

CONVENING
EXPERTS

ASSESSING
EVIDENCE

INFORMING
DECISIONS



>>>

MEMBER ACADEMIES



Canadian Academy of Health Sciences
Académie canadienne des sciences de la santé



ANNUAL REPORT 2015/16

CONVENING **EXPERTS.**
ASSESSING **EVIDENCE.**
INFORMING **DECISIONS.**



CONTENTS

MESSAGE FROM THE CHAIR OF THE BOARD	1
MESSAGE FROM THE PRESIDENT AND CEO	2
WHO WE ARE AND WHAT WE DO	3
THE YEAR IN REVIEW	6
MAKING HEADLINES	8
STARTING CONVERSATIONS	9
CONVENING EXPERTS	10
ASSESSING EVIDENCE	12
LOOKING AHEAD	20
INFORMING DECISIONS	23
A GROWING DEMAND FOR EVIDENCE-INFORMED POLICY	25
ANNEX I: CORPORATE PROFILE	26
ANNEX II: BOARD OF GOVERNORS, SCIENTIFIC ADVISORY COMMITTEE, AND STAFF	28
ANNEX III: FINANCIAL STATEMENTS	31



Council of Canadian Academies
Conseil des académies canadiennes

 scienceadvice.ca

 [@scienceadvice](https://twitter.com/scienceadvice)

MESSAGE FROM THE CHAIR OF THE BOARD

This past year marked an exciting and pivotal time in the Council of Canadian Academies' 10-year history. In April 2015, we welcomed the federal government's announcement of new funding: \$15 million over five years. In 2015/16 we also released five new reports on wind turbine noise and human health, STEM skills and Canada's economic productivity, oil sands, health product risk communication, and energy use and climate change. Additionally, in July 2015, we announced our first workshop report sponsored by a non-profit organization. All very notable events at the CCA.

But perhaps most anticipated was the arrival of new President and CEO Eric M. Meslin in February 2016. Dr. Meslin comes to the CCA from the Indiana University Center for Bioethics, where he was Founding Director, Professor of Bioethics, and Associate Dean for Bioethics at the Indiana University School of Medicine. An internationally recognized scholar in the field of bioethics, Dr. Meslin has also spent a significant part of his career in the trenches of science policy. Leading the bioethics program for the Human Genome Project and heading the National Bioethics Advisory Commission for President Bill Clinton are among his many impressive undertakings. Dr. Meslin's return to Canada comes at an opportune time — one filled with renewed excitement for science and an increased demand for evidence-informed decision-making.

Indeed, evidence-driven reports are at the core of our work. This work has had direct impacts on policies and decisions from Arctic research to groundwater management to business innovation. I am very proud of these achievements. The success of our reports is due, in large part, to the support of our Member Academies

and their Fellows, many of whom have served on our expert panels. Our Board of Governors and Scientific Advisory Committee also play essential roles. These groups provide valuable input, oversight, and strategic thinking critical to the good governance of the CCA.

While the flow of assessments has been constant, our Board of Governors and Scientific Advisory Committee have seen some changes this past fiscal year. The Board bade farewell to four of its members, thanking them for their dedication and service: Graham Bell, FRSC; John Cairns, FCAHS; Richard J. Marceau, FCAE; and P. Kim Sturgess, FCAE. In March 2016, it welcomed new members Maryse Lassonde, O.C., O.Q., FRSC, FCAHS and Linda Rabeneck, FCAHS. The Scientific Advisory Committee saw the departure of Murray Campbell, Clarissa Desjardins, and Avrim Lazar, and the arrival of Chad Gaffield, FRSC; Eddy Isaacs, FCAE; Stuart McLeod, FCAHS; and Eliot Phillipson, O.C., FCAHS. I would like to thank all the departing Board and SAC members for their advice, expertise, and direction. Your contributions and commitment have helped shape



the CCA into the well-respected organization it is today. I would also like to welcome all the incoming Board and SAC members; I am confident your combined knowledge and skill sets will only enhance our success in the years to come.

