

Memo

To: Hon. Pete Hodgson, The Minister of Research
Science & technology
Murray Bain, CEO FRST
Dr Helen Anderson, CEO MoRST
Tony Brenton-Rule
Members of CRAG
Business NZ Council and Policy Staff
Dr Paul Hutchison National Party Spokes person on Research
Science & Technology
Scott McHardy; Counsellor, NZ High Commission Canberra
Dr John Larkindale, High Commissioner, NZ High Commission
Canberra

From: Phil O'Reilly

Date: 1 April 2008

Subject: **Australian Visit – Innovation Review**

Action Required:

Introduction

I was in Australia during the week of 10 March to 14 March. During that time I meet with two members of the Australian Federal Governments recently announced Innovation Review Taskforce.

The purpose of the visit was to find out a little more about the innovation frame work in Australia and how we might take advantage of potential changes in the Australian environment.

I have taken the liberty of copying this report widely including to the National Party Spokesperson on Research, Science and Technology in order that the points that I make are noted as widely as possible. Clearly innovation success is a matter that all political parties and all stakeholders will be interested in.

Contacts

I met with the following contacts when I was in Australia. Ms Narelle Kennedy, Chief Executive, Australian Business Foundation and Jane Niall, Deputy Secretary, Business Development, State Government of Victoria. I also met with the Australian High Commissioner, Dr John Larkindale and Mr Scott McHardy Counsellor, of the New Zealand High Commission in Canberra.

It is very likely that the various members of the Australian Innovation Working Group will either come to New Zealand or seek further input from New Zealand players. It is

certainly my recommendation that we should engage meaningfully with the Australians.

My clear impression is that the Australians are open to New Zealand becoming more engaged with the Australian Innovation process given the significant cross over in ownership and desire for competitive advantage in world markets.

The material set out below is my impression of the statements made by the two people I interviewed about the Australian Innovation Review, they should not be attributed directly to the people who spoke to me because they are my impressions of what they said and they are written for a New Zealand audience.

Why the Review?

The Rudd Federal Labor Government is currently reviewing an awful lot of things in Australia. (This is, in fact, causing some public disquiet as well as disquiet among various bureaucracies about the scale and nature of change and whether or not Rudd can actually deliver on the outcomes of all of the reviews he is carrying out.)

The first point to make is that the review is happening as much as anything because the Government has changed. As well as that though, there is a view amongst Rudd's policy advisors that the previous Government has frittered away the economic gains of the last ten years. Productivity has been underpinned by a commodities boom but what happens next?

The Rudd Governments' view is that Australia's ongoing competitive advantage will be based on education and skills and that innovation will underpin changes in productivity. So a review is informed by the following three general issues:

1. The Governments' commitment to an "education revolution."
2. Perceived fragmentation of programmes between states and federal government with a possibility of rationalisation of these programmes.
3. Research priorities for innovation These are not the same as national research priorities, the difference being that research, science and technology tends to be fundamentally a supply side activity whereas innovation is both supply and demand side driven).

The Importance of Building the Demand Side

Both people I spoke to made the point that traditional Science, Research and Technology funding tends to be supply side driven and supply side measured e.g. dollars spent as a proportion of GDP, numbers of patents, numbers of academics and so on. Government funding has traditionally been built around the concept that if you give researchers a lot of money they will come up with bright ideas and that industry will pick these up.

Increasingly, in Australia that model is only partially successful and in fact value also needs to be derived from demand "pull through." Or in other words, the applied use of smart knowledge. Research, Science and Technology is only one part of that equation and probably not even the most important. In fact, ideas generated for new knowledge usually don't come from Research Institutes but from customers.

Therefore the Australia definition of innovation - at least from speaking to the two participants - was more related to business transformation driven by customers rather than just from research, science and technology.

