

MINISTRY OF  
RESEARCH  
SCIENCE +  
TECHNOLOGY



2008 – 2011  
STATEMENT OF INTENT

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OUR MAJOR OUTCOME IS:

# SCIENCE + TECHNOLOGY

## TRANSFORMING NEW ZEALANDERS' LIVES

### □ What do we do?

We provide high-quality policy advice to our Minister and manage the government's investment in research, science and technology (RS&T).

Our policy advice focuses primarily on the science system and how it operates within the wider innovation system to deliver benefits for New Zealand.

Managing the Government's \$725 million (total Vote RS&T) operating investment in research, science and technology means that we advise the Minister on priorities for investment, ensure there are strong systems in place so that the money is spent wisely, and then evaluate the results of the investment.

### □ How do we do this?

We provide focus, direction and co-ordination in the area where government and science intersect.

New Zealand's RS&T system is split into organisations that purchase research, those that carry out research and those that use it. These organisations are spread across government, higher education and the private sector.

We oversee the RS&T system to ensure it is delivering the results that government seeks from it. We also ensure the ideas and knowledge produced inform government decisions and policies.

We work closely with the other agencies involved in creating an innovative and productive New Zealand. We also contribute significantly to the Government's social, environmental and health goals.

### □ What is our focus?

Our focus is primarily, but not exclusively, on science and how the knowledge generated by it can be applied to benefit New Zealand.

Research, science and technology extend across a vast area and there are other government agencies that have an interest in this area. Our unique role is that we focus on the creation of new scientific knowledge, while recognising that this means we also have an interest in associated areas of research, technology and engineering.

# Our core business

We provide advice in two main areas:  
policy and scientific/technical.

## □ Policy

Our advice covers the opportunities and issues that affect how New Zealand manages the delivery of RS&T. This advice ensures that RS&T delivers maximum benefit to New Zealand's economy, environment and communities. We provide advice on areas such as the structure of New Zealand's research system and investment mechanisms, and the contribution of science to the innovation system and New Zealand's economic growth.

### Managing the government's RS&T investment

The government finances about half of New Zealand's investment in RS&T and owns significant science infrastructure - notably the Crown research institutes (CRIs) - and in some cases government departments also carry out science and research activity. MoRST advises the Government on the opportunities for investment in RS&T to deliver on the Government's priorities, and directs that investment. We also advise the government on how to ensure its research, science and technology investment is connected into other parts of the economy and society.

### Contract management

MoRST does not decide what specific research projects are funded. Rather, we provide direction to, and contract, the funding and investment agencies (FIAs) on the areas in which the money should be invested. The actual investment in individual programmes is administered primarily by the Foundation for Research, Science and Technology (FRST), the Health Research Council (HRC), and the Marsden Fund Council.

### Evaluation

MoRST monitors and evaluates the results of the government's RS&T investment to ensure it is delivering value and also to help inform future investment decisions. For example, we are currently looking at government investment in linkages with overseas science organisations.

### Working with the business sector

MoRST is actively building networks between research providers and the business sector. For example, MoRST and Business NZ jointly established the Capitalising on Research and Development Action Group (CRAG), which works at the interface between research and business. A particular focus is the new R&D Tax Credit.

### International

As the majority of the world's R&D takes place outside of New Zealand, international RS&T links are crucial. MoRST facilitates international contacts between researchers and research institutions to develop collaborative programmes, and raises awareness of New Zealand's science and technology capabilities.

For example, we have recently negotiated a science and technology (S&T) co-operation agreement with the European Union that strengthens New Zealand access to European S&T opportunities.

### Engaging in cross-government collaborative work

MoRST provides the RS&T perspective across government. Because RS&T plays an important role across a number of areas of government work, such as sustainability, education, the environment, health, and economic and social development, MoRST has a number of links and partnerships across government.

For example, in the field of economic development, MoRST chairs the Innovation Working Group (IWG), which brings together officials from 13 government agencies. The IWG's role is to identify and develop policy proposals to enhance the impact of New Zealand's innovation system.

## □ Scientific and technical advice

We also provide scientific advice to government about current and emerging issues. This includes maintaining an overview of emerging science developments that are important for New Zealand.

For example, we operate a Futurewatch programme that scans scientific trends and issues from around the world and considers potential impacts and opportunities that are specific to New Zealand. We also advise government about New Zealand's needs for large-scale research infrastructure, for example the high-speed Kiwi Advanced Research and Education Network (KAREN).

