The Treasury

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[1] 9(2)(a) - to protect the privacy of natural persons, including deceased people

[2] 9(2)(f)(iv) - to maintain the current constitutional conventions protecting the confidentiality of advice tendered by ministers and officials

[3] 9(2)(g)(i) - to maintain the effective conduct of public affairs through the free and frank expression of opinions

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[8] 9(2)(h) - to maintain legal professional privilege

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In preparing this Information Release, the Treasury has considered the public interest considerations in section 9(1) of the Official Information Act.

Vote Research, Science and Technology

Four-year Budget Plan

Version 1

24 November 2010

Submitted by:

The Ministry of Research, Science and Technology[1] (MoRST)

[1] *Note – on 1 February 2011 MORST will amalgamate with the Foundation for Research, Science Technology to form the new Ministry of Science and Innovation (MSI). References in this document to "the Ministry" should be read to mean either MSI or MORST as the context requires.*

Section 1: New Baseline and Summary of Changes

Direction of Change

For Vote Research, Science and Technology (Vote RS&T), the next four years provide an opportunity to develop a compelling pathway for New Zealand to become an international innovation leader. The previous two years of increased investment and structural reform are beginning to make a difference, especially to business research and development. However, much more is needed.

In the past year the Minister of Research, Science and Technology (RS&T) has initiated the most significant changes in the science system for 20 years, centred on a new set of science priorities, reform of CRIs and the creation of a new Ministry of Science and Innovation. These changes are laying the foundation for a step up in the contribution of science and innovation to the economy over the next four years, and we will be working with our Minister to ensure that we gain the maximum impact from those changes.

As part of this we will continue to work with our Minister to place particular attention on lifting private sector investment in R&D – our private sector continues to invest well below our comparator countries – and improving technology transfer to the private sector. This includes ensuring that the new grant and voucher schemes, along with the existing schemes and the national centres of commercialisation have maximum impact with available funding. Their implementation and impact over the next four years will be carefully evaluated with that in mind

The Minister also intends to developing new support for science and innovation capability, such as the new entrepreneurial fellowship scheme announced in the 2010 Budget, and will be seeking maximum value from contingency funding set aside in Budget 2010 from reprioritised RS&T funds to sustainably maintain and build world-class science infrastructure such as the advanced research network (KAREN) and a new High performance Computing network.

The Minister's third area of focus will be around deepening international science and innovation relationships. **[2]**

[2]

Overall Impact

Operating	**Impact ($000s)**				
	2010/11	**2011/12**	**2012/13**	**2013/14**	**2014/15**
Current Baseline	765,394	760,536	770,908	772,928	772,928
Cost of new/increased activities	0	0	0	0	0
Amount reprioritised	*(130)*	*130*	*0*	*0*	*0*
New baseline	765,264	760,666	770,908	772,928	772,928

Capital	**Impact ($000s)**				
	2010/11	**2011/12**	**2012/13**	**2013/14**	**2014/15**
Capital proposals seeking new funding in Budget 2011.	*0*	*0*	*0*	*0*	*0*
Capital proposals seeking decisions in Budget 2011 funded within baselines.	*0*	*0*	*0*	*0*	*0*
Total capital intentions	*0*	*0*	*0*	*0*	*0*

Section 2: Vote Priorities and Pressures

1. *What you intend to achieve over the next four years (as outlined in the Minister's priorities letter agreed with the Prime Minister and as presented to ECC).*

The Prime Minister has placed science and innovation at the heart of the economic growth agenda. To date, the Minister of RS&T has focused on delivering a clearer set of priorities for future investment, improving the contribution of the Crown Research Institutes to economic growth, and developing a coherent set of business R&D support schemes that work across the spectrum of business needs. This will achieve a more transparent and strategic linking of science investment and capability with Government policy, and accelerate the uptake of technology into businesses, industrial sectors and the economy.

The Minister has also increased support for early to mid-career researchers, so that new capability is developed in the science sector and our best and brightest are attracted to New Zealand-based careers. This will create a sector that is better able to meet future science and innovation needs for New Zealand.

Cabinet is also due to approve a coherent infrastructure package that will create a National High Performance Computing Capability, and commit funding to the Kiwi Advanced Research and Education Network (KAREN). This establishes and maintains a world-class underpinning research infrastructure, designed to meet future data transfer and computational needs for all New Zealand.

The demand for the business R&D schemes developed for Budget 2010 is very high, and private sector investment is building momentum. **[2]**

Other reforms (new priorities, CRI reforms) and changes to the PBRF provide further opportunities to align the science sector with business innovation.

There are some important opportunities to improve science and innovation capability that links to market opportunity and accelerates product development. The Entrepreneurial talent development scheme announced in Budget 2010 is to be implemented soon. **[2]**

Progress has been made by building a bilateral Strategic Research Alliance with China. **[2]**

[2]

2. *How these achievements link to the Government's priorities.*

Science, Innovation and Trade is a theme within the Economic Growth Agenda. Within that framework, Science and Innovation make contributions to Minerals and the Primary Sector food innovation, and has a specific focus on improving innovation and growth in the High-Value Manufacturing and Service Sector. Future improvements and investment in business R&D and science and innovation capability would support these sectors.

