

QUEEN

HC

120

.T4

C34

2001

c.2

Government
Canada

Gouvernement
du Canada

IC

Government Response to the Fifth Report of the Standing Committee on Industry, Science and Technology

A Canadian Innovation Agenda
for the Twenty-First Century

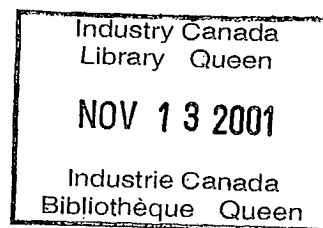
Canada

Queen
HC
120
.T4
C34
2001
c.2

Government Response to the Fifth Report of the Standing Committee on Industry, Science and Technology

A Canadian Innovation Agenda
for the Twenty-First Century

November 2001



This publication is also available electronically on the World Wide Web at the following address:
<http://strategis.gc.ca/s-tinfo>

This publication can be made available in alternative formats upon request.
Contact the Information Distribution Centre at the numbers listed below.

For additional copies of this publication, please contact:

Information Distribution Centre
Communications and Marketing Branch
Industry Canada
Room 268D, West Tower
235 Queen Street
Ottawa ON K1A 0H5

Tel.: (613) 947-7466
Fax: (613) 954-6436
E-mail: publications@ic.gc.ca

Permission to Reproduce. Except as otherwise specifically noted, the information in this publication may be reproduced, in part or in whole and by any means, without charge or further permission from Industry Canada, provided that due diligence is exercised in ensuring the accuracy of the information reproduced; that Industry Canada is identified as the source institution; and that the reproduction is not represented as an official version of the information reproduced, nor as having been made in affiliation with, or with the endorsement of, Industry Canada.

For permission to reproduce the information in this publication for commercial redistribution, please e-mail:
Copyright.Droitsdauteur@pwgsc.gc.ca

Cat. No. C2-521/2001
ISBN 0-662-66139-7
53563B



20% recycled material

Minister of Industry



Ministre de l'Industrie

Ottawa, Canada K1A 0H5

Ms. Susan Whelan
Chair
Standing Committee on Industry, Science and Technology
Room 231
Confederation Building
Ottawa, Ontario K1A 0A6

Dear Ms. Whelan:

Pursuant to Standing Order 108(2) of the House of Commons, I am pleased to respond on behalf of the Government to the recommendations contained in the *Fifth Report of the Standing Committee on Industry, Science and Technology*, tabled in the House of Commons on June 12, 2001. Attached is the Government's response to the Committee's recommendations.

First, let me thank you and the Industry, Science and Technology Committee for your important work. This was a very ambitious report, covering a wide range of issues, investigated by the Committee over the course of four years. It is obvious that you invited and listened to many knowledgeable witnesses who appeared before the Committee, and that from this expert testimony you developed a series of thoughtful recommendations for the Government to consider.

I was very pleased to see that the Committee supports the priority that the Government places on strengthening the national system of innovation through investment in research to create knowledge, through facilitation of the commercialization of research discoveries and application of new technologies, and through maintenance of market framework policies that encourage innovation, investment and business confidence. The Government is also supporting training and development of the highly qualified personnel that make innovation a Canadian strength. I note that previous reports of the Committee have addressed this skills priority.

This Government has made significant investments to support innovation over the last five years as demonstrated by initiatives to support university research (such as the creation of the Canada Foundation for Innovation and increased funding for the Granting Councils including the Canada Research Chairs Program); initiatives to support commercialization and technology diffusion (such as funding for the Industrial Research Assistance Program, Technology Partnerships Canada and the Business Development Bank of Canada); initiatives to build skills (such as the Millennium Scholarships Fund and increased tax exemptions for scholarships and bursaries); and initiatives to foster a business environment conducive to innovation (such as reduced corporate taxes and R&D tax incentives, and investments to increase computer connectedness across

Canada

Canada). As you know, the 2001 Speech from the Throne reinforced a commitment of "building a world-leading economy driven by innovation, ideas and talent" and sets the target of becoming among the five most research-intensive countries of the world by 2010. While the advanced economies of the world are currently experiencing a slowdown in economic growth, including in the high-technology sector, the need to support and increase innovation remains as compelling as ever.