# Strategic direction

□ New Zealanders have a proud heritage of embracing innovation, salted with healthy doses of pragmatism. New Zealand also has a research tradition of excellence and the last decade in particular has seen significant developments in the New Zealand RS&T sector.

As the 21st century unfolds, it is becoming clear that the world faces challenges which, more than ever before, it needs research, science and technology to address. Like all other nations, New Zealand faces the challenge to build a sustainable future where economic, environmental, social and cultural needs will intersect and require new ways of thinking and new ways of connecting with knowledge and information.

Given the role of RS&T in creating new ideas and providing solutions to existing problems, it will be a key driver in achieving the Government's goals of families – young and old, sustainability, national identity and, in particular, economic transformation. Science and technology will also continue to be essential in generating the solutions needed to build a sustainable, healthy and wealthy future.

The recent Organisation for Economic Co-operation and Development (OECD) review of our innovation policies produced a comprehensive view of our innovation system. The review identified much that is working well within our system and also made recommendations around four key areas – the effectiveness of competitive funding, business innovation, the framework for innovation, and governance of the system – where we could consider improvement. Much of our current and future work as discussed below is consistent with the review's recommendations.

MoRST is taking on an increasing focus, direction and co-ordination role across the science system and across government. We have set out a New Zealand Research Agenda (NZRA) that identifies directions for New Zealand's RS&T sector, with an outlook to 2020.

The NZRA sets out a future vision where science is needed to help New Zealand sustainably manage and gain from our biological base, better realise our environment as an asset, and seed and support our advanced technology businesses. Within this, six areas of RS&T have been

identified where strengthened investment will be transformational. These transformational areas of RS&T are: high-tech platforms, future foods, environmental sensing, cities, innovation in health delivery, and renewable energy.

The recently announced New Zealand Fast Forward initiative will significantly increase the amount of funding available for pastoral and food research over the next 10 to 15 years.

Central to enhancing RS&T's contribution to New Zealand is the need to promote innovation in the business sector. The OECD review highlighted our low level of business R&D. The new R&D Tax Credit is a major change to how R&D is funded in New Zealand. MoRST has a significant role, along with the Inland Revenue Department (IRD), in monitoring how it is used.

New Zealand's innovation system continues to change and develop. The current environment is one in which CRIs and universities have high, and often changing, expectations placed upon them. This reinforces the need to ensure greater clarity about how the system works and how they can contribute. We have moved away from a purely contestable funding model with the negotiated funding initiatives and have also begun funding national-level research infrastructure and providing long-term funding for national databases and collections.

Science and technology are a vital component of innovation, along with high-quality education and an innovative business environment. MoRST's position – as part of the intersection of S&T, education and

business performance – allows us to promote policy to optimise the economic potential offered by innovation.

The creation of the innovation group of departments under one Minister has highlighted our collaborative role across government and the roles of RS&T in innovation. We now have a greater part to play in how RS&T integrates into New Zealand's economic development goals.

Given the vast territory covered by science and technology, the nature of New Zealand's economy and the current RS&T environment, our work must be targeted on areas where we believe S&T can make the greatest impact. Underpinning all our work is the need to engage New Zealanders with science, technology and innovation to create an understanding of the role RS&T and innovation play in transforming our economy and improving our well-being. Through the Vision Mātauranga framework we also increasingly recognise the potential of Māori knowledge, people and resources to make distinctive contributions to research, science and technology.

Based on this context we have decided on four strategic priorities that will make the greatest contribution towards our major outcome, 'Science and technology transforming New Zealanders' lives'. These priorities are:

- Sharpening the agenda for science
- Engaging New Zealanders with science and technology
- Improving business performance through research and development, and
- Creating a world-class science system for New Zealand.

## Alignment across innovation agencies

Following last year's move to an innovation portfolio under one Minister, MoRST works closely with the Ministry of Economic Development (MED), the Ministry of Education (MoE), New Zealand Trade and Enterprise (NZTE), the Foundation for Research, Science and Technology (FRST) and the Tertiary Education Commission (TEC) to identify mechanisms to better align government economic development activity across the innovation system. This will include ensuring that our strategies for encouraging greater innovation are joined up, and that our priorities are aligned.

## STRATEGIC PRIORITY ONE

# 1. Sharpening the agenda for science

The New Zealand Research Agenda (NZRA) charts a long-term direction for RS&T in New Zealand. This agenda sets the scene for all the key actions in this strategic priority.