Lastly, I would be remiss if I did not recognize the important contribution of Janet Bax, who served as our Interim President from October 2014 to January 2016. Her energy, knowledge, and enthusiasm helped us stay the course through renewed federal funding and the publication of several reports. Her leadership and hard work were greatly appreciated by all. Her contribution to the CCA has been enormous and we are very grateful for her dedication to our mission.

Margaret Bloodworth, C.M.
Chair, Board of Governors
Council of Canadian Academies

MESSAGE FROM THE PRESIDENT AND CEO

Convening experts. Assessing evidence. Informing decisions. These key phrases describe our raison d'être and capture the essence of our work. The Council of Canadian Academies convenes the best experts in their respective fields to assess the evidence on complex topics of public interest. The result is a library of high-quality studies that help inform decision-making in Canada, and oftentimes elsewhere.

September 2016 will mark the 10th anniversary of the publication of our first report, *The State of Science and Technology in Canada*. This 2006 report identified several areas of Canadian strength, providing the Government of Canada with key data that it subsequently adopted as part of its overall science and technology strategy. Six years later, we were asked to conduct a follow-up study — a testament to the importance of providing an evidence base for the government and other decision-makers, one that fuels innovation, scientific advancement, and business development in Canada.

We have produced more than 35 reports on topics as diverse as ocean science, food security, policing, and medicines for children. As you'll note in these pages, work continues on several projects, including a new update of the state of science and technology in Canada. With a renewed emphasis on science-based, evidence-informed policy-making in Canada, we can expect a greater demand for the kind of work we do at the CCA.

This work would not be possible without the many experts who volunteer their time and provide their knowledge and wisdom. Our rigorous process and capacity to call on top experts are essential for the policy-makers confronting some of the world's most pressing issues: energy challenges, health care, resource strategies, cybersecurity, and climate change. Together with our Member Academies — the Royal Society of Canada, the Canadian Academy of Engineering, and the Canadian Academy of Health Sciences — we look forward to being fully responsive to the assessment needs of the country. This means being more innovative in the types of expert panel assessments we produce, thinking about new and creative ways of delivering evidence-based information to decision-makers, and working collaboratively with partners and like-minded organizations to take full advantage of the new spirit of enthusiasm for science and evidence across Canada.