I am sensitive to the Committee's concern that smaller universities, certain regions of the country, and certain industries are experiencing challenges in responding to the opportunities of a knowledge-based economy. We have made some progress in adapting government programs to address this issue, such as the Atlantic Innovation Fund and the current review of the Technology Partnerships Canada program. But I am committed to continue working on this priority. Innovation capacity building needs to be a priority so that new economic opportunity and prosperity can occur all across Canada and in all sectors of the economy. I am willing to work with the Committee to find ways to improve government programs, not only in innovation capacity building, but also in increasing the investment in research and development, ensuring that our universities have the resources necessary to fully benefit from federally sponsored research activities, strengthening Canada's ability to collaborate internationally, and making broadband Internet access available to all communities.

The consistency between the Committee's thinking on the innovation priority and that of the Government is demonstrated by the fact that initiatives are already under way within the Government that address many of the Committee's 18 recommendations. These initiatives include the overall policy approach to science, research and innovation, efforts to deepen statistical data on science and technology (S&T), and the implementation of reviews, improvements and expansions to government programs that support research, technological diffusion and innovation:

- In recent years, Statistics Canada has expanded its data collection activities with respect to S&T in ways that will contribute directly to Recommendations 1 and 4.
- Industry Canada has undertaken a review of Technology Partnerships Canada (TPC), and the issues raised in Recommendation 10 will be looked at closely.
- The Industrial Research Assistance Program (IRAP) of the National Research Council (NRC) has already adopted a new Program Performance Framework with key results features (Recommendation 8).
- The continued existence and constant refinement of the Scientific Research and Experimental Development Program, as well as the creation of Investment Partnerships Canada, are two main policy instruments which encourage R&D-intensive industries to invest in Canada (Recommendation 2).

- The Canada Foundation for Innovation has developed conflict-of-interest guidelines, and its complaints and redress processes are similar to those of the Federal Granting Councils (Recommendation 14).
- Various technology diffusion programs such as IRAP and TPC have been developed over the years to foster innovation with small and medium-sized enterprises (SMEs) (Recommendation 5).
- Institutions such as the NRC, the Business Development Bank of Canada and the Canada Customs and Revenue Agency have established partnerships to facilitate technology diffusion to SMEs (Recommendations 11 and 18).

The Government fully supports Recommendation 3 regarding adoption of S&T policies to strengthen the country's innovation system. The Government is continuing to support government and university research, to facilitate commercialization and technology diffusion, to support the development of highly qualified personnel, and to ensure business and market framework policies that encourage innovation and business confidence (Recommendation 15).

The Government recognizes the growing importance of science, technology and innovation within the public sector. The scientific research and innovation activities of a range of federal departments act as mechanisms to enhance prosperity and growth and social benefits in all areas of the economy and society including manufacturing, resource and service industries, transportation, the environment, health, Aboriginal peoples, and rural and remote Canada. This most recent report of the Standing Committee focussed on government science and innovation programs within the Industry Portfolio. You and your Committee may want to consider including in your future work investigations on the important work in science and technology that other government ministries undertake.

The Government also recognizes the need for science policy coordination across ministries that have significant science mandates. However, the Government believes that the existing decision-making framework for S&T can provide such coordination while remaining consistent with the current federal S&T strategy, which rests decision-making authority and accountability for S&T activities with individual Ministers. In this context, the Secretary of State will continue to support me in ensuring the implementation of the S&T Strategy, and coordination of science policy issues across departments (Recommendations 6 and 7).


Recommendations 9, 12, 13 and 16 ask for increased funding for the NRC and the Canadian Space Agency, as well as funding for the indirect research costs incurred by universities. These recommendations are being considered by the Government.

The Government believes that universities, colleges and research hospitals have important roles to play in the application and commercialization of the results of research conducted at their institutions.

As you know, consultations were previously undertaken with the provinces and the academic community on the Advisory Council on Science and Technology recommendations in this area, and I met with my provincial and territorial colleagues in September to discuss common objectives in research, science and technology (Recommendation 17).

