

# EVIDENCE FIRST

ANNUAL REPORT 2013/14

*Science Advice in the Public Interest*



Council of Canadian Academies  
Conseil des académies canadiennes

# MEMBER ACADEMIES

*The founding members of the Council of Canadian Academies are:*

## THE ROYAL SOCIETY OF CANADA (RSC)

The RSC is the senior national body of distinguished Canadian scholars, artists, and scientists. The primary objective of the RSC is to promote learning and research in the arts and sciences. The RSC consists of nearly 2,000 Fellows — men and women who are selected by their peers for outstanding contributions to the natural and social sciences, the arts, and the humanities. The RSC exists to recognize academic excellence, to advise governments and organizations, and to promote Canadian culture.

## THE CANADIAN ACADEMY OF ENGINEERING (CAE)

The CAE is the national institution through which Canada's most distinguished and experienced engineers provide strategic advice on matters of critical importance to Canada. The Academy is an independent, self-governing, and non-profit organization established in 1987. Fellows are nominated and elected by their peers in recognition of their distinguished achievements and career-long service to the engineering profession. Fellows of the Academy, who number approximately 600, are committed to ensuring that Canada's engineering expertise is applied to the benefit of all Canadians.

## THE CANADIAN ACADEMY OF HEALTH SCIENCES (CAHS)

The CAHS recognizes individuals of great achievement in the academic health sciences in Canada. Founded in 2004, the CAHS has approximately 400 Fellows and appoints new Fellows on an annual basis. The organization is managed by a voluntary Board of Directors and a Board Executive. The main function of the CAHS is to provide timely, informed, and unbiased assessments of urgent issues affecting the health of Canadians. The Academy also monitors global health-related events to enhance Canada's state of readiness for the future, and provides a Canadian voice for health sciences internationally. The CAHS provides a collective, authoritative, multidisciplinary voice on behalf of the health sciences community.

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Council of Canadian Academies  
Conseil des académies canadiennes

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## MESSAGE FROM THE PRESIDENT AND THE CHAIR



Elizabeth Dowdeswell, O.C.  
President and CEO



Margaret Bloodworth, C.M.  
Chair, Board of Governors

It has been another active and productive year for the Council.

We were pleased to publish six authoritative, evidence-based reports this fiscal year, covering topics as diverse as research and development, innovation, ocean science, and human health. We also released a unique and concise synthesis that examined seven past assessments: *Paradox Lost: Explaining Canada's Research Strength and Innovation Weakness*.

This report was prepared by two former panel members and the Council's inaugural President. Their analysis provided those who work in science, technology, and innovation with much to consider about how to best position Canada for the future. By all accounts, *Paradox Lost* has been well-received and will be an important resource for years to come, as will our other 2013/14 assessments, which are outlined in these pages.

Our assessment work is made possible thanks to our expert volunteers. Since 2005 we have had the opportunity to work with more than 700 outstanding minds from across Canada and around the world. They come from academia, our Member Academies, the business sector, and civil society. Altogether their volunteer commitment in support of public policy is valued at \$16 million. Our experts conduct in-depth assessments on complicated and sometimes sensitive topics. They are asked to examine the available public evidence and research, and then develop a balanced report that provides a foundation of information on what is known and not known about a given subject.

The insights of our volunteers allow us to provide policy-makers and all Canadians with the facts and knowledge base needed to have informed conversations about some of the most pressing issues facing our country and the global community. It is thanks to our volunteers that the Council has grown into a well-respected organization known for credible and balanced analysis, and our annual report highlights some outstanding members of Canada's research community who have given so generously of their time.

Our sponsors, too, must also be acknowledged. They have the foresight to refer questions that will deepen their understanding of the state of the knowledge they rely on to produce sound policies. In 2013/14, the Council had [12 active panels](#) busy conducting the deep analyses needed to answer the complex questions that form the basis of their assessments. Reports released in the fiscal year were requested by a range of sponsors, such as the Province of Ontario; a consortium of universities interested in ocean science; and a variety of federal departments, including first-time users.

We look to the upcoming year and the Council's long-term future with optimism as we continue to see strong interest in the unique work the Council carries out. We are pleased to be a resource for governments and all Canadians as we, through our expert volunteers and extremely capable and committed staff, continue to synthesize evidence for informed public debate on questions that are vital to our country's future.



Elizabeth Dowdeswell, O.C.  
President and CEO



Margaret Bloodworth, C.M.  
Chair, Board of Governors

# ABOUT THE COUNCIL OF CANADIAN ACADEMIES

Assessments are the *raison d'être* of the Council of Canadian Academies. The work conducted by the Council addresses a wide spectrum of scientific knowledge. The Council defines *science* broadly to encompass the humanities, engineering, and the natural, social, and health sciences.

The Council assesses questions drawn from two sources: 1) questions posed by the federal government, as part of its funding agreement with the Council and 2) questions submitted by sponsors outside of the funding agreement, such as non-governmental organizations, the private sector, and other levels of government. Council assessments are produced by multidisciplinary, volunteer expert panels that assemble and synthesize the available evidence to identify knowledge gaps, distinguish Canadian strengths and vulnerabilities, and examine international trends to describe the context within which policy-makers operate. The Council systematically works to identify the top minds from its Member Academies, across various business sectors, and internationally to provide the considerable knowledge needed to power its assessments. All reports must be approved by the [Council's Board of Governors](#) as a confirmation that Council processes were respected. More information about the Council, its governance structure, and operations can be found in this report's Annexes.

## EVALUATING THE COUNCIL

In fiscal 2013/14, two separate measurement initiatives were undertaken to determine operational efficiency and effectiveness, and the relevance and impact of the Council. A performance audit was completed by Hickling Arthurs Low in June 2013. The audit confirmed that the Council operates in an efficient manner in terms of time and resources. The auditors also stated, "We find the Council to have developed a solid reputation in Canada for high quality reports. Sponsors interviewed [...] noted that the Council's credibility is growing, reflecting an admirable performance for such a young organization."

An external evaluation of the Council was also completed in the last fiscal year by a three-member independent panel. After reviewing the available evidence and conducting an extensive set of interviews, the panel came to a number of conclusions:

- There is no readily available alternative to the work performed by the Council.
- The Council has had substantial impact on a number of policy and program areas and, given its rigorous, methodological approach, will continue to have impact beneficial to the government of Canada, opinion leaders, and Canadian society.
- The Council functions in an efficient, effective, and economical manner.

Combined, these two exercises provide important insights into how the Council is operating and confirms its growing value within the science policy community. The observations made by both the auditors and evaluation panel will be helpful as the Council considers its future and next strategic plan. More information can be found on the Council's website.

## VISION

To be a trusted voice for science in the public interest.

## MISSION

To provide Canadians with:

- The best available scientific knowledge with the objective of informing debate and decision-making;
- Independent, authoritative, and evidence-based assessments on the science underlying current and future issues of public interest; and
- A national and international voice for science.

## VALUE PROPOSITION

The Council of Canadian Academies offers insights and evidence to enrich Canadian policy development and decision-making. This is achieved by harnessing the collective wisdom of the finest minds to develop comprehensive assessments on the issues that matter most to Canadians.

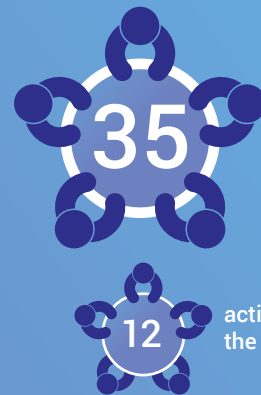


## COUNCIL OF CANADIAN ACADEMIES: BY THE NUMBERS



**747**  
Expert  
Volunteers  
since 2005

**135** volunteers appointed  
in 2013/14



panel and  
governance  
meetings  
in 2013/14



active panels at  
the end of 2013/14

**21**



unique assessment sponsors since 2005

**6**



public releases of reports in 2013/14

# FELLOWS IN FOCUS

The Council of Canadian Academies could not function without the wisdom and experience its volunteers bring to its panels, Board of Governors, and Scientific Advisory Committee. The Fellows profiled here are representative of the talent that exists among the Member Academies.



**Carol P. Herbert, FCAHS**, Professor of Family Medicine and former Dean, Schulich School of Medicine and Dentistry, Western University

Dr. Herbert is a member of the Council's Board of Governors and founding Fellow of the Canadian Academy of Health Sciences. She has worked throughout her career as a physician, teacher, and researcher to improve Canadians' access to medicine through health networks and participatory research. A recipient of numerous lifetime achievement and leadership awards, Dr. Herbert is also a Foreign Associate Member of the Institute of Medicine within the U.S. National Academies of Science.



**Claude Lajeunesse, FCAE**, Board of Directors, Atomic Energy of Canada Ltd.

Dr. Lajeunesse, a nuclear engineer, sat on the Council's Expert Panel on the State of Industrial R&D — a subject he knows well. He is the current Chair of the Green Aviation Research and Development Network and former President and CEO of the Aerospace Industries Association of Canada (AIAC). Dr. Lajeunesse is also President Emeritus of both Concordia University and Ryerson University; it was under his direction that Ryerson Polytechnic transitioned to Ryerson University.



**Robert L. Evans, FCAE**, Professor Emeritus, Mechanical Engineering, University of British Columbia

A member of the Expert Panel on Canadian Industry's Competitiveness in Terms of Energy Use, Dr. Evans served as both Associate Dean of the Faculty of Applied Science and Head of the Department of Mechanical Engineering at the University of British Columbia. He is the founding Director of the Clean Energy Research Centre at UBC and author of *Fueling Our Future: An Introduction to Sustainable Energy*, which was short-listed for the 2007 Donner Prize. Dr. Evans has been considering alternative energy sources since the 1970s, when he was Director of Energy Conservation and Technology for the Government of British Columbia.



**Barry Wellman, FRSC**, S.D. Clark Professor, Department of Sociology, University of Toronto

Dr. Wellman is renowned for his research about social and computer networks, and he brings this knowledge to the Expert Panel on Memory Institutions and the Digital Revolution. He is the Director of NetLab at the University of Toronto, co-author of the prize-winning book *Networked: The New Social Operating System*, and Chair Emeritus of both the Community and Information Technologies section and the Community and Urban Sociology section of the American Sociological Association. Dr. Wellman is also a Fellow of IBM Toronto's Centre for Advanced Studies.

