Natural Sciences and Engineering Research Council

Report on Plans and Priorities

2006-2007
Estimates

Maxime Bernier
Minister of Industry

Canada

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SECTION I – OVERVIEW

Minister's Message

As Minister of Industry, I am proud to present this report on the Natural Sciences and Engineering Research Council of Canada's (NSERC) anticipated achievements and results over the next three years. Through the efforts of NSERC and its Portfolio partners, we are working to ensure that Canada has the necessary business and innovation environment to foster a culture of discovery and creativity to fuel economic success and support our enviable quality of life.

Today, we operate in a globalized economy where electronic commerce drives complex and interconnected supply chains from around the world and anyone can be our competitor. To thrive, we need a dynamic and adaptable economy – one with a highly trained work force and nimble businesses striving for competitive growth and development.

Looking ahead, we see the need to enhance Canada's business environment, including improving the critical ground rules that ensure stability, equitable conduct and competition for consumers, investors and businesses. Used strategically, these efforts can encourage investment in innovation, afford easier access to capital, support risk-taking and entrepreneurship, and ensure the efficient and productive allocation of resources.

The Industry Portfolio consists of:
- Business Development Bank of Canada [1]
- Canadian Space Agency
- Canadian Tourism Commission [1]
- Competition Tribunal
- Copyright Board Canada
- Industry Canada
- National Research Council Canada
- Natural Sciences and Engineering Research Council of Canada
- Social Sciences and Humanities Research Council of Canada
- Standards Council of Canada [1]
- Statistics Canada

[1] Federal Crown corporations do not prepare Reports on Plans and Priorities.

We are working to reduce barriers to and within our markets and to encourage more domestic and foreign investment. We are supporting and defending our industries. We are working to improve business and consumer confidence. And we are supporting science, technology, research and development to encourage our industries, our businesses and our workforce to keep pace with technological change and drive innovation throughout our economy. And the demand for innovation across the Canadian economy – including in the areas of health care, climate change, productivity and the competitiveness of Canadian firms – continues to rise.

As presented in this report, NSERC initiatives will help make Canada a better place to innovate and do business.

It is my pleasure to present the *Report on Plans and Priorities* for NSERC.

Maxime Bernier
Minister of Industry

Management Representation Statement

I submit for tabling in Parliament, the 2006-07 Report on Plans and Priorities (RPP) for the Natural Sciences and Engineering Research Council.

This document has been prepared based on the reporting principles contained in the *Guide for the Preparation of Part III of the 2006-07 Estimates: Reports on Plans and Priorities and Departmental Performance Reports.*

- It adheres to the specific reporting requirements outlined in the Treasury Board Secretariat (TBS) guidance;
- It is based on the department's approved accountability structure as reflected in its Management Resources and Results Structure;
- It presents consistent, comprehensive, balanced and reliable information;
- It provides a basis of accountability for the results achieved with the resources and authorities entrusted to it; and
- It reports finances based on approved planned spending numbers from the Treasury Board Secretariat in the RPP.

Suzanne Fortier
President, NSERC

Summary Information

Raison d'être – *NSERC works to make Canada a country of discoverers and innovators. To achieve this, we invest in people, discovery and innovation in Canadian universities and colleges.*

Financial and Human Resources:
($ millions)

2006-2007	2007-2008	2008-2009
$902.0	$899.9	$899.7
313 FTE[1]	319 FTE	319 FTE

Departmental Priorities by Strategic Outcome[2]		**Planned Spending ($ millions)**		
		2006-2007	**2007-2008**	**2008-2009**
Strategic Outcome #1: Highly skilled science and engineering research professionals in Canada				
Priority #1: Develop tomorrow's discoverers and innovators	Ongoing	$141.9	$141.8	$141.8
Priority #2: Build on Canada's strength in discovery (people)	Ongoing	$167.7	$166.8	$166.9
Strategic Outcome #2: High quality Canadian-based competitive research in the natural sciences and engineering (NSE)				
Priority #2: Build on Canada's strength in discovery (research)	Ongoing	$394.7	$392.0	$390.0
Priority #3: Seize emerging research opportunities	New	$66.0	$66.9	$68.9
Strategic Outcome #3: Productive use of new knowledge in the NSE				
Priority #4: Realize the benefits of university research	Ongoing	$131.7	$132.4	$132.1
TOTAL		**$902.0**	**$899.9**	**$899.7**

[1] Full-time equivalent
[2] Includes costs for administration of NSERC programs totalling $40.6 million.

Departmental Plans and Priorities

This is a time of great challenges and great opportunities for Canada.

Dramatic economic changes are occurring throughout the world. Global competitors are taking the lead in important industrial sectors: China in steel production and manufacturing, Taiwan in semiconductors, and India in specialty chemicals, software and information technology. In the global, knowledge-based economy, Canada faces growing competition from both established and emerging economies with excellent educational systems and large numbers of qualified people. The increase in highly qualified people (HQP) in Asia means that global outsourcing now includes services and research and development (R&D) functions in addition to the "traditional" outsourcing of manufacturing. Beyond our traditional competitors among the G8, smaller economies such as Finland, Ireland, Israel and Sweden have surpassed Canada in research intensity.

At the same time, research activities are increasingly international in scope, involving teams of researchers from many countries collaborating on topics of mutual and universal interest.

Virtually all aspects of modern Canadian social and economic life are affected by advances in the natural sciences and engineering. The benefits of research, training and innovation are the foundation on which to build national prosperity, adding value to goods and services as well as producing the HQP that are able to conduct research, generate new knowledge, access knowledge created elsewhere, and adopt and adapt new technologies for industry.

The significant renewal of Canada's research, training and innovation capacity through recent investments in postsecondary researchers, students and facilities has allowed the nation to perform well in international benchmarks of research activity and dissemination, the training of new researchers, and the transfer of technologies into commercial innovations.

NSERC is a vital lever in the federal government's support for research and innovation to enhance Canada's competitiveness in this global context. NSERC programs support Canada's productivity goals; they support the production and diffusion of new scientific knowledge, the training of HQP, and collaborations between university, industry and government to increase the rate of technological innovations flowing into the Canadian economy. With a current budget of $902.0 million,[3] NSERC's grants and scholarships programs:

- annually fund 10,000 researchers who are professors at Canadian universities, whose discoveries advance knowledge and form the foundation of technology development by industry as well as improvements in environmental quality and public safety, for example through contributions to the development of standards;

[3] This includes a base budget of $686.1 million and an additional $215.9 million that flows through NSERC for programs such as the Canada Research Chairs, Canada Graduate Scholarships, Networks of Centres of Excellence, and funding for the Perimeter Institute for Theoretical Physics.

- support 22,000 undergraduate and graduate students and postdoctoral fellows each year. These highly qualified people, educated in advanced research techniques, form the human capital necessary for Canada's economic growth, and transfer new ideas and techniques to industry and other sectors for the social and economic benefit of Canada; and

- support university-industry research collaborations and training through partnerships with 1,200 Canadian companies. These collaborations strengthen the ability of industry to adopt and adapt discoveries and new technologies leading to commercial products, while providing support to university researchers who wish to align their research programs with the needs of industrial users.

In 2006-07, NSERC will fund research, training and innovation to support four critical priorities:

- develop tomorrow's discoverers and innovators;
- build on Canada's strength in discovery;
- seize emerging research opportunities; and
- realize the benefits of university research.

Budget 2006

In May 2006, the federal government announced an increase in funding for NSERC of $17 million, as part of Budget 2006. NSERC's Council will allocate these funds to the following items:

- Significantly accelerate the progress and impact of a limited number of outstanding researchers at a critical point in their research.
- Increase support for strategic partnerships that focus on identified areas of national priority.
- Support the research component of an International Joint Venture initiative that will be selected following an extensive review process. CFI, the granting councils and Genome Canada are partnering to jointly select and support this initiative.
- Provide a small budget increase for the Major Resources Support Program to help meet growing demand within the program.
- Allocate funds to provide a modest base of funding to the budget of the Research Tools and Instruments (RTI) program, which enables grantees to purchase equipment.
- Increase administrative resources to support the initiatives above and to address other ongoing operating pressures, such as, for example, an increasing number of applications and client base (new applicants, colleges), as well as the continued implementation of NSERC regional offices. The first three initiatives above represent new programs that will require additional staff resources. NSERC will continue to maintain its administration expenses at or below five percent of its total budget.