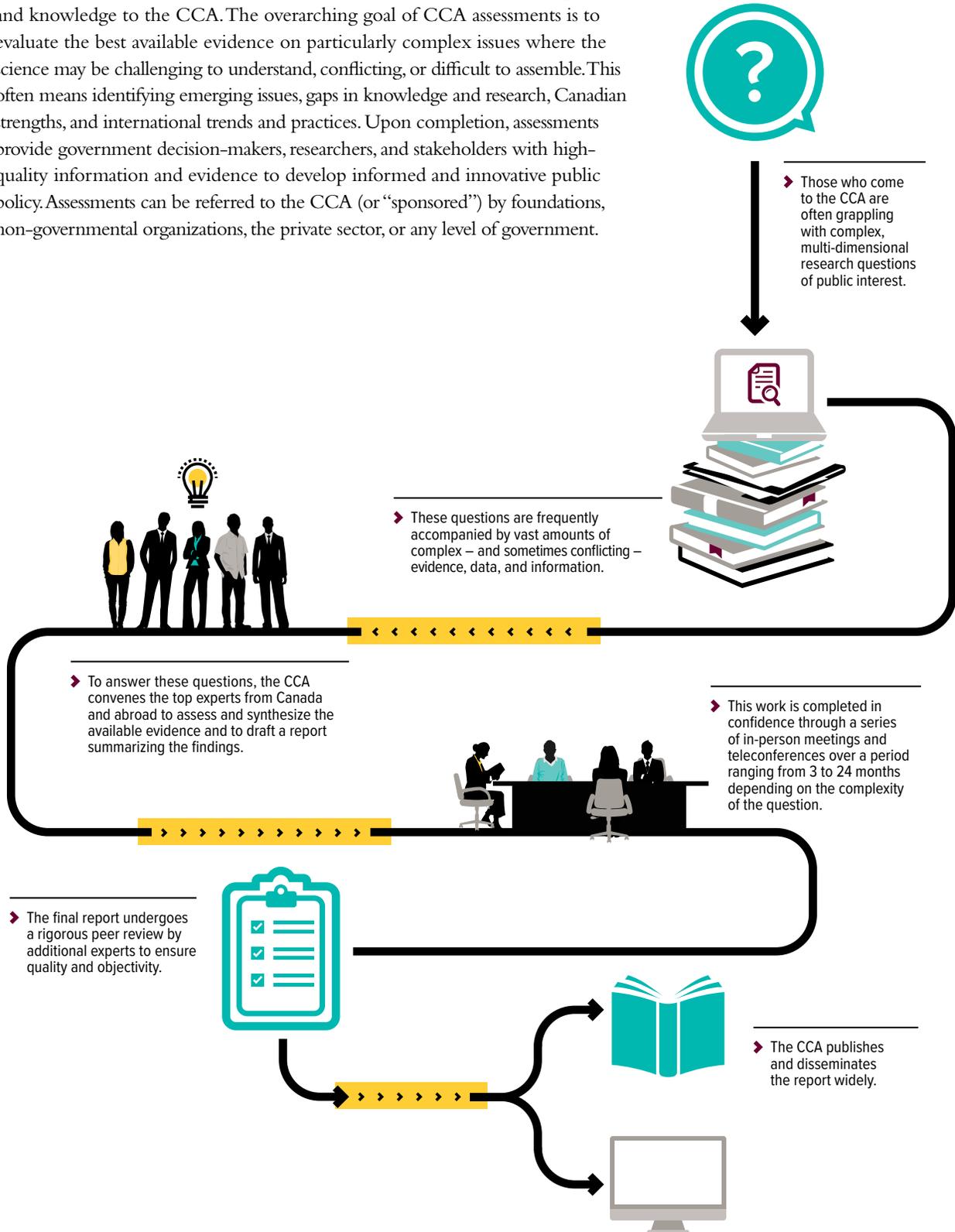


This is an important time for science, for policy, for research, and for innovation. It's certainly a privilege to come to the CCA — and back to Canada — at such a pivotal moment in the organization's history. I look forward to helping the CCA do what we do best: convening experts, assessing evidence, and informing decisions.

Eric M. Meslin, PhD, FCAHS
President and CEO
Council of Canadian Academies

Assessments are conducted by multidisciplinary and multi-sectoral panels of experts from across Canada and abroad who volunteer their time and lend their expertise and knowledge to the CCA. The overarching goal of CCA assessments is to evaluate the best available evidence on particularly complex issues where the science may be challenging to understand, conflicting, or difficult to assemble. This often means identifying emerging issues, gaps in knowledge and research, Canadian strengths, and international trends and practices. Upon completion, assessments provide government decision-makers, researchers, and stakeholders with high-quality information and evidence to develop informed and innovative public policy. Assessments can be referred to the CCA (or “sponsored”) by foundations, non-governmental organizations, the private sector, or any level of government.

OUR PROCESS



The CCA assessment process is guided by a professional staff and is completed through in-person meetings, teleconferences, and many hours of research. To protect the independence of the assessment process, sponsors do not participate in the conduct of assessments, review drafts of reports, or propose any changes to reports before their release. This process ensures the highest integrity and objectivity of the work. All reports undergo formal peer review and are made available to the public free of charge in both official languages.

“Assessments provide government decision-makers, researchers, and stakeholders with high-quality information and evidence to develop informed and innovative public policy.”