## EXPERT VOLUNTEER GEOGRAPHICAL BREAKDOWN

CANADA **562**



UNITED STATES **110**



UNITED KINGDOM **35**



FRANCE **6**



AUSTRALIA **5**



FINLAND **4**



NORWAY **4**



NETHERLANDS **4**



SWEDEN **4**



GERMANY **3**



BELGIUM **2**



NEW ZEALAND **2**



SOUTH AFRICA **2**



SWITZERLAND **2**



AUSTRIA **1**

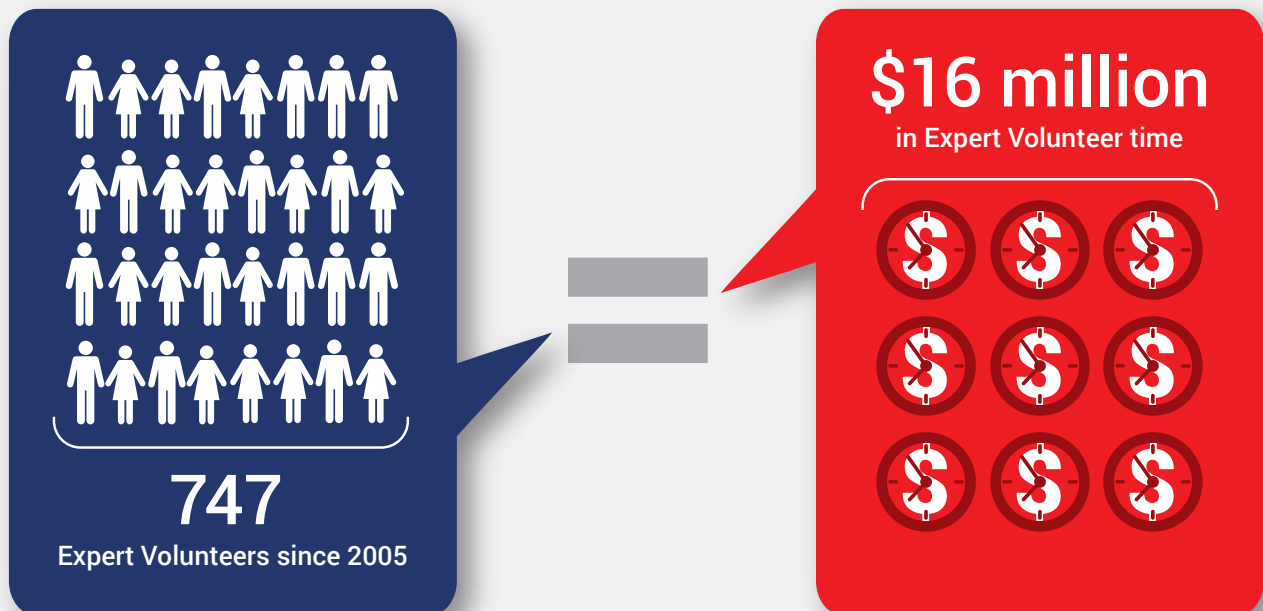
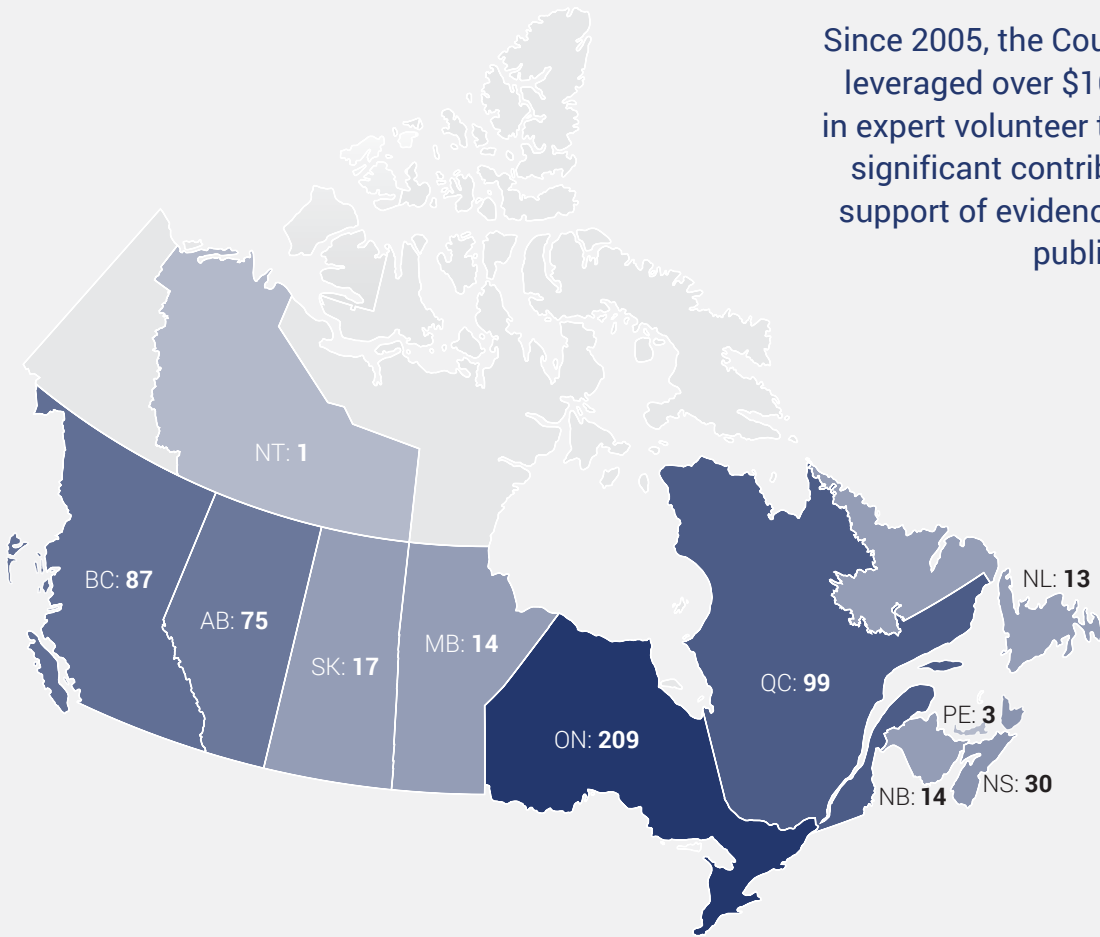


CHINA **1**



ITALY **1**

Since 2005, the Council has leveraged over \$16 million in expert volunteer time — a significant contribution in support of evidence-based public policy.



# INSPIRING DISCUSSIONS, INFORMING DECISIONS

Policy-makers are working to seize competitive advantages and harness the transformative power of emerging science and technology to enhance the quality of life for all Canadians. To do so, they need reliable evidence. In the face of rapid and unprecedented change, a proliferation of information and data, and a complex global context, assessing this evidence is more vital than ever. The insights generated by Council assessments are spurring dialogue and informing decisions.

In their September 2013 report, a blue-ribbon external evaluation panel considered whether the Council had achieved expected impact outcomes. The panel acknowledged that “measuring impact on policy is not always straight-forward. Policy-making occurs in a variety of cycles and is influenced by a number of factors (economic, political, and social).” Given these factors and the relative youth of the Council, the panel was “struck by the fact that a number of reports had a direct impact on policy.”

The impacts of the assessments undertaken by the Council to date have varied both in degree and type. Policy-making takes time, so the impact of a report is not always easy to gauge in the short term. What is clear is that our 2013/14 reports generated important conversations across Canada and abroad.

Below is a sampling of responses and uptake generated by some of these reports:

- *The State of Industrial R&D in Canada* has been used as a tool for updating the Organisation for Economic Co-operation and Development (OECD)'s *Frascati Manual*, a reference for experts who collect data on research and development.

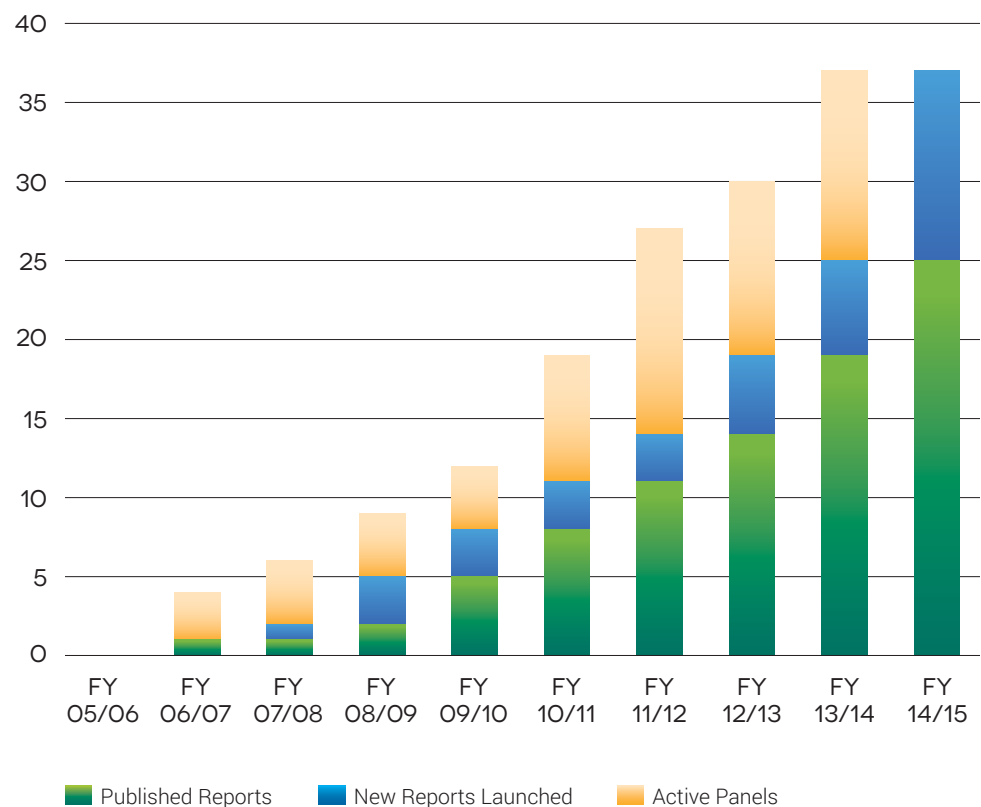
### The Hallmarks of a Council Report



- *Ocean Science in Canada: Meeting the Challenge, Seizing the Opportunity* was used by the Department of Foreign Affairs at an international conference on marine research in Galway, Ireland as an example of the type of scientific leadership and activity taking place in Canada.
- *The Health Effects of Conducted Energy Weapons* was presented to conducted energy weapons (CEW) instructors at the Ottawa Police Service and to CEW Master Instructors throughout the Ontario Police College. In addition, a briefing on the report and its findings was given for a provincial inquiry examining police use of force in Ontario.