For planning purposes, these new allocations are reflected in planned spending figures throughout this document. The release of these funds to NSERC is subject to Treasury Board approval, which will be sought in fall 2006.

Budget 2006 also noted that, "over the coming year, the Minister of Industry will be developing a science and technology strategy, in collaboration with the Minister of Finance, that will encompass the broad range of government support for research, including knowledge infrastructure. The Government will also undertake a review of the accountability and value for money of the granting councils' activities." NSERC welcomes the opportunity to demonstrate the value Canadians receive from federal investments in research, training and innovation in the natural sciences and engineering (NSE), and is working closely with Industry Canada to provide input and feedback on this process.

Program Priority #1: Develop Tomorrow's Discoverers and Innovators

Objective

NSERC will continue to support the development of new researchers in the NSE and, increasingly, the development of HQP with experience in meeting the technology needs of industry and business. NSERC will also continue to support research to improve the ability of educators at the primary and secondary level to help youth develop an interest in science and mathematics.

Background

Qualified science and engineering graduates represent the most important mode of transfer of scientific and technical knowledge from academia to the user sector. Students need a firm grounding in science and mathematics, as well as broad professional skills for leadership, teamwork, communications, project management and the management of intellectual property. In supporting this priority in the future, the following needs will be taken into consideration:

- **Professional skills –** The transfer of knowledge and the commercialization of research results are complex and require skilled scientists and engineers, in both research and management positions, who are familiar with the industrial environment and business practices, particularly marketing and finance, in addition to an understanding of fundamental scientific principles. A greater supply of people with this combination of skills is required not only for universities, but also for government and industry.

- **International experience –** Canadian students and fellows do not have the same opportunities as their counterparts in other industrialized countries with regards to accessing funds to support travel to a foreign institution or research facility. Participation in such activities is especially low in the natural sciences and engineering. The benefit of supporting international travel and exchanges for a significant number of Canadian students in the NSE is threefold: first, students gain valuable research experience at world-class research organizations and learn novel approaches and research techniques; second, by collaborating with international counterparts, Canadian professors and students are able to develop a network of potential future collaborators and are able to better access the discoveries and knowledge created by researchers outside Canada; and finally, students who travel abroad to work and study at world-class facilities can become effective marketers for Canadian innovations around the world.

Actions

NSERC is one of many players contributing to the education and training of these highly qualified people; its critical role lies in supporting the next generation of research professors as well as industrial and government scientists and engineers. The following management priorities are aligned to NSERC's program priority to train the next generation of knowledge professionals in Canada:

- Invest $130.9 million in 2006-07 to provide scholarships and fellowships to students and fellows studying at universities or conducting research in Canadian industrial labs.
- Continue to work with partners in Japan, Taiwan and the United Kingdom and implement new agreements with India to provide additional opportunities for international training. As part of the development of an International Strategy for NSERC, further options for international training will be examined.
- Work with key stakeholders to identify ways to improve enrolment levels, graduation rates and the acquisition of professional skills by science and engineering graduates.
- Support five multi-disciplinary research centres that work to improve research into primary and secondary school science and math education, in collaboration with provincial stakeholders.
- Expand programs that promote university-industry collaboration and training in environments outside of academia to expand the non-technical professional skills of students.

Program Priority #2: Build on Canada's Strength in Discovery

Objective

NSERC will continue to provide stable multi-year support for Canadian professors' research programs to ensure Canadian universities can attract and retain excellent researchers and maintain advanced research laboratories and facilities. This will result in the creation of knowledge and a capacity to access discoveries made around the world.

Background

Each year, NSERC supports the research careers of 10,000 university professors and 22,000 students and postdoctoral fellows, as well as hundreds of university technicians and research associates. By most metrics of research performance, such as papers published in prestigious journals and citations by other researchers, Canadian professors perform very well in international comparisons, based on available funding. NSERC plans to seize the opportunity offered by the massive renewal of Canadian university faculty and will support a new generation of talented researchers as they launch their careers. Some of the factors that underpin this priority include the following:

- **Momentum of federal investments in S&T –** Sustained federal investments in university research and training have led to a remarkable renewal in Canada's S&T capacity, particularly in the area of university research and training. World-class researchers continue to be recruited to Canadian universities, new research equipment and infrastructure are being installed and many important research projects have been

launched. This has also provided for a renewed capacity to train HQP in advanced research techniques.

In this context, NSERC's challenge is to maintain the momentum created by these important investments and ensure the competitiveness of Canada's research efforts. Recipients of Canada Research Chairs also require research grants to conduct their programs of research. As well, the many facilities created through the investments of the Canada Foundation for Innovation (CFI) and its funding partners require long-term funding to ensure such research infrastructure is used to its fullest extent.

- **Canadian presence and participation in international S&T –** NSERC encourages researchers to interact and collaborate with international researchers through various programs designed to support such efforts. With increased support, Canadian researchers and students could more fully participate in international research projects, have the means to access world-class research facilities abroad, attract excellent foreign researchers to visit Canada and build international networks and contacts. There are also many opportunities to increase collaborations with scientists in emerging and developing countries as well as support international collaborations involving academic, industrial and government researchers.

- **Under-represented groups in science and engineering –** Women and Aboriginals continue to be under-represented in a number of disciplines within the NSE. There are various reasons for this difference, including poor access to research and training opportunities, a lack of role models and personal factors. To meet the Government of Canada's targets for the increase in the number of HQP, it is essential to engage all pools of potential talent.

Actions

In order to build on Canada's strength in discovery, the following management priorities will be addressed.

- NSERC will provide $379.0 million in funding in 2006-07 through programs that support basic research, allow researchers to purchase modern research equipment and contribute to the operation of unique regional and national research facilities and institutes.
- NSERC will invest $164.8 million in faculty support programs[4] that allow universities to attract and retain excellent researchers and develop faculty positions in areas of industrial relevance or national need in the natural sciences and engineering.
- NSERC will develop a new program to evaluate proposals from, and contribute to the operation of, unique regional, national, or international facilities as well as institutes across Canada.
- NSERC will complete the development of an International Strategy that will identify objectives and mechanisms to increase Canadian researchers' ability to participate in international S&T activities such as multi-national research projects, access foreign labs and host foreign researchers in Canada.

[4] Including $133.2 million in funding for the tri-agency Canada Research Chairs program.

- NSERC will redesign the University Faculty Awards program to better address the under-representation of women and Aboriginals in the NSE. The revised program will focus on those stages of training in which there is particularly high attrition for these groups.

Program Priority #3: Seize Emerging Research Opportunities

Objective

NSERC will continue to identify promising research opportunities and rapidly expand support for research, training and innovation in areas where Canada has the potential to be a world leader.

Background

The fields of scientific and engineering research are undergoing dramatic renewal. Increasingly, dynamic research partnerships, reaching across disciplinary and national boundaries, combine talents and experience in ways that allow insights and breakthroughs to flourish. The following factors affect this program priority:

- **Identification of emerging opportunities –** In order to enhance research capacity in a promising new field, such opportunities must first be identified and prioritized. As the Government of Canada cannot adequately fund every potential opportunity, investment choices must ensure sufficient resources are mobilized to allow Canadian researchers to have an impact in such highly competitive emerging areas, which often span several traditional disciplines.

  In consultation with universities, industry and other government organizations, NSERC has identified and prioritized areas in which it can make strategic investments (see page 25).

- **Northern research –** NSERC sees an opportunity to revitalize Canada's capacity to conduct research in the North, which will lead to positive impacts on the health and well-being of Canadians living there, on northern economic development and on an understanding of the effects of climate change and pollution in northern environments.

- **International collaboration and competition –** The rapid pace of scientific breakthroughs offers opportunities for Canadians to become pioneers in new research domains, with the economic and social advantages that a competitive position in science often brings. Seizing opportunities for leadership in areas where Canada has strengths cannot be done in isolation from what happens elsewhere. Canada must both compete and collaborate with many other countries that may wish to develop a world-class research base in similar areas of strategic interest but also offer potential for collaboration on major research initiatives for greater leverage of Canada's investments.