The Role of Government

Both participants made the point that the hard issue is to understand what part of this innovation system as defined above, is amendable to public policy actions. Participants made the point that the role of Government is to ensure that the innovation system is capable of supporting the innovation that occurs through structures such as:

- the science base
- the financial system
- international connections
- industry culture and agility
- industry connections
- skills
- institutions
- smart regulation

One participant made the obvious but insightful point that “deft policy making is required.”

Another definition of Governments’ role might be:

- Civic broker - offering civic clout, doing things only the Government can do.
- Being a responsive regulator - helping to lift standards but in an apolitical way.
- Being a demanding customer - not artificially creating markets but potentially creating innovation through demand.

Two good examples were used to explain this last concept. The Finnish Defence Ministry will occasionally over specify a contract in order to build a particular capability, and the interesting thing about his model was that the over specification content of the contract was not actually paid for by the Defence Ministry but by the Innovation Ministry. Another example of Government as a demanding customer given to me was the United States Small Business Industrial Research Program, where areas of competitive advantage were specifically invested in by the US Government with a view of building capability inside small companies. Those speakers made the point that neither of these particular models will work well if simply put in place without change into Australia or New Zealand. Nevertheless, the idea of Government acting as an informed and demanding customer thereby creating an opportunity to build an innovative capacity in the economy was being looked upon with some excitement.

Research and Innovation Infrastructure

At the request of New Zealand officials I asked about the role of the cooperative research centers in Australia and why they were being reviewed. One participant told me that they were being reviewed because of variability of outcomes from the centers. The concept of collaboration is good but “some of them you wouldn’t feed.”

Because CRC's need to pay their way, this minimises blue sky research and skews them more towards immediate outcome research and often they are run out of universities who seem to see them as just another funding source. So collaboration is minimised. The view is that maybe there are better ways to get collaborative activity than just CRCs. IP ownership has also been a problematic and investment is increasingly needed in the "institutions of engagement" (more on this below.)

The other participant was even more negative about CRC's than this. They were "a great idea in the early 1990's". This other participant called them "complex" and that otherwise good research has been beset by different IP regimes, difficulty of SME's to engage and difficulties in operate in any real sense because of the funding tranches that go for seven years and have to be reapplied for at that time with all the difficulty of holding on to good staff that this funding model might entail.

She also made the point that there were very good ones, for example the Department of Defence and some work in polymers, plastic and cellulose Overall they have probably outlived their usefulness as the most important way of building collaborative research activity.

The Institutions of Engagement

Probably the most valuable part of the conversation between me and the participants related to what one speaker called the "institutions of engagement". By which she meant the way in which, or the structure by which, industry and the research community could participate in a wider innovation framework as opposed to a research science and technology framework. (The latter being supply side driven, the former being demand and supply side driven.)

For example, one of the speakers made the point that some of the foundations that need to be covered for such engagement to occur will relate to IP ownership and investment in these various institutions of engagement.

I was pointed to some work by John H Howard (no relation) on industry collaboration. Mr Howard works for the Council of Humanities, Arts and Social Sciences (www.chas.org.au).

One of the participants told me that the "institutions of engagement" previously tended to be industry action agendas which brought industry players together to work out the future. She made the point that some of these have been useful foresighting exercises, but there was no resourcing to do anything with the action agenda. She made the point that this underlines the potency of the clout of Government (and for that matter institutions like Business NZ, CRAG, Industry Associations and the like) because these organisations with civic clout make it okay for competitors to talk to each other and to work out the difference between individual interest and national interest. One facilitates market success and the other fosters national success.

The other participant made the point that the role of Government is to ensure that the innovation system is capable of supporting innovation that occurs. In that sense she believed that there was a strong need for reform of the innovation system. Taking a look at the hard market approach and being more supportive of it. She made the point that there was a need for properly structured markets and a need to understand

the drivers in those markets to ensure innovation occurs. For example innovation in the health sector might be driven by central ownership of patient records for chronic disease because the health system is currently set up for acute illness where chronic disease requires long term management over a variety of professionals. Government's role may be to ensure that patient records are able to be accessed more easily by various health professionals to enable innovation to occur. In this sense the health market is supported by intelligent regulation to ensure innovation occurs.

