



Strategic Plan for 2003 - 07

the ROYAL
SOCIETY *of*
NEW ZEALAND

The Royal Society of New Zealand is the independent, informed and trans-disciplinary voice for New Zealand sciences and technology (S&T), established under its own Act of Parliament.

Society activities are supported by over 1250 members, 300 Fellows, 12 Companions, 53 constituent organisations, 9 branches, 10 affiliate organisations, and a staff of 40, with an operating budget of \$5 million.

We represent the applied, biological, earth, engineering, information, medical, physical and social sciences, mathematics and technology in New Zealand and internationally.

We promote, invest in, and celebrate excellence in people and ideas in S&T and put them to work as an example and inspiration to New Zealanders.

Each year we invest some \$60 million of public funds on behalf of the Government in New Zealand's underpinning knowledge base.

We acknowledge the special character of Māori relationship with Aotearoa/New Zealand, as stated in the Treaty of Waitangi, recognising Māori as Tangata Whenua of this land, and we will join together to make science and technology work for us all.

New Zealand is living through a renaissance, and we have set ourselves new challenges and directions which will stretch our imaginations and energies as we put S&T to work for New Zealand.

This plan outlines how we want to work and grow over the coming five years.

1. WHAT WE DO

The Royal Society promotes, invests in and celebrates excellence in people and ideas in S&T and engages them as an example and inspiration for the benefit of all New Zealanders. We are a channel for the S&T community to contribute their voices to national debate, a link to international S&T, a support for educators, an efficient manager of Government funds and a centre for raising awareness of S&T in New Zealand. We provide a focus for the voluntary work of many committed people throughout the country. We develop and promote responsible ethical standards so that the S&T community is held in high esteem as a key to the development of a vibrant, knowledge based society, for the benefit of all citizens. The Society's Act of 1997 requires us to invest our efforts to:

Contribute to New Zealand Society by:

- Promoting public awareness, knowledge, and understanding of S&T
- Advancing S&T education
- Providing expert advice on important public issues to the Government and the community

Support New Zealand's S&T community by:

- Encouraging, promoting, and recognising excellence in S&T
- Providing support and a conduit for the professional needs and development of scientists and technologists
- Establishing and administering for all members a code of professional standards and ethics in S&T.

Our vision is clear: we invest in the best.

We celebrate excellence in people and ideas in S&T.

We use excellence in S&T as a beacon and inspiration for all New Zealanders.

We are building a dynamic Royal Society with a strong and respected voice.

Some of the Things we do now:

Public Awareness:

- Science festivals
- the Science and Technology Promotion programme and funding
- Special presentations,
- Distinguished speakers
- Royal Society Communicators course

Education:

- Support for S&T education
- BP Challenge
- Education resources
- CREST awards for S&T
- Science and Technology fairs,
- School and teacher grants
- Overseas study opportunities
- Delta project of school/industry linkage
- National Waterways Project

Expert Advice:

- In recent months the Society has produced advice papers on:
- Genetic Modification, Stem Cells, Climate Change, Research Strategy

Using and rewarding Excellence:

- Marsden Fund - \$31 million per year for outstanding research
- Centres of Research Excellence Fund
- Fellowships of the Royal Society – one of the country's highest S&T honours
- Awards for excellence, including the Rutherford Medal – in 12 S&T categories

Professional infrastructure and support for the S&T community:

- Professional links to 31 international S&T organisations
- International S&T Linkages Fund
- Bringing eminent scientists to New Zealand
- Seven learned journals and other scientific publications
- Support professional organisations

Standards and Ethics:

- Code of Ethics
- Promote responsible standards for the welfare of research animals

2. WHAT WE AIM TO ACHIEVE

In formulating our plans to 2007, the Council of the Royal Society has placed particular emphasis on:

- ❑ **Our leadership in promoting awareness of S&T and dialogue with all communities and age groups in New Zealand.**
- ❑ **Strengthening our advice to government and others on S&T matters.**
- ❑ **Communication among, and enhancing our value to, all our members, and the S&T community in New Zealand.**
- ❑ **Working with Māori to build an engagement in S&T.**
- ❑ **Strengthening the contribution of Social Sciences to the Society.**
- ❑ **Building a viable and independent organisational base.**