- [Aboriginal Food Security in Northern Canada: An Assessment of the State of Knowledge](#) spurred local initiatives to raise money and collect food for northern Aboriginal communities. In addition, the report has been presented at international conferences that have drawn together decision-makers, experts, and the public. The report was also heavily referenced by the Canadian Polar Commission in their March 2014 report *The State of Northern Knowledge in Canada*, a contribution for the International Conference on Arctic Research Planning.
- Following the release of [Innovation Impacts: Measurement and Assessment](#), the Ontario government appointed a panel to review the Province's business support programs. The work of this panel picked up on the insights from the Council report that directly addressed program impact measurement.

### Intensity of Assessment Activity by Fiscal Year

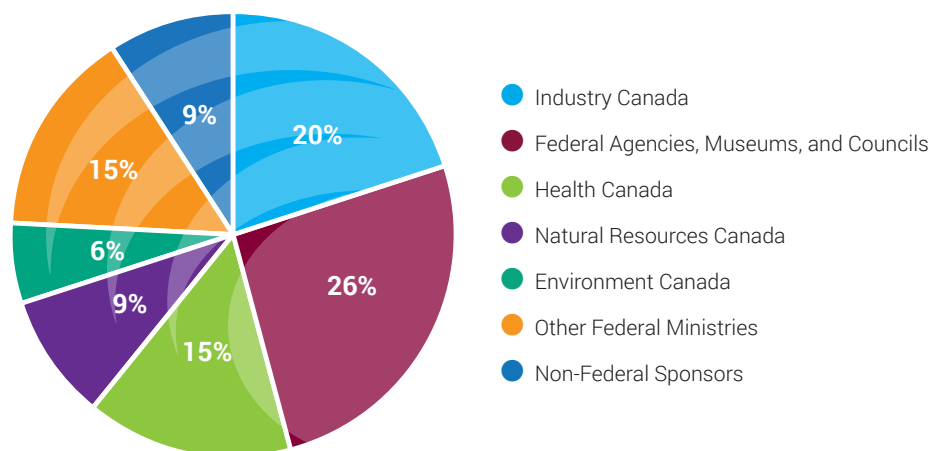


Graph does not include [Catalyzing Canada's Digital Economy \(2010\)](#) or [Paradox Lost: Explaining Canada's Research Strength and Innovation Weakness \(2013\)](#), as these are self-initiated assessments. "Active Panels" were those working through the fiscal year up to and including March 31<sup>st</sup>.



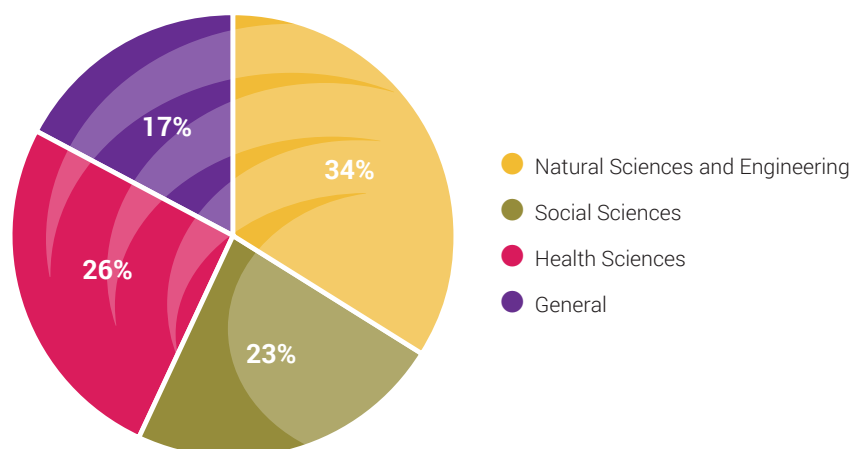
### Diversity of Sponsors

(Percentage of Reports Sponsored)



### Breadth of Report Subjects

(Reports 2005–2013)



**Natural Sciences and Engineering** – Assessments related to biology, chemistry, earth science, the environment, and engineering.

**Social Sciences** – Assessments related to business, economics, industry, and academia, among others.

**Health Sciences** – Assessments on the influences, risks, and factors affecting human health.

**General** – Assessments with a more overarching scope crossing numerous research fields (e.g., *The State of Science and Technology in Canada, 2012*).

## REACTION TO 2013/14 REPORTS

"[*The State of Industrial R&D in Canada*] represents virtually the only reliable analysis that conforms to international definitions and standards, and is presented in ways that are relevant for policy and accessible to policy-makers."

Dr. Richard Hawkins, *ReSearch Money*, September 2013

"I appreciate the Council's contributions to the ongoing policy dialogue on how to strengthen the Canadian economy. [...] I welcome the insights of the Council, which will contribute toward enriching the discussion on how to encourage business innovation. [*Paradox Lost*] is an excellent piece of work!"

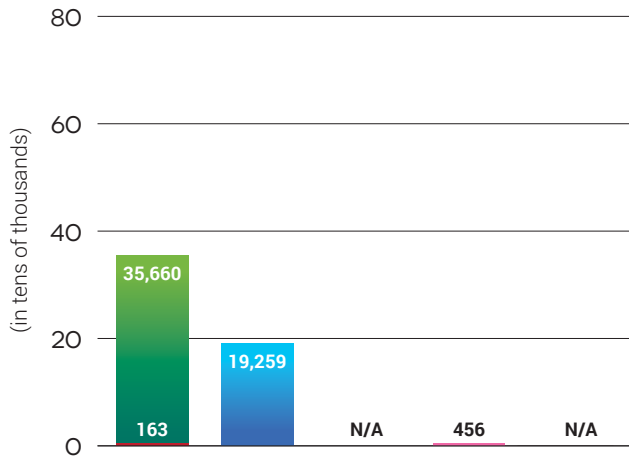
Wayne G. Wouters, Clerk of the Privy Council, October 2013

"*Ocean Science in Canada*, done on behalf of nine of Canada's ocean research universities, has been invaluable in pointing out crucial questions that need to be answered by ocean science; our country's strengths in being able to answer these questions; and gaps in information and communication. People in universities, government, and industry have responded positively to the report and are already seeking ways to be better coordinated and more mutually informed. This report will have lasting impact on the ocean science sector."

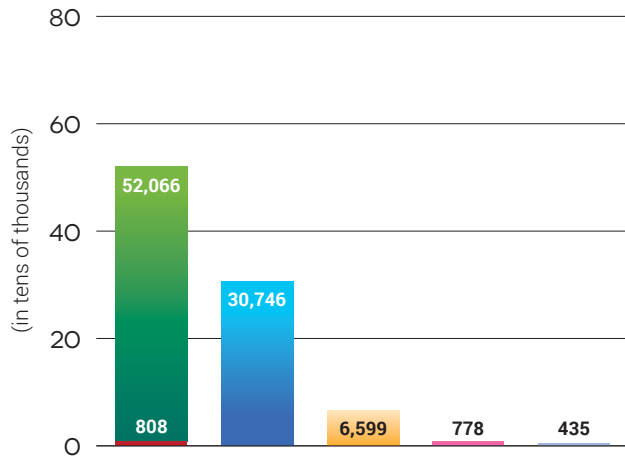
Dr. Martha Crago, Vice President, Research,  
Dalhousie University and a founder of CCORU, May 2014

## OUR GROWING REACH

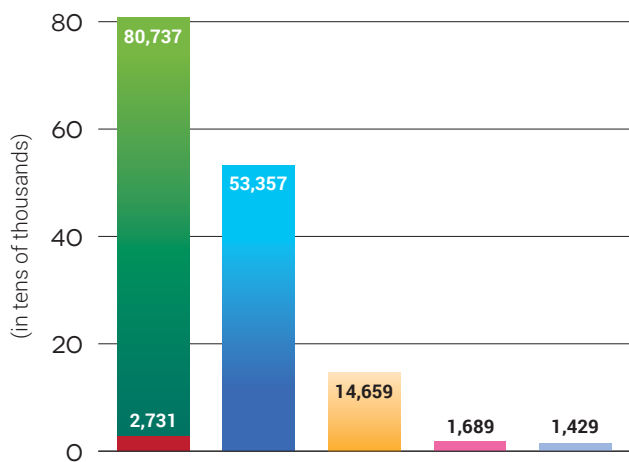
Fiscal Year 2010/11



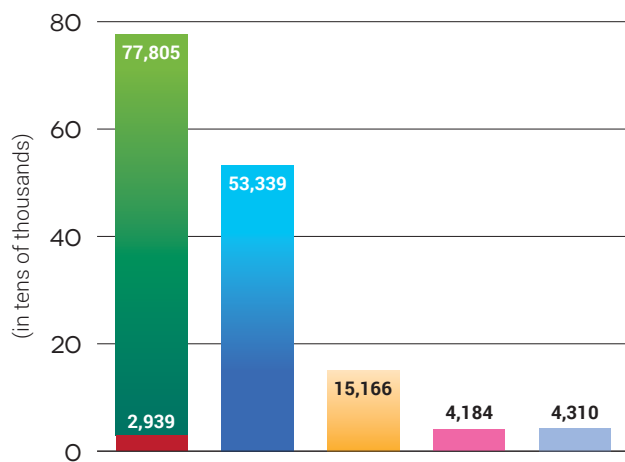
Fiscal Year 2011/12



Fiscal Year 2012/13



Fiscal Year 2013/14

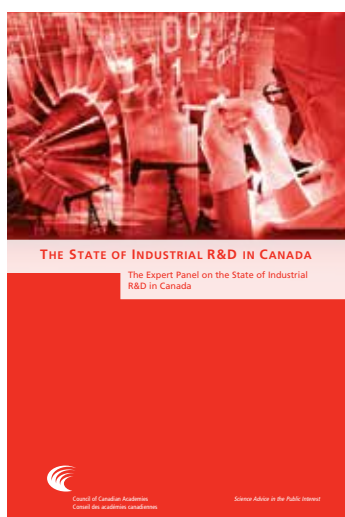


■ Website Visits      ■ Unique Visitors      ■ Google AdWords Clicks  
■ Visits via Social Media      ■ Total Downloads      ■ Social Media Subscribers and YouTube Views

Website visits, report downloads, and social media visibility have all increased since April 2010. "Social Media Subscribers" include people following our activities on Twitter, Facebook, and LinkedIn.

# COMPLETED REPORTS 2013/14

In 2013/14, the Council released six diverse reports that cover a wide range of topics and present the evidence and insights needed to support sound public policy.