The published NZRA document summarises the series of science roadmaps that guide New Zealand's science and research activity. The roadmaps provide broad context and high-level directions for specific areas of science and are now influencing funding and investment agencies' decisions. Roadmaps in the areas of energy, nanotechnology, biotechnology and environmental research have been completed. A food research roadmap is nearing completion and a sustainable technologies roadmap is about to start. The NZRA signals future work on a health and advanced materials roadmap.

The NZRA also indicates where new investment is likely to be directed when it becomes available. Six areas are highlighted where additional or strengthened RS&T investment can potentially contribute to important national needs or opportunities. The work is focusing on: high-tech platforms, future foods, environmental sensing, cities, innovation in health practice, and renewable energy. Initial work will involve developing investment plans for renewable energy and high-technology platforms.

In accelerating these areas of activity we will be working across government and business to ensure these areas reflect our distinctive New Zealand strengths, culture and values. This work includes the Vision Mātauranga policy framework, established to unlock the innovation potential of Māori knowledge, resources and people.

RS&T is multifaceted. Alongside government taking a more active role in signalling those areas where science needs to make critical contributions, the importance of untargeted research is not overlooked. We will continue to support basic and blue skies research to provide knowledge to support unanticipated needs.

We also ensure, through our Futurewatch scanning activities, that we are alert to emerging developments in science and technology and their implications for New Zealand.

## WHAT WE WILL DO

## Key Action 1.1

Focus new RS&T effort towards areas identified in the New Zealand Research Agenda as having transformational potential.

### The intent of this key action

We intend to identify new investment and additional cross-government activity so that none of the six Transformational RS&T (TRST) areas are operating in isolation from users.

### Measuring our impact and progress

We will measure our impact and progress to achieving our key actions by monitoring whether RS&T investments reflect the directions outlined in the New Zealand Research Agenda. This will be measured through analysis of R&D investment.

### Our annual component

This year we will co-ordinate TRST implementation with other government agencies with a particular emphasis on new investment plans for renewable energy and high-technology platforms.

## Key Action 1.2

Provide science roadmaps in those areas that require stronger co-ordination and communication of government objectives.

### The intent of this key action

We intend to ensure that the research funding and investment agencies have available the broad context and directions for a particular area of science.

### Measuring our impact and progress

We will measure our impact and progress to achieving our key actions by monitoring the alignment of government funding with roadmap objectives. This will be evaluated in 2010.

### Our annual component

This year we will complete the food research roadmap.

### □ Key Action 1.3

Connect areas of priority government activity, particularly the Government's sustainability objectives, with the appropriate science underpinning.

#### The intent of this key action

We intend to acknowledge that MoRST needs to play a strong role in bringing research providers and users together. In critical areas, such as biotechnology, Government has called for MoRST to co-ordinate all the activity. Key environmental and social issues have also required us to bring the key parties together.

#### Measuring our impact and progress

We will measure our impact and progress to achieving our key actions by:

- examining the MoRST stakeholder survey for indications of growing confidence among government departments that critical science is available to support their decision-making, and
- reviewing the results of the biennial Biotechnology Survey.

#### Our annual component

This year we will:

- monitor the effectiveness of biotechnology regulation as part of the continuing implementation of the Government's Biotechnology Strategy
- develop directions for eResearch and position the advanced network for the future, and
- assist with integrating the climate research institute into policy processes across central and local government.

### □ Key Action 1.4

Scan the global environment for emerging science and technologies that will have implications for New Zealand.

#### The intent of this key action

We intend to co-ordinate Futurewatch scanning activities for MoRST and other departments in order to strengthen New Zealand's ability to foresee and make timely responses to emerging science and technologies. Our work will focus on biotechnology and nanotechnology and their relevance to New Zealand sectors or industries.

#### Measuring our impact and progress

We will measure our impact and progress to achieving our key actions by monitoring the extent to which government departments and/or science organisations incorporate information insights arising from our scanning networks into their policy development, advice and/or decision-making. We will assess this by reviewing departments' policy development.

#### Our annual component

This year we will integrate Futurewatch scanning activities with policy development across government, with a focus on the sustainability area.

## STRATEGIC PRIORITY TWO

## 2. Engaging New Zealanders with science and technology

Science and technology are fundamental to transforming our economy and improving our social, environmental and physical well-being. Science and technology play an important role in our national identity and are a core part of what makes this country a great place to live. However:

- we have almost no specialised science media in New Zealand
- in schools, science is often taught as a subject for only the brightest or the ‘best’ rather than a topic that is useful for all New Zealanders
- much of the research we do is not freely available or is presented in a way that is not easy to understand, and
- MoRST research has shown that while most New Zealanders value science, the understanding of the value is not deep.

