DISCUSSION PAPER: CFI PROGRAM CONSULTATION

Preamble

Emerging Strategic Direction for the CFI

The most recent federal budget (March, 2007), reinforced by the federal science and technology strategy (May, 2007), has positioned the Canada Foundation for Innovation as an essential element of the country's science and technology capacity and has provided sufficient funding ($510M) for another competition to be held before 2010. In preparing for this new round of competitions, the CFI would like to engage Canada's science and related communities to gauge the value of the present program architecture, and identify adjustments that might be necessary to future programming, to assure an effective response that best addresses the ever-evolving needs. The current round of consultation will progress through discussion and reflection on:

- the value of current funding programs to Canada's research communities;
- the strengths and weaknesses of the CFI funding initiatives;
- opportunities for consideration of trends in science, industry, government and global perspectives;
- required adjustments to CFI's program architecture.

A proposed architecture and design will emerge from these discussions that will be validated and developed further into a final program. Ultimately, the Board and Management Team will ensure that the vision, program strategy and programs that are adopted or adjusted by the CFI continue to support the evolving mandate and purpose of the organization.

CFI Purpose and Roles

The CFI mandate continues to provide the infrastructure required to support world-class research and training. As an independent, non-profit corporation that funds research infrastructure, the CFI encourages a strategic, long-term approach to building research capacity. The philosophy that underlies the work of the CFI will be reflected in the consultation and preserved in the final results. Specifically, the CFI:

- works directly with institutions;
- supports all disciplines in the research and development spectrum;
- uses experts from relevant fields in a rigorous and independent merit-review process;
- requires that applications for funding align with an institution's strategic plans;
- encourages leveraging of federal resources through partner funding;
- has the financial flexibility to negotiate multi-year funding with institutions, to attract funding from other partners.

The CFI strives to be an organization that is responsive to institution needs, recognized, and valued by its stakeholders.

Rationale

As has been the practice of the CFI, the Management Team has initiated a process to refresh our programs and procedures to assure that they are in harmony with the most pressing needs of the science community. A major program re-structuring was undertaken only a few years ago, and we therefore anticipate that changes will be minimal. The Management Team will oversee and guide the process, again mindful of the philosophy, mandate and role of the CFI. Dr. Eliot Phillipson, President and CEO, is leading this initiative,

which will involve consultations with institutions (universities, colleges, research hospitals) and their partners (provinces and private sector), other research funding organizations, and other stakeholders.

The consultation is ultimately intended to identify opportunities for better alignment with community needs and with the recently released federal S&T Strategy, and thus provide an important means for the CFI to generate value by assuring high quality proposals that would contribute to enhancing the capacity of Canada's research infrastructure.

We expect to finalize our consultations by the end of September and prior to the launch of the next call for proposals.

Context: Current Perspectives on the State of Canadian Science and Technology

As a starting point for discussion, we have summarized a few of the major forces that are shaping Canada's science enterprise. Within this context, we have provided a few questions at the end of this paper to help us understand your views about CFI.

In 2006 the CFI implemented its new suite of programs. Collectively, the new program architecture (see Box-CFI Suite of Programs) sought to take account of changes in the environment through a series of shifts in emphasis:

- From attraction to **attraction and retention** of top quality research personnel;
- From investing in new infrastructure projects to **building on and enhancing** the more successful and productive activities enabled by past CFI investments while continuing to **invest in new initiatives**;
- From promoting institutional planning to strengthening **regional and national planning in addition to institutional planning and priority setting**.
- From allocating funds only on the basis of **open competitions to also supporting strategic investments through "managed" competitions**, including in partnership with the federal granting agencies.

The $510M awarded to CFI provides an opportunity to take stock and draw lessons from the experience gained over the past year and to chart a course for the next five years. It is also an opportune moment to engage in such a stock-taking exercise because over the past year or so several reports were issued on various aspects of Canadian science and technology. These include *The State of Science and Technology in Canada by the Council of Canadian Academies,* the Final Report of the Expert Panel on Commercialization, entitled *People and Excellence: The Heart of Successful Commercialization* and such policy statements as the Government of Canada's S&T strategy, *Mobilizing Science and Technology to Canada's Advantage,* and provincial documents such as *Un Québec innovant et prospère: Stratégie québécoise de la recherche et de l'innovation.* These reports provide a valuable source of information and a context within which to consider charting a course for the CFI as it enters its second decade of existence.

Current state of Canadian S&T

There is widespread agreement that Canada has developed an S&T base of international caliber. The university research enterprise in particular is widely acknowledged to be vibrant, robust and mature. Canadian researchers are assuming world-leading positions in several fields. For example, the report of the Council of Canadian Academies identified four clusters of particular Canadian strength:

1. Natural resources
2. ICT
3. Health sciences
4. Environment

The federal science and technology strategy, 'Mobilizing Science and Technology to Canada's Advantage' (2007), acknowledges and seeks to build on these strengths by identifying these areas as national science and technology priorities. Throughout the strategy, the Government articulates a number of measures collectively aimed at strengthening research and innovation capacity in these fields through the building of entrepreneurial, people and knowledge advantages.