MEMBER ACADEMIES

The CCA's founding Member Academies are independent organizations that represent the finest minds in Canada. Their Fellows and senior decision-makers sit on CCA's Board of Governors and Scientific Advisory Committee, and they are a key source of membership for expert panels. In recent years, the CCA has collaborated directly with the Academies to undertake joint projects and assessments, with more opportunities arising in the future. The Member Academies of the CCA are:

THE ROYAL SOCIETY OF CANADA (RSC)

Founded in 1882, the Royal Society of Canada (RSC) comprises the Academies of Arts, Humanities and Sciences; in addition to Canada's first national system of multidisciplinary recognition for the emerging generation of Canadian intellectual leadership, The College of New Scholars, Artists and Scientists. Its mission is to recognize scholarly, research and artistic excellence, to advise governments and organizations, and to promote a culture of knowledge and innovation in Canada and with other national academies around the world.

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 Canadian Academy of Health Sciences (CAHS) recognizes Canadians of great achievement in the academic health sciences. Founded in 2004, CAHS now has over 600 Fellows and appoints new Fellows on an annual basis. The organization is managed by a voluntary Board of Directors and a Board Executive. The Academy brings together Canada's top-ranked health and biomedical scientists and scholars from all disciplines across our nation's universities and its healthcare and research institutes to make a positive impact on the urgent health concerns of Canadians. These Fellows evaluate Canada's most complex health challenges and recommend strategic, actionable solutions. Since 2006 CAHS has successfully engaged the sponsorship of a wide variety of public and private organizations representing patients and families, professionals, health system leaders, policy-makers and service and private industry providers. They have co-invested in rigorous, independent assessments that address key health issues with outcomes that have shaped their strategic policy and initiatives. CAHS mobilizes the best scientific minds to provide independent and timely assessments that inform policy and practice addressing critical health challenges affecting Canadians. We help put change into action for a healthier Canada.




17,335
DOWNLOADS
 of CCA reports and materials

 **OVER 30**
 mentions in the media

OVER 2,200
 Twitter followers 


 Since 2006, **880 EXPERTS**
 have donated their time, expertise,
 and knowledge to the CCA

MAKING HEADLINES

MORE PARTICLE THAN WAVE

▶ April 30, 2016
The Economist

WIND TURBINE NOISE LINKED TO ONLY 1 HEALTH ISSUE – ANNOYANCE

▶ April 9, 2015
CBC News

BUSINESS, GOVERNMENT, EDUCATION NEED TO GO BACK TO SCHOOL ON STEM SKILLS: REPORT

▶ April 30, 2015
Globe and Mail

HIGH-TECH ENVIRONMENTAL PUSH NEEDED FOR OIL SANDS: TORY-REQUESTED REPORT

▶ May 27, 2015
Globe and Mail

INSIDE THE THIN BLUE LINE: POLICING CANADA IN 2015

▶ August 21, 2015
National Post

SHIPS AT SEA: THE IMPORTANCE OF CANADA'S MARINE SHIPPING INDUSTRY

▶ January 6, 2016
Dal News

QUEL EST L'IMPACT DES ÉOLIENNES SUR LES RIVERAINS ?

▶ April 15, 2015
Le Monde

SCIENTISTS EXCITED BY THE END OF 'DECADE OF DARKNESS'

▶ November 29, 2015
iPolitics

CANADA COULD SLASH CO₂ EMISSIONS WITH EXISTING TECHNOLOGIES, PROVEN POLICIES

▶ October 27, 2015
CBC News

LOI SUR L'ACCÈS À L'INFORMATION : UN FREIN POUR LES CHERCHEURS

▶ December 2, 2015
LaPresse.ca

ONTARIO NON-PROFIT ASKS PEOPLE TO SKIP A MEAL FOR NUNAVUT

▶ February 18, 2016
CBC News

WE NEED A LEANER, MORE MODERN POLICE SERVICE

▶ January 29, 2016
Toronto Star

IT'S TIME TO ENSURE MEDICATIONS ARE SAFE FOR CHILDREN IN CANADA

▶ April 5, 2015
Globe and Mail

THE STEM SELL: EARLY EXPOSURE KEY TO FUTURE SCIENCE CAREERS

▶ September 9, 2015
The Tyee

HUNGER GNAWS AT CANADA'S NORTH AS NEW GOVERNMENT PROMISES RELIEF

▶ October 27, 2015
Reuters

CANADA'S CHANCE TO CATCH UP ON DRUG SAFETY FOR CHILDREN

▶ October 15, 2015
Policy Options

JUMPSTART YOUR KIDS' STEM EDUCATION THIS SUMMER

▶ July 7, 2015
Huffington Post Canada

ARE AIRSHIPS THE ANSWER TO CANADA'S INTERIOR WOES?