[2]

3. *Relative to Government priorities, identify the lowest value programmes within the Vote(s).*

In Budget 2011 there was a rigorous re-prioritisation process of Vote RS&T that freed up $109.8 million over four years to support Government priorities. These include new schemes to lift business R&D, improve technology transfer between public and private sectors and implement new fellowships to attract the best and brightest scientists to New Zealand careers. This also supported priorities outside the Vote such as the Global Research Alliance and the Food Innovation Network of New Zealand.

The Minister will continue to look for opportunities to reprioritise funding where that supports a strategy to make New Zealand a smarter and innovative country investing at levels more in line with our comparator countries.

Departmental savings are expected over the next four years from the establishment of the new Ministry of Science and Innovation. These will be fully quantified once budgets for the new Ministry are established and agreed.

4. *The major pressures facing the Vote(s) over the forecast period. Where possible these should be quantified.*

The new business R&D schemes are subject to heavy demand, and will require significant rationing to stay within appropriated levels. **[2]**

For example, approximately 28 out of 53 companies will receive the new Technology Development Grant this year. It is expected the declined companies will rebid for the 2011/12 allocation. In the meantime they will repackage their proposals seeking a TechNZ 50/50 project grant. Many of these applications will be attractive and eligible for TechNZ funding as these companies are all R&D savvy, have R&D intensities greater than 5% and are experienced in undertaking R&D programmes. The funding appropriation for TechNZ will be fully utilised in 2009/10 year and available funds for 2010/11 will be well short of demand.

Demand is also expected from the new national network of commercialisation centres and the pre-seed funding they will be allocating in future.

Longer term pressures include the need to maintain real levels of investment in nationally important capabilities (this may become an issue for CRIs over the next four years), and to support a broader and deeper base of socio-economic activity as the economy grows in real terms (this increases demand across the breadth of public and industry good investments).

The administrative costs in the system (Ministry and funding agencies) is relatively small (<5% of the total Vote) and will decrease with the formation of the Ministry of Science and Innovation.

5. The drivers of costs in the Vote(s) (e.g. inflation/price pressure, demographic changes, one-off pressures).

Costs in the Vote RS&T reflect salary costs, other direct costs and the overhead costs of businesses and research organisations. Under the full-cost funding policy, these costs are managed by the organisations contracted to do the work.

Costs in Vote RS&T are also driven by the cost of providing and replacing infrastructure such as the KAREN high speed networks and large facilities such as access to the Australian Synchrotron and High Performance Computing.

Real growth in the economy as a result of higher production, productivity increases and population growth will stimulate and increase demand for science and research services.

6. The measures being put in place to manage these pressures within the Vote(s).

The CRI taskforce reforms will be helpful in the short term by empowering CRI boards to make more efficient resource allocation to meet their agreed outcomes.

The Business R&D schemes will need to be restricted to prevent overspending in those appropriations.

We will also work to ensure that we are leveraging as much private and industry sector support as possible.

7. What risks do these pressures create?

Many worthwhile business R&D projects will not be funded. If excess demands persists in the business R&D schemes, firms may reduce their interest in investing and the Government may lose the momentum currently generated to accelerate investment in R&D.

The ability for institutions to continue re-allocating or divesting resources to manage pressures in areas of public and industry good activity is limited in the absence of increased revenue. Vote RS&T has no mechanism to manage these pressures apart from increases in research funding via the annual Budget process.

Over time, the inability to adjust for cost rises will reduce the number and scale of research activities that the Vote is able to fund. Vote RS&T has a role in supporting Government priorities across many portfolios, each with their own priorities. The true cost increases of maintaining long-term scientific capability needs to be appropriately factored into Vote RS&T.

Overall, the real risk of not increasing investment over time is that we will miss the opportunity for New Zealand to lift its game more in line with our comparator countries and to compete economically.

Section 3: Proposed Changes for Budget 2011 (Reprioritisation)

We have recommended that the Minister agree to reprioritise uncommitted funding from the International relationships Fund (Strategic Relocation Fund) to Fellowships for Excellence to support the Entrepreneurial fellowship scheme as outlined in Section 2. The Strategic Relocation Fund Scheme will be discontinued at the conclusion of the existing contractual arrangements, and the full amount of funding transferred to the new Entrepreneurial Development Fund.

	Impact ($000s)				
	2010/11	**2011/12**	**2012/13**	**2013/14**	**2014/15**
International Relationships	(130)	(1,707)	(1,707)	(1,707)	(1,707)
Fellowships for Excellence		1,837	1,707	1,707	1,707
	(130)	130	0	0	0

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	($000)	($000)	($000)	($000)	($000)
Share Allocation	0	0	0	0	0
Operating					
Baseline (2010/11 OBU)	**765,394**	**760,536**	**770,908**	**772,928**	**772,128**
Changes:					
Centralised Saving					
Total Centralised Saving	0	0	0	0	0
Reprioritisation					
Support for Entrepreneurial Fellowships	-130	130	0	0	0
Total Reprioritisation	-130	130	0	0	0
Transfers Outside Vote					
Total Transfers Outside Vote	0	0	0	0	0
Total Changes	**-130**	**130**	**0**	**0**	**0**
Total Proposed Operating Baseline	**765,264**	**760,666**	**770,908**	**772,928**	**772,128**

[1]

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