So why spend time and money on enhancing how New Zealanders engage with science? Science cannot exist separately from society. New Zealand will face issues that science proposes, for example genetic modification, or that science may offer solutions to, such as global warming. Some of these issues will require value judgements that lie outside of the realm of science.

MoRST is therefore seeking to lift the capability of New Zealanders to engage in the debates on the ideas raised by science and technology.

We will continue to take the lead where there is a clear need for co-ordinated science and technology communications, and in providing key communications infrastructure at a national level. We will look at how the Digital Strategy can support the sharing of scientific information.

School students and their families will continue to be a focus for MoRST. We will achieve this by linking teachers and students to contemporary New Zealand research, and presenting the material in a way that directly links it to the curriculum.

We will also implement a science and technology media centre. This will help overcome some of the obstacles to reporting science, particularly New Zealand science, to New Zealanders through the media.

### WHAT WE WILL DO

#### Key Action 2.1

Increase the linkages between school students and the research going on in New Zealand.

##### The intent of this key action

We intend to encourage school children and their parents to value science and technology in New Zealand by giving them an understanding of the research being done in this country.

##### Measuring our impact and progress

We will measure our impact and progress to achieving our key actions by monitoring the increase in the level of interest in science subjects and the number of teachers and students accessing information and data on the website. This will be assessed through an evaluation of the scheme.

##### Our annual component

This year we will expand the Science Learning Hub to include Year 7 and 8 students.

## □ Key Action 2.2

Develop national-level communications infrastructure to improve the breadth and depth of media coverage of New Zealand RS&T.

### The intent of this key action

We intend to strengthen the links between the science sector and New Zealand media so there is greater coverage of New Zealand science in New Zealand media.

### Measuring our impact and progress

We will measure our impact and progress to achieving our key actions by monitoring media reporting.

### Our annual component

This year we will implement a science media centre that will start to build the relationship between New Zealand scientists and the New Zealand media.

## □ Key Action 2.3

Increase the availability and accessibility of research findings to the public.

### The intent of this key action

We intend to develop options for encouraging and supporting the increased availability of research findings.

### Measuring our impact and progress

We will measure our impact and progress to achieving our key actions by monitoring the access to New Zealand scientific research.

### Our annual component

This year we will develop options to support the implementation of the Digital Strategy.

## STRATEGIC PRIORITY THREE

## 3. Improving business performance through research & development

The Government's goal of economic transformation for New Zealand will ultimately rely on the ability of the business sector to compete in global markets. To accomplish this, New Zealand businesses must increase their level of innovation, and offer a point of difference.

RS&T will be central to achieving economic transformation. Whether or not we are successful in improving business performance through research and development will depend on the uptake and use of new ideas and technology emanating from local research organisations and from overseas.

The recent OECD review of New Zealand's innovation system noted that most of New Zealand's microeconomic and regulatory conditions are conducive to innovation. But given our size and location, those conditions need to be excellent rather than merely good.

By any measure, New Zealand business investment in R&D is low. The R&D Tax Credit starting in 2008 is a major incentive to encourage this. To maximise its impact, MoRST has established a five-year evaluation programme to monitor its uptake as it rolls out, and will identify any barriers to its uptake. MoRST will use the introduction of the Tax Credit as an opportunity to communicate the benefits for businesses from investing in R&D, and the range of support mechanisms for this.

As businesses' R&D levels increase, we will continue to work on improving the collaboration among universities, research institutions and business. Effective linkages in these areas will support private sector innovation. Evaluating the effectiveness of existing development and commercialisation schemes will influence future policy direction.

MoRST will contribute to the Government's economic development priorities through aligning the appropriate areas of Vote RS&T to the Areas of Focus as they are implemented. The new-look Technology New Zealand (TechNZ) grants will be the first to be targeted.

The work of the Capitalising on Research and Development Action Group (CRAG) will continue. CRAG offers a business perspective on major science and technology issues impacting on business innovation and on workplace participation in R&D.

### WHAT WE WILL DO

#### Key Action 3.1

Maximise the impact of the R&D Tax Credit.

##### The intent of this key action

We intend to continue to work with IRD to implement the R&D Tax Credit, which will lead to an increase in the number of firms undertaking R&D and an increase in the amount of R&D being undertaken by firms already doing R&D.

##### Measuring our impact and progress

We will measure our impact and progress to achieving our key actions by monitoring the uptake of the Tax Credit through the biennial R&D Survey.