Actions

The following management priorities for 2006-07 will help NSERC achieve its objective of identifying and funding new research opportunities as they become apparent:

- NSERC will invest $61.9 million for research and training in areas of strategic importance to the country and in areas of emerging opportunities for research, training and innovation, such as the new Innovation Platform on quantum information processing that will enable Canada to consolidate its position as a recognized leader in this field.
- NSERC will continue to implement new target areas for its Strategic Project Grants program, following extensive consultation with the academic, industrial and government S&T communities.
- NSERC will also align its Strategic Network Grants program (formerly the Research Network Grants program) with these new target areas in order to increase research and training and to establish a critical mass of researchers in these areas.
- NSERC will continue to support Canada's northern research activity. For example, since 2000, NSERC has established six Northern Research Chairs and has provided supplements to students conducting research in the North. NSERC has been an active partner in planning activities for the upcoming International Polar Year (IPY), including committing $6 million of its own resources over three years for Canadian professors and students to participate in IPY activities.
- Through the Special Research Opportunity (SRO) program, NSERC will issue calls for proposals in response to unique research opportunities, including opportunities to jointly fund research with counterpart agencies in Canada and abroad, in order to achieve greater leverage of NSERC's research funding.

Program Priority #4: Realize the Benefits of University Research

Objective

NSERC will continue to foster university and industry participation in collaborative research, increasing the impact of research and training on Canadian industries' competitiveness and accelerating the translation of research results into commercially successful innovations.

Background

NSERC's partnerships programs have a proven record of increasing collaboration between the academic, industrial and government sectors, and provide a full spectrum of support for students from the undergraduate to the postdoctoral level to gain industry-based research training. Through such collaborations, industry is able to develop discoveries into new products, processes and services and hire staff with the most modern skills and knowledge, both of which result in greater productivity. University researchers, in turn, address issues of interest to industry, and are often able to use these experiences to develop more relevant curricula for the benefit of future students. Students and fellows involved in these programs develop important professional skills and are often hired by the supporting company once the project is completed. With experienced staff and an excellent record of accountability in the effective use of public funds, NSERC is well-positioned to continue to support research, training and innovation with relevance to, and in

partnership with, Canadian businesses and industries. The following factors affect NSERC's actions to realize the benefits of university research:

- **Industry investments in R&D –** Canada has invested substantial amounts to strengthen the research capacity of universities, colleges and research hospitals. However, studies by the Conference Board of Canada and the Association of Canadian Manufacturers and Exporters indicate that industry's under-investment in R&D and insufficient capacity to transform ideas into marketable products and services constitute a major weakness. NSERC's Research Partnerships Programs play an important role in promoting increased industrial investments in R&D. NSERC's Regional Offices are an important tool in this process, providing an NSERC presence and promoting NSERC programs to companies across Canada.

- **Receptor capacity and innovation performance –** NSERC has identified several critical gaps that must be addressed in order to improve Canada's innovation performance. NSERC recognizes that it will need to coordinate its efforts with other stakeholders to address these issues. Some of the gaps that NSERC could help address include the following:

    - **Innovation culture –** There is a need for university researchers to see their activities as part of the discovery to innovation spectrum. The potential of new knowledge and research advances to lead to wealth creation must be more widely recognized and pursued by universities. In turn, a broader acceptance is needed from industry that the results of university research can benefit their business performance.
    - **Research transfer –** The impact and effectiveness of knowledge and technology transfer from academia to the user sector must be improved in order to more fully harness the discoveries made at Canadian postsecondary institutions.
    - **Partnerships –** The number and scope of university-industry research collaborations and exchanges must continue to increase in order to take advantage of the research capacity at Canadian universities.
    - **International –** International collaborations involving university and industry researchers must be increased in order to foster greater access to and adoption of new technologies developed around the world and to increase the economic impact of Canadian companies' innovations.

- **The role of community colleges in the Canadian innovation system –** Canada has a national network of colleges that are closely connected to local business and industry and sometimes form a direct technology link between university-based fundamental research and the application of this research by small- and medium-sized enterprises (SMEs) in the local community. The colleges are particularly well positioned to enhance innovation and economic revitalization within their communities and to play a critical role in building an innovative and productive economy. NSERC has begun to address the needs

of community colleges to carry out this important function through its College and Community Innovation Program,[5] which is currently funded on a limited pilot basis.

Actions

NSERC will continue to support a broad spectrum of activities that include targeted research, strategic networks, university-industry collaborative projects, technology transfer and capacity building for the mobilization of intellectual property. In 2006-07, the following management priorities will help Canada realize the benefits of federal investments in research, training and innovation:

- NSERC will invest $64.9 million in programs that support collaborations between college and university researchers and industrial partners.
- NSERC will continue to promote its partnerships programs through industrial associations, trade shows and by using the resources of the NSERC Regional Offices to develop networks of potential partners for NSERC programs.
- NSERC will implement an October 2005 Council decision to allow eligible community colleges to receive support for the pre-commercial development of promising new technologies, products and services through the Idea to Innovation (I2I) program, previously available only to Canadian university faculty.
- Options to increase international collaborations involving university and industry researchers will be examined as part of the development of an International Strategy for NSERC.
- The College and Community Innovation Pilot Program will be evaluated in 2006-07.

[5] This program is being undertaken as a partnership between NSERC, the Association of Canadian Community Colleges and the Council of Manufacturers and Exporters.

SECTION II – ANALYSIS OF PROGRAM ACTIVITIES BY STRATEGIC OUTCOME

Analysis by Program Activity

The following section outlines NSERC's activities and provides financial and contextual information regarding NSERC's programs and services. Planned spending figures in this section do not include administration expenses. In 2006-07, NSERC will spend $40.6 million on the administration of the programs below, which represents less than five per cent of NSERC's total budget. For more information on planned administration expenses, refer to the financial tables in Section III. Full-time equivalent (FTE) figures are calculated based on planned program spending, as many employees are responsible for functions across multiple program activity areas.

NSERC is reviewing its program activity structure to ensure programs' classifications reflect their primary objective, as well as to harmonize the Program Activity Architecture (PAA) with recent program changes. To this end, NSERC will be updating its PAAfor 2007-08.

NSERC Program Activity Architecture

	1.0 People	**2.0 Discovery**	**3.0 Innovation**
Strategic Outcomes	**Highly skilled science and engineering professionals in Canada**	**High quality Canadian-based competitive research in the NSE**	**Productive use of new knowledge in the NSE**
Activities	1.1 Promote Science and Engineering 1.2 Support Students and Fellows 1.3 Attract and Retain Faculty	2.1 Fund Basic Research 2.2 Fund Research in Strategic Areas	3.1 Fund University-Industry-Gov't Partnerships 3.2 Support Commercialization
Programs	1.1.1 Science Promotion and Education Research 1.2.1 Undergraduate Student Research Awards 1.2.2 NSERC Postgraduate Scholarships 1.2.3 Canada Graduate Scholarships[1] 1.2.4 Postdoctoral Fellowships 1.2.5 Industrial R&D Fellowships 1.3.1 Canada Research Chairs[1] 1.3.2 Industrial and Other Research Chairs 1.3.3 Prizes	2.1.1 Discovery Grants 2.1.2 Special Research Opportunity Grants 2.1.3 Perimeter Institute 2.1.4 Research Capacity Development in Small Universities 2.1.5 Research Tools and Instruments 2.1.6 Major Resources Support Grants 2.1.7 General Support 2.2.1 Strategic Project Grants 2.2.2 Collaborative Health Research Projects[2]	3.1.1 Collaborative Research and Development Grants 3.1.2 Research Partnership Agreements[3] 3.1.3 Networks of Centres of Excellence[1] 3.1.4 Strategic Networks 3.2.1 Intellectual Property Mobilization[1] 3.2.2 Idea to Innovation Program 3.2.3 College and Community Innovation Program[4]

1: These programs are tri-agency initiatives which involve the Social Sciences and Humanities Research Council (SSHRC) and the Canadian Institutes of Health Research (CIHR).
2: This program is a joint initiative with CIHR.
3: Funding within this program includes an agreement with another federal department or agency to jointly support projects of research in areas of mutual interest. The following departments are currently participating in this partnership program: Agriculture and Agri-Food Canada, the Canadian Forest Service (in partnership with SSHRC) and the Department of National Defence, and the Earth Sciences Sector of Natural Resources Canada.
4: This program was developed in partnership with the Association of Canadian Community Colleges (ACCC) and the Canadian Manufacturers and Exporters (CME).