Again, I would like to thank you and the members of your Committee on behalf of the Government for the important contributions you are making to the innovation priority and to wish you success in your future deliberations.

Sincerely,

A handwritten signature in black ink, appearing to read 'Brian Tobin', with a stylized, flowing script.

Brian Tobin

CONTENTS

Recommendation 1:	Composite Indicator of Investment in Knowledge	1
Recommendation 2:	Public Policy Instrument to Encourage Investment in Canada	1
Recommendation 3:	Policies to Strengthen the Innovation System and Linkages Between its Components	2
Recommendation 4:	Targets for Scientific Discoveries and Technological Innovation	2
Recommendation 5:	Improved Technology Development and Diffusion, Particularly for Small and Medium-Sized Businesses	3
Recommendation 6:	Governance Structure for Federal Science and Technology	3
Recommendation 7:	Advisory Process for Large Scientific Projects	4
Recommendation 8:	Industrial Research Assistance Program Reporting	4
Recommendation 9:	Expansion of the Industrial Research Assistance Program	5
Recommendation 10:	Expansion of the Technology Partnerships Canada Program	6
Recommendation 11:	Alignment of Eligibility Criteria Between the Industrial Research Assistance Program and the Scientific Research and Experimental Development Tax Incentive Program	6
Recommendation 12:	Support for the Innovation Cluster Strategy of the National Research Council	6
Recommendation 13:	Increased Support for the Canadian Space Agency	7
Recommendation 14:	Conflict-of-Interest Rules and Redress Mechanisms for the Canada Foundation for Innovation	7
Recommendation 15:	Maintaining Intellectual Property Rights and Ensuring That Extensions Provide Net Benefits to Society	8
Recommendation 16:	Analysis of Direct and Indirect Costs of University Research and New Federal-Provincial Funding Agreement	9
Recommendation 17:	Policy on the Commercialization of University and College Research	9
Recommendation 18:	Incubation/Technology-Transfer Assistance Strategy	10

GOVERNMENT RESPONSE

Recommendation 1

That the Secretary of State (Science, Research and Development) design a new composite indicator of a country's investment in knowledge that goes beyond the current Organisation for Economic Co-operation and Development definition that includes education, research and development, and software. This should enable us to rank Canada amongst comparable countries of the world.

Response

The Government of Canada supports the ranking of Canada's investment in knowledge amongst comparable countries of the world. However, single indicators, including composite indicators, can be misleading if used in isolation. The Government, including Statistics Canada, is developing indicators of knowledge investment and of knowledge management practices, which go beyond expenditure on public sector education, research and development (R&D), and on software now used by the Organisation for Economic Co-operation and Development. These indicators also include investment in, and value added from, information and communications technologies, which facilitate the transfer and application of knowledge.

Recommendation 2

That the Government of Canada design and adopt a public policy instrument that specifically targets and encourages R&D-intensive industries to invest in Canada.

Response

The Government of Canada recognizes the importance of attracting R&D investment in Canada. The Scientific Research and Experimental Development Program was developed to provide tax incentives to Canadian and foreign investors that conduct R&D in Canada. According to the Conference Board of Canada, Canada's R&D tax incentives top the global standing.

The federal Investment Promotion Strategy pro-actively focuses on specific R&D-intensive priority sectors with the potential to accelerate the transformation of Canada's industrial structure toward a dynamic knowledge-based economy.

The Government of Canada has established Investment Partnerships Canada (IPC) to implement an investment strategy to attract strategic global investments to Canada. Attracting strategic global investment in knowledge-based industries, where research and development activities play a key role, is particularly important. IPC plays an active role in promoting, and informing investors of, Canada's comparative advantages for R&D. Strategic global investment provides Canada with more than just capital. It also provides intellectual property, new research capabilities, marketing and management expertise, specialized training and access to existing distribution systems in export markets.

Recommendation 3

That the Government of Canada adopt science and technology policies to strengthen the components of the country's innovation system and to improve the linkages between its components.