##### Our annual component

This year we will:

- implement a five-year R&D Tax Credit evaluation that will monitor the uptake of the Tax Credit, and
- communicate the government's support programmes and the R&D Tax Credit to businesses.

#### Key Action 3.2

Implement government economic development priorities.

##### The intent of this key action

We intend to integrate the research sector contribution to the cross-agency work to support the implementation of the areas of focus. This will require new partnerships, collaborations and co-operation.

##### Measuring our impact and progress

We will measure our impact and progress to achieving our key actions by monitoring whether RS&T investments reflect the directions outlined in areas of focus. This will be measured through analysis of R&D investment.

##### Our annual component

This year we will co-ordinate the Vote RS&T contribution to the Government's Areas of Focus that will be implemented during 2008/09.

### □ Key Action 3.3

Engage with business to support the application of research for business benefit.

#### The intent of this key action

We intend to ensure that ideas around what business thinks will make a difference are heard and are fed into the policy discussions at all levels and investigate ideas to improve business R&D opportunities.

#### Measuring our impact and progress

We will measure our impact and progress to achieving our key actions by monitoring increased business engagement with RS&T. This will be assessed through our R&D Survey.

#### Our annual component

This year we will:

- support the Capitalising on Research and Development Action Group (CRAG) to pilot sector-specific approaches to public research organisation–firm linkages, and
- through the Innovation Working Group actively support FRST, NZTE and TEC to pilot joint client management practices and closer working relations through the wider trilateral project.

### □ Key Action 3.4

Increase the domestic and global flow of technology and knowledge between CRIs, universities and business.

#### The intent of this key action

We intend to increase collaboration and partnerships, through changing innovation system settings, between research institutions and business that will help realise the potential for far more commercialisation of innovations in New Zealand and globally, and encourage increased investment in R&D by the private sector.

#### Measuring our impact and progress

We will measure our impact and progress to achieving our key actions by monitoring increased collaboration between Crown research institutes, tertiary institutions and business. This will be assessed through our R&D Survey and through the collaboration reports of our funding and investment agents.

#### Our annual component

This year we will evaluate the scope of the Pre-Seed Accelerator Fund (PSAF) as part of the Innovation Working Group's work programme on commercialisation of publicly-funded research.

## STRATEGIC PRIORITY FOUR

## 4. Creating a world-class science system for New Zealand

New Zealand needs a world-class science system to realise the potential of science and technology in transforming New Zealanders' lives. This means:

- world-class public and private research organisations that are globally connected and resourced to create, maintain and use capabilities New Zealand needs to succeed
- providing and developing the skills, infrastructure and equipment required to carry out scientific research and technology development
- effective planning and prioritising of investment to align with Government's goals
- high-performing, fit-for-purpose government entities that run effective processes to prioritise, allocate and monitor public money for science and technology, and
- research organisations are appropriately connected to global centres of science excellence.

Demands are being placed on our current system to better meet the demands of the future, and contribute to economic, social and environmental goals for New Zealand. Our science system needs to be ready to respond to these challenges if we are to compete globally and attract the high-quality researchers we need to create the new knowledge, science and technology that will transform New Zealanders' lives for the better.

MoRST is therefore seeking to create an investment environment where entities that invest government science funds are suited for their purpose. We will review and update the role and function of these entities to deliver to our future innovation needs.

MoRST will take the lead in ensuring Vote RS&T investment is effectively planned and prioritised to meet Government's goals and maintain key science capabilities. We will implement the NZRA through a multi-year investment strategy and ensure that the right incentives are in place to encourage strategic international research collaborations.

Our public research organisations are facing increasing demands to do more and deliver more value to New Zealand. We will create an environment for CRIs to lead transformation in their sectors while also seeking a high degree of co-operation among all research providers. Where friction exists, we will seek to reduce it to maximise the potential for greater collaborative and co-operative efforts.

Attention will also be directed towards how best to internationalise our innovation system.

### WHAT WE WILL DO

#### Key action 4.1

Update the role of RS&T funding agencies consistent with the OECD's review of New Zealand's innovation system.

##### The intent of this key action

We intend to ensure that the RS&T purchase role is fit for purpose for New Zealand's future innovation system needs.

##### Measuring our impact and progress

We will measure our impact and progress to achieving our key actions by monitoring the legislative changes to the Foundation for Research, Science and Technology Act (1990) following the review of the Act.