Strategic Outcome #1: Highly Skilled Science and Engineering Professionals in Canada

NSERC will ensure a reliable supply of HQP for Canadian industry, government and academia by promoting science and engineering to Canadian youth, supporting students and fellows at Canadian universities and abroad, and providing support to university faculty.

Program Activities

1.1 Promote science and engineering

Financial Resources ($ millions)

Program	2006-2007	2007-2008	2008-2009
Science Promotion and Education Research	$3.9	$3.9	$3.9
Total	**$3.9**	**$3.9**	**$3.9**

Human Resources

2006-2007	2007-2008	2008-2009
2 FTE	2 FTE	2 FTE

This program activity promotes popular interest in science, mathematics and engineering and aims to encourage more Canadian youth to pursue studies in these fields.

Stimulating young Canadians' interest in science and engineering and assisting in the development of pedagogical methods are critical to help develop tomorrow's discoverers and innovators.

NSERC programs within this activity include:

- **PromoScience –** This program supports non-profit organizations that work with young Canadians in order to build their interest in science and engineering, motivate and encourage their participation in science and engineering activities, and that assist teachers who are responsible for the science and math education of young Canadians.

- **Michael Smith Awards –** The Michael Smith Awards recognize the efforts of Canadians who have inspired public understanding and helped Canadians develop abilities in science and engineering.

- **Centres for Research in Youth, Science Teaching and Learning (CRYSTALs) –** This pilot program is designed to establish effective collaborations between researchers in education and those in science, mathematics and engineering, as well as with the education and science promotion communities. Given that K-12 education is a provincial responsibility, NSERC conducted a year-long series of consultations with provincial

counterparts before awarding the five grants announced in May 2005. This pilot program is discussed further in Section III.

The performance indicators to assess the effectiveness of these science promotion programs will be student interest and abilities in science, mathematics and engineering, as determined through surveys, progress reports and other program evaluation information collected by NSERC.

1.2 Support students and fellows

Financial Resources ($ millions)

Program	2006-2007	2007-2008	2008-2009
Undergraduate Student Research Awards	$19.2	$19.2	$19.2
Postgraduate Scholarships	$58.2	$58.0	$58.0
Canada Graduate Scholarships	$31.5	$31.5	$31.5
Postdoctoral Fellowships	$17.0	$17.0	$17.0
Industrial R&D Fellowships	$5.0	$5.0	$5.0
Total	**$130.9**	**$130.7**	**$130.7**

Human Resources

2006-2007	2007-2008	2008-2009
53 FTE	54 FTE	54 FTE

This program activity addresses NSERC's priority of developing tomorrow's discoverers and innovators. Specifically, NSERC's direct financial support for the most promising students and fellows provides Canada's next generation of researchers with the means to continue their advanced studies, ultimately leading to a reliable supply of HQP for Canadian industry, government and academic institutions.

NSERC also offers students and fellows the opportunity to conduct research with Canadian firms engaged in R&D activities. Industrially based award holders gain valuable experience in using their training in an industrial context, and participating companies benefit from a highly trained resource who can help increase their R&D capacity. In addition, this experience often results in students pursuing a career in a relevant industry. In all cases, the host company contributes to the financial support of the awardee.

NSERC provides direct financial support to students from the undergraduate to the postdoctoral levels through programs such as:

- **Undergraduate Student Research Awards –** Held in university or industry laboratories, these awards support a four-month work term for an undergraduate student. This program helps attract the best students to a career in research. It is also important for the development of research capacity at small universities in Canada that do not have postgraduate degree programs.

- **Postgraduate Scholarships –** At the master's and doctoral levels, NSERC provides an annual stipend that enables selected students to pursue advanced degrees. Up to four years' support is available over the course of a candidate's graduate education. Opportunities are available for study at institutions in Canada and abroad as well as at Canadian industrial laboratories. Canada Graduate Scholarships (tenable only at Canadian universities) are awarded to outstanding candidates.

  A limited number of scholarship supplements are also available for awardees involved in particular activities. For example, the Northern Research Internship supplements help defray the high costs of studying and conducting research in the North.

- **Postdoctoral and Industrial R&D Fellowships –** These awards provide two years of support to researchers who have completed their Ph.D. They provide them with funds to further their knowledge and experience in a specialized area and to develop their own distinct program of research. Postdoctoral fellowships may be held at any academic institution in Canada or abroad while Industrial R&D Fellowships are held at the facilities of a company that conducts research.

The evaluation of these programs will consider the number of students and fellows gaining research and professional experience, the employment and salary levels of past award recipients compared to the general population, and the average degree completion rate and time to completion of award recipients compared to the general population.

1.3 Attract and retain faculty

Financial Resources ($ millions)

Program	2006-2007	2007-2008	2008-2009
Canada Research Chairs	$133.2	$133.2	$133.2
Industrial and Other Research Chairs	$29.5	$28.6	$28.7
Prizes	$2.1	$2.1	$2.1
Total	**$164.8**	**$163.9**	**$164.0**

Human Resources

2006-2007	2007-2008	2008-2009
22 FTE	23 FTE	23 FTE

This program activity includes a number of Chair programs that strengthen research excellence and teaching at Canadian universities by providing support for faculty in specific fields.

Such programs address NSERC's priority of building on Canada's strength in discovery by creating the conditions that will attract world-class scientists and engineers to develop and continue their careers in Canada. Furthermore, research chairs in areas of interest to particular industries enable Canadian-based businesses to build long-term relationships with university faculty and more rapidly realize the benefits of public investment in university research.

These faculty support programs include:

- **Canada Research Chairs –** This Tri-Council program supports up to 2,000 professors across Canada, including 600 positions within the NSE. The program's key objective is to enable Canadian universities to achieve the highest levels of research excellence and to become world-class research centres in the global, knowledge-based economy.

- **Industrial Research Chairs –** This program helps universities develop a critical mass of expertise and long-term relationships with corporate partners in areas of research that are of importance to industry. Industrial Research Chairs can also enhance the ability of universities to recruit senior-level researchers and research managers from industry or other sectors.

- **Other Chairs and Faculty Support Programs –** Support of university faculty in targeted areas such as Northern Research, Management of Technological Change, Fuel Cells, Design Engineering and Women in Science and Engineering helps capacity building in areas with specific needs.

  The University Faculty Awards program was designed to decrease the under-representation of women and Aboriginals in faculty positions in the NSE by providing partial salary support to Canadian universities that appoint promising researchers from such groups. Following recommendations from an evaluation of this program in 2005, NSERC has begun to examine other options to better address these issues, and will announce changes or new initiatives in 2006-07.

- **Prizes –** NSERC prizes recognize outstanding Canadian researchers, research teams and students. They enhance the career development of highly promising scientists and engineers and celebrate the sustained excellence of Canadian university faculty members. They also publicly recognize lasting partnerships in R&D between university and industry, and celebrate young Canadian entrepreneurs. Examples of NSERC prizes include the Gerhard Herzberg Canada Gold Medal for Science and Engineering, the E.W.R Steacie Memorial Fellowships, the Synergy Awards for Innovation and the Innovation Challenge Awards.

  In October 2005, NSERC announced the new John C. Polanyi Award that will recognize a recent outstanding advance made by a Canadian researcher or team of researchers in any field of the natural sciences or engineering. This award honours Canadian scientist John Polanyi, winner of the 1986 Nobel Prize for Chemistry.

Faculty support programs will be evaluated based on performance indicators such as the number of researchers attracted to and retained by Canadian universities, the impact of supported faculty on the research teams with which they work, the number of continuing collaborations established through such support, the number of students and fellows trained by the supported researcher, and the number of publications, patents and new products developed by supported researchers.