In summary, we will develop a number of major new thrusts over the coming five years:

Public Awareness:

1. We will **build a strong culture for S&T**– more than sufficient to nurture two Nobel prize winners in New Zealand
2. We will **fully engage with our members, Fellows, Companions, branches and constituent societies** in furthering the aims of the Royal Society, and in providing advice and information to Government, the media, and the public.
3. We will **work with Māori** to build an engagement that will enable Māori fully to participate in, and enrich, S&T in New Zealand.
4. We will strengthen our awareness activities and build **strong links with industry**.

Education:

5. We will ensure our education programmes **include learners of all ages and backgrounds**.
6. We will assist educators to develop their capability to inspire and lead our future science and technology sector.
7. We will develop **networks of technologists and scientists** to provide advice to the education and policy communities.

Expert Advice:

8. We will strengthen our informed **advice and information**, and represent the views of the S&T community to decision makers.
9. We will develop at least **three major advice or issue papers per year**.

Using and Rewarding Excellence:

10. The Society's Academy Council and Fellowship will lead **by example** in the application of excellence.

Professional Infrastructure and Support for the S&T Community:

11. We will champion **human capability building**, professional development and standards, in the social sciences, in the S&T community at large and in our own work.
12. Continue to build a viable and independent organisational base for the Society.

Standards and Ethics:

13. We will promulgate a new Code of Ethics, develop new ethical standards where necessary, and actively **promote respect for, and adherence to, the Code**.

Corporate development informs and focuses our actions and provides the infrastructure support for an effective and efficient organisation. To advance our strategic plan, we must grow and change ourselves – in our skills, our capabilities, and ways of working. We will provide good working conditions and effective systems.

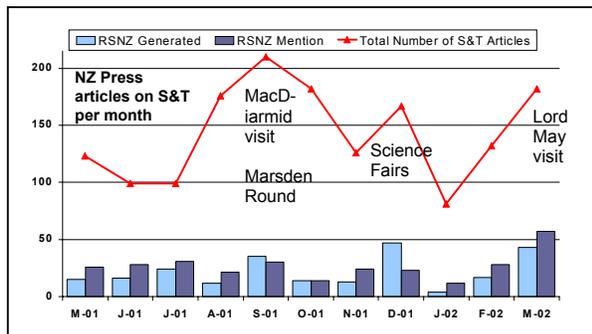
3. THE PLAN

3.1 PUBLIC AWARENESS

We develop effective awareness programmes to re-create a culture within New Zealand that is supportive of S&T. In particular will interact with the many communities within the general public to build a more informed, clearer and critical understanding of S&T and our knowledge society. This is an area where collaboration with other groups will be sought. We will:

1. Maintain an active media promotion programme which is responsive to the issues of the day
2. Support high profile speakers, programmes and activities to tour New Zealand
3. Work with industry to promote S&T
4. Collaborate with a wide range of organisations in developing awareness of S&T issues
5. Encourage and lead societal dialogue and debate on S&T issues which have a important impact on society, and societal issues which have an important impact on S&T

The indicator below shows that the Royal Society generates about one third of New Zealand's press coverage of S&T



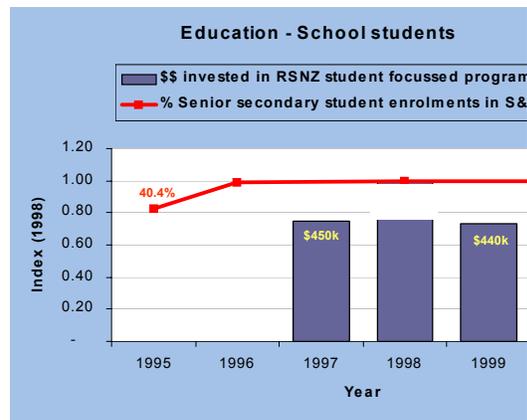
3.2 EDUCATION

We provide avenues for educators and young people to develop their knowledge and skills in S&T, strengthen positive attitudes, experience recognition and reward for achievement in S&T, to enable them to contribute to a culture supportive of science and technology. Royal Society print and web publications inform the education community and the public about New Zealand research, innovation and the people involved. We will:

