To whom it may concern

I have worked at a CRI since 1992, ie within a few months of CRIs being formed. I am engaged in applied to underpinning research. Due to my applied work, I have a close relationship with many industries and stakeholders. Due to my underpinning work, I have a close relationship with Universities. I have two Master Degrees (one from Germany, one from Lincoln University) and a PhD (University of Canterbury).

Allow me to address the green paper in terms of change I have seen in my 30 year research career, and in all fairness to my employer and 'bosses' my career is still strong and successful, but these are **my personal reflections**:

At the beginning of my career we worked on trust
At the beginning of my career we were not allowed to collaborate, now we must collaborate.
At the beginning of my career we were public good science, now we must make money
At the beginning of my career we were encouraged to publish (or perish), now we must sell our knowledge
At the beginning of my career overheads were 60% of my actual salary, now they are 200% of my median salary range
At the beginning of my career individual salaries were transparent, now they are secrets
At the beginning of my career we worked on trust, now we work on justifications and one way accountability and lots of forms
At the beginning of my career, as an entry technician, I could sign a simple 1-page contract worth 10k (which then was just above 1/3 of my salary), now I can sign nothing as a senior scientist.
At the beginning of my career we had administrative support, now we have business managers and I do the administration.
At the beginning of my career I was a few layers removed from the CEO, now as a senior scientist there are many more layers
At the beginning of my career I could do a project for NZ$20k, now we are not affordable to smaller industries
At the beginning of my career we could take risks, now we have risk mitigation plans
At the beginning of my career we could make small team decisions, now we decide by large committee
At the beginning of my career I could blossom, now I feel stifled
At the beginning of my career I would recommend science a wonderful career path, now I don't
At the beginning of my career the world was my oyster, now I am cynical (and I wish I was not)
At the beginning of my career FRST was small, now MBIE is a beast
At the beginning of my career we worked on trust

We worked on a trust basis, inherited form DSIR and MAF. This has been eroded on many levels, within CRI and within CRI-government funding agency. Industry still trust us individual scientists.

I have always collaborated, nationally and internationally, even when it was less or not encouraged. As you may well be aware CRIs were formed to increase competition.

The green paper asks for suggestions how we should go about the **funding of science**. What worked for me and my industry sector was the ability to align our FRST money with industry funding. Similarly the SSiF sector aligned research was equally successful by underpinning applied research. Ie CRIs working in the H1 and H2 horizons with some outreach into H3, universities working in the H3-H2 horizons with some outreach into H1. Now we are all meant to work in H3 horizons according to MBIE.

As a migrant to this country, what is it that NZ needs? NZ has not become a banking haven like Switzerland, not a manufacturing country like Vietnam, not a knowledge hub like Sweden but remained a producer of primary industry goods and tourist attraction. So what do we need to maintain our productivity and environment for the tourists? Simple – put the clean and green back into the country.

How should we fund this: industry tax incentives for R&D, match funding 1:1 (trust that the industry that knows what it needs, but allow for creative freedom. We get the best results from passionate scientists, allow them to be passionate.)

Like University and MPI, put the CRIs at the same level playing field: Remove the need to include salary and overheads in our proposals. Fund the basic underlying costs of CRIs, infrastructure and tenure positions. A bit like the system in the USA. In my mind that works beautifully.

The National Science Challenges are a good example how NOT do research funding

The green paper talks about **Research hubs**, in some ways we have them already in the big centres between CRIs and universities. And yes this could be strengthened and improved and probably should be done for H2 and H3 horizon research. For us working I the regions, the opportunity to form strong industry and iwi alliances are also there. Some are being formed. Emphasis on the H2-H1 research. This does and should not prevent outreach from rural hubs into H3 and from the big centres into H1. Indeed outreach is needed and wanted for tech and knowledge transfer.

kind regards
and thank you for allowing me to share my thoughts
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