To use another example the participant made the point that in her view, climate change policy certainty would tend to drive innovation in that space.

So in her view the priorities for an innovation system would be:

1. Sort out markets
2. Provide Information
3. Only then regulate for market failures

She made the point that this was the first time that participants had thought about using market theory innovation as opposed to simply funding science

The previous reference to innovation priorities became important at this point. If a particular Government for example, was to say that the health sector was an innovation priority or that sustainability and climate change were innovation priorities then that would trigger a market analysis of what is going on in those particular spaces with a view to understanding how to invest in the infrastructure of communication as well as ensuring the Government does what it needs to do to support innovation.

One last point under this space was that a number of participants I spoke to (not only the two formally in this interview process but others who I met through the course of the week in Australia) talked about an operation called Innovation Exchange which is run by a gentleman by the name of Grant Kearney. This pays for trusted intermediaries in areas where market failures exist. For example, company A and Company B may not know that they could work together collaboratively and innovatively through the use of applied science.

In this case, Innovation Exchange provides a trusted intermediary to work between them or indeed to find a partner company if it does not appear that one exists for a particular innovation that a company may have established. This looks like a public/private partnership in the sense that it is privately run but often funded by Government where they see market failure occurring.

I recommend that CRAG have a close look at this venture.

The Tax Credit

Both participants were suspicious of the tax credit. One said that the Australia tax credit system providing a perverse incentive because it favoured particular types of innovation, particularly those in the manufacturing and goods sectors, as opposed to the services sector which missed most of the opportunities for tax credits. Other

participants made the point that eligibility rules clearly needed an overhaul, most activity was at the “D” not the “R” end and that trying to define additionality was a real issue. Both participants believed that the tax credit was not the whole answer to building an innovation frame work in Australia.

Conclusions and Recommendations

1. It is clear that Australian innovation thinking is somewhat ahead of New Zealand in this space. Australians are clearly thinking about innovation in a much more wider ranging way than New Zealand does, and has been doing so for some time. If innovation is, as the speaker suggests, primarily driven by customers and is successfully applying smart knowledge, then we need to think far more widely about innovation than simply thinking about it as a better connecting of research and business.
2. I was particularly taken with the thought of the need to invest in the institutions of engagement. This is what CRAG has been doing in a small way for some time now. My thoughts coming out of these two interviews is that we probably need to think about this in a much more structured way. At least a couple of ideas come to mind. Firstly, the use of innovation priorities. Secondly, thinking about the innovation exchange idea that I have referred to above and thirdly thinking much more about what markets are operating in this space of innovation that is a target for Government activity and what can be done to support markets better functioning rather than thinking about simply funding research and hoping that industry will pull this research out of the research institutions.
3. The institutions of engagement are multitudinous and we shouldn't lock ourselves into a particular model. The cooperative research centres idea in Australia clearly has its critics and it is particularly telling just as we are considering it to be a good idea, that one of the participants called it a great idea for the 1990's.
4. We should ensure that we are in touch with any research in Australia on industry collaboration and in particular the work by John H Howard which was recommended to me and of course the Innovation Exchange - Mr Grant Kearney. At the very least we should be in contact with these two people to understand what they are doing and how we might be able to learn from it.
5. We should continue to monitor the tax credit as it comes on stream in New Zealand to ensure that it applies across all sectors of the economy and that real additionality occurs as a result of its use. We should recognise that it is not the whole answer.
6. The Australians are also struggling to unlock combined SME investment in innovation and in fact, were quite interested in the work that we were doing in the marine sector through CRAG. We should be ready to share these ideas with Australia if necessary.
7. The Australians are keen to hear from us and to engage with us more in understanding innovation frameworks and how they might be used for national advantage. I think this is a clear opportunity for us to work closely with the Australians and I recommend that we do so actively.