## The State of Industrial R&D in Canada

(released August 2013)

**Expert Panel:** The Expert Panel on the State of Industrial R&D

**Chair:** Kathleen Sendall, C.M., FCAE, Director, CGG; Director of Enmax Corporation; Vice Chair, Alberta Innovates — Energy and Environment Solutions

**Sponsor:** Industry Canada

**Charge:** *What is the current state of industrial research and development (R&D) in Canada?*

**Findings:** Canada has four areas of industrial R&D strength: aerospace products and parts manufacturing, information and communication technologies, oil and gas extraction, and pharmaceutical and medicine manufacturing. Industrial R&D activity is concentrated mostly in Ontario and Quebec, followed by Alberta and British Columbia. There is an industrial R&D investment gap between Canada and the United States, largely driven by Canada's low intensity in the high-tech manufacturing sector. Finally, while there is some alignment among Canada's industrial R&D strengths, research strengths in science and technology, and overall economic performance, more research into these relationships is needed. A strong industrial R&D foundation is necessary for Canada to be globally competitive.

[A video summary of this assessment is available on the Council's website.](#)

**Implications:** The report can support new policies that better promote industrial R&D activities in Canada.



## Innovation Impacts: Measurement and Assessment

(released April 2013)

**Expert Panel:** The Expert Panel on the Socio-Economic Impact of Innovation Investments

**Chair:** Esko Aho, Senior Fellow, Harvard University; Consultative Partner, Nokia Corporation; former Prime Minister of Finland

**Sponsor:** Ontario Ministry of Research and Innovation

**Charge:** *How can the actual and potential outcomes and impacts of Ontario government spending on innovation and scientific activities be measured, including, but not limited to, the effects on GDP in Ontario, generation and transfer of knowledge, creation of new ventures and access to seed, development, and growth capital?*

**Findings:** Measuring the impact of innovation investment requires four steps: cataloguing innovation investments, identifying program objectives, collecting data, and using leading-edge econometric approaches to program evaluation. The Panel developed a new conceptual framework that can be used to understand how innovation can be measured and assessed. The framework focuses on a firm-centric innovation ecosystem and identifies key behaviours for analysis: knowledge generation; innovation facilitation; policy-making; demand; and, at the centre of it all, firm innovation (see Figure 1).

**Implications:** This report provides policy-makers with indicators to help measure the successes of innovation programs in Ontario.

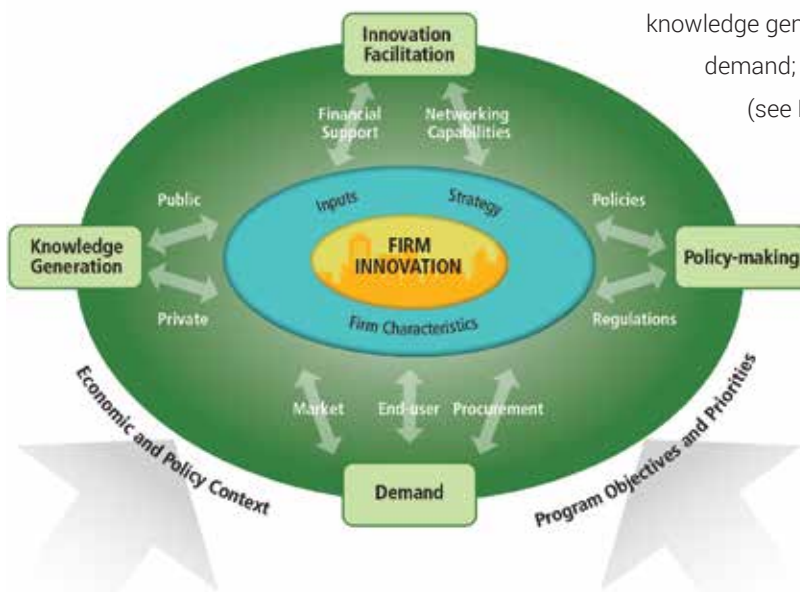
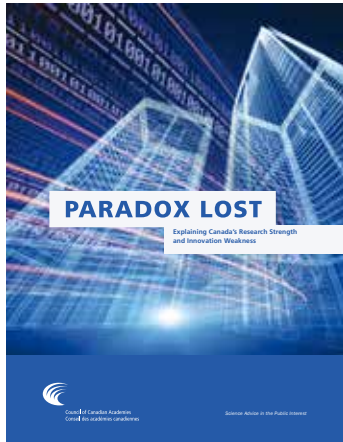


Figure 1: The Firm-Centric Innovation Ecosystem



## Paradox Lost: Explaining Canada's Research Strength and Innovation Weakness

(released October 2013)

**Expert Panel:** A three-member advisory group made up of Marcel Côté (Founding Partner, SECOR Inc.); Bob Fessenden (Fellow of the Institute for Public Economics, University of Alberta); and Peter J. Nicholson, C.M. (Former President, Council of Canadian Academies)

**Charge:** *To provide a concise and articulate synthesis of seven expert panel assessments conducted by the Council of Canadian Academies since its inception that together analyze Canada's performance in science and technology and innovation, to provide an answer to two questions: Why has Canada's research excellence not translated into more business innovation? and How has Canada's economy sustained relative prosperity despite weak innovation and correspondingly feeble productivity growth?*

**Findings:** Canadian academic research is strong and well-regarded internationally, but business innovation is weak by international standards. This paradox can be attributed to the lack of a linear path from research to innovation and, more importantly, to the fact that business strategy in Canada is influenced by factors other than those that motivate innovation. Another paradox is Canada's ability to prosper economically despite weak innovation and low productivity growth. Canadian firms are as innovative as they need to be, given an ample labour supply and a favourable exchange rate. These success factors are, however, changing in ways that will require innovative responses from businesses if they are to compete and survive.

**Implications:** The report identifies four megatrends that will pose challenges for Canadian businesses in the years to come.



## The Health Effects of Conducted Energy Weapons

(released October 2013)

**Expert Panel:** The Expert Panel on the Medical and Physiological Impacts of Conducted Energy Weapons

**Chair:** Justice Stephen T. Goudge, Court of Appeal of Ontario

**Sponsor:** Defence Research and Development Canada

**Charge:** *What is the current state of scientific knowledge about the medical and physiological impacts of conducted energy weapons?*

**Findings:** Conducted energy weapons (CEWs) such as Tasers® are intended to be safe alternatives to other use-of-force techniques. But they are not risk free. The intended and unintended effects of each device must be assessed individually. Available studies indicate that while fatal complications are biologically plausible, they would be extremely rare. Indeed, given the complex nature of in-custody deaths and the limited available evidence, the Panel determined it is impossible to confirm or exclude the use of CEWs as the primary cause of fatality in most real-world settings. The report identifies gaps in health-related CEW knowledge, and notes the need for a series of integrated strategies focusing on better surveillance, monitoring, reporting, and population-based epidemiological studies.

A video summary of this joint CCA/CAHS assessment is available on the Council's website.

**Implications:** The Panel acknowledged research gaps that should be addressed to better inform policy and address public concerns and perceptions.



## Ocean Science in Canada: Meeting the Challenge, Seizing the Opportunity

(released November 2013)

**Expert Panel:** The Expert Panel on Canadian Ocean Science

**Chair:** David Strangway O.C., FRSC, former President and CEO, Canada Foundation for Innovation

**Sponsor:** Canadian Consortium of Ocean Research Universities (CCORU)

**Charge:** *What are Canada's needs and capacities with regard to the major research questions in ocean science that would enable it to address Canadian ocean issues and issues relating to Canada's coasts and enhance its leading role as an international partner in ocean science?*

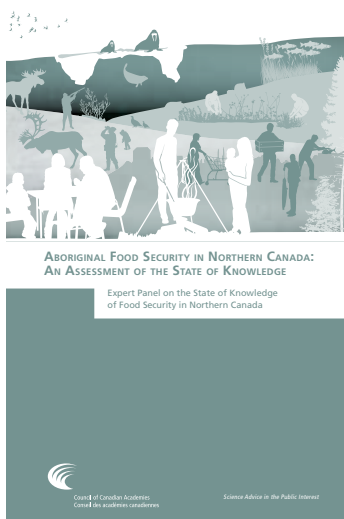
**Findings:** Canada is at risk of losing its position as one of the global leaders in output and impact of ocean science papers. Reasons for this include limits to the capacity to achieve geographical coverage and to integrate data management, and the declining capacity of an aging research fleet. While funding for ocean science in Canadian universities is increasing, the overall funding trends are unclear. The available data are inadequate for determining the state of human capacity in ocean science.

**Implications:** The report points to the need for greater collaboration, coordination, and integration to maintain Canada's strength in ocean science research. The Panel identified questions that still need to be answered as well as Canadian strengths that will allow it to answer those questions.

### The Canadian Consortium of Ocean Research Universities (CCORU) is made up of the following nine universities:

Dalhousie University  
Memorial University of Newfoundland  
Université Laval  
Université du Québec à Rimouski (UQAR)  
University of British Columbia  
University of Manitoba  
University of New Brunswick  
University of Prince Edward Island  
University of Victoria





## Aboriginal Food Security in Northern Canada: An Assessment of the State of Knowledge

(released March 2014)

**Expert Panel:** The Expert Panel on the State of Knowledge of Food Security in Northern Canada

**Chair:** Harriet V. Kuhnlein, Professor Emeritus of Human Nutrition and Founding Director, Centre for Indigenous Peoples' Nutrition and Environment, McGill University

**Sponsor:** Health Canada

**Charge:** *What is the state of knowledge of the factors influencing food security in the Canadian North and of the health implications of food insecurity for Northern Aboriginal populations?*

**Findings:** Food insecurity presents a serious and growing challenge in Canada's northern and remote Aboriginal communities. While the problem requires urgent attention to mitigate health impacts, there is no silver bullet solution; rather, a range of holistic approaches is required that reflect the needs of the people most affected.

The Panel observed that the many factors that influence life in the North must be considered holistically along with food security, including environmental change, culture, governance, and economies.

Finally, the Panel found that some research gaps do exist, and that traditional food security measurement methods are insufficient (see Figure 2).

[A video summary of this assessment is available on the Council's website.](#)

**Implications:** The report provides a comprehensive synthesis of the range of issues that are a daily reality for northern communities and that have significant implications for food security. As such, local communities, policy-makers, and others now have a tool that can assist in building effective short- and long-term solutions.