##### Our annual component

This year we will:

- assess the future role and functions of the Foundation for Research, Science and Technology as part of a review of the Foundation for Research, Science and Technology Act, and
- with the Ministry of Health, review the role and function of the Health Research Council.

#### Key Action 4.2

Implement the NZRA through a multi-year investment strategy.

##### The intent of this key action

We intend to allow more effective planning and prioritisation of investment in RS&T and greater alignment of the priorities of government, research organisations and end-users.

##### Measuring our impact and progress

We will measure our impact and progress to achieving our key actions by:

- monitoring the sustainable increases secured for Vote RS&T. This will be measured through an analysis of Vote RS&T
- monitoring the alignment of funding with the New Zealand Research Agenda. This will be assessed through an analysis of research investment, and
- monitoring our ability to maintain key science capability in priority areas of MoRST's Medium-term Investment Strategy for Vote RS&T. We will assess this through FRST's capability mapping.

**Our annual component**

This year we will:

- extend the Vote RS&T Investment Strategy to incorporate large-scale research infrastructure investments, and
- implement the Advanced Skills Action Plan.

**□ Key Action 4.3**

Create an environment for CRIs to lead transformation in their sectors.

**The intent of this key action**

We intend to ensure that our providers of public good research - CRIs - are well positioned to contribute to the transformation of New Zealand.

**Measuring our impact and progress**

We will measure our impact and progress to achieving our key actions by:

- monitoring that research performed by public sector providers - CRIs - is aligned with research priorities, and
- monitoring the alignment of strategic direction and funding priorities at various levels within the system.

**Our annual component**

This year we will, with MED and the Crown Company Monitoring Advisory Unit (CCMAU), identify options for improving CRIs' ability to deliver value to their sectors.

**□ Key Action 4.4**

Align investment and purpose of universities, CRIs and research associations.

**The intent of this key action**

We intend to seek a higher degree of co-operation and collaboration between research organisations, and reduce friction/barriers to co-operation where these exist. This will require a joint effort by MoRST, MoE and TEC.

**Measuring our impact and progress**

We will measure our impact and progress to achieving our key actions by:

- monitoring the number and overlap of Vote Education and Vote RS&T schemes, and

- monitoring the number of reported collaborations at institution-to-institution level.

**Our annual component**

This year we will, with MoE and TEC, explore options to improve alignment of complementary programmes administered by the RS&T funding agencies, MoE and TEC.

**□ Key Action 4.5**

Enable our research sector to effectively collaborate internationally and respond to the changing international innovation environment.

**The intent of this key action**

We intend to:

- provide more opportunities to leverage New Zealand's investment in R&D through collaboration with international partners and enhance New Zealand's access to foreign R&D infrastructure and funding opportunities
- understand how the changing global innovation environment will positively and negatively impact on New Zealand's R&D capability, and
- build alliances with other government agencies to extend our reach and influence.

**Measuring our impact and progress**

We will measure our impact and progress to achieving our key actions by:

- monitoring the increase in inbound investment in R&D based in New Zealand
- monitoring the number of significant international R&D partnerships established and maintained by the New Zealand R&D community, and
- measuring the number of New Zealand research papers with international co-authors and the citation rates of New Zealand-produced papers.

**Our annual component**

This year we will evaluate the effectiveness of global collaborative research initiatives funded through the International Investment Opportunities Fund (IIOF) and the International Science and Technology (ISAT) Linkages Fund.

# How we demonstrate success

## □ Performance and evaluation

Good policy advice must be based on good evidence. MoRST undertakes wide-ranging measures of RS&T performance and evaluations of our activities (mainly investment tools) to provide evidence for government decision-making.

We have a well-established role in monitoring the New Zealand RS&T sector and a varied evaluation programme. Monitoring and evaluation ensure that our work delivers value, as well as identifying how our work can improve, and inform future investment decisions.

Performance and evaluation staff members in each of the funding and investment agencies work with us to identify separate and shared roles. This network also ensures that monitoring data is effectively collected and well used. MoRST is fostering enduring, productive relationships with stakeholders, and is improving the value-added and ongoing use of our performance and evaluation work, both in-house and by stakeholders.

## □ Performance

We monitor sector performance by consistently applying internationally recognised measures that track how the sector is performing. These measure MoRST, other government agency and private funding of RS&T. Government ministers and policy advisors use this performance data as evidence of sector performance and progress towards achieving strategic priorities.

While many areas of our work involve monitoring, the most important data is brought together in the *RS&T Scorecard*. In addition, in 2008, results of the 2007 biennial innovation survey will be released, and the 2008 biennial R&D Survey will run. We will also survey the public sector to monitor government financing of research.