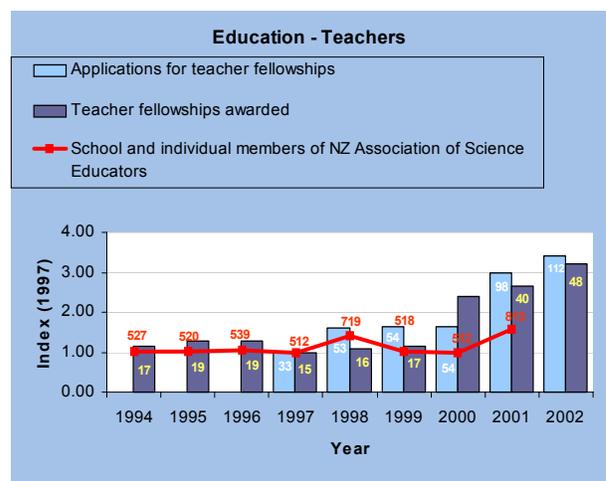
1. Recognise and celebrate excellence and achievement in the S&T education community
2. Encourage under-represented groups to participate in Society programmes
3. Help to develop knowledge, skills and competencies of educators and students to build capacity for the future S&T sectors

4. Provide advice that informs the on-going development of S&T education
5. Complete the integration of Royal Society programmes for schools
6. Support young achievers as they progress through tertiary education
7. Develop links with industry as supporters of S&T education
8. Provide electronic information and a subscriber-access website for schools

Indicators: The first graph below tracks dollars going into Royal Society schools programmes against the percentage of all NZ students enrolling in school science programmes.



The second indicator (below) tracks dollars going into Royal Society teacher fellowships against the numbers of teachers enrolled in the NZ Association of Science Educators (as a measure of general teacher interest).



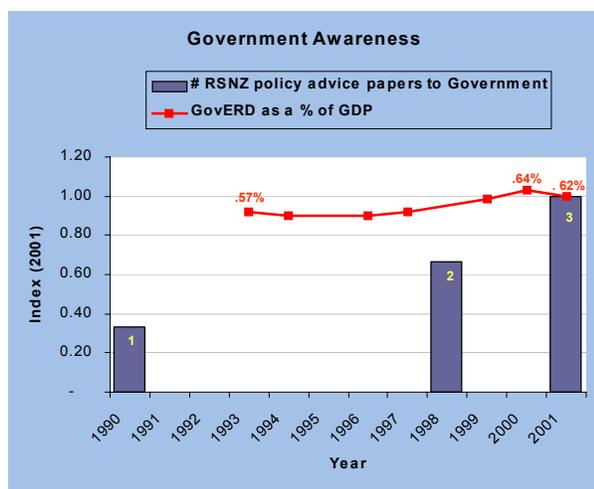
3.3 EXPERT ADVICE

The Royal Society provides expert, informed and cross-disciplinary advice to both Government and public organizations in the form of policy and review papers, written for both specialists and

general audiences. In doing so it will draw on its Fellows, Companions, members, constituent societies and other distinguished scientists and technologists in New Zealand and overseas, encompassing all the disciplines of science, social science and technology. Each year, three or more main themes will be chosen for their importance and timeliness. We will:

1. Develop at least three major advice and/or issue review papers year
2. Develop a strategic overview of human resources and future capacity in S&T
3. Compile a "State of Human Resources in S&T" report

The indicator below tracks the number of Royal Society major advice papers per year against government investment in R&D, as a % of GDP.