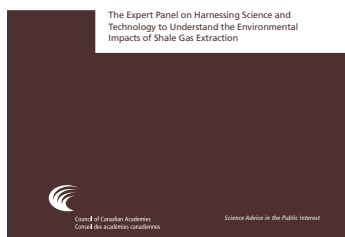
**Figure 2: The Panel's Conceptual Framework**

# LOOKING TO THE FUTURE: ASSESSMENTS IN PROGRESS

Demand for the Council's work has grown. As of March 31, 2014, there were 12 active panels working to provide evidence to support the policy-making process in Canada.



ENVIRONMENTAL IMPACTS OF SHALE GAS EXTRACTION IN CANADA



## Environmental Impacts of Shale Gas Extraction in Canada

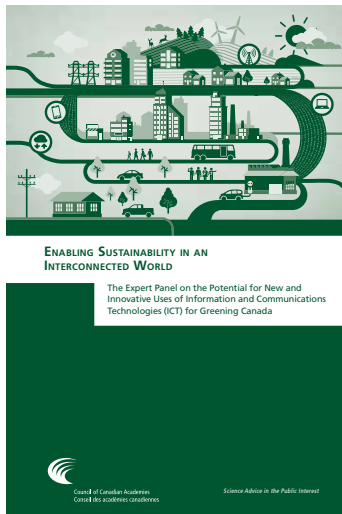
(released May 2014)

**Expert Panel Chair:** John A. Cherry, FRSC, Director, University Consortium for Field-Focused Groundwater Contamination Research; Associate Director of the G360 Centre for Applied Groundwater Research; and Adjunct Professor, School of Engineering, University of Guelph

**Sponsor:** Environment Canada

**Charge:** *What is the state of knowledge of potential environmental impacts from the exploration, extraction, and development of Canada's shale gas resources, and what is the state of knowledge of associated mitigation options?*

**Findings:** Monitoring, management, and oversight are critical for responsible shale gas development. Currently, baseline scientific data are needed to allow for longer-term work. The Panel stressed that regional context matters in Canada. A one-size-fits-all approach will not address the various potential environmental impacts that exist across the country, and decisions must be made in parallel with economic and social implications. The Panel considered impacts associated with well integrity, groundwater and surface water, greenhouse gas emissions, land impacts and seismic events, and human health. Ultimately, the Council's report on shale gas extraction signals Canada's opportunity to develop this resource responsibly by taking into account a go-slow approach that considers potential environmental impacts.



## Enabling Sustainability in an Interconnected World

(released June 2014)

**Expert Panel Chair:** David Miller, President and CEO, WWF-Canada

**Sponsor:** Environment Canada

**Charge:** *What existing or potential opportunities exist to use Information and Communication Technologies (ICT) to create a greener Canada?*

**Findings:** Canada has a well-connected society, and its industries and higher education institutions are leaders in ICT research and development and in knowledge generation. Yet Canadian businesses lag behind those in the United States in ICT investment, the ability of firms to adopt technologies has been weak, and the country is not highly ranked in terms of ICT penetration and diffusion among individuals. While ICT have the potential to expand access to information, generate economic benefits, and improve Canada's environmental performance, the Expert Panel determined that no single technological opportunity will achieve sustainability for Canada on its own. The report explores ICT opportunities ranging from small-scale changes, such as the use of applications that inform consumers of household water use, to large-scale changes, like replacing aging utility networks with smart grid technologies.

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## The State of Canada's Science Culture

(to be released summer 2014)

**Expert Panel Chair:** Arthur Carty, O.C., FRSC, FCAE, Executive Director, Waterloo Institute for Nanotechnology, University of Waterloo

**Sponsor:** Canada Science and Technology Museums, Natural Resources Canada, and Industry Canada

**Charge:** *What is the state of Canada's science culture?*

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## Therapeutic Products for Infants, Children, and Youth

(to be released fall 2014)

**Expert Panel Chair:** Stuart MacLeod, Professor of Pediatrics, University of British Columbia

**Sponsor:** Health Canada

**Charge:** *What is the state of clinical pharmacology, in Canada and abroad, that can be applied to the ethical development of safe and effective pharmaceuticals and biologics labelled as therapies for infants, children, and youth?*

## Canadian Industry's Competitiveness in Terms of Energy Use

(to be released fall 2014)

**Expert Panel Chair:** Fred Gorbet, C.M., Associate Director, Financial Services Program, Schulich School of Business, York University

**Sponsor:** Industry Canada

**Charge:** *What are the opportunities and risks to Canada related to the potential for sustained higher energy prices?*

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## The Future of Canadian Policing Models

(to be released fall 2014)

**Expert Panel Chair:** Justice Stephen T. Goudge, Court of Appeal of Ontario

**Sponsor:** Public Safety Canada

**Charge:** *Given the evolution of crime, the justice system, and society, what do current evidence and knowledge suggest about the future of the public policing models used in Canada?*

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## Memory Institutions and the Digital Revolution

(to be released winter 2015)

**Expert Panel Chair:** Doug Owram, FRSC, former Deputy Vice-Chancellor and Principal, University of British Columbia, Okanagan Campus

**Sponsor:** Library and Archives Canada

**Charge:** *How might memory institutions embrace the opportunities and challenges posed by the changing ways in which Canadians are communicating and working in the digital age?*

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## Wind Turbine Noise and Human Health

(to be released spring 2015)

**Expert Panel Chair:** Tee L. Guidotti, Occupational and Environmental Health and Medicine Consultant, Vice President for Health/Safety/Environment and Sustainability, Medical Advisory Services (Rockville, MD)

**Sponsor:** Health Canada

**Charge:** *Is there evidence to support a causal association between exposure to wind turbine noise and the development of adverse health effects?*

## **RISK: Is the Message Getting Through?**

(to be released spring 2015)

**Expert Panel Chair:** Annette M. Cormier O'Connor, FRSC, FCAHS, Distinguished Professor, Professor Emerita, School of Nursing, Faculty of Health Sciences, University of Ottawa

**Sponsor:** Health Canada

**Charge:** *How can the effectiveness of health risk communication be measured and evaluated?*

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## **The Potential for New and Emerging Technologies to Reduce the Environmental Impacts of Oil Sands Development**

(to be released spring 2015)

**Expert Panel Chairs:** Scott Vaughan, President and CEO, International Institute for Sustainable Development; and Eric Newell, O.C., FCAE, A.O.E., former CEO of Syncrude Canada Ltd.

**Sponsor:** Natural Resources Canada

**Charge:** *How could new and existing technologies be used to reduce the environmental footprint of oil sands development on air, water, and land?*

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## **Timely Access to Health and Social Data for Health Research and Health System Innovation**

(to be released spring 2015)

**Expert Panel Chair:** Andrew K. Bjerring, former President and CEO, CANARIE Inc.

**Sponsor:** Canadian Institutes of Health Research (CIHR)

**Charge:** *What is the current state of knowledge surrounding timely access to health and social data for health research and health system innovation in Canada?*

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## **STEM Skills for the Future**

(to be released spring 2015)

**Expert Panel Chair:** David Dodge, O.C., FRSC, Senior Advisor at Bennett Jones LLP

**Sponsor:** Employment and Social Development Canada

**Charge:** *How well is Canada prepared to meet future skills requirements in science, technology, engineering, and math (STEM)?*

# CONCLUSION

We hope that this year's annual report demonstrates the vibrancy of the Council, and how the organization — with the support of Canada's expert volunteer community and Member Academies — is making an important contribution in support of evidence-based policy-making. At a time of fiscal restraint and limited resources, the Council has been able to efficiently and effectively provide a solid knowledge base on a variety of important subjects for Canada. *Innovation* and *measurement* were two words often referenced within our hallways over the past year. We believe that our contribution through reports such as *Paradox Lost*, *The State of Industrial R&D in*

*Canada*, and *Innovation Impacts: Measurement and Assessment* have moved policy thinking forward, and will continue to do so. It was a highly successful year for the Council and we could

not have done it without the support of our panel members and the volunteers who sit on both the [Board of Governors](#) and [Scientific Advisory Committee](#). We continually strive for excellence and are motivated and driven by the numerous experts who work with us and who are so committed to supporting the Council in providing science advice for all Canadians.



# ANNEXES

## ANNEX I: CORPORATE PROFILE

The Council of Canadian Academies is a not-for-profit organization registered under the *Canada Corporations Act*. It began operation in 2005.

### ASSESSMENTS

Proposed assessment topics requested by the Government of Canada are selected through a cross-government competitive process and submitted to the Council for consideration. The criteria used to evaluate proposed assessments are as follows:

#### Government Criteria:

- The proposal is relevant to the agenda of the sponsoring department/agency and to Canada's policy agenda.
- The assessment topic is timely, and the timeframe for assessment is consistent with the needs of the sponsoring department/agency and of Canada.
- The value provided by the Council is unique.
- The assessment topic is a science-based question that has been coordinated with relevant departments/agencies and external stakeholders.

### Council Criteria:

- The topic is of importance to Canada and its citizens.
- The appropriate expertise can be assembled and the required timeline can be met.
- The existing state of knowledge merits the assessment.
- Science underpins the question and its response.

### Asset Criteria:

- The report is likely to be widely consulted within and outside government (i.e., other levels of government or organizations have a demonstrated interest in the outcome of the assessment).
- The topic is uniquely relevant to Canada.
- The topic is an international issue for which a Canadian assessment is important at this time.

The Council's Board of Governors, assisted by a Scientific Advisory Committee, oversees the integrity of the assessment process. The Board formally approves assessment questions, expert panel membership, and report review processes.

To protect the independence of the assessment process, the sponsor of an assessment does not participate in conducting the assessment, review drafts of the report, or propose any changes to the report before its release. Assessment reports undergo a formal peer review process to assure quality and objectivity. The Board is responsible for authorizing the public release of final assessment reports, and is advised in this regard by a report review monitor who ensures that expert panels give full and fair consideration to the comments of the external reviewers of every Council report. All final assessment reports are posted on the Council's website, [www.scienceadvice.ca](http://www.scienceadvice.ca), in both official languages, and can be downloaded free of charge to ensure their availability to the public.

## FUNDING

The Council currently operates with a ten-year grant of \$30 million provided by the Government of Canada. This founding grant is intended to support core operations of the Council through to March 31, 2015. Conditions on the use of the funds provided by the government are set out in a formal funding agreement between the Council and the Government of Canada as represented by the Minister of Industry. The Council also receives direct revenue in relation to any assessments conducted outside the scope of the Council's funding agreement.



## STRUCTURE AND GOVERNANCE

The Council is governed by a twelve-member Board of Governors. The Board is responsible for setting the strategic direction of the organization, ensuring that the Council fulfills its mandate, and overseeing the Council's operations.