Strategic Outcome #2: High Quality Canadian-based Competitive Research in the NSE

Support for basic research provides the foundation for scientific and technological advances, and ensures Canadian universities train new researchers in a world-class research environment. Furthermore, funds for research in areas of strategic importance enable Canada to develop research capacity in these fields of research. These programs also support the creation of knowledge in Canada and the ability to draw on knowledge generated around the world.

Program Activities

2.1 Fund basic research

Financial Resources ($ millions)

Program	2006-2007	2007-2008	2008-2009
Discovery Grants[6]	$327.8	$332.5	$333.9
Special Research Opportunity Grants	$11.1	$9.9	$9.9
Perimeter Institute	$5.0	-	-
Research Capacity Development in Small Universities	$2.1	$2.1	$2.1
Research Tools and Instruments	$18.8	$12.2	$8.8
Major Resources Support Grants	$23.9	$27.9	$27.9
General Support	$1.5	$1.5	$1.5
Total	**$390.2**	**$386.1**	**$384.1**

Human Resources

2006-2007	2007-2008	2008-2009
124 FTE	127 FTE	127 FTE

This program activity focuses on basic research that provides the foundation for advances in all disciplines within the NSE, and also trains people who can generate new knowledge in Canada. Furthermore, funding for basic research ensures Canada has the capacity to access and understand knowledge created at other research institutions internationally. This is critical, as Canada performs only three per cent of the world's research activity and generates four per cent of the world's scientific knowledge, as measured by published scientific papers.[7]

This program activity supports NSERC's priority of building on Canada's strength in discovery by providing support for Canadian researchers to conduct their programs of research.

[6] Includes funding for Discovery Grants to groups and individuals, subatomic physics projects, institutes, ship time and Northern Research Supplement funding.
[7] NSERC Departmental Performance Report 2004-05, Figures 3 and 16: http://www.tbs-sct.gc.ca/rma/dpr1/04-05/NSERC-CRSNG/NSERC-CRSNGd45_e.asp

Programs within this activity include:

- **Discovery Grants –** The discovery, innovation and training capabilities of university researchers in the NSE are highly dependent on the availability of basic support for the direct costs of ongoing programs of basic research. This program is the mainstay of support for university-based research, and accounts for 38 per cent of NSERC's total grants budget. These grants recognize that creativity and innovation are at the heart of all research advances, whether made individually or in groups.

  Researchers have the flexibility to make adjustments to their program of research to pursue new avenues, provided they still fall within NSERC's mandate. To be funded they must demonstrate both research excellence and high productivity.

- **Special Research Opportunity Grants (SRO) –** This open and responsive program enables researchers to pursue emerging research opportunities at the time they become apparent, or investigate and develop collaborations to respond to national and international research opportunities and invitations. These grants provide a mechanism for supporting research breakthroughs and high-risk research, and for investigating and developing time-sensitive new collaborations in Canada or abroad.

  Through this program, NSERC can respond to new research funding opportunities by issuing targeted calls for proposals, addressing the priority of seizing emerging research opportunities. This is particularly important in situations where there is a limited "window of opportunity" to address a particular research interest, such as the opportunity to participate in a multi-agency collaborative research effort.

- **Perimeter Institute –** NSERC manages the federal investment in the Perimeter Institute for Theoretical Physics,[8] an international focal point of cutting-edge research in foundational theoretical physics financed largely by a private donation. The Government of Canada's five-year funding commitment to the Perimeter Institute continues to the end of 2006-07.

- **Research Capacity Development in Small Universities –** This pilot program was launched in 2004 and helps reduce barriers to increased research productivity faced by smaller universities. This pilot program is discussed in Section III.

- **Research Tools and Instruments Grants (RTI) –** RTI grants enable professors to purchase the laboratory equipment necessary to conduct world-class research. This critical source of funding ensures researchers have access to the modern research tools required to ensure the maximum return on other investments in research, such as Discovery Grants.

  While there are three categories of RTI grants, only RTI 1 grants (which fund equipment purchases between $7,000 and $150,000) are currently being considered. The RTI 2 and 3 grants (which fund research equipment and installations greater than $150,000) have been under a moratorium since 2003-04, as budget pressures faced by NSERC would result in an unacceptably low competition budget and funding rate.

[8] http://www.perimeterinstitute.ca/

- **Major Resources Support (MRS) –** The MRS program (formerly Major Facilities Access Grants) supports researchers' access to major regional, national or international research facilities by helping these facilities remain in a state of readiness for researchers to use. This program is the vehicle for NSERC investments in facilities such as the Canadian Light Source synchrotron and the Sudbury Neutrino Observatory.

  For 2006-07, NSERC has developed a new mechanism for funding large facilities and institutes. Following consultations with the research community, the new MRS program was announced on July 4th, 2006.

- **General Support –** Miscellaneous grants for proposals that do not fit any of NSERC's defined programs, but still fall within NSERC's mandate, may be funded through this small budget envelope. Parental leave supplements for students and postdoctoral fellows supported through NSERC awards are also paid through General Support.

Performance indicators for these programs include data on the creation and dissemination of knowledge to the research community and end users, the practical research experience gained by students and fellows who work with supported researchers, the employment of postgraduate students in well-paying jobs, and the diversified intellectual and infrastructure base maintained at postsecondary institutions across Canada.

NSERC will evaluate the performance of the SRO program based on the increase in international collaborations in which Canadian researchers participate, the number of long-term research collaborative relationships initiated through such support, recognized breakthroughs in research areas supported by the program, and the development of research collaborations and project plans in emerging areas of science and engineering.

2.2 Fund research in strategic areas

Financial Resources ($ millions)

Program	2006-2007	2007-2008	2008-2009
Strategic Project Grants	$47.5	$48.5	$50.6
Collaborative Health Research Projects	$3.3	$4.3	$4.3
Total	**$50.8**	**$52.8**	**$54.9**

Human Resources

2006-2007	2007-2008	2008-2009
28 FTE	28 FTE	28 FTE

This program activity funds research projects in areas of research that are of strategic importance to Canada.

This program activity addresses NSERC's priority of seizing emerging research opportunities. In addition, NSERC funds encourage experts in these areas of interest to pursue their research careers in Canada, and also help Canadians realize the benefits of public investments in research.

Finally, students and fellows involved in such projects receive excellent training in disciplines of national importance.

Programs within this activity include:

- **Strategic Project Grants –** This program increases research and training in targeted areas that could strongly enhance Canada's economy, society and/or environment within the next 10 years.

  NSERC has completed a review of target areas for this program, and the new target areas for 2006-07 to 2011-12 will be:

  - Advanced Communications and Management of Information
  - Biomedical Technologies
  - Competitive Manufacturing and Value-Added Products and Processes
  - Healthy Environment and Ecosystems
  - Quality Foods and Novel Bioproducts
  - Safety and Security
  - Sustainable Energy Systems (Production, Distribution and Utilization)

  In order to consolidate its support for these areas, these target areas will be applied to the Strategic Network Grants program (formerly Research Network Grants) described under Program Activity 3.1.

- **Joint Infrastructure Interdependencies Research Projects (JIIRP)[9] –** The JIIRP program is an example of NSERC-funded research in an area of national importance. It will produce new science-based knowledge and practices to better assess, manage and mitigate risks to Canadians from critical infrastructure interdependencies. This program was launched in 2004-05 as a joint initiative between NSERC and Public Safety and Emergency Preparedness Canada, and NSERC's current funding commitment will conclude at the end of 2006-07.

- **Innovation Platforms –** Through this initiative, NSERC plays a more strategic role in shaping the direction of Canadian research in a targeted area. There are two active projects, the Nano Innovation Platform,[10] established in 2002-03, and the Quantum Works Innovation Platform approved by Council in October 2005 that will accelerate Canadian research and training in areas of quantum information and computing.

- **Collaborative Health Research Projects –** Funded jointly with the Canadian Institutes of Health Research (CIHR), this program supports focused collaborations involving convergence of a field of the NSE and the health sciences. Projects are expected to lead to health benefits for Canadians, more effective health services or economic development in health-related areas.