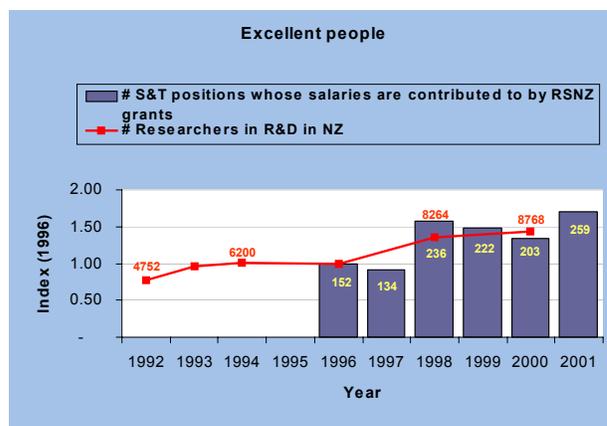


3.4 USING AND REWARDING EXCELLENCE

A key role of the Royal Society of New Zealand is to promote and recognise excellence in people and ideas. Major input from those who stand out as leaders in excellence will be used to underpin other Royal Society objectives such as awareness and education, expert advice, and national and international linkages. We recognise that excellence means different things to different age and education levels, and will cater for this. We will:

1. Define the ways in which excellence, in the context of the Royal society's Act, might be defined
2. Promote outstanding scientists and technologists for New Zealand and international honours
3. Build links with, and networks for, excellent undergraduate and postgraduate students

The indicator below tracks the number of researchers in New Zealand against the number whose salaries are funded by Royal Society grants.



3.4.1 Fellows and Companions of the Royal Society

The title of Fellow of the Royal Society (FRSNZ) is a supreme recognition of a notable lifetime of endeavour and is a key part of our work. A Companion (CRSNZ) of the Royal Society is awarded to recognise people who have worked, often for long periods, for the promotion and encouragement of science and technology. We will:

1. Encourage nominations for Fellows from less well represented S&T groups
2. Maintain coverage of disciplines in the Fellowship
3. Encourage nominations for CRSNZ from a wide range of disciplines, including teachers
4. Develop the role of Fellows and Companions in stimulating New Zealand's RS&T, and contributing to the Society's activities, including communication with politicians, and researchers in Ministers' offices

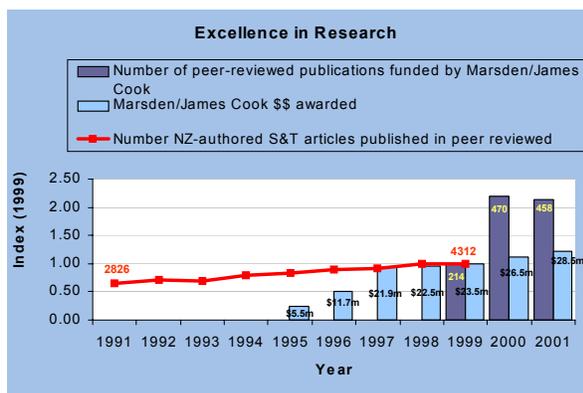
3.4.2 Research Funding

The Marsden Fund is a highly effective contributor to the New Zealand innovation system. It invests in excellent and underpinning research central to the development of new ideas and processes that contribute to New Zealand's well being. It is not subject to the immediate constraints of Government goals and as such is able to fill a number of critical longer-term strategic gaps in the RS&T system. The Centres of Research Excellence Fund (CoRE) is a new government initiative to build research capacity and research excellence in tertiary institutions. Government has set three objectives for this new scheme; excellent research, benefit to New Zealand and promoting knowledge transfer. The Society will:

1. Maintain and develop links with Australian and other funding agencies, to ensure processes achieve international best practice and collaboration

2. Work with Māori to ensure appropriate processes and increased awareness of funding opportunities
3. Network talented younger researchers, focussing on what networks are needed for the Marsden *Fast-Start* grant recipients
4. Evaluate the quality of ongoing Marsden Fund contributions to New Zealand
5. Promote Marsden research outcomes to politicians and journalists
6. Complete the implementation and monitoring of the seven Centres of Research Excellence selected to date

The indicator below tracks Marsden funding awarded, against Marsden authorships and total New Zealand authorships.