Response

The 2001 Speech from the Throne clearly stated the priority that this Government places on innovation. It set out a target to make Canada one of the most innovative nations in the world. This commitment to innovation is driving policy formulation across the government. Continuing investments in the university research granting councils and the Networks of Centres of Excellence, substantial investments in the research infrastructure through the Canada Foundation for Innovation, and the recent creation of the Canada Research Chairs have maintained a strong capacity in Canadian universities. Targeted investments in federal biotechnology and climate change research have helped strengthen the Government's capacity to deal with the challenges of stewardship of Canada's environment, resources and public health. Canada maintains among the most generous tax incentives in the world to encourage industrial research and development. Investments in federal science and technology (S&T) can also support the development of local capacity through partnership-based initiatives such as the National Research Council's Atlantic Initiative and the new National Institute for Nanotechnology in Alberta.

However, it is well recognized that standing still in the global, knowledge-based economy means losing ground to those nations which are moving forward at a rapid pace. In this context, the Government is carefully examining Canada's innovation performance to identify gaps and opportunities. The Government continues to give priority to innovation as demonstrated in the 2001 Speech from the Throne. "Our objective should be no less than to be recognized as one of the most innovative countries in the world. Achieving this will require a comprehensive approach and the support and participation of all governments, businesses, educational institutions, and individual Canadians. We must strive for Canada to become one of the top five countries for research and development performance by 2010. This is a challenge for all Canadians, but in particular for the private sector as the largest research investor in Canada."

Recommendation 4

That the Government of Canada target the number of scientific publications (per 100 000 population) and resident patent applications (per 10 000 population), which are surrogate measures of scientific discoveries and technological innovation, respectively, produced and processed each year in Canada. Canada's relative performance should be benchmarked — and government policy should be assessed — on these terms against comparable countries of the world.

Response

Scientific publications represent one indicator of scientific progress but they are only part of the innovative process in the economy and are not an end in themselves. The danger of linking policy to publishing is the diversion of the research enterprise from the creation of new knowledge to potentially needless publication. Canada's record in terms of innovation and intellectual property culture reflected by resident patent activity needs to be addressed, as we are reviewing innovation policies. The Government, including Statistics Canada, is developing and will be sharing indicators of commercialization of intellectual property, of innovation and of the use of selected technologies.

Recommendation 5

That the Government of Canada pledge its support and commitment to improved technology development and diffusion, particularly amongst Canadian small and medium-sized businesses.

Response

The Government of Canada is committed to the support and improved access of Canadian small and medium-sized enterprises (SMEs) to new technologies and the diffusion and commercialization of Canadian innovations. The Government of Canada has in place several programs for SMEs to improve development and diffusion of technologies, such as the Industrial Research Assistance Program, the Canadian Technology Network, and the Research and Technology Development Program administered by the National Research Council and the Technology Partnerships Canada program, which has a small business component. Additionally, Regional Development Agencies (Atlantic Canada Opportunities Agency, Western Economic Diversification Canada, Canada Economic Development for Quebec Regions and FedNor) support the development, use and commercialization of technology by SMEs in Canada's regions. This objective is further supported by federal investments in innovation infrastructure to strengthen regional innovation capacity and alliances between partners in the innovation system. The Atlantic Innovation Fund, a component of the Atlantic Investment Partnership is one such initiative, designed to increase the Atlantic region's capacity to carry out leading-edge R&D that directly contributes to the development of new technology-based economic activity. The Government has pledged to increase, over the next ten years, its expenditures on R&D, and is working to accelerate Canada's ability to commercialize research discoveries and develop and apply new technologies.

Recommendation 6

That the Government of Canada review its current governance structure for federal science and technology and transform the Secretary of State (Science, Research and Development) to a Minister of Science and Technology responsible for overall federal science and technology issues and programs.

