

Annex 1 Line by line analysis of Vote Research Science and Technology (non Departmental Output Expenses) to identify savings and future Value For Money Reviews.

Output Expense <small>[Column deleted - Confidentiality of advice]</small>	Description of Research funded	Primarily funds	Size \$m GST Excl		Savings \$m GST exclusive				Comment	Funding Agent	<small>[Column deleted - Confidentiality of advice]</small>	Reviews and evaluations and resulting policy changes	History of growth	Analysis of relationship/boundary with other schemes and other Votes	<small>[Column deleted - Confidentiality of advice]</small>
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Group 1 - Promoting the advancement of knowledge and maintaining organisational capabilities															
Marsden Fund	Basic untargeted research fund based on excellence as main funding criterion. Marsden awards are prestigious and high profile both domestically and internationally.	Research projects in universities (86%)	37.878	0.000	1.000	4.000	4.000	Unwinding of 2008 Budget Initiative incremental funding	RSNZ		Yes - MoRST independent international evaluation completed December 2004; Nature and objectives of the fund reviewed in 2008. RSNZ have undertaken case studies showing how the Marsden Fund projects create value for economy and society. Fundamentally unchanged in nature since inception, increased focus on emerging researchers; new Terms of Reference October 2008.	Steady incremental growth over lifetime of fund. \$1-2m in both Budget 2007 and 2008.	Strong links with other universities funds invested by TEC. Supports research in CoRES, which are also funded on excellence. Strong relationship to general university funding (PBRF) as Marsden is prestigious fund which lifts research excellence and teaching activity. Within Vote RS&T strong relationship with Health Research biomedical research and NERF for research with potential economic outcomes.		
New Economy Research Fund	High profile, targeted basic research in biotechnologies, medical technologies, new materials and high tech manufacturing. Funds many of New Zealand's leading teams in both CRIs and Universities working at the leading edge in their fields internationally and generates novel IP.	Research projects and programmes in CRIs (63%), universities (34%) and business (3%)	71.597	1.778	5.000	7.000	7.000	Unwinding of 2008 Budget Initiative incremental funding (savings of \$19m over 4 years)+ one-off baseline savings	Foundation		Yes - interim review in 2001 and full independent international evaluation in December 2004/05 but was judged as too early to fully evaluate extent of economic benefit. One of the three Output expenses where negotiation is permitted under the Stable Funding Environment initiative (up to 30%).	Steady growth for priority areas under GIF (especially biotechnology); Budget 2007 new physical technologies; Budget 2008 - High tech platform transformational R&T (TRST) area.	Reasonable level of synergy with other funds for universities, but less than the Marsden Fund, as NERF is more strongly focused on economic outcomes. High Tech TRST links with MacDiarmid Institute CoRE (CoRES have academic/teaching focus and TRST's commercial firm focus). Within Vote strong links to Health Research in biomedical research with commercial biotechnology prospects.		
CRI Capability Fund	Funding for research that develops and maintains capability in CRIs over the medium to long term that delivers on each CRIs strategic intent.	Research capability in CRIs (100%)	50.612						CRIs		Yes - MoRST reviewed in March 2008. Used to be known as NSOF (non-specific output funding). When changed to CRI Capability Fund focus became supporting the building of strategic capability in CRIs over the medium/long-term. Each CRI determines how it uses its fund.	Original Cabinet minute sought to double NSOF and increase CRI Capability Fund to \$50m. This happened through successive increases in Budget 2005, 2006 and 2007.	No strong links external to Vote RS&T. Proportion of funding to each CRI is based on proportion of total government research income, so some links with MAF (Vote Ag Climate change funding) and Min Fish (Fisheries levy funding). Strong links within Vote RS&T core strategic research funds RfI and Environmental Research.		
National Measurement Standards	Funds New Zealand's obligations under the National Measurement Standards Act 1992 to provide standards and services that provide accurate measurements.	Funds Measurement Standards Laboratory at IRL directly	5.764						IRL-MSL		Yes - MoRST completed December 2002. Additional capital invested to allow for new equipment to be purchased.	Budget 2006 received additional operating and capital.	No overlaps with other Vote RS&T funds.		
Convention Du Metre	New Zealand government's subscription to the international Convention du Metre, an international convention that supports the national measurement standards applied in New Zealand.	Subscription paid to Bureau International Des Poids et Mesures in France	0.095						MoRST		Not applicable.	Set amount (Euros) per annum, fluctuates with exchange rate.	International subscriptions could be included within International Linkages (ISAT) funding.		
Group 2 - Developing Skilled people															
Supporting Promising Individuals	Scholarships and fellowships supporting research career development. Funds both top talent and capability gaps.	Stipends for individual researchers	18.907						Foundation, HRC, RSNZ, and Fulbright		Yes - MoRST reviewed SPI in October 2002 and June 2007. Foundation reviewed Bright Future Scholarship in 2001 and 2002. No significant changes made to existing initiatives but Advanced Skills Action Plan is intended to provide a comprehensive refocusing of this output expense.	Increases in Budget 2005 and 2006.	RS&T training and development via scholarships and fellowships crosses both Vote RS&T and Vote Education. The Advanced Skills Action Plan developed by MoRST in 2008 undertook some initial mapping of Vote RS&T and Vote Education schemes. Vote RS&T's focus is on post graduate and post doctoral career development whereas Vote Education's focus is on skills and training up to graduate level.		