Each founding Member Academy appoints two governors. These six governors appoint two additional governors from the general public. The remaining four governors are proposed to the Board by the Minister of Industry, and are formally appointed through a resolution of the Board. Importantly, to maintain its independence from government, the majority of governors must not have status as Agents of Canada (employees of the Crown).

Governance of the Council is supported by five committees of the Board of Governors:

- Executive Committee
- Audit and Finance Committee
- Investment Committee
- Nominations, Selection, and Governance Committee
- Human Resources and Compensation Committee

The work of the Council is also supported by a Board-appointed Scientific Advisory Committee that provides advice on the substance and procedures of expert assessments, particularly on the following aspects:

- generating potential subjects for future assessments;
- evaluating the suitability of subjects proposed to the Council for expert assessment;
- setting the terms of reference for the independent expert panels that carry out the assessments;
- seeking out potential members for expert panels; and
- overseeing the process of peer review of draft assessment reports.

Day-to-day operations of the Council are carried out by a small staff, under the direction of a full-time president. Council staff provide support to expert panels with research, writing, and overall management of logistics in the production of assessments. The staff also support the work of the Scientific Advisory Committee, particularly with analyzing proposed assessment topics, identifying panel membership, and carrying out report review processes.

Members of the Board of Governors, Scientific Advisory Committee, and staff are listed in Annex II.

## **FINANCIAL STATEMENTS: FISCAL YEAR ENDED MARCH 31, 2014**

The Council retained the Ottawa-based accounting firm Parker Prins Lebano to audit the financial results for the fiscal year 2013/14. Their report, including the Council's financial statements for 2013/14, is provided in Annex III.

## **STATEMENT OF INVESTMENT POLICY**

The Council's founding grant is overseen, on behalf of the Board, by the Investment Committee. The committee appointed Towers Perrin Inc. as the Council's investment consultant to advise on the development of a Statement of Investment Policy. The policy was formally approved by the Board of Governors, and is appended as Annex IV. Subsequently, Phillips, Hager & North was selected as the Council's investment manager and Desjardins Trust as custodian.

## **HUMAN RESOURCES**

The Council focuses its human resource activity on the values outlined in the strategic plan. Those values are: excellence, independence, integrity, collaboration, and innovation.

In light of the organization's modest size relative to the breadth of its mandate, it is clear that, in addition to the foundation of a permanent, professional Council staff, there will be an ongoing need to bring in specialized experts on a temporary basis. One way this is achieved is through the Graduate Internship Program.

The Council initiated the internship program in late 2009. To date, the Council has engaged a total of 20 interns through this program. The internship program was designed to provide participants with relevant experience in the area of science and policy. The program exposes successful applicants to the interface between scientific enterprise and society, helping interns to determine whether they have the passion for the work involved.

## ANNEX II: BOARD OF GOVERNORS, SCIENTIFIC ADVISORY COMMITTEE, AND STAFF

### BOARD OF GOVERNORS

(As of March 31<sup>st</sup>, 2014)

**Elizabeth Parr Johnston**, C.M.<sup>2</sup>

Former President, University of New Brunswick  
and Mount Saint Vincent University  
(Chester Basin, NS)

**Margaret Bloodworth**, C.M., Chair

Former Federal Deputy Minister  
and National Security Advisor  
(Ottawa, ON)

**Graham Bell**, FRSC<sup>1</sup>

Research Director, James McGill Professor, Chair  
Department of Biology  
McGill University  
(Montréal, QC)

**John Cairns**, FCAHS

Professor of Medicine  
University of British Columbia  
(Vancouver, BC)

**Marie D'Iorio**, FRSC<sup>2</sup>

Executive Director  
National Research Council Canada  
National Institute of Nanotechnology  
(Edmonton, AB)

**Henry Friesen**, C.C., FRSC, FCAHS, Vice Chair

Distinguished Professor Emeritus and Senior Fellow  
Centre for the Advancement of Medicine  
Faculty of Medicine  
University of Manitoba  
(Winnipeg, MB)

**Carol P. Herbert**, FCAHS<sup>1</sup>

Professor of Family Medicine  
Western University  
(London, ON)

**Claude Jean**

Executive Vice President and General Manager  
Foundry Operation  
Teledyne DALSA Semiconductor  
(Bromont, QC)

**Peter MacKinnon**, O.C.<sup>1</sup>

Former President and Vice Chancellor  
University of Saskatchewan  
(Saskatoon, SK)

**Tom Marrie**, FRSC, FCAHS<sup>2</sup>

Dean of Medicine  
Dalhousie University  
(Halifax, NS)

**Jeremy McNeil**, FRSC

Helen Battle Professor of Chemical Ecology  
Department of Biology  
Western University  
(London, ON)

**Axel Meisen**, C.M., FCAE

Former Chair of Foresight at Alberta Innovates –  
Technology Futures (AITF)  
(Edmonton, AB)

## BOARD OF GOVERNORS CONTINUED

### Lydia Miljan

Associate Professor of Political Science  
and Chair of the Arts and Science Program  
University of Windsor  
(Windsor, ON)

### Ted Morton<sup>1</sup>

Executive Fellow, School of Public Policy  
and Professor of Political Science  
University of Calgary  
(Calgary, AB)

### P. Kim Sturgess, FCAE

CEO and Founder  
Alberta WaterSMART  
(Calgary, AB)

<sup>1</sup> Joined the Board in fiscal year 2013/14

<sup>2</sup> Left the Board in fiscal year 2013/14

## SCIENTIFIC ADVISORY COMMITTEE

(As of March 31<sup>st</sup>, 2014)

### Tom Brzustowski, O.C., FRSC, FCAE<sup>1</sup>

Chair of the Board, Institute for Quantum Computing  
University of Waterloo  
(Waterloo, ON)

### Susan A. McDaniel, FRSC, Chair

Director, Prentice Institute & Canada Research Chair  
in Global Population & Life Course  
Prentice Research Chair and Professor of Sociology  
University of Lethbridge  
(Lethbridge, AB)

### Lorne Babiuk, O.C., FRSC, FCAHS

Vice President (Research)  
University of Alberta  
(Edmonton, AB)

### Murray S. Campbell

Senior Manager, Business Analytics Research  
IBM T.J. Watson Research Center  
(Yorktown Heights, NY)

### Marcel Côté

Founding Partner  
SECOR Inc.  
(Montréal, QC)

### Clarissa Desjardins

Former CEO  
Centre of Excellence in Personalized Medicine  
(Montréal, QC)

### Jean Gray, C.M., FCAHS

Professor of Medicine (Emeritus)  
Dalhousie University  
(Halifax, NS)

### John Hepburn, FRSC

Vice President (Research and International)  
University of British Columbia  
(Vancouver, BC)

### Gregory S. Kealey, FRSC

Professor, Department of History  
University of New Brunswick  
(Fredericton, NB)

## SCIENTIFIC ADVISORY COMMITTEE CONTINUED

### Daniel Krewski

Professor of Epidemiology and Community Medicine  
and Scientific Director of the McLaughlin Centre  
for Population Health Risk Assessment  
University of Ottawa  
(Ottawa, ON)

### Avrim Lazar

Former President and CEO  
Forest Products Association of Canada  
(Ottawa, ON)

### Norbert R. Morgenstern, C.M., FRSC, FCAE

Professor (Emeritus), Civil Engineering  
University of Alberta  
(Edmonton, AB)

### Sarah P. Otto, FRSC

Professor and Director of the Biodiversity Research Centre  
University of British Columbia  
(Vancouver, BC)

<sup>1</sup> Left SAC in fiscal year 2013/14

## STAFF OF THE COUNCIL OF CANADIAN ACADEMIES

### Elizabeth Dowdeswell, O.C.

President and CEO

### Anna Buczek

Communications Specialist

### Eleanor Fast<sup>1</sup>

Program Director

### Tom Bursey

Vice President  
Corporate Services and CFO

### Rebecca Chapman

Researcher

### Andrea Hopkins

Program Coordinator

### Aled ab Iorwerth

Research Associate

### Jody Cooper

Coordinator, Assessment  
Communications

### Stefan Jungcurt

Research Associate/  
Acting Program Director

### Michelle Auger

Program Coordinator

### Tijs Creutzberg

Program Director

### Jeff Junke

Coordinator, Social Media  
and Communications

### Jennifer Bassett

Researcher

### Kristen Cucan

Program Coordinator

### Tess Lin

Program Coordinator

### Janet Bax

Program Director

### Marija Curran

Corporate Affairs Coordinator

### Suzanne Loney

Research Associate

### Laura Bennett

Researcher

### Andrea Dowdall<sup>1</sup>

Program Coordinator

### Kelly Loverock

Coordinator, Communications  
and Website

### Dane Berry

Research Associate/  
Associate Program Director

### Marc Dufresne

Senior Bilingual  
Publications Specialist

## STAFF OF THE COUNCIL OF CANADIAN ACADEMIES CONTINUED

**Emily Maddocks**

Research Associate

**Nancy Neil**

Manager, Office Operations

**Andrew Taylor**

Program Director

**Tracey McKinlay**Executive Assistant  
to the President**Samantha Rae Ayoub**Senior Manager, Publishing  
and Planning**Jonathan Whiteley**

Researcher

**Cate Meechan**

Director, Communications

**Joe Rowsell**

Research Associate

**Doug Wright**

Program Director

**Emmanuel Mongin**Research Associate/  
Acting Program Director**Christina Stachulak**

Senior Program Director

**Weronika Zych**

Program Coordinator

<sup>1</sup> Left the Council in fiscal year 2013/14**Kori St. Cyr**

Research Associate

## COUNCIL INTERNS 2013/14

**Cyril Adjeitey** (July 2013 – December 2013)**Aatif Baskanderi** (January 2013 – August 2013)**Megan Dodd** (January 2013 – August 2013)**Matthew Falconer** (July 2013 – December 2013)**Rachel Savidge** (January 2013 – July 2013)**Naomi Shuman** (July 2013 – December 2013)

Ranges of remuneration: For the fiscal year ending March 31, 2014, compensation was within the following salary ranges: Council Management (senior officers): President (\$180,000 – \$230,000), Vice President, Corporate Services and CFO (\$110,000 – \$170,000), Director, Communications (\$100,000 – \$160,000). Employees whose remuneration exceeds \$100,000, including any fee, allowance, or other benefits paid in year: Senior Program Director (\$100,000 – \$130,000), Program Director (\$100,000 – \$130,000), Research Associate (\$100,000 – \$130,000).

