

Hello,

I would like to submit the following independent comment from myself on the Green Paper (see below).

Best wishes,
Karin

I will focus my response on the geosciences, which is my area of expertise. I will also approach my responses from an outsider's perspective (educated in 3 countries, worked in a fourth, now in NZ) who is not so familiar with domestic cultural issues.

On the 6 main focus points:

1. Focusing research on national goals.

This is a very interesting idea, which probably comes from the private sector, where people can be quickly trained and set loose on a set of problems as a team. This is not how scientific research can work, particularly on the timescales envisioned. Specialists require years of training. If the country does not have the required expertise to address a national goal, they will have to 1) bring in specialists from other countries and 2) train students and postdocs in that topic. This requires about 7 years, maybe longer. At that point, the national priorities might have changed. Asking all the CRIs, for instance, to focus on e.g. pollution for a number of years means the country risks losing their specialists with other skills, as they find their talents currently out-of-fashion. Then, when the priorities change, the country has lost resilience, ability to adapt, and possibly their connection with their former talent pool. Don't risk turning NZ into a research monoculture, imagine the consequences under changing environmental conditions!

National priorities are not necessarily a problem. Other countries do the same, in which they offer competitive funding to address specific topics of interest. These topics are decided by panels of scientists. Critically, they also make available competitive funds which do not come with conditions on topic. Also critically, they are not determined by political agendas. Academic independence is a crucial principle in establishing research priorities. Another is absolute transparency- all research must be open-access, fully transparent and directed by scientific excellence, not political interference or financial agendas.

2. In my time at GNS I have seen a conflict of interests which inhibits investments in Maori. This is the for-profit status of the institute, where research proposals which involve lucrative partnerships with heavy industry are favoured over research proposals which initiate partnerships with the education sector. This bottom-line approach means we do not reach out to classrooms, interns, etc. to the extent we might, and this hurts everyone.

3. A base funding model is critically needed. As is a move away from for-profit status for CRIs. This for-profit status has negatively impacted my ability to participate in international scientific bodies. It damages the reputation of the CRI research programmes as well as the reputation of individual scientists (I have seen this directly) and reduces the quality of the research, as managers insist on chasing highly paid industrial contracts over important scientific problems. The pressure on scientists to work as consultants might benefit the commercial sector over the short-term, but it hurts society as a whole over the long term, as scientists focus on small private problems rather than large public ones. I am discouraged from pursuing cutting-edge, unproven research in favour of scaling down

already demonstrated facts to NZ proportions. Management gives the impression they want to read about the topic in Nature first before approving the work, rather than being the first to publish in Nature. This conservative approach, I believe, results from the for-profit status of the institute.

Also, all work carried out by government-funded scientists and scientific research programmes must be fully transparent and available to the general public.

A note about Germany. When the national economic picture starts to look down, the traditional reaction of the government is to pump money into basic research and development- not applied research and development. It works. Breakthroughs are achieved, the results are shared out to the commercial sector, consultants fill the gaps. The economy thrives.

4. Siloed strategy and priority setting, fragmented roles hinder my research at GNS. Its really silly and needs to go. I am discouraged to develop work on a topic which is important and of which I am a world leader, because of fear it overlaps too much with NIWA. This is so silly. NIWA isn't even working on this topic! GNS is afraid of emerging opportunities, and frankly I will probably leave the country over this. Merging all the CRIs could help alleviate this problem, or at least relaxing the scope and mandates (Science crosses topics boundaries! That cannot be helped!).

Karin Kvale | Carbon Cycle Modeller

GNS Science | Te Pū Ao
1 Fairway Drive, Avalon 5010, PO Box 30368, Lower Hutt 5040, New Zealand