Rutherford Foundation	A grant to the Royal Society of New Zealand for the newly established Rutherford Foundation. The foundation give awards to support the development of early and mid career scientists.		1.000						RSNZ		New in 2008/09.	New in 2008/09.	Potential overlap with other top talent awards		
Maori Knowledge and Development Research	Builds research capacity and capability for indigenous innovation, improves Maori health and social wellbeing; achieves environmental sustainability; explores the interface between indigenous knowledge and RS&T.	HRC's funds go primarily to universities, Foundation's funds go to both CRIs and universities	4.867						HRC, Foundation		Yes - Te Puni Kokiri undertook an effectiveness audit of the original MKDOC in 2003. Since the changes following alignment to Vision Mataranga there has not been an evaluation. It will be evaluated in 2009/10.	Transferred from Public Good Science Fund in 2000.	Overlaps with Health Research.		

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Engaging New Zealanders in RS&T	Activities that develop New Zealanders' awareness of the importance and value of science and technology to themselves and to New Zealand.	RSNZ for publication, promotional activities and materials to support the media. Universities for developing materials for the public, particularly educational resources.	6.071						RSNZ, MoRST	In the last few years MoRST has significantly consolidated the programmes supported and ceased funding adhoc of science promotion activities. There is also an audit underway of current contracts covering Science and technology medals, RSNZ Alpha and Gamma publications, Supporting Young Achievers (Realising the Dream), and Journals. A review of the Journals has recently been undertaken to improve value for money.	New activities like engaging New Zealanders on biotechnology were identified and funded as part of the biotechnology strategy.	No overlaps identified.		
Group 3 - Improving health and social wellbeing														
Health Research	Public good research that improves health and quality of life of New Zealanders. Funds both medical and public health research that understands the factors that determine and influence health status and health disparities of New Zealanders.	Research projects and programmes in universities (92%); mainly to Auckland and Otago.	62.955						HRC	Yes - independent evaluation completed in July 2004. Implemented full cost funding 2005-2007. Greater focus on 'research into practice' and increasing proportion of research directly aligned to health and disability priorities.	Transferred from Vote Health in 1997. Increase in Budget 2004, 2005 for full cost funding adjustments. Budget 2008 increase.	Biomedical research overlaps to some extent with Marsden Fund (both fund international excellence) and New Economy Research Fund (areas with potential for commercialisation e.g. biotech/drug discovery/medical devices). Public health research overlaps to some extent with Social Research and Maori Knowledge and Development Research.		
Social Research	Public good research that provides knowledge, understanding and insights into the longer term social issues and trends of importance to the well being of New Zealanders. Research is structured to align with government's social issues.	Research projects mainly in universities (87%) with some to private research providers	5.860						Foundation	Yes - evaluation of the Public Good Science Fund Society and Culture output area by MoRST in 1998 and a case studies evaluation of the Social Research output class by Foundation in 2002. Both identify strong achievements, specific benefits and capability enhancements of the research to end users - some with major impacts leading to central and local government and community benefits.	Transferred from Public Good Science Fund in 2000. Funding in this output expense has remained static for a number of years. Foundation decided to focus on 3 areas important for longer term research, as a way to maintain coherency of investment. Investment spans a wide range of research objectives and approaches. The output is producing quality research which is in some cases internationally recognised for excellence in social research.	Social Research overlaps to some extent with health research in the public health area.		
Group 4 - Solutions for a Sustainable Environment and Primary Industries														
Environmental Research	Public good research that enhances the understanding and management of New Zealand's environment.	Research projects, programmes and Outcome Based Investments in CRIs (87%); Universities (9%); and private providers (4%)	110.346	13.888	6.000	6.000	6.000	Unwinding of 2008 Budget Initiative incremental funding (savings of \$24m over 4 years)+ one-off baseline savings	Foundation	Yes - MoRST completed an evaluation of the environmental research output expense in Sept 2004, and evaluated the Envirolink scheme in 2007. The Foundation completed a review of OBIs in July 2005, with subsequent reviews of individual contracts in 2008. One of the three Output expenses where negotiation is permitted under the Stable Funding Environment initiative (up to 40%).	Transferred from Public Good Science Fund in 2000. Budget 2004 increase for databases and collections. 2006 for biodiversity/biosecurity ecosystems research. Budget 2005 to start Envirolink. Budget 2007, international polar year, climate change adaption research. Budget 2008 for long term OBIs, backbone, co-ordinated call in environment. Land and water quality and use.	Core funding for CRIs, links to CRI Capability Fund for environmental CRIs. Links with parts of RFI focussed on climate change, sustainable production, soil and water.		