Response

The Government of Canada carefully examined the governance structure for federal S&T at the time of the S&T Review (1994–96). At that time, there was broad consensus that a decentralized approach to S&T decision making was preferred, with a balance between the authority and accountability of individual ministers for directing their S&T activities to address their mandated responsibilities and a degree of horizontal policy coordination. With the implementation of the federal S&T Strategy (*Science and Technology for the New Century, 1996*), science-based departments and agencies (SBDAs) have strengthened their external advisory boards to provide them with advice on S&T issues. In the Strategy, the Minister of Industry was given the responsibility for “lead[ing] the coordination of S&T policy and strategies across the federal government.” The Minister is supported in this task by the Secretary of State (Science, Research and Development). To improve horizontal coordination of federal S&T, several new bodies were created. The Advisory Council on Science and Technology (ACST) provides the Government, through the Minister of Industry, with broad policy advice on translating science and technology into economic growth, jobs and social well-being for Canadians. The Strategy also provided for the creation of the Council of Science and Technology Advisors (CSTA), which provides advice on S&T and innovation issues common to federal SBDAs. The Secretary of State chairs the CSTA and is vice-chair of the ACST, thus being well positioned to appreciate the broad scope of federal and national S&T issues.

Recommendation 7

That the Government of Canada develop a definitive advisory process for large scientific projects, particularly those with an international component.

Response

The current process by which the Government reviews and assesses government-led big-science projects, which places responsibility on ministers to advocate projects within their areas of responsibility, is working well and fits with the principles of the federal S&T Strategy. Science-based departments and agencies have externally based advisory boards which are often supported by sectoral groups providing advice on large science-based projects. Concerning university-led big-science projects, there already exists with the Canada Foundation for Innovation an effective mechanism to independently review, assess and support university-led big-science projects, both domestic and international, utilizing a thorough assessment process. The Government notes the motion of the Standing Committee to support the funding of the long range plan for Canadian astronomy research.

Recommendation 8

That the Government of Canada improve the reporting of the Industrial Research Assistance Program’s project results without disturbing the “business-like manner” in which the Program is delivered.

Response

The Government of Canada agrees with this recommendation. In March 1999, the Industrial Research Assistance Program (IRAP) approved a Program Performance Framework, which identified six business results areas for IRAP to evaluate its performance. IRAP is developing a performance measurement system for each, including performance indicators and data collection tools and processes.

This represents an integrated approach to reporting client results in order to examine outcomes and benefits to clients over the course of the relationship with IRAP, as well as client satisfaction with IRAP services. IRAP's data collection systems have been integrated into its business process to minimize response/reporting burden on both clients and the Program's Industrial Technology Advisors, while at the same time to maximize the use of captured information. With its new client management system implemented in April 2001, IRAP is now better positioned to report on results with its clients.

Recommendation 9

That the Government of Canada immediately double its appropriations for an expansion of the Industrial Research Assistance Program.

Response

The Government of Canada recognizes that the National Research Council's (NRC)'s Industrial Research Assistance Program (IRAP) is a leading instrument for the provision of technological innovation and industrial assistance and advice to a large segment of Canadian businesses — small and medium-sized enterprises (SMEs).

IRAP helps SMEs manage and reduce the risks and uncertainties inherent in the innovation process. Through the highly skilled expertise, advice and financial assistance provided by its 260 Industrial Technology Advisors, the Program offers customized solutions for technological innovation issues to some 12 000 Canadian firms in Canadian communities each year.

IRAP also plays a critical role in bringing together the key players in the Canadian innovation system for the benefit of SMEs nationally and in some areas internationally. The IRAP Network links entrepreneurs with expert sources of technology and related business expertise through over 100 IRAP Network members and 1000 members of the Canadian Technology Network.

IRAP is in the process of reviewing its strategic directions to align with NRC's Vision to 2006 and to ensure that its services and orientation continue to support Canadian SMEs' industrial and innovation needs effectively. These changes are positioning the Program for growth.

Recommendation 10

That the Government of Canada substantially increase its appropriations for an expansion of the Technology Partnerships Canada program and eliminate the one-third, two-thirds split between aerospace/defence and advanced enabling technologies of total funds invested from the mandate of Technology Partnerships Canada.

Response

The Government of Canada agrees that Technology Partnerships Canada (TPC) is a key instrument in promoting industrial research and pre-competitive development in sectors of strategic economic importance to Canada. Industry Canada is presently in the process of reviewing TPC's mandate, including the issues raised by the Standing Committee regarding the expansion of TPC and the two-thirds, one-third split between aerospace/defence and other program components, in order to ensure that the program continues to be an efficient and effective instrument in support of the innovation agenda.