▶ January 12, 2016
Popular Science



STARTING CONVERSATIONS

@AndreasLaupacis – April 22 2016

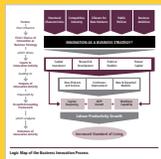
Transportation needs of ageing pop'n – great topic for an @scienceadvice report

@Rory_Johnston – May 28 2015

Just released: "Technical prospects for reducing the environmental footprint of Canadian #oilsands."

@molszyns

@Rory_Johnston @miki_lou As a general rule, when @scienceadvice speaks, I listen. @tomrand



@dk_munro – April 12 2016

See @scienceadvice's work on why & how to put firms at centre of innovation analysis

@kyle_minogue – April 6 2015

Recommended reading. Science Culture: Where Canada Stands @scienceadvice

@MKetney – February 17 2016

I really like the Council of Canadian Academies (@scienceadvice) definition of #innovation: "new or better ways of doing valued things."

@DTFinegoods – June 9 2015

New report on risk communication from @scienceadvice seems highly relevant to discussion at #pmsummit2015

@CaulfieldTim – June 9 2015

Report: Health Product Risk Communication: Is the Message Getting Through? @scienceadvice @MCNisbet @josh_greenberg



@KaitFinner – 27 October 2015

@Janetbax1 @scienceadvice again & again I end up back at the 2014 report #thankyou

@adrienneyyuen – October 27 2015

Just read gr8 new report @scienceadvice. Practical advice 4 low-carbon energy transition, even for big cold Canada

@CGU_UGC – June 4 2015

New @scienceadvice report says #oilsands needs to embrace hitech solutions to #environmental impacts
<http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/high-tech-environmental-push-urged-for-the-oil-sands/article24652509/>

@lawaghorn – May 11 2016

Have just dug into the @scienceadvice report on #HealthData in Canada #HDPalooza <http://www.scienceadvice.ca/en/assessments/completed/health-data.aspx>

@lawaghorn – May 11 2016

@scienceadvice is there any data on EMR/EHR adoption in Canada over the last 15 years?

@scienceadvice – May 11 2016

@lawaghorn For use of EMRs by fam physicians (2004–2014) see Fig5 of Canada Health Infoway's Annual Report 2014/15

@lawaghorn – May 11 2016

@scienceadvice Perfect! This is exactly what I was looking for!

@Scienceadvice – May 11 2016

@lawaghorn Excellent. Glad we could help!



CONVENING EXPERTS

The CCA convenes the best experts in their respective fields to evaluate the existing evidence and provide an objective assessment of the science underlying key policy issues. The work of the CCA would not be possible without these experts who volunteer their time, energy, and knowledge to serve on the CCA's Board of Governors, Scientific Advisory Committee, and expert panels. Over the years, the CCA has been privileged to work with almost 900 experts, some of whom were pleased to share their reflections.



“I had the distinct pleasure of co-chairing with Paul Portney the Expert Panel on Energy Use and Climate Change, which released its timely CCA report entitled *Technology and Policy Options for a Low-Emission Energy System in Canada* on October 27, 2015. By focusing on the objectives of the study as agreed upon with our private sponsor, Magna International Inc., and by using the available credible evidence, the interdisciplinary panel of eight dedicated experts interactively produced a final report for which there was unanimous agreement. The highly professional CCA staff provided invaluable writing experience and sage advice that resulted in the publication of a first-class Expert Panel report.”