3.4.3 Medals, Fellowships and Awards

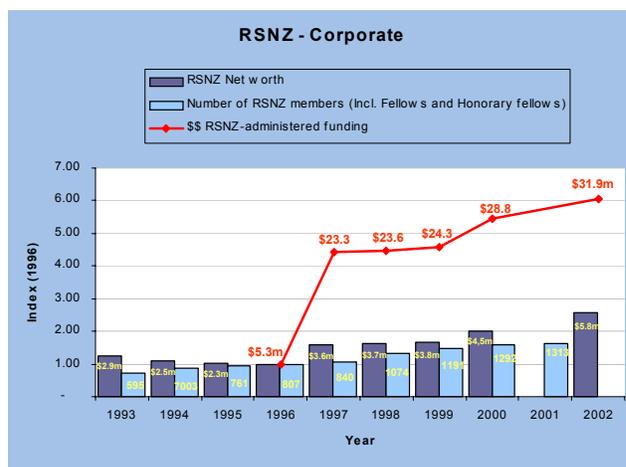
Celebrating and putting to use excellent achievement is a key part of the Society’s work. Medals and awards are a public recognition of work carried out to the highest standards, a demonstration of the capability of New Zealand scientists and technologists and a vital tool in increasing New Zealand’s awareness of the possibilities for the country from well-resourced and conducted science. We will:

1. Ensure coverage for Fellowships, medals and awards is comprehensive, and act as necessary
2. Provide a coherent suite of scholarships and awards for young achievers in technology and the sciences
3. Use medal and award winners to the full in leading and inspiring others
4. Increase awareness of Royal Society Fellowships and awards
5. Establish an annual award for the best paper published in one of the Royal Society journals

3.5 PROFESSIONAL INFRASTRUCTURE AND SUPPORT FOR THE S&T COMMUNITY

3.5.1 Our Members

We will provide benefits for, and derive synergy from, the membership of the Society; facilitating international relationships and linkages; and providing relevant information to students and teachers, scientists and technologists, members and



constituent societies of the Society, Government and industry, and the general public. We will:

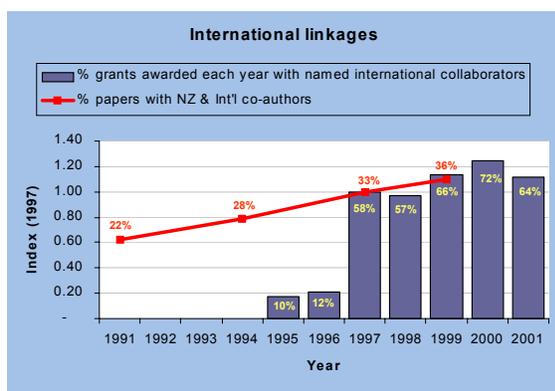
1. Increase our dialogue and interaction with all members, branches and constituent societies to inform them of RSNZ actions on their behalf, enable them to liaise with each other and to find ways of strengthening the whole Society
2. Encourage scientific or technological societies not already a member to join, so that the Royal Society can better represent the views of the scientific community at large
3. Provide for the needs of the member groups with relevant professional services
4. Support a high level of activity from the Society’s Social Sciences Committee, and its international linkages.
5. Engage with NAMMSAT (National Association of Māori Mathematicians, Scientists and Technologists) and others to develop an inclusive view of S&T in New Zealand.
6. Establish an annual “New Zealand S&T Conference” with regular dates and themes published well in advance
7. Maximise use of our database of Fellows, Companions, members, experts and constituent societies for rapid comment on topical issues
8. Implement a Royal Society sponsorship and endowment plan to build a viable and independent organisational base
9. Operate a web-based clearing-house for S&T opportunities

3.5.2 International Links

New Zealand carries out a very small proportion of the total R&D in the world. It is vital that we both contribute to, and draw from, the global effort. To this end we must develop and maintain excellent, focused and active links with international science. We will:

1. Build collaborative links between New Zealand and target countries by way of science agreements and the International Science and Technology (ISAT) Linkages Fund¹
2. Support the S&T community in seeking senior positions within international unions, bodies and/or associations
3. Promote New Zealand as a venue for international S&T assemblies, congresses and conferences
4. Recognise and enable high-profile international achievers to visit New Zealand

The indicator below tracks the percentage of Royal Society-funded international collaborations each year versus the percentage of NZ papers showing international collaboration.