## **ANNEX III: FINANCIAL STATEMENTS FOR 2013/14**

### **INDEPENDENT AUDITORS' REPORT**

To the Board of Governors,  
COUNCIL OF CANADIAN ACADEMIES

#### **Report on the Financial Statements**

We have audited the accompanying financial statements of the COUNCIL OF CANADIAN ACADEMIES, which comprise the Statement of Financial Position as at March 31, 2014, and the Statements of Operations and Cash Flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

#### **Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian accounting standards for not for profit organizations, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

#### **Auditors' Responsibility**

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the organization's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the organization's internal control.

An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

## Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of the COUNCIL OF CANADIAN ACADEMIES as of March 31, 2014, and its financial performance and its cash flows for the year then ended in accordance with Canadian accounting standards for not for profit organizations.



Parker Prins Lebano Chartered Accountants Professional Corporation

Authorized to practice public accounting by the Chartered Professional Accountants of Ontario

Ottawa, Canada

May 16, 2014



## COUNCIL OF CANADIAN ACADEMIES STATEMENT OF FINANCIAL POSITION

As at March 31, 2014

	2014	2013
<b>ASSETS</b>		
CURRENT		
Cash	\$ 459,759	\$ 671,420
Investments (note 3)	5,747,627	11,433,190
Accounts receivable (note 7)	250,365	368,387
Prepaid expenses (note 10)	37,093	64,436
	6,494,844	12,537,433
CAPITAL (note 5)	128,128	181,298
	\$ 6,622,972	\$ 12,718,731
<b>LIABILITIES</b>		
CURRENT		
Accounts payable	\$ 211,637	\$ 359,944
DEFERRED CONTRIBUTIONS (notes 5 and 6)	6,411,335	12,358,787
NET ASSETS (note 8)	–	–
	\$ 6,622,972	\$ 12,718,731

On behalf of the board:



Director

## COUNCIL OF CANADIAN ACADEMIES STATEMENT OF OPERATIONS

For the year ended March 31, 2014

	2014	2013
<b>REVENUE</b>		
Investment income	\$ 106,605	\$ 547,179
Add: grant revenue	5,947,452	5,194,980
Revenue from other sources	417,250	813,858
	6,471,307	6,556,017
<b>EXPENDITURE</b>		
Amortization	79,051	99,436
Assessment consultants	273,990	383,459
Central operations	354,937	361,024
Governance	105,769	94,645
Investment consultants	27,455	60,866
Panel meetings	897,313	1,089,190
Publications	582,171	621,715
Rent	400,052	380,999
Salaries and benefits	3,549,378	3,297,087
Other activities	201,191	167,596
	6,471,307	6,556,017
<b>EXCESS OF REVENUE OVER EXPENDITURE FOR THE YEAR</b>	\$ —	\$ —

## COUNCIL OF CANADIAN ACADEMIES STATEMENT OF CASH FLOWS

For the year ended March 31, 2014

	2014	2013
<b>CASH FLOWS FROM (USED FOR) OPERATING ACTIVITIES</b>		
Excess of revenue over expenditure for the year	\$ –	\$ –
Items not requiring an outlay of cash:		
Amortization	79,051	99,436
Unrealized loss (gain) on investments	(127,581)	108,415
Net change to non cash items related to operations:		
Accounts receivable	118,022	119,000
Prepaid expenses	27,343	(30,120)
Accounts payable	(148,307)	152,180
Deferred revenue	–	(260,000)
Deferred contributions	(5,947,452)	(5,303,397)
	(5,998,924)	(5,114,486)
<b>CASH FLOWS FROM (USED FOR) INVESTING ACTIVITIES</b>		
Purchase of capital assets	(25,881)	(82,371)
Redemption of investments	5,813,144	5,049,316
	5,787,263	4,966,945
<b>NET DECREASE IN CASH</b>	(211,661)	(147,541)
<b>CASH, BEGINNING OF YEAR</b>	671,420	818,961
<b>CASH, END OF YEAR</b>	\$ 459,759	\$ 671,420

## COUNCIL OF CANADIAN ACADEMIES NOTES TO FINANCIAL STATEMENTS

**March 31, 2014**

### 1. Organization's Purpose

The Council of Canadian Academies is a not for profit organization incorporated in April 2002 under the Canada Corporations Act and began operations in 2005.

The Council's main purpose is to provide a source of credible, independent, expert assessments and evidence based advice on the science that is relevant to matters of public interest, and to provide a voice for Canadians on behalf of the sciences on the national and international scene.

### 2. Significant Accounting Policies

These financial statements have been prepared in accordance with Canadian accounting standards for not for profit organizations, and reflect the following policies:

#### CAPITAL ASSETS

Capital assets consisting of furniture and fixtures, computer equipment and software, and leasehold improvements are stated at cost. Amortization has been provided on the diminishing balance or straight line basis as follows with half of amortization taken in the year of acquisition:

Furniture and fixtures      30% per annum

Computer and software      45% per annum

Leasehold improvements    10 years

#### REVENUE RECOGNITION

The organization follows the deferral method of accounting for contributions. Restricted contributions are recognized as revenue in the year in which the related expenses are incurred. Unrestricted contributions are recognized as revenue when received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured.

#### INVESTMENTS

Investments are recorded at market value.

## INVESTMENT INCOME

Investment income is recorded as earned.

Unrealized gains on investments are recognized as an increase in deferred contributions while unrealized losses on investments are recognized as a decrease in deferred contributions.

Investment income on investments is recorded as income on the statement of operations.

## 3. Financial Instruments

Financial instruments reflected in the statement of financial position consist of cash, investments, accounts receivable and accounts payable. The Council does not hold or issue financial instruments for trading purposes and does not hold or issue derivative financial instruments.

## INTEREST RATE RISK

The Council is subject to cash flow risk with respect to its holdings of investments.

Bonds and term deposits, with market values of \$5,747,627 include Government of Canada, Provincial Government and Corporate Bonds with a similar amortized cost value. The bonds and term deposits mature at varying dates between April 1, 2014 and June 19, 2014.

Cash funds on deposit at an investment brokerage account receive interest at rates that fluctuate with bank prime.

## 4. Capital Assets

	Cost	Accumulated Amortization	2014 Net Book Value	2013 Net Book Value
Furniture and fixtures	\$ 375,250	\$ 334,102	\$ 41,148	\$ 58,783
Computer and software	387,238	314,741	72,497	96,840
Leasehold improvements	95,815	81,332	14,483	25,675
	\$ 858,303	\$ 730,175	\$ 128,128	\$ 181,298

## 5. Deferred Contributions

Prior year grant revenue that was received in excess of expenses was deferred to offset expenses in future years.

## 6. Economic Dependence

In March 2006, the Council received a founding grant in the amount of \$30,000,000. The grant was intended to support core operations of the Council for 10 years. The Council is actively seeking continued funding from multiple sources, the amounts of which are not determinable. The remaining funds within the Council will allow them to operate through the next fiscal year based on current spending models, or longer should the organization re evaluate forthcoming budgets pending confirmation of future funding agreements.

## 7. Accounts Receivable

Accounts receivable consists of GST receivable of \$230,189, and accrued interest of \$20,176 for a total of \$250,365.

## 8. Net Assets

The net assets of the organization are recorded at zero since all funding received is recorded as deferred contributions until expenses are incurred.

## 9. Commitments

The organization entered into a ten year lease commencing February 1, 2006, as well as office equipment contracts. As of January 1, 2010, the organization entered into a second lease agreement for additional continuous space for a three year period with an option for two additional years. The annual payments over the next two years are as follows:

F/Y 2015	\$ 266,423
F/Y 2016	211,215

## 10. Prepaid Expenses

Prepaid expenses consist of prepaid rent of \$20,492, hotel deposits of \$8,600, D&O liability insurance of \$2,665, an Art Bank rental deposit of \$2,183, prepaid postage of \$65, prepaid quarterly lease charge on photocopier of \$1,085, a commercial insurance policy of \$543 and a vendor credit of \$1,460 for a total of \$37,093.

## ANNEX IV: STATEMENT OF INVESTMENT POLICY

### SECTION I – INTRODUCTION

- 1.1 This document constitutes the Statement of Investment Policy (the “Policy”) applicable to the assets of the fund (the “Fund”) created by the Council of Canadian Academies (the “Council”) from proceeds of the Council’s \$30 million founding grant from the Government of Canada.
- 1.2 The purpose of this Policy is to formulate those investment principles, guidelines and monitoring procedures which are appropriate to the needs and objectives of the Fund, in a manner conforming to the funding agreement (the “Funding Agreement”) with the Minister of Industry on behalf of the Government of Canada.
- 1.3 Any investment manager or other party providing services in connection with the investment of the Fund shall accept and adhere to this Policy.

### SECTION II – ADMINISTRATION

- 2.1 The Board of Governors (the “Board”) of the Council has the ultimate responsibility to ensure that the Fund is invested and managed in accordance with the prudent person principle.
- 2.2 The Board is responsible for all aspects of the operations of the Fund including this Policy. The Investment Committee (the “Committee”) assists the Board in fulfilling its responsibilities.
- 2.3 The Committee is composed of at least three Governors who are not officers or employees of the Council. Members of the Committee shall be financially literate and have broad knowledge or experience in investment matters.
- 2.4 The custodian of the Fund (the “Custodian”) shall be a trust company duly registered in Canada or a financial institution in Canada. Assets of the Fund shall be segregated from all other assets of the Council and held by the Custodian in a separate account or accounts in accordance with an agreement that clearly indicates that the assets are held for the Council.

- 2.5 Where the Committee desires to invest in pooled funds or mutual funds ("Pooled Fund") eligible for investment of the Fund, the Committee must satisfy itself that the investment policy of such Pooled Fund is consistent with this Policy.
- 2.6 Neither the Committee nor any employee of the Council shall select securities on behalf of the Fund except for the selection of Pooled Funds or short-term deposits with banks or trust companies.
- 2.7 The Committee and the Board may rely on independent experts for certain aspects of the Fund's operations.

## SECTION III – ROLES AND RESPONSIBILITIES

### The Committee

- 3.1 The Committee shall:
  - (a) recommend a written Statement of Investment Policy to the Board,
  - (b) recommend to the Board the appointment of one or more independent external advisors to provide investment advice (the "Investment Consultant(s)"<sup>1</sup>),
  - (c) approve an Investment Strategy and review it at least annually,
  - (d) recommend to the Board the appointment of one or more independent professional investment managers (the "Manager(s)") to invest the Fund,
  - (e) recommend to the Board the appointment of the Custodian,
  - (f) regularly advise the Board on any significant financial risks or potential significant losses of investments,
  - (g) monitor the activities and performance of the Fund, and
  - (h) make other decisions that may be required to fulfill the terms of this Policy.