These programs are evaluated on a variety of indicators, including data on knowledge creation and dissemination; experience gained by students and fellows supported through such research

[9] JIIRP and Innovation Platforms are included within the Strategic Project Grants entry in the financial tables above.
[10] http://www.physics.mcgill.ca/NSERCnanoIP/

and subsequent employment and salary levels; the development of relationships between partners; and the increased collaboration between researchers in different disciplines and the new knowledge or technologies that result from such interdisciplinary collaborations.

Strategic Outcome #3: Productive Use of New Knowledge in the NSE

Wealth is created when Canadians add value in producing goods and services that are sold in world markets. Knowledge is the modern basis for adding value. NSERC aims to maximize the value of public investments in research for the benefit of all Canadians by promoting research-based innovation, university-industry partnerships, technology transfer activities and the training of people with the required scientific and business skill sets to create wealth from discoveries in the NSE.

Program Activities

3.1 Fund university-industry-government partnerships

Financial Resources ($ millions)

Program	2006-2007	2007-2008	2008-2009
Collaborative Research and Development Grants	$47.6	$46.3	$46.3
Research Partnership Agreements	$4.7	$2.3	$1.9
Networks of Centres of Excellence	$40.2	$40.2	$40.2
Strategic Network Grants	$12.6	$16.2	$16.2
Total	**$105.6**	**$105.1**	**$104.6**

Human Resources

2006-2007	2007-2008	2008-2009
78 FTE	79 FTE	79 FTE

This program activity fosters collaboration between university researchers and other sectors, including government and industry, in order to develop knowledge and expertise in response to expressed needs, and to transfer this knowledge and expertise to Canadian-based organizations based on their identified needs. This activity supports NSERC's priority of realizing the benefits of public investments in research.

Programs within this activity include:

- **Collaborative Research and Development Grants –** This program enables companies to access the unique knowledge, expertise and resources available at Canadian postsecondary institutions, and offers opportunities for mutually beneficial collaborations, jointly funded by NSERC and the industrial partner(s), which result in economic benefits to Canada. It also facilitates world-class research and ensures a strong source of well-trained graduates.

- **Research Partnership Agreements –** Agreements have been established with several federal government departments and agencies. The objective of these partnerships is to build strong linkages between the private sector, researchers in universities and researchers in federal institutes. NSERC has agreements with Agriculture and Agri-Food Canada, the Department of National Defence, the Canadian Forest Service (in collaboration with SSHRC) and the Earth Sciences and Energy Sectors of Natural Resources Canada.

- **Networks of Centres of Excellence (NCEs) –** These unique partnerships among universities, industry, government and not-for-profit organizations work to turn Canadian research and entrepreneurial talent into economic and social benefits for all Canadians. They are nationwide, multidisciplinary and multi-sectoral research partnerships that link excellent research with industrial know-how and strategic investment. They create a critical mass of research capacity by networking researchers and partners from across Canada.

- **Strategic Network Grants –** Formerly named Research Network Grants, this program funds large scale, complex research programs that involve multi-sectoral collaborations on a common research topic. The topic to be investigated can be of local concern, requiring a focused local network, or of regional or national importance, requiring a larger, more complex network. There is currently a moratorium on new applications due to budget pressures within this program; however, this is expected to be lifted in March 2006 when the new criteria for this program will be announced.

  The Strategic Network Grants program will support research projects within the target areas identified for the Strategic Project Grants program approved by NSERC's Council in late 2005.

Performance indicators for each program vary depending on their particular nature and purpose, but may include criteria such as: research funds leveraged from partners; knowledge creation and dissemination to the research community and users; experience gained by students and fellows and subsequent employment and income levels; long-term relationships established between partners; numbers of patents and licences generated; products, processes or services developed or improved; and economic value of intellectual property generated through funded research.

3.2 Support commercialization

Financial Resources ($ millions)

Program	2006-2007	2007-2008	2008-2009
Intellectual Property Mobilization	$3.3	$3.4	$3.0
Idea to Innovation	$11.1	$11.2	$11.8
College and Community Innovation	$1.4	$1.8	$1.8
Total	**$15.8**	**$16.4**	**$16.6**

Human Resources

2006-2007	2007-2008	2008-2009
6 FTE	6 FTE	6 FTE

This program activity supports innovation and promotes the transfer of knowledge and technology to Canadian companies.

It directly addresses NSERC's priority of realizing the benefits by funding the pre-commercial development of promising innovations, supporting technology transfer activities and R&D at Canadian universities, and supporting the training of people with the scientific and business skills sets required to harness new discoveries for economic benefit.

Activities in this program include:

- **Intellectual Property Mobilization (IPM) Program –** This Tri-Council program accelerates the transfer of knowledge and technology residing in Canadian universities and hospitals for the benefit of Canada. In partnership with universities, the IPM program supports regionally-based university networks related to managing and transferring intellectual property resulting from publicly funded research performed at universities.

  The Networked Training Initiative is a critical component of the IPM program. This successful initiative provides seed funding for the development of technology transfer and commercialization specialists through commercialization internship programs.

- **Idea to Innovation Program –** I2I accelerates the pre-competitive development of promising technologies and promotes their transfer to Canadian companies. The program supports R&D projects with recognized technology transfer potential by providing crucial assistance to researchers in the early stages of technology validation and market connection. In February 2006, NSERC extended eligibility for this program to include faculty members from eligible colleges[11] across Canada.

  The I2I program helps increase the rate of technology transfer of university and college advances by providing a flexible funding arrangement in two phases. The first is a proof-

[11] http://www.nserc.gc.ca/institution/list_inst_e.htm

of-concept phase, during which NSERC supports 100 per cent of the costs of R&D. The second phase focuses on technology enhancement, and research costs in this phase are jointly supported by NSERC and a private-sector partner.

- **College and Community Innovation Program –** This pilot program increases the capacity of colleges to support innovation at the community or regional level. The program design and funding are intended to stimulate new partnerships and increased entrepreneurship, and to help the colleges take risks and be nimble in developing new ways of working with local businesses and industries to spur innovation and economic growth.

NSERC has experienced a rising demand for support of activities aimed at increasing the commercialization of research results. In order to meet this demand, the IPM program budget was increased. These increases, together with the new College and Community Innovation pilot program, allow NSERC to exceed the target of tripling its funding for commercialization activities by 2006-07, within the three-year time frame outlined in Budget 2004.

Each of these programs will be evaluated according to criteria appropriate to their nature and objective. The IPM program will be assessed on the performance of supported institutions in managing their intellectual property (IP) assets for economic and social benefits, as well as the number of commercialization specialists trained and their subsequent employment and income levels. The I2I program will be evaluated on the number of patents, licences, copyrights and new products and services developed as well as the number of continuing collaborations on new projects between college and university faculty and industrial partners.

SECTION III – SUPPLEMENTARY INFORMATION

Organizational Information

NSERC is a separate employer of the Government of Canada, reporting to Parliament through the Minister of Industry, and governed by a Council as mandated in the *Natural Sciences and Engineering Research Council Act (1985)*.[12]

Mandate

The functions of NSERC, based on the authority and responsibility assigned to it under the *Natural Sciences and Engineering Research Council Act* (1976-77, c.24), are to:

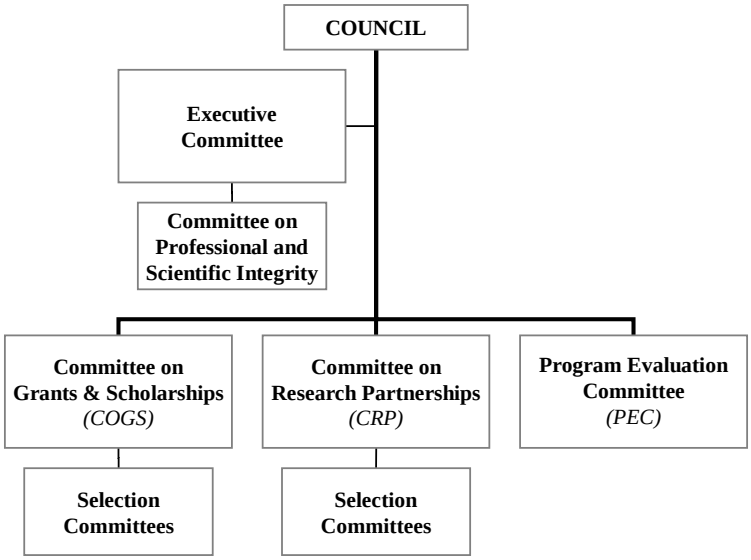
- Promote and assist research in the natural sciences and engineering, other than the health sciences; and
- Advise the Minister in respect of such matters relating to such research as the Minister may refer to the Council for its consideration.