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Research for Industry	Public Good Research that supports New Zealand's major industry sectors to innovate; manage resources sustainably; and/or develop quality products that avoid non-tariff trade barriers. Research supports New Zealand's Food and fibre-based industries: in areas such as food safety, animal health, sustainable and efficient production systems Support for Manufacturing and service industries including robotics, non-invasive scanning technologies, ICT and research to improve energy management and infrastructure. RFI also provides research to improve New Zealand's understanding of hazards and therefore prepare resilient communities that are aware of the impact of hazards and risks and can recovery from their impacts. Research also contributes to understanding how New Zealand can achieve improved wellbeing for its people through economic and technological development.	Research projects, programmes and platforms in CRIs (69%), universities (10%) and business (21%). Co-funding from industry is expected for some contracts with CRIs and universities.	213.096	2.389	4.998	6.918	6.918	Unwinding of 2008 Budget Initiative incremental funding (savings of \$15m over 4 years) + one-off baseline savings	Foundation	Yes - Foundation completed survey of users of Food and Fibre output in September 2004 to assess effectiveness of uptake of research in the primary industries; MoRST evaluated the Manufacturing and Services output in August 2003. Foundation undertakes technical reviews of all projects and programmes. Quality has been maintained over time by successive funding competitive funding rounds. One of the three Output expenses where negotiation is permitted under the Stable Funding Environment initiative (up to 40%).	Transferred from Public Good Science Fund in 2000. Increases have mainly been for specific activities: Budget 2003 climate change funding; research consortia. Budget 2006 Pastoral 21 and energy funding. Budget 2007 innovative foods, primary productivity. Budget 2008 - energy, backbone, hazards, renewable energy, deep geothermal, sustainable primary systems. Funding removed of \$3.5 million in 2008/09 for e-science	Core funding for CRIs, links to CRI Capability Fund for economic CRIs. Links with parts of Environmental Research focussed on climate change, sustainable production, soil and water.				
Group 5 - Improving Business Performance																
Research consortia (Part of RFI)	Co-funded public-private research partnerships focussed on R&D to produce commercial products. Well established mechanism for primary sector R&D and partnerships with industry bodies.	Industry groups and CRIs/universities in partnership	part of RFI	6.222	0.000	0.000	0.000	One-off baseline savings		Yes - MoRST completed in January 2006. Original settings around size, structure and co-funding requirements were changed in 2008 to encourage non-primary sector consortia to come together.	Steady growth since inception, to match demand from the private sector.	Research consortia has strong links to Research for Industry - Food and Fibre but focuses on company or industry levy driven research.				
Pre-Seed Accelerator Fund	Funds research organisations to take research results through to proof of concept and prototype development in order to attract private sector commercialisation partners.	Funds devolved to CRIs and Universities to fund projects	8.267	3.000	3.000	3.000	3.000	Unwinding of 2008 Budget Initiative incremental funding (savings of \$12m over 4 years)	Foundation	Yes - MoRST completed in November 2008. Foundation evaluated in 2005. Co-funding rules were relaxed when review found that research was still not far in developed or concepts proven for companies to invest in further development and commercialisation. Essentially this allows products to be developed to second prototype stage before significant co-funding by private investors is required.	Increased funding Budget 2006. Budget 2007 rephased funding to 2008/09. Reprioritised under spend in 2008/09 to e-science. Budget 2008 - baseline correction of \$3M p.a.	Extends to proof of concept research previously funded under RFI, NERF or other publicly funded research.				
Technology New Zealand	Supports firms to undertake R&D and technology development projects either in-house or through a research organisation; provides R&D project development assistance. Firms contribute 50% of the costs. The scheme is available on-demand.	Business assistance and research projects in firms (100%)	45.050	9.200	0.750	0.250	0.000	One-off baseline savings	Foundation	Yes - redesigned Tech NZ was launched in September 08 following review and sector engagement, in order to reduce complexity and complement other schemes. Foundation evaluated Techlink in January 2005.	Budget 2004 increase GIF. Budget 2005 increase. Budget 2006 PSFAF. Budget 2007 commercialisation and innovation. Budget 2007 rephased funding from 2007/08 to 2008/09. Grants for Private Sector R&D programme disestablished in 2008 in order to introduce tax credits. Reprioritised under spend in 2008/09 to R&D Facilitation and Promotion Service.	Links with other business assistance schemes funded by NZTE through Vote Economic Development. TechNZ reaches approx 400 firms, not all of which will be receiving NZTE assistance.				
Global Technology Partnerships	A service for New Zealand firms and organisations with technical and research capability to access market information and expertise to solve technical issues.	On-demand	0.400						Foundation	Yes - MoRST completed interim review December 2007	Established Budget 2006. Funding reduced budget 2008	Although discrete activity, there are links with services run by NZTE.				
R&D Facilitation Services	Services provided by Foundation that link firms and research organisations aimed at accelerating commercialisation of R&D	Foundation to run programmes for business and research organisations.	5.000						Foundation	No - Established in 2007	Increased in 2008	Links and potential overlap with services run by NZTE. Although allows Foundation to provide NZTE-like services rather than just allocate research funding. Link / overlap is at institutional Foundation/NZTE level rather than at fund level.				