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<sup>1</sup> Defined as Investment Advisor in the Funding Agreement.



## The Board

3.2 The Board shall:

- (a) approve the Statement of Investment Policy,
- (b) approve the appointment of an Investment Consultant,
- (c) ensure that proper external custodial arrangements are established for the Fund, and
- (d) review the Policy at least annually.

## The Manager

3.3 The Manager shall:

- (a) invest the assets allocated to it in accordance with the Policy and the Investment Strategy,
- (b) comply with the terms of an Investment Manager Agreement ("Agreement"),
- (c) report to the Committee in writing on a quarterly basis in respect of its performance for the quarter, the investment holdings and transactions, the intended strategy for the following quarter, deviation from the intended strategy for the preceding quarter and compliance with the Policy, the Investment Strategy and the Agreement,
- (d) provide to the Committee upon appointment, and whenever changes occur thereafter, its policies and procedures relating to professional standards, conflicts of interest, internal controls and trading policies,
- (e) advise the Committee on an ongoing basis of any relevant changes in its organization, personnel or investment process, and
- (f) be available for meetings or discussions with the Committee on a reasonable basis.

## The Custodian

3.4 The Custodian shall:

- (a) act under the terms of a custodial agreement,
- (b) hold custody of the assets of the Fund and execute transactions,
- (c) maintain records that are sufficient to allow the ownership of any investment to be traced to the Fund at any time, and
- (d) provide financial statements detailing all changes in the value of the Fund.

## The Investment Consultant

3.5 The Investment Consultant shall:

- (a) prepare and deliver a report on the Fund and the Manager's performance to the Committee at least twice a year using investment returns calculated independently of the Manager,
- (b) advise the Committee of issues relating to the Fund and the Manager as they arise,
- (c) advise the Committee as requested, on other matters arising in the context of this Policy.

## SECTION IV – FUND OVERVIEW

- 4.1 The assets of the Fund were provided through a founding grant from the Government of Canada for the purpose of financing the core activities of the Council for a period of 10 years. It is the Council's responsibility to ensure that sufficient financial resources exist to deliver independent, expert assessments of the science that is relevant to important public issues.
- 4.2 It is expected that disbursements to cover eligible expenditures will exceed interest or other earnings from the Fund on an annual basis and that all assets will be fully disbursed at the end of the ten-year period. Therefore, sufficient liquidity to meet disbursements is an important consideration in the development of the Policy.

## SECTION V – PERMITTED CATEGORIES OF INVESTMENT

- 5.1 From time to time, and subject to this Policy, the Fund may invest in any or all of the following asset categories and subcategories of investment either directly or through Pooled Funds which hold these investments:
- (a) “Fixed Income”:
    - bonds and notes issued by the federal government, provincial governments, municipal governments and corporations
    - asset-backed securities
    - mortgage-backed securities
  - (b) “Cash or Cash Equivalents”
    - bank certificates of deposit
    - banker’s acceptances
    - treasury bills, commercial paper and other short-term securities
- 5.2 The Fund may not invest or engage in the following categories of assets or instruments:
- (a) equities or shares issued by any corporation,
  - (b) hedge funds or funds of hedge funds,
  - (c) fixed-income instruments rated below A- by Standard & Poors or Fitch Ratings; A3 by Moody’s or A- by DBRS; Unrated securities will be assumed to fail such credit ratings,
  - (d) derivatives or any instruments that have derivative holdings or features,
  - (e) non-marketable securities,
  - (f) commodities,
  - (g) repurchase agreements against securities which are not permitted to be held in the portfolio, and
  - (h) margin transactions or any form of leveraging.

- 5.3 The assets of the Fund shall not, directly or indirectly, be invested in securities of a listed person as defined by the United Nations Suppression of Terrorism Regulations, or loaned to or used for the benefit of such a person.
- 5.4 No part of the Fund shall be invested in securities that are not denominated in Canadian dollars.

## SECTION VI – ASSET ALLOCATION

- 6.1 The primary objective is to reduce the uncertainty in the Fund's ability to meet a schedule of disbursement to cover eligible expenditures. Maximizing return is a secondary objective. The objectives in the design of the Policy are:
  - (a) maintaining the safety of capital,
  - (b) ensuring adequate protection against inflation, and
  - (c) maximizing the return on investment while staying within the constraints of the Funding Agreement.
- 6.2 The maturities and terms of investments shall reasonably match the profile of the Fund's forecasted disbursements. To the extent that the timing of disbursements is unknown, investments shall be held in securities with term to maturity of one year or less.
- 6.3 The Policy mix between Cash or Cash Equivalents and Fixed Income will vary over time to reflect the anticipated disbursements and the remaining investment horizon.
- 6.4 The Fund performance will be assessed based on a customized benchmark using Scotia Capital indices weighted to approximate the modified duration of the disbursements.
- 6.5 The risks faced by the Council include:
  - (a) the risk that long-term market returns will not be in line with expectations,
  - (b) the risk of annual volatility in returns, meaning that in any one year the actual return may be very different from the expected return (such return may also be negative), and
  - (c) to the degree that active management is employed, the risk that the added return expected of active management over passive management will not be realized, or will be negative.

## SECTION VII – PORTFOLIO DIVERSIFICATION AND CONSTRAINTS

- 7.1 The Fund will maintain a prudent level of diversification, subject to the exclusions in 5.2, 5.3 and 5.4 and the limits listed below based on the market value of the Fund.
- 7.2 In respect of the Fixed Income portfolio of the Fund:
- (a) All securities must be readily marketable.
  - (b) Investments in the securities of any one issuer, or two or more affiliated entities, shall be limited to no more than 10% of the Fund except those issued or guaranteed by the Government of Canada or a province of Canada having at least an “A” rating.
  - (c) Investments in the securities with a credit rating of “A” (including all sub-classifications of this rating category) by at least one of the recognized credit rating agencies shall be limited to no more than 20% of the Fund.
  - (d) Investments in the securities with a credit rating of “AA” (including all sub-classifications of this rating category) by at least one of the recognized credit rating agencies shall be limited to no more than 70% of the Fund.
  - (e) Investment in securities that are not issued by, or carry the full faith and credit of either the Government of Canada or the government of a province shall be limited to no more than 80% of the Fund.
  - (f) Asset-backed securities shall be rated by a U.S. rating agency to ensure liquidity.
  - (g) Mortgage-backed securities shall be fully guaranteed by the Government of Canada or a province of Canada having at least an “A” rating.
- 7.3 All investments of the Fund in Cash Equivalents shall have a minimum credit rating of “R-1 (low)” or equivalent and be readily marketable or redeemable.
- 7.4 All debt ratings refer to the ratings of Dominion Bond Rating Service (DBRS) or comparable ratings of other major credit rating agencies. In the case of split-rated securities, the lowest rating by a major credit rating agency shall be used.
- 7.5 If a security’s credit rating falls below the required level after purchase, the Manager shall remove it from the Fund as soon as practicable, but taking care not to unduly impair performance. The Manager shall notify the Committee promptly in writing when such a rating change results in non-compliance.

## SECTION VIII – LOANS AND BORROWING

- 8.1 No part of the Fund shall be loaned to any party, other than by purchasing securities which otherwise meet the requirements of this Policy for Fixed Income or Cash Equivalents.
- 8.2 The Manager shall not borrow money, pledge or otherwise encumber any of the Fund's assets, except to the extent that temporary overdrafts occur in the normal course of day-to-day portfolio management.

## SECTION IX – VALUATION OF INVESTMENTS

- 9.1 Investments in marketable securities shall be valued by the Custodian no less frequently than monthly at their market value at that time.
- 9.2 Investment in a Pooled Fund shall be valued according to the unit values calculated at least monthly by the custodian of that Pooled Fund. The Custodian shall be responsible for requesting and recording the unit values on a monthly basis.

## SECTION X – CONFLICTS OF INTEREST

- 10.1 If a member of the Committee, or any agent of or advisor to the Committee, or any person employed in the investment or administration of the Fund has, or acquires, any material interest, direct or indirect, in any matter in which the Fund is concerned or may benefit materially from knowledge of, participation in, or by virtue of an investment decision or holding of the Fund, the person involved shall as soon as practicable, disclose in writing this potential conflict of interest to the Chair of the Committee. The Chair shall immediately advise all members of the Committee, and the Committee shall decide upon a course of action. Any such person will thereafter abstain from any decision making with respect to the area of conflict, unless otherwise determined by unanimous decision of the remaining members of the Committee.
- 10.2 A Manager shall provide the Committee with its internal guidelines on purchasing securities of members of the Manager's organization, affiliates, or entities in which the Manager or its affiliates have a substantial interest or in which any employee of the Manager or that employee's spouse or children have a substantial investment.

- 10.3 Every disclosure of interest under this Section shall be recorded in the minutes of the relevant Committee meeting.
- 10.4 The failure of a person to comply with the procedures, described in this Section, shall not of itself invalidate any decision, contract or other matter.
- 10.5 The Committee shall satisfy itself that an appropriate policy regarding conflicts of interest exists and is followed by any Manager. As a minimum, the Code of Ethics and Standards of Professional Conduct adopted by the CFA Institute shall be expected to apply to such Manager.

## SECTION XI – MONITORING

- 11.1 The Committee, in conjunction with its Investment Consultant, shall review on a regular basis, as needed, and at least once a year:
  - (a) the assets and net cash flow of the Fund,
  - (b) the investment performance and management of the Fund and the Manager relative to the objectives of the Policy and of the Investment Strategy,
  - (c) portfolio holdings,
  - (d) the fees and expenses incurred in managing the Fund, and
  - (e) compliance with this Policy and Investment Strategy.

Following such review, the Committee shall take such action as it deems prudent and appropriate.

- 11.2 The Committee, in conjunction with its Investment Consultant, shall meet at least once a year with the Manager to discuss investment performance, investment strategies, expected future performance and any changes in that Manager's organization, investment processes and professional staff.
- 11.3 The Committee shall evaluate whether any information discovered through the foregoing monitoring activities require specific communication to the Board.

## SECTION XII – POLICY REVIEW

12.1 This Policy shall be reviewed at least annually in order to determine whether any modifications are necessary or desirable. Such review shall include but not be limited to:

- (a) changes in the expected projected expenditures of the Fund,
- (b) revisions to the expected long-term trade-off between risk and reward,
- (c) shifts in the financial objectives and risk tolerance of the Council,
- (d) shortcomings of the Policy that emerge in its practical operation, and
- (e) recommendations by a Manager.







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