3.5.3 Publishing

Publishing is an integral part of the process of research. Publication makes research available to the community, enabling sharing of work and development of ideas. The Society's Publishing unit is a leading publisher for New Zealand science. We will:

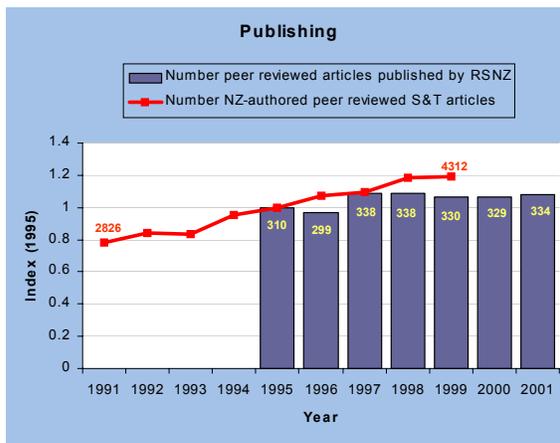
1. Entrench electronic publishing of all the journals in parallel with printed copies
2. Produce at least one 'virtual journal'
3. Develop a national electronic publishing gateway for refereed research and databases
4. Expand non-journal publishing to include new promotional newsletters and magazines of the Society and a viable commercial S&T book publishing programme

¹ Four international programmes are administered by the Royal Society on behalf of the Minister of RS&T:

1. Bilateral Research Activities
2. NZ/USA Science and Technological Co-operative Science
3. NZ/Deutsche Forschungsgemeinschaft (DFG)
4. NZ/FRG Scientific and Technological Co-operation Agreement

The indicator below tracks the Royal Society's journal papers published per year, versus NZ total publishing.

3.6 STANDARDS AND ETHICS



We are revising the Society's Code of Professional Standards and Ethics. We will promote it to all members, constituent societies and Government bodies, and seek to apply it to all Government S&T funding in New Zealand. Constituent Organisations play a key role in developing new Codes of Professional Standards and Ethics. We will:

1. Ensure that ethical standards are adhered to for all funds and Fellowships administered by the Royal Society
2. Promote the ethical standards as a requirement for all New Zealand science
3. Press for ethics components in tertiary science courses
4. Commission random audits of projects to ensure adherence to the code

3.7 CORPORATE DEVELOPMENT - HOW WE DO OUR JOB

To advance our strategic plan, we must grow and change ourselves – in our skills, our capabilities, and ways of working. We will also provide good working conditions and effective systems. Corporate development informs and focuses our actions and provides the infrastructure support for an effective and efficient organisation. We will:

1. Update our strategic plan annually, and pursue organisational criteria for excellence
2. Develop, Organise, train and recruit the competencies needed to deliver the plan. All people involved in this plan, especially staff, will be challenged, trained and supported so that the Royal Society becomes known as a good employer, and that people who give their time voluntarily will find their involvement rewarding. The Society will provide a safe, equitable workplace for all involved.

3. Provide quality services to external and internal customers in a cost-effective manner. This will involve updating and enhancing administration procedures and systems and reviewing costing procedures.
4. Work together to develop and manage our relationships with Government, learning institutions, professional bodies and the private sector, recognising the need for multi-level contacts if change is to be achieved. In particular, we will initiate a major fundraising campaign for the Royal Society Foundation Fund²
5. Ensure that our office site is developed to its full potential in meeting the needs of the Society.
6. Continue to provide a financial management system with timely and accurate reporting to ensure accountability and managerial control, and to meet or exceed audit and statutory reporting requirements.
7. Provide members, award recipients and staff with IT systems, which have flexibility and robustness to meet the future needs of the Society. We will build a dynamic presence on the Internet as an effective communication tool.

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² A fund for the provision of awards, scholarships, medals and new initiatives