▶ **Keith Hipel, FRSC, FCAE**, Co-Chair of the Expert Panel on Energy Use and Climate Change; University Professor, Systems Design Engineering, University of Waterloo (Waterloo, ON)



“As a Fellow of the Canadian Academy of Health Sciences and the Royal Society of Canada, I was looking for an opportunity to ‘give back’ to Canada and Canadians who have supported my education and research. Chairing the CCA Expert Panel on the Effectiveness of Health Product Risk Communication was a great chance to address an important need. The final report is something I am very proud of and working with the Expert Panel was an extremely rewarding experience. I was also impressed by the friendly, superbly organized, and knowledgeable CCA staff.”

▶ **Annette M. Cormier, FRSC, FCAHS**, Chair of the Expert Panel on Health Product Risk Communication; Distinguished Professor, Professor Emerita, School of Nursing, Faculty of Health Sciences, University of Ottawa (Ottawa, ON)



“It is a pleasure and honour to chair the CCA’s Scientific Advisory Committee. I have seen the assessment portfolio expand dramatically in the years I have been part of SAC, with each report reflective of the best knowledge available. Testimony to the importance of the CCA in the Canadian eco-scape of knowledge is the illustrious number of expert panellists who have comprised each of our panels, and who all volunteer their time and expertise for the good of evidence-informed policy in Canada.”

▶ **Susan McDaniel, FRSC**, Chair of the CCA’s Scientific Advisory Committee; Director, Prentice Institute; Canada Research Chair (Tier 1) in Global Population and Life Course; Prentice Research Chair in Global Population and Economy; Professor of Sociology, University of Lethbridge (Lethbridge, AB)

Editorial Credit: University of Lethbridge



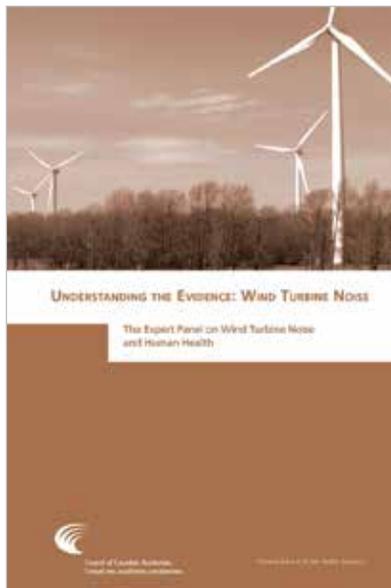
“As the President of the Canadian Academy of Health Sciences, one of CCA’s Member Academies, I am very pleased to serve on the CCA’s Board of Governors. CCA and CAHS have partnered successfully in the past on assessments – Global Health and Conducted Energy Weapons – and we are enthusiastic about planning a future assessment on dementia which will use the strengths of both CCA and the Academy. CAHS is committed to collaborating in whatever way will bring the best evidence-based science advice to policy makers.”

▶ **Carol P. Herbert, FCAHS**, Member of the CCA Board of Governors; President of the Canadian Academy of Health Sciences; Professor Emeritus of Family Medicine, Western University (London, ON)



“Earlier this year, I had the pleasure of chairing the CCA’s workshop panel on the risks of commercial marine shipping. The workshop format allowed experts to engage with each other over the course of two days, share information, evaluate survey results, and pull together preliminary findings. Hearing different perspectives from researchers across the country was extremely valuable to the process and I’m very proud of the end result. The work that the CCA does is vital to the development of informed public policy in Canada.”

▶ **James R. Parsons**, Chair of the Workshop Steering Committee on the Risks of Commercial Marine Shipping; Academic Director, Marine Institute of Memorial University (St. John’s, NL)



Title:
Understanding the Evidence:
Wind Turbine Noise

Release Date:
April 2015

Sponsor:
Health Canada

WIND TURBINES

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

Why this Matters: The wind sector has expanded rapidly since the 1990s, and Canada is now the fifth-largest global market for the installation of wind turbines. However, this new source of environmental sound has raised public concerns about potential health effects on nearby residents.

