# President's column

The recent announcement of New Zealand's climate change target – an 11 per cent reduction below 1990 levels of greenhouse gas emissions by 2030 – has disappointed many New Zealanders. In a recent press release, the NZ Association of Scientists commented on the failings of the consultation process, including rushed timeframes and a lack of engagement by our Crown research institutes and universities. The disappointment felt by many reflects that 99 per cent of submissions were in favour of a more ambitious emissions target, and from that we may possibly conclude that the lack of scientific engagement did not hurt the nature of submissions; it is, however, still of concern that institutional priorities restrict the ability of many New Zealand scientists to engage in public debate.

This concern reflects, of course, the topic of our conference, held in April this year, on *Going Public*: on the ability and responsibility of scientists to speak out to inform the public. That we are concerned about this issue is not reflective of a lack of protections for whistleblowers, which it has been pointed out, exist within the Protected Disclosures Act 2000, so much as it addresses a question of scientific culture. The need for openness amounts to a concern for scientific quality: good science relies on critical re-evaluation of evidence, and on professional respect for differing points of view. These requirements, which are indeed captured by the current Code of Professional Conduct and Ethics of the Royal Society of New Zealand, do suggest that more open discussion of scientific issues is always to be desired.

A separate issue is the 'gagging' of scientists on matters of public concern, and most often this issue seems to come back to environmental issues such as water quality, or the Ruatanihwa project. These concerns are often framed as being due to commercial interests that wish to purchase data that supports their business needs. However, this is not so much the issue: in a world in which government or university scientists are well resourced to study environmental issues, the needs of industry to acquire data on questions of limited scope and transferability would be far less of a concern.

Public funding of science is crucial for a balanced environment of scientific enquiry: as worthy as the current push to increase the economic impact of science is, this remains true. We know that New Zealand is a chronic underfunder of science, according to OECD standards. We know that this underfunding is an even more severe issue in the case of business-funded R&D than for government funds; however, this recognition is not a justification for the current cannibalisation of science funding by the private sector.

Recent criticism of the Marsden Fund in the media is a not unrelated issue; it was misdirected, to a large extent, since the pressures that the Marsden Fund operates under are exerted on it by the rest of the Science and Innovation system. It is 14 months since the National Statement of Science Investment was released; almost a full year has passed since submissions were made. So where is our National Science Strategy at?

One victim of the rudderless nature of our science system is the cohort of scientists at Landcare Research New Zealand Limited who have been made redundant in order to be replaced by scientists in areas of 'new demand'. This is a sector in which demand is strongly influenced by government policy – in particular, reducing government funds available to support environmental research projects, which are now less than a third of what they were in 2010, without adjusting for inflation. Issues of 'demand', therefore, need to be addressed in a strategic, evidence-based way, to avoid serious implications for the balance of science that is carried out in New Zealand, due to the ongoing shift towards commercially-focused research.

The default strategy for science currently seems to be to wait and see what happens with the National Science Challenges. As constructive as we would like to be with our criticisms of the Challenge funding and process, this is simply not good enough.

A strategy for New Zealand science needs to grapple with exactly the same issues that were raised within the process of setting up the National Science Challenges. It needs to consider the balance of science that is done in New Zealand – environmental and technical research, public or privately funded – and it needs to understand the relationship between different funding mechanisms and the kinds of science that they support.

It needs to consider the ways in which scientific questions are posed, and addressed, in different parts of our science system. It needs to consider the people asking, and answering, those questions, and what biases in their funding or institutional support might mean for the objectivity of the answers that are obtained. Our science system, above all, needs to be more self-aware: it needs to acknowledge that science is not mere knowledge, but a means of gaining knowledge.

We need a strategy for people engaged in science. This is tricky: one thing that has convinced me of this has been listening to discussion of the concerns of postdocs in the USA, where the incentives are quite the inverse of what we have in New Zealand, and this has resulted in a 'postdoc glut'. What does this mean for scientists in New Zealand, who are exposed to an international job market but do not have the same opportunities for training available to them here? We need to pay attention to the current reality of scientific careers; to do otherwise is an abdication of responsibility by our science funders, amounting to a deliberate waste of talent and national capacity.

We need a strategy for New Zealand universities. Have the Canterbury earthquakes been used as an excuse to test out the merits of a two-tier system for our universities, without discussion or strategy? The Education Amendment Bill, and the prospective loss of student, Māori, and broader perspectives from the governance of our universities, is a change that will have significant long-term impact.

We need a renewed strategy for the Crown research institutes. Does their independence from government have any kind of reality in the funding landscape in which they operate, and with their core funding again under review? Have they lost their ability to keep the public good at the forefront of their scientific mission, as brand trumps sense of purpose? In a recent presentation to the Science and Innovation Select Committee on the proposed restructuring of AgResearch Limited, Dr David Clark MP pointed out that 53 per cent of scientists at AgResearch have been employed for less than two years. This is an excellent illustration of the connection between government funding, the demographics of science, and the productivity of our scientific institutions.

This is why we need a national strategy for science.

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President