

New Zealand Association of Scientists: Commentary on the political parties' 2008 RS&T policies

The New Zealand Association of Scientists (NZAS) is an independent association of scientists concerned with communicating science in New Zealand. NZAS seeks to increase public awareness and expose pseudo-science, debate and influence government science policy, improve working conditions for scientists, promote the free exchange of knowledge and international co-operation and encourage excellence in science. Recently we have been involved in communicating the aspirations and concerns of New Zealand scientists and technologists to the people of New Zealand and analysing what will keep this workforce motivated and contributing effectively to the welfare of the nation.

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Over many years, the New Zealand Association of Scientists (NZAS) has reported the disquiet of the research community over the way the Research Science and Technology (RS&T) system is being run. We've noted the sources of this disquiet which include: a contract-driven high-compliance funding environment; increasingly fragmented funding sources and the increases in bureaucracy that went with this; the policy neglect of the health and environmental research sectors; the university and Crown Research Institutes (CRIs) increasingly brought into conflict by the way the science system is being run; commercially oriented CRIs and the *ad hoc* funding of particular areas as problems arose. Of course, these are only symptoms of a deeper malaise. Analysis of the underlying causes and solutions to these problems are critical to the future health of the sector, but the answers may be difficult and even controversial.

As at 20 October 2008 we have received policies/statements from Labour, National, United Future, the Greens, the Maori Party and New Zealand First. Readers are invited to refer to our website, www.VoteScience.org to check for any updates.

What are the basic qualities we will be looking for looking for in the political parties' policies?

1. That each party has a policy that reflects its wish to govern or influence government across the whole RS&T portfolio.

Clearly the **Labour Party** has such an all encompassing policy as it is running the RS&T system currently. The documents we have access to are a 'Science and Innovation Policy Statement'¹ released 17 October and the Government's Agenda document 'From Strength to Strength'², which was released in July 2008. The first document mainly lists claimed achievements, while emphasising the government's commitment to the 'Fast Forward' fund³ and a 15 % tax credit for private sector R&D expenditure. The Labour-led Government has increased RS&T funding by 90% in dollar terms but unevenly across research sectors. Although improving, New

¹ See page 35

² <http://www.morst.govt.nz/publications/a-z/g/govt-agenda/>

³ <http://www.maf.govt.nz/mafnet/new-zealand-fast-forward/index.htm>

Zealand's investment in RS&T is still well below the western world average: According to the Science and Innovation Policy Statement, public sector investment is about 75% and the private sector 33% of the western world average. The Labour-led Government claims 75% increase in the total research and development workforce over the past decade. The 'Fast Forward' fund is projected to leverage matching private sector funding up to \$700m in the agricultural sector of the economy. A 15% tax credit⁴ introduced earlier this year for the private sector undertaking qualifying R&D includes loss making start-up companies not yet paying tax. The tax credit policy is projected to lead to 'foregone revenues' of \$330m per year in 2011-2012.

The **National Party** appears to have a good overview of the RS&T system although there is not much detailed mention of the university sector. They have noted things that seem to be going wrong with the RS&T system and have proposed some solutions. For example, they propose more secure funding for CRIs which they argue will make up about 14% of CRI's revenue in the next 3 years. This increase is to be funded by reversing the R&D tax credit policy of the Labour-led Government. They propose to achieve better flexibility and collaboration between CRIs and universities. The reasons offered for increasing stable funding for CRIs include the need to improve the employment environment to attract and retain quality staff, to promote collaboration between CRIs and universities, and to lessen the administrative burden of the current funding system. National argues that New Zealand has an 'extreme' level of contestability amongst developed countries. They propose to find ways to give greater support independent research organisations that receive contract work through government funding. The present government's 'Fast Forward' fund will be wound up and the same quantum of money directed to three specific areas: reduction of greenhouse gas emissions from livestock; Vote RS&T primary sector and food research, and to research consortia for primary sector and food research. There is specific mention of boosting climate change research although this is limited almost exclusively to emissions-reducing technology in agriculture through the creation of a 'virtual centre' either university- or CRI-led. The establishment of a Prime Minister's prize that includes a multi-year grant to further research of the recipient is announced. Finally, the appointment of an adviser to the Prime Minister and Cabinet is proposed as a measure of the importance National attaches to what they call 'science at the heart of government'.

The science policies of the minor parties tend to reflect their special interests and do not indicate how they would adapt the whole RS&T system to meet their principles.

ACT and the **Progressive Party** have no specific RS&T policy.

United Future's policy, although brief, offers a broad view of the RS&T system including attention being given to economic and environmental sustainability. This policy appears to be a detailed response to the report⁵ of the Royal Society of New

⁴ <http://www.ird.govt.nz/rd-tax-credit/>

⁵ 'A Science Manifesto or plan for the recovery of New Zealand science', see

http://www.royalsociety.org.nz/Site/About/Our_structure/advisory/nsp/default.aspx

Zealand's National Science Panel although exactly how these policies would be carried out is not addressed.