Council and Governance Structure

NSERC is governed by a Council which consists of a president and 21 members who are drawn from universities as well as from the private and public sectors, and are appointed by the Governor-in-Council. Members serve part-time and receive no remuneration for their participation. NSERC's President serves full-time and functions as the Chair of the Council and the Chief Executive Officer.

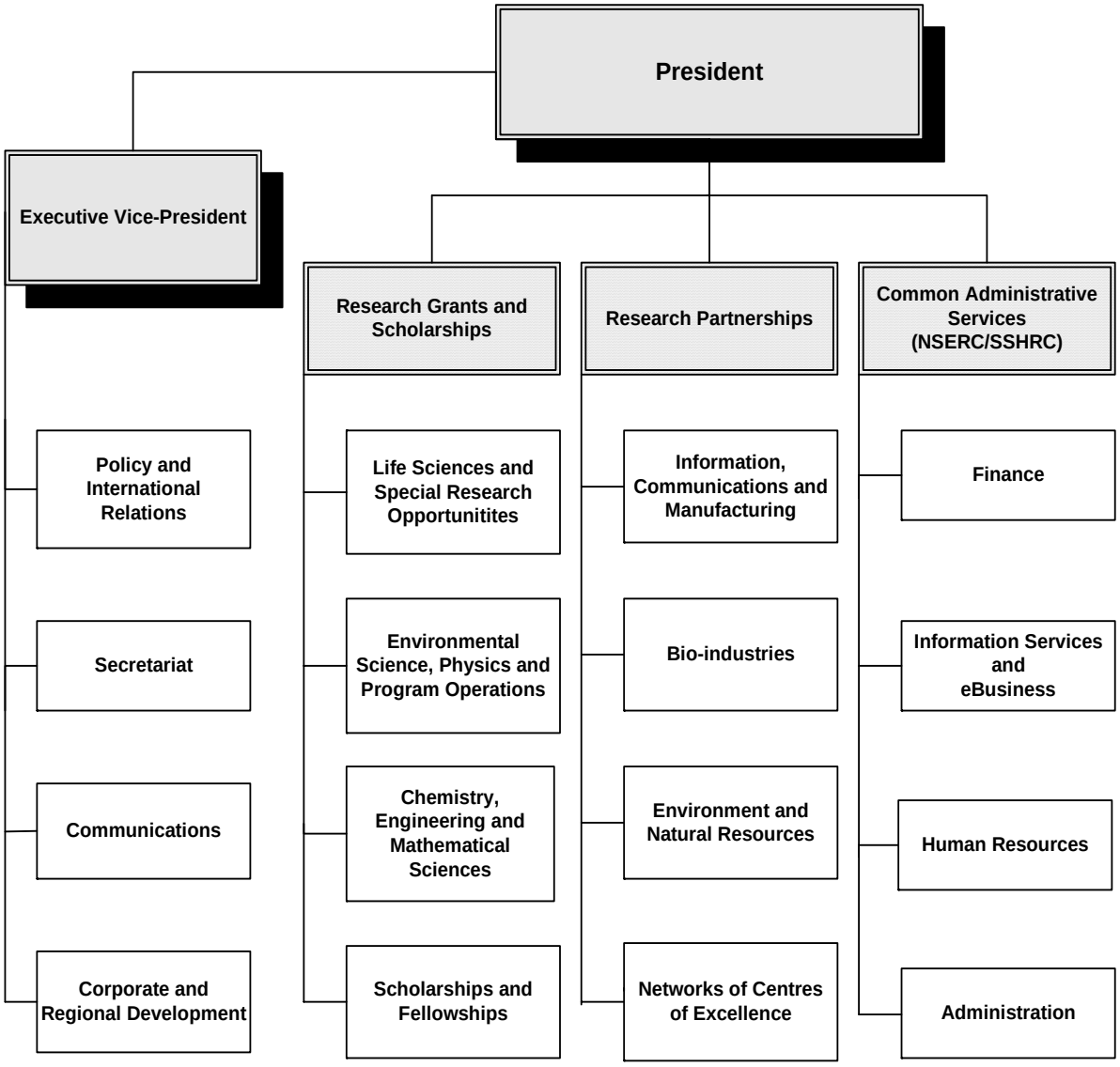
NSERC Governance Structure

The diagram below describes NSERC's governance structure.



[12] The *Natural Sciences and Engineering Research Council Act* was first passed in 1977. A modification to the act was passed in 1985.

NSERC Corporate Structure



NSERC and the Social Sciences and Humanities Research Council (SSHRC) share a Common Administrative Services Directorate which is responsible for finances, facilities, security, human resources and information services for both Councils. This structure maximizes the efficiency of both Councils' administrative requirements and is one of the reasons that NSERC is able to maintain its administration budget at less than five per cent of total planned spending.

Pilot Programs and Recent Initiatives

NSERC has developed and implemented several pilot programs to address particular issues with research capacity, technology transfer from colleges to industry, and the training of young Canadians in fundamental science and mathematics concepts.

Pilot Programs

The following programs are currently funded on a pilot basis. In all cases, a national competition was held to select grantees for the pilot phase and the programs are being monitored to determine their impact on the issues they aim to address. These pilot programs have been designed so that results can be measured against the program objectives early in the life of the program. For pilot programs that have a positive impact relative to their stated objectives, continued funding for the program will be sought.

- **College and Community Innovation –** When technical expertise is made available to local industry, and particularly to small business, the local capacity for innovation is enhanced. In October 2004, NSERC awarded six grants to increase the capacity of community colleges, institutes of technology and Cégeps to work with local industry and businesses and to advance innovation at the community and regional level. NSERC is working with the colleges funded through this program to measure its progress and impact.

- **Research Capacity Development in Small Universities –** Researchers in smaller universities across Canada face particular challenges in establishing high quality research programs. Some universities have a very limited supply of graduate students due to a lack of graduate programs, while universities in rural areas may have difficulty establishing partnerships with a diverse range of businesses. To make the most of Canada's research talent, wherever it is located, NSERC launched a pilot program to help small universities further develop their research capabilities. Seven awards were announced in October 2004 to help small universities build the foundations and reduce barriers to increased productivity in research.

- **Centres for Research in Youth, Science Teaching and Learning (CRYSTALs) –** To be counted among the world’s most innovative people, Canadians must build a stronger foundation of understanding and appreciation of science and math, and attract more of the brightest youth to science and engineering careers. CRYSTALs are multi-disciplinary research centres that work with the provinces to improve research into primary and secondary school science and math education. In May 2005, five grants were announced for such centres across Canada.

Recent Initiatives

- **Regional Offices –** NSERC is committed to building a network of small regional offices to play a stronger role in research, training and innovation in all regions of the country. NSERC officially opened its Atlantic Regional Office in Moncton, New Brunswick, in July 2004 and a second Regional Office in September 2005 in Winnipeg, Manitoba. In 2006-07, NSERC will open a Regional Office in Vancouver, British Columbia, with offices in Québec and Ontario to be opened in the next two years.

  While the mandate of each Regional Office is tailored to the needs and makeup of the community it serves, in general their role includes:

  - **Presence –** Being aware of the needs of clients and partners and participating in the development of new opportunities for the region;

  - **Access to programs –** Promoting greater understanding in the region of the programs and opportunities provided by NSERC; and

  - **Promotion –** Showcasing science and engineering, celebrating research and innovation successes, and promoting science and math education.

Measuring the Impact of Government Investments

It is important to demonstrate to Canadians the results of public investments in research, training and innovation, and to ensure that such investments are the most efficient and effective methods of furthering the goals of Canada's productivity agenda.

NSERC is committed to monitoring the results of its investments. It maintains a long-term evaluation plan to ensure its programs are reviewed regularly and program mechanisms are achieving their intended objectives. NSERC posts the results of program evaluations on its Web site, and each year provides information on all scholarships, fellowships and grants awarded as well as key statistics relating to Canadian research, training and innovation performance.

