netherlands.

5.4 Larger businesses prefer to develop their R&D talent in-house, so what they want from the university sector is a good supply of well-educated talent, in the right areas.

5.5 A submission made by the Royal Society Te **Apārangi in 2019 on a similar review into the RSI Strategy**¹ stated that the New Zealand university system was producing too many science graduates for available jobs in NZ. This led to these science graduates taking lab technician roles in the private sector. This meant overqualified staff for the role required and as a consequence led to the sector failing to retain staff at both the graduate and lab technician levels.

5.6 Businesses find that staff in the public research sector are not commercially minded or have no work experience outside public institutes, therefore struggle to see research and innovation from a commercial point of view.

5.7 A secondment programme could be of real benefit to both institutions and businesses. This kind of programme could help CRI researchers and staff gain effective business experience in a short amount of time, help them understand a business mindset, and help the sector work more efficiently with businesses.

¹ <https://www.royalsociety.org.nz/assets/documents/Response-to-MBIE-Strategy-2019.pdf>

5.8 Businesses will only utilize high-quality research and innovation and need the best expertise to work on projects to ensure they are globally competitive. Businesses see this as an issue as in their experience they are working with PhD students, who are essentially apprentices. While businesses are committed to developing new talent, they also need to engage with experienced research staff to ensure the quality of the research.

Yours sincerely,

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ABOUT BUSINESSNZ

[BusinessNZ](#) is New Zealand's largest business advocacy body, representing:

- Regional business groups [EMA](#), [Business Central](#), [Canterbury Employers' Chamber of Commerce](#), and [Employers Otago Southland](#)
- [Major Companies Group](#) of New Zealand's largest businesses
- [Gold Group](#) of medium sized businesses
- [Affiliated Industries Group](#) of national industry associations
- [ExportNZ](#) representing New Zealand exporting enterprises
- [ManufacturingNZ](#) representing New Zealand manufacturing enterprises
- [Sustainable Business Council](#) of enterprises leading sustainable business practice
- [BusinessNZ Energy Council](#) of enterprises leading sustainable energy production and use
- [Buy NZ Made](#) representing producers, retailers and consumers of New Zealand-made goods

ABOUT EXPORTNZ

ExportNZ is a national industry association representing a diverse range of exporters throughout New Zealand. ExportNZ is a division of BusinessNZ, New Zealand's peak business advocacy body.

We are a membership organisation and across our two brands have approximately 2,000 export members. We also have four regional partners: Employers Manufacturers Association (Upper North Island), Business Central (Lower North Island), Canterbury Employers Chamber of Commerce (Upper South Island) and Otago Southland Employers Association (Lower South Island) which between them represents the bulk of manufacturers in New Zealand.

Our value proposition for members is a mixture of policy and advocacy, education and training, networking, trade missions and inspiration through awards events and conferences.