Findings: The Panel conducted an in-depth examination of 32 potential adverse health effects linked to wind turbine noise. The Panel found:

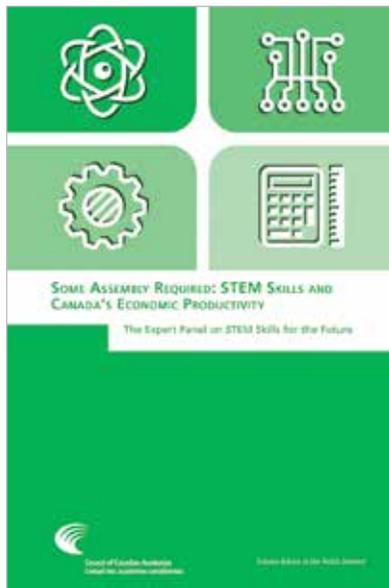
- › There is *sufficient* evidence of a causal relationship between exposure to wind turbine noise and annoyance.
- › There is *limited* evidence to establish a causal relationship between exposure to wind turbine noise and sleep disturbance.
- › The evidence suggests a lack of causality between exposure to wind turbine noise and hearing loss.
- › For all other health effects considered (fatigue, tinnitus, vertigo, nausea, dizziness, cardiovascular diseases, diabetes, etc.), the evidence was inadequate to come to any conclusion about the presence or absence of a causal relationship with exposure to wind turbine noise.
- › Impact assessments and community engagement would provide communities with greater knowledge and control over wind energy projects and therefore help limit annoyance.
- › Technological development is unlikely to resolve, in the short term, the current issues related to perceived adverse health effects of wind turbine noise.



THE EXPERT PANEL ON WIND TURBINE NOISE AND HUMAN HEALTH

Tee L. Guidotti (Chair), Fulbright Visiting Chair, Institute for Science, Society and Policy, University of Ottawa (Ottawa, ON); **Hugh W. Davies**, Associate Professor, Occupational and Environmental Health Division, School of Population and Public Health, University of British Columbia (Vancouver, BC); **Yves Gagnon**, Professor of Engineering, Université de Moncton (Edmundston, NB); Adjunct Professor, Mechanical Engineering, École de technologie supérieure (Montréal, QC); **Christian Giguère**, Professor, Audiology and Speech-Language Pathology Program, School of Rehabilitation Sciences, University of Ottawa (Ottawa, ON); **Sheryl Grace**, Associate Professor, Department of Aerospace and Mechanical Engineering, Boston University (Boston, MA); **Robert V. Harrison**, Professor and Vice-Chair – Research, Department of Otolaryngology, Head and Neck Surgery; Professor, Department of Physiology, Institute of Biomaterials and Biomedical Engineering and Institute of Medical Science, University of Toronto; Senior Scientist, Program for Neuroscience and Mental Health, Hospital for Sick Children (Toronto, ON); **Brian Howe**, President, HGC Engineering (Toronto, ON); **David A. Johnson**, Professor, Department of Mechanical and Mechatronics Engineering, University of Waterloo (Waterloo, ON); **Kerstin Persson Waye**, Professor, Occupational and Environmental Medicine, University of Gothenburg (Gothenburg, Sweden); **Jennifer D. Roberts**, Assistant Professor, Occupational and Environmental Health Sciences, F. Edward Hébert School of Medicine, Department of Preventive Medicine and Biometrics (Division of Occupational and Environmental Health Sciences), Uniformed Services University of the Health Sciences (Bethesda, MD)



**Title:**

Some Assembly Required: STEM Skills and Canada's Economic Productivity

Release Date:

April 2015

Sponsor:

Employment and Social Development Canada

STEM SKILLS

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

Why this Matters: Canada has one of the most highly trained workforces in the world. The skills and abilities of Canadians have played a key part in ensuring that Canada has one of the highest standards of living. Maintaining and developing Canada's strength in this regard is a central pillar for future prosperity. To take advantage of emerging