The **Green Party** has a detailed policy. It includes the principle of 'public good' research being directed at 'public good' outcomes. They would emphasise projects in multidisciplinary environmental and social issues which aim to improve the quality of our lives and to 'sustain and replenish the web of life'. Although fundamental and applied science research would be publicly funded, private funds would have to be used to develop the resultant technologies. Emphasis would be put on 'appropriate technology' defined as that which helps us 'do more with less for longer'. Research for industry would have to take into account sustainability as a key criterion before funds would be made available. A change to funding mechanisms is advocated and includes a mix base funding and contestable pools (the latter for 'blue skies'; industry research and for fellowships). Funding of researchers salaries would be out of base funding as a mechanism for increasing security for scientists. The funding that sector-based

RS&T will get from the public purse, on a rolling five year basis, will be determined in consultation with science providers, those who make direct use of RS&T, and the community. Institutional arrangements are evaluated and it is concluded that the CRI model, with a profit motive, is not appropriate to get the best from the science community.

New Zealand First's policy on RS&T includes doubt about the value of the present government's expenditure and focuses entirely on research relating to the economy. They believe there needs to be a balance between genuine blue sky research and research that leads directly to economic advancement. They also believe that New Zealand should focus its limited research funds where it has competitive advantage and expanding export potential. They note the low (1.2% of GDP) total (government and private sector) research and development expenditure relative to the OECD average of 2.2%. New Zealand First is in favour of tax incentives for business, focusing the public good research funding on innovation and increased export earnings, tertiary education scholarships for courses where skills are in short supply and retaining the best students. There are a number of other business related provisions.

Maori Party policy development is guided by their commitment to a set of nine kaupapa or values that arise from a Maori world view. As regards RS&T, four of these values are specifically identified: the value of rangatiratanga or including Maori in policy-development and decision-making for public research; mana whenua giving expression to the authority that local Maori have over their wellbeing, ancestral lands and resources; kaitiakitanga such that that any research, development and application of science or technology upholds the integrity of the natural environment; protection of whakapapa that sustains the network of ancestral links that give a Maori worldview meaning. The Maori Party indicates that upholding this value does not translate into a Maori-led ban on all blue-sky research. No detailed policies, as such, are presented but the four values offer guidance in terms of purpose and taking due caution.

2. That each party has paid attention to the increasing disquiet about the RS&T system amongst scientists.

It appears that most parties (apart from New Zealand First and the Maori Party are aware of some of the concerns of researchers, although Labour has not attempted to evaluate the effects of the way it has run the science system. Labour appears to consider their record is defensible and speaks for itself.

3. That each party provides evidence that they understand the RS&T system's strengths and limitations.

It is not clear that all parties have a comprehensive understanding of how the science system currently works and that they are aware of the problems they might inherit. National seems to have a good level of general awareness and apparent engagement with the sector. The Greens have a well thought out program but may be unaware of the extent to which CRIs have become dependent on consultancy and non-public good work. Some CRIs are much larger than any government would be willing to fund in terms of salaries of all researchers. Also, the Green Party implies a significant realignment of industry-related CRIs, but they provide little insight into how they would manage changes from where the system is now to how they would like it to be configured and run. New Zealand First appears to be unaware that there are environmental and health sectors in the RS&T portfolio. Labour's statement makes no evaluation of the weaknesses of the RS&T system.

4. That each party/coalition is sufficiently motivated to address fundamental problems in the RS&T system.

The extent to which we trust a particular party to recognise and fix what is wrong, depends on their track record. The Labour Party does not acknowledge that there is anything fundamentally wrong outside the deficiency in public and private sector funding relative to the 'western world average'. Consequently, we cannot be sure that they would attempt to correct what NZAS considers to be other fundamental problems. National has carefully promised no extra funds other than those they can redirect from elsewhere in present Labour spending promises (opening the books has shown that little new money will be available for some considerable time). The Green and Maori Parties could have some influence over science policy, but since they have not elaborated how they would transition the system from one state to another, this may be limited. On the basis of policies provided, it appears the best we can expect, in these uncertain economic times, is an improvement in science strategy development and greater institutional efficiencies.

NZAS likens the science system to a large tree with the roots being the mechanism for taking up funding, the trunk representing science capability and longer term underpinning science, and the leafy branches as research outcomes. At the moment there is a tendency for the government to concentrate on their favourite research outcomes (leafy branches) while neglecting the workforce/underpinning research, the impediments to the roots taking up sustenance (funding) efficiently, and the necessary

integration of all these components to ensure a reasonable level of efficiency and return on overall investment. The underpinning programmes have languished often because they are deemed not to be ‘new work’, reflecting a mechanistic behaviour of the system in the absence of a strong, integrated science strategy that recognises the role of all parts of the system. Using this analogy, we remain concerned that the leaves and branches will wither if there continues to be neglect of the roots and trunk. NZAS will look for an integrated strategy and will judge any new management of New Zealand’s RS&T system by the way the ‘roots’, ‘trunk’ and system integration issues are dealt.

We invite you to make up your own minds by reading the following contributions or following the links to the indicated documents. We also invite readers to join the NZAS and help us further develop our analyses of the science system as a basis for re-invigorating the research ‘tree’ in all its diverse aspects.

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