NSERC will continue to work with its stakeholder communities, other funding agencies, and other federal departments and agencies to ensure that the information collected and disseminated properly demonstrates the impact of such public investments.

NSERC Participation in Government-Wide Initiatives

NSERC is committed to organizational innovation to improve its program delivery and reach, and to better communicate the impact of publicly funded research on quality of life. To further this goal, NSERC is an active participant in federal working groups and multi-departmental initiatives.

NSERC will continue to liaise with science-based departments and agencies on government priorities and issues that transcend a single department's mandate. NSERC will also pursue opportunities to develop policies and initiatives in conjunction with SSHRC and CIHR,

especially when such initiatives relate to research that falls within the mandate of more than one granting agency, or where common policies, procedures and systems will provide more efficient service for the Canadian research community.

Major Science Framework

The Office of the National Science Advisor is currently developing a *Framework for the Evaluation, Funding and Oversight of Canadian Major Science Investments*. A partner with the National Research Council in launching the initiative, NSERC will continue to work with the Office of the National Science Advisor in developing a comprehensive framework for the planning, evaluation, funding and oversight within the overall context of Canadian science and technology.

Service Improvement Initiative

NSERC is participating in the TBS-led Service Improvement Initiative designed to achieve significant, measurable and sustainable improvement in client satisfaction with services provided by federal departments and agencies.

NSERC has developed a structured service improvement plan that covers the key services it provides to its clients. The plan details the expectations and priorities for service improvement throughout NSERC, and calls for periodic client-satisfaction surveys with the objective of improving service delivery, and for updating the current client-centred internal service standards applied by NSERC's directorates.

Most of NSERC's key services are delivered to its clients through the eBusiness Project, the Web site, and the Helpdesk service. For these key services, NSERC has established baseline client satisfaction levels and performance improvement targets. This plan, as well as the results of periodic surveys, is available on NSERC's Web site.

NSERC will also continue to refine its on-line application submission and peer review system. This will include developing new tools for the on-line review and evaluation of applications by selection committee members and referees. It will also include collaboration with SSHRC and CIHR to improve clients' ability to conduct all of their business with the three granting agencies electronically.

Table 1: Departmental Planned Spending and Full-Time Equivalents

($ millions)	Forecast Spending 2005-2006	**Planned Spending 2006-2007**	Planned Spending 2007-2008	Planned Spending 2008-09
1.1 - Promote Science and Engineering	3.8	**4.1**	4.1	4.1
1.2 - Support Students and Fellows	131.8	**137.7**	137.7	137.7
1.3 - Attract and Retain Faculty	133.6	**167.7**	166.8	166.9
2.1 - Fund Basic Research	379.2	**391.9**	402.4	400.3
2.2 - Fund Research in Strategic Areas	58.0	**52.3**	56.5	58.5
3.1 - Fund University-Industry-Government Partnerships	108.0	**115.0**	115.2	114.7
3.2 - Support Commercialization	14.8	**16.5**	17.2	17.4
Budgetary Main Estimates (gross)	829.2	**885.3**	899.9	899.7
Non-Budgetary Main Estimates (gross)				
Less: Respendable revenue				
Total Main Estimates	**829.2**	**885.3**	**899.9**	**899.7**
Adjustments:				
Governor General Warrant (Period 3)				
Carry-forward from 2004-05	1.7			
Advertising Reserve	0.1			
Collective Bargaining	1.3			
2005 Federal Budget	1.4			
Procurement Savings	(0.1)			
Treasury Board Vote 5 Items				
2005 Federal Budget	30.4			
Canadian Light Source	1.0			
2006-07 Supplementary Estimates				
Procurement Savings		(0.3)		
Budget 2006		17.0		
Total Adjustments	35.8	16.7	0.0	0.0
Total Planned Spending	**865.0**	**902.0**	**899.9**	**899.7**
Total Planned Spending				
Less: Non-Respendable revenue	0.8	0.8	0.8	0.8
Plus: Cost of services received without charge	4.9	4.9	4.9	4.9
Net Cost of Program	**869.1**	**906.1**	**904.0**	**903.8**
Full-Time Equivalents	309	**313**	319	319

Table 2: Program by Activity

2006-2007							
	Budgetary			Non-Budgetary			
($ millions)	Operating	Grants and Contributions	Net	Loans, Investments and Advances	Total Main Estimates	Adjustments (planned spending not in Main Estimates)	Total Planned Spending
1.1 - Promote Science and Engineering	0.2	3.9	4.1	-	4.1	0	4.1
1.2 - Support Students and Fellows	6.8	130.9	137.7	-	137.7	0.1	137.8
1.3 - Attract and Retain Faculty	2.9	164.8	167.7	-	167.7	0	167.7
2.1 - Fund Basic Research	15.9	376.0	391.9	-	391.9	14.4	406.3
2.2 - Fund Research in Strategic Areas	3.6	48.7	52.3	-	52.3	2.1	54.4
3.1 - Fund University-Industry-Government Partnerships	10.0	105.1	115.1	-	115.1	0.1	115.2
3.2 - Support Commercialization	0.7	15.8	16.5	-	16.5	0	16.5
Total	**40.1**	**845.2**	**885.3**	**0**	**885.3**	**16.7**	**902.0**

Table 3: Voted and Statutory Items Listed in Main Estimates

($ millions) Vote or Statutory Item	Truncated Vote or Statutory Wording	**Current Main Estimates**	Previous Main Estimates
70	Operating expenditures	**36.002**	32.761
75	Grants and contributions	**845.165**	792.740
(S)	Contributions to employee benefit plans	**4.091**	3.731
	Total Department or Agency	**885.258**	**829.232**

Table 4: Services Received Without Charge

2006-2007	
($ millions)	**Total**
Plus: Services Received without Charge	
Accommodation provided by Public Works and Government Services Canada (PWGSC)	3.26
Contributions covering employer's share of employees' insurance premiums and expenditures paid by TBS (excluding revolving funds)	1.67
Worker's compensation coverage provided by Social Development Canada	0.0
Salary and associated expenditures of legal services provided by Justice Canada	0.01
Less: Non-respendable Revenue	4.94

Table 5: Sources of Non-Respendable Revenue

	Forecast Revenue	**Planned Revenue**	Planned Revenue	Planned Revenue
($ millions)	2005-2006	**2006-2007**	2007-2008	2008-2009
Natural Sciences and Engineering Research Council				
Fund Basic Research				
Refunds of previous years' expenditures	0.8	0.8	0.8	0.8
Total Non-Respendable Revenue	0.8	**0.8**	**0.8**	**0.8**

Table 6: Details on Transfer Payment Programs

Over the next three years, NSERC will manage the following transfer payment programs in excess of $5 million:

2006-07

1. Grants and Scholarships
2. Canada Graduate Scholarships
3. Perimeter Institute

2007-08

1. Grants and Scholarships
2. Canada Graduate Scholarships

2008-09

1. Grants and Scholarships
2. Canada Graduate Scholarships

SECTION IV – ANNEXES

List of Abbreviations

CFI	Canada Foundation for Innovation
CIHR	Canadian Institutes of Health Research
CRYSTAL	Centres for Research in Youth, Science Teaching and Learning
DG	Director General
FTE	Full-Time Equivalent
HQP	Highly Qualified People
HR	Human Resources
I2I	Idea to Innovation
IP	Intellectual Property
IPM	Intellectual Property Mobilization
IPY	International Polar Year
ISD	Information Systems Division
JIIRP	Joint Infrastructure Interdependencies Research Projects
MRS	Major Resources Support
NCE	Networks of Centres of Excellence
NSE	Natural Sciences and Engineering
NSERC	Natural Sciences and Engineering Research Council
PAA	Program Activity Architecture
R&D	Research and Development
RPP	Report on Plans and Priorities
RTI	Research Tools and Instruments
S&T	Science and Technology
SME	Small- and Medium-Sized Enterprises
SRO	Special Research Opportunity
SSHRC	Social Sciences and Humanities Research Council
TBS	Treasury Board Secretariat
VP	Vice-President