Recommendation 11

That the Government of Canada expedite the work of the National Research Council and the Canada Customs and Revenue Agency to align their eligibility criteria of research and development expenditures and modify the relevant tax regulations that would see eligible research and development expenditures under the Industrial Research Assistance Program made de facto eligible under the Scientific Research and Experimental Development tax incentive program.

Response

There is an opportunity to reduce the compliance burden for companies that are participating in both the Industrial Research Assistance Program (IRAP) and the Scientific Research and Experimental Development (SR&ED) Program where the existing eligibility criteria overlap. Since the scope of financial support offered under IRAP is broader than that provided by the SR&ED Program, the first step is to identify those areas where IRAP eligibility criteria match that of the SR&ED Program. The National Research Council and the Canada Customs and Revenue Agency are cooperating in this task and, in addition, the organizations are focusing on two specific initiatives to improve program synergies. The first involves joint training for IRAP Industrial Technology Advisors that provide advice to companies from "concept to product" and the SR&ED Science Advisors in order to highlight similarities between the programs. The second initiative is when a company is notified of a successful IRAP grant application, it will also be provided with information for help in accessing the SR&ED Program.

Recommendation 12

That the Government of Canada provide financial support to the National Research Council of Canada to implement an expanded innovation cluster strategy.

Response

Technology and innovation clusters are central components of the National Research Council (NRC)'s Vision to 2006 plan. The Atlantic Investment Partnership, announced by Prime Minister Chrétien in June 2000, included \$110 million over five years for the NRC to support the development of community technology clusters in Atlantic Canada. To date, work is under way on the creation of an e-commerce cluster in New Brunswick, a bioresource roadmap in Prince Edward Island, a life sciences cluster in Nova Scotia, and an ocean technology cluster in Newfoundland and Labrador. The work in the Atlantic Provinces builds on the NRC's experience in contributing to the success of world-leading clusters in agricultural biotechnology in Saskatoon, biopharmaceuticals in Montréal, and information technology in Ottawa.

Outside of the Atlantic Provinces, the NRC has also announced the setting up of an aerospace institute in Montréal, the creation of an aluminium institute in Chicoutimi and more recently the creation of the National Institute for Nanotechnology, in partnership with the Province of Alberta. Expanding the NRC's innovation cluster strategy is being carefully considered by the Government. Decisions for the future will depend on the availability of resources and the interest and commitment and capabilities of communities to building such clusters.

Recommendation 13

That the Government of Canada increase its financial support of the Canadian Space Agency to enable Canada to play a more significant role in national and international space science projects as part of its innovation agenda.

Response

In 1999, the Government of Canada announced that it had approved an annual appropriation of \$300 million to allow the Canadian Space Agency (CSA) to fund the Canadian Space Program. The two fundamental objectives of this Program are to meet the needs of Canadians and to enhance the competitiveness of the Canadian space industry.

The CSA continues to work with its various stakeholders to identify and refine initiatives that meet their needs while enhancing industrial competitiveness. The CSA is also working closely with international partners to keep abreast of new opportunities in areas of Canadian interest and strength. Where appropriate, the CSA will bring forward for consideration by the Government new investments opportunities to fulfill the promise of the Canadian Space Program as approved in 1999.

Recommendation 14

That the Government of Canada work with the Canada Foundation for Innovation in developing and implementing conflict-of-interest rules and mechanisms regarding complaints and redress consistent with that of federal government agencies.

Response

The award process of the Canada Foundation for Innovation (CFI) is very similar to that of the federal granting councils: universities submit applications to the CFI and these undergo review through a science-based merit-review process. The CFI does not distribute awards regionally or by research disciplines, but rather on the merit of the research proposals.

Merit review is a rigorous and independent selection process universally recognized as the most effective way to allocate public research funding. It is based on the principle that scientific colleagues are best placed to evaluate the scientific quality and relevance of a research proposal, and it ensures that the process of adjudication remains as independent and objective as possible. The Government believes that this excellence-based, arm's-length process has given, and will continue to give, decisions that are the best for research in Canada.