The existence of a strong S&T base positions the country well to confront the challenges of a knowledge-based society in which knowledge is a source of competitive advantage. Hence, at this juncture of our history, the challenge addressed by the *Knowledge Advantage* is one of creating conditions enabling the country to capitalize on past investments in S&T while continuing to nurture its development. Like other industrialized countries, Canada is increasingly focused on generating societal benefits by translating research strengths into products, processes and services in the marketplace. This challenge is enhanced by the issue of private sector under-investment in R&D, which increases pressure on the academic sector to facilitate greater university/industry partnerships and greater attention to the upstream processes of knowledge translation and commercialization.

Through creation of an *Entrepreneurial Advantage*, the federal S&T strategy offers a number of remedies, making use of various approaches to encourage the country's private sector to invest in research and thus improve our relative competitiveness.

The federal strategy also focuses on creating a *People Advantage* by enhancing the supply of science and technology talent, echoing 'The Report of the Expert Panel on Commercialization'. The Report's recommendations focus on people for it is people who turn ideas into new products and services; it is people who engage in research and generate ideas that have commercial potential; and it is people who use capital through the various stages of the commercialization process.

S&T developments are more complex and costly than ever before, and they tend to occur at the interface of disciplines. The research community has long understood the benefits of collaborations and partnerships among researchers from various disciplines, between institutions, and across sectors, and the value of international collaborations that tap into international pool of resources.

Over the past decade, the federal government has added several policy instruments designed to strengthen the knowledge production system. At the federal level these include: increased direct support for research through the granting agencies[1] (Canadian Institutes for Health Research, Natural Sciences and Engineering Research Council, Social Sciences and Humanities Research Council), infrastructure support through the Canada Foundation for Innovation, the Canada Research Chairs program, the indirect costs of federally-sponsored research program, and graduate scholarships. At this juncture it is incumbent upon the parties to find ways to make the system of support work in concert and synergistically to maximum advantage.

Conclusion

The CFI recognizes that each player in the Canadian science and technology enterprise will have different needs and priorities. The CFI wishes to have you share with us how your organization is seeking to strengthen our position as a country in science and technology and ultimately, how pursuit of these goals will create new pressures on the infrastructure that supports S&T in Canada. The CFI needs to know how it can best contribute to the support of these developments.

To Aid Our Discussions

Given the preceding description of Canada's S&T landscape, we would ask you to consider the following questions to help us focus on ways that we might improve the programs offered by CFI:

- Within the context of the evolving scientific landscape, what are your major research priorities and what is your institution doing to position itself to contribute?
- Within the parameters of the dynamic changes you anticipate, what new research infrastructure will be required – at your institution and/or to be shared amongst a network of institutions?
- How should the CFI continue to ensure that it attracts proposals that are transformative in nature and of significant value to the country? Can this objective still be accomplished with the current suite of programs or are specific changes necessary?

[1] In addition to investments in the granting agencies, the federal government also created additional funding organizations, such as Genome Canada, Sustainable Development Technology Canada, and Canadian Health Services Research Foundation, for example.

- How can the CFI best balance the need to sustain the quality of existing research infrastructure and, at the same time, invest in pinnacles of excellence and emerging areas of importance to the country? What specific changes would you suggest?
- How can the CFI best balance the need for investments in new equipment/ facilities and, at the same time, provide operating and maintenance support for existing installations?
- Based on your experiences, what aspects of the overall CFI program and/or specific funds work well or could be improved to best support your research plans and anticipated development?
- How can the CFI further promote collaborations between academia and industry that will facilitate knowledge translation?
- Are there specific issues or opportunities affecting colleges and smaller universities that merit consideration by CFI?

CFI Suite of Programs

The current program architecture is composed of:

- **The Leading Edge Fund** enables institutions to build on already successful and productive activities supported by past CFI investments by securing and enhancing further world-class research or technology development efforts, particularly in select areas of strategic priority where institutions have a competitive advantage.
- **The New Initiatives Fund** supports new infrastructure initiatives in which the CFI has not previously invested and that enable institutions and their partners to develop and enhance their capacity in promising new areas of research and development, as well as to improve their research competitiveness and international leadership.
- **The National Platforms Fund** provides generic research infrastructure, resources, services, and facilities that serve the needs of many research subjects and disciplines.
- **The Leaders Opportunity Fund** replaces the New Opportunities and Canada Research Chairs Infrastructure Funds and is designed to assist universities to attract excellent faculty to Canadian universities as well as retain the very best of today and tomorrow's leading researchers for Canada.
- **The Infrastructure Operating Fund (IOF)** contributes to the incremental operating and maintenance costs associated with projects funded by the CFI to maximize the efficient utilization of research infrastructure.
- **The Research Hospital Fund** contributes to large-scale, hospital-based research initiatives that take full advantage of state-of-the-art equipment, innovative ways of doing research, and increased research capacity as a result of hiring additional highly qualified personnel. A component of the fund also seeks to build and enhance Canada's capacity for clinical research.