The *RS&T Scorecard* will provide a comprehensive picture of the New Zealand RS&T system using data on the following areas:

- investment
- innovation
- people
- linkages
- science quality

## □ Evaluation

We take a closer look at policy, programmes and outcomes when we evaluate our activities (mainly investment tools). Planning for programme evaluations can begin five years before the evaluation investigations are done. Assessments and reviews of inputs and outputs that inform policy work are an ongoing part of our work. When MoRST completes any evaluation report, this information is used to inform policy improvements. Thus the outputs for any year are a subset of the evaluation and improvement cycle.

## □ Evaluation programme

Over the next year we will be doing the following evaluation work:

- Conducting baseline studies for the evaluation of the R&D Tax Credit (Strategic priority 3.1)
- Evaluating the effectiveness of New Zealand's international RS&T collaborations (funded through the International Investment Opportunities Fund (IIOF) and the International Science and Technology (ISAT) Linkages Fund (Strategic priority 3.4)
- Evaluating the effectiveness of aspects of funding and investment agencies' processes and impacts (Strategic priority 4.1)
- Reviewing the updated TechNZ funding (for business R&D) administered by FRST
- Studying the impact of stable funding.

## □ Cost-effectiveness

We will ensure that the costs of delivering our work and providing leadership across the RS&T sector are kept at the optimum level. We will ensure that we are providing value for money in the way we carry out our work.

This value is illustrated through two cost measures over time. The first measure will show MoRST's costs as a proportion of Vote RS&T. The second measure will show MoRST's costs as a proportion of investment in New Zealand R&D, particularly business R&D; the cost measure being the cost of MoRST over the cost of all R&D in New Zealand and/or business R&D in New Zealand.

# Managing in a changeable operating environment

## □ Risk management

The way MoRST identifies and manages risk is integral to the way we do our work. As part of our business planning, our work teams are required to identify any specific risks that may restrict their ability to achieve their outputs and outcomes. We monitor any new risks as part of our regular management meetings and we operate an environmental scanning network to advise us on future science issues.

The size of the Ministry enables us to be flexible and fast. However, our ability to reprioritise resources easily from one area to another is at times limited. For this reason, we have put considerable time into effective planning and prioritisation systems. We are now in the third year of running formal quarterly operating reviews. We will continue to refine this process to ensure that we are putting resources where they matter the most.

There is also a limit to the depth and breadth of capability we can carry. We cannot have specialists in all areas of science; rather, we must have connections to the science sector and the ability to engage with them. We have also implemented a better contacts management system, and we will further improve this to enhance our ability to work with our stakeholders.

How we work across the sector is also a challenge. An agency of about 80 staff can only be in effective contact with a limited number of people. We focus our engagement by identifying our key stakeholders and working closely with them. This year we will implement new electronic networking tools to allow us to collaboratively share and work on documents with other departments and we will implement high definition video conferencing on the KAREN network.

The Ministry will continue to monitor its risks through management meetings and systems. We will continue to invest in the capability of our managers, as we recognise the most effective management of risk is through good quality day-to-day management.

## □ How we determine our strategic direction

Our strategic direction is driven by consultation with people and organisations that are involved, or have an interest, in the RS&T system. Over the last two years, we have reinforced our strategic priorities and embedded them in our planning, operating review, and communications to stakeholders. We will strengthen these even further over the coming year.

MoRST does this on a regular basis through:

- meetings with the Minister
- meetings with the chief executives of MED, MoE, NZTE, TEC, and FRST
- environment scanning through our Futurewatch programme
- developing roadmaps for science
- working with external groups to identify areas for investment that will be transformational
- context sharing and environment scanning with FRST
- consulting with other government agencies to seek their input into our work and to provide MoRST's input where RS&T has a role in other government strategies
- meetings with, and surveys of, our stakeholders
- advisory groups such as the Oxygen Group, He Waka Tangata (the social science Oxygen Group), the Research Infrastructure Advisory Group, CRAG and the Vision Mātauranga Advisory Group
- the findings from research and evaluations of the various investment mechanisms undertaken by MoRST and the FIAs, and
- participation in international policy forums such as those convened by the OECD and Asia-Pacific Economic Cooperation (APEC).

## □ Our accountability

Each annual component identified above is further specified in the Forecast Statement of Service Performance for MoRST set out in the *Information Supporting the Estimates of Appropriation for the year ending 30 June 2009 - Education and Science Sector*, released with the 2008 Budget publications.