If a research infrastructure proposal is not selected for an award, the CFI automatically provides the proposing institution (a university, hospital or college) with comments on the project. It is then up to the institution to decide in light of the comments if it will apply in the next competition. The CFI is also available to discuss its comments if the institution wishes. The Board of Directors makes final decisions on all awards on the basis of expert advice.

The CFI has recently made available, on its Web site (<http://www.innovation.ca>), the codes of ethics and business conduct for the Board of Directors and Expert Panels, and for CFI staff. These rules establish clear guidelines respecting ethical conduct and conflicts of interest. All directors, Expert Panel members and staff are required to sign the code of business conduct and signify their acceptance of the codes of ethical conduct laid out in those documents.

Recommendation 15

That the Government of Canada commit to maintain the current intellectual property rights and protection regime, while adopting the policy position that any non-trivial extension of any aspect of this privilege requires a demonstration of its net benefits to society.

Response

In the 2001 Speech from the Throne, the Government of Canada reinforced its commitment to ensuring that "Canadian laws and regulations remain among the most modern and progressive in the world, including those for intellectual property." In fulfilling this commitment, the Government will ensure that Canada's intellectual property regime remains attentive and responsive to the needs of Canadians, while keeping an appropriate balance between the interests of creators and users of intellectual property-protected works.

Recommendation 16

That the Government of Canada analyse the direct and indirect research costs at Canadian universities and colleges. Based on this information, the Government of Canada and provinces negotiate a new funding agreement that would take into account direct and indirect research costs and also the differential between large and small universities and colleges.

Response

The Government of Canada views both the direct and indirect costs of university research as critical to the strength and competitiveness of the Canadian university research community and as essential to fostering a more innovative society and a knowledge-based economy. The Government is studying the best ways to foster a strong, competitive research climate in all Canadian universities, large and small.

On the specific subject of the indirect costs of university research, the Government provided \$400 million to the Canada Foundation for Innovation (CFI) in the 2000 *Economic Statement and Budget Update*, to support the operating costs of new CFI infrastructure awards. The indirect costs of university research are also an eligible expense under the Canada Research Chairs program. Expanding the payment of the indirect costs of university research associated with federal research grants is a complex issue that requires all partners (universities, provincial governments and the federal government) to work together to address it appropriately.

Recommendation 17

That the Government of Canada, after consultation with the provinces, develop a comprehensive policy on the commercialization of university and college research that would include rules on disclosure, ownership of results and administration issues.

Response

The Government of Canada is committed to accelerating the commercialization of university research. To determine whether Canada is fully exploiting the commercial benefits of investments in research, the Prime Minister's Advisory Council on Science and Technology created an Expert Panel on the Commercialization of University Research. In May 1999, the Panel released its report entitled *Public Investments in University Research: Reaping the Benefits*. In September and October 1999, the Government held extensive national consultations to solicit feedback on the recommendations of the Panel. Through these consultations the Government was able to acquire a better understanding of the challenges and constraints that universities face in commercializing the discoveries made in their institutions. The consultations have also revealed that although many universities have enjoyed success with several models of commercialization, each with distinct rules of disclosure, intellectual property ownership and administration, there is room for growth in the commercialization performance of Canadian universities.

Recommendation 18

That the Government of Canada direct the Business Development Bank of Canada and the National Research Council of Canada to develop and implement a joint incubation/technology-transfer assistance strategy. The strategy should encourage private venture capital firms and labour-sponsored fund participation.

Response

The Government of Canada agrees that partnership and cooperation between the Business Development Bank of Canada (BDC) and the National Research Council of Canada (NRC) aids in the delivery of products and services for knowledge-based small business. The two organizations have worked together on projects for small business. For example, the NRC's Industrial Research Assistance Program officers have been working out of BDC offices for the past three years. The two organizations recently reviewed their arrangement, which subsequently led to the signing of a formal agreement aimed at providing value-added service and research-related funding to emerging, innovative small and medium-sized enterprises.