The Forecast Statement of Service Performance sets out the key performance indicators for MoRST for 2008/09 and represents the output plan that is agreed with the Minister. The statement details the specific deliverables the Ministry will be accountable for when reporting on performance six-monthly to the Minister, and annually to Parliament through the annual report.

In addition to our output plan with the Minister, we establish individual output agreements between the Minister and each of the FIAs, to cover the research contract management activities and other services they provide. These output agreements specify the performance, reporting and other contractual requirements for funding agencies so the agencies account for how they spend the funds provided through Vote RS&T.

# Assessing organisational health and capability

□ We are proud of our reputation as a great place to work. Being a great place to work plays an important part in the way we approach and deliver our work. We are a small policy agency, yet our major outcome - science and technology transforming New Zealanders' lives - is very broad. This means people throughout the organisation need to be dedicated and demonstrate leadership in the way they work.

Being the government's science policy agency means that to be effective, we also need to have strong links and engagement with our partners in the government and RS&T sectors.

We are of course also conscious that we need to continue to adapt the way we work so that we operate in an environmentally sustainable way.

These areas of leadership, engagement and sustainability are areas we have been focusing on, and so, looking ahead, progress will be based mainly on embedding and consolidating initiatives already underway.

## □ Leadership

We recognise that the quality of leadership and accountability within the Ministry plays a major role in achieving our goals. Strong internal leadership and organisational clarity are critical to achieving our strategy. We will continue to develop great leaders and reinforce our purpose and priorities, and the roles and responsibilities within the Ministry.

To do this we will continue our internal leadership development programme and augment it by using the Gallup Engagement Survey to identify areas where individuals can continue to develop their leadership performance.

This supports the State Sector Development Goal of:

- Employer of Choice.

## □ Engagement

To fulfil our leadership role we need to be well connected and informed about the environment on which we advise, or have networks to acquire the information and context quickly. We identify and prioritise who we will engage with and continue to develop our capability to engage with the science sector.

Actions we are going to undertake to help achieve this include joining the KAREN network, redesigning our intranet, embedding our contact and relationship management database, and providing relationship management training for staff.

Our work in this area has been informed by the stakeholder surveys which we will continue to undertake periodically to inform us of our progress and direction.

This supports the State Sector Development Goal of:

- Co-ordinated State Agencies.

## □ Sustainability

We have made considerable progress towards our sustainability goals. This was recognised by the three awards we received at the 2007 Govt3 Awards - for leadership, staff engagement and waste reduction. Education and waste reduction will continue to be a focus and we aim to make up to another 50 percent reduction in our waste going to landfill.

We are also part of the carbon neutral public service initiative and will be looking to further reduce our carbon footprint by cutting our travel costs by 15 percent over the next few years, primarily by offsetting travel through use of the KAREN network.

## □ Equal employment opportunities

MoRST works hard to be an equal opportunity employer. In 2007, the chief executive won a national award for her EEO work. As a small ministry it is difficult to represent the diversity present in New Zealand; however, we will review our policies and processes to ensure we support the State Services Commission's new Equality and Diversity Policy. We do not anticipate any significant changes in our diversity profile over the next year. The Ministry is in the process of completing its Pay and Employment Equity review.

# Departmental capital intentions

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MoRST will ensure its infrastructure is suitable and relevant to the need to deliver on the outputs agreed with the Minister. This expectation is demonstrated by the careful maintenance, optimisation and timely updating of infrastructure. The infrastructure of MoRST comprises:

- the accommodation space that MoRST occupies
- the fit-out and furnishing of that accommodation
- the computer hardware MoRST uses
- the software on which MoRST has developed its processes and systems, and
- the policies and procedures that underpin MoRST's internal and management controls.

MoRST will ensure the long-term sustainability of the funds invested in this infrastructure through careful management of its balance sheet so that the Ministry is always able to meet its obligations and liabilities. Inherent in this commitment is the expectation that MoRST will always:

- have a positive cash position
- ensure revenue matches or exceeds expenditure, and
- ensure actual expenditure is within appropriation (i.e Parliament's authority to spend).

Where MoRST is expected to increase its capacity to deliver output, we will seek an appropriate cash injection to maintain infrastructure and resource capability commensurately. No cash injection is sought for 2008/09.

The details of MoRST's financial and non-financial performance expectations, as well as its capital expenditure for 2008/09, are set out in the *Information Supporting the Estimates of Appropriation for the year ending 30 June 2009 - Education and Science Sector*, released with the 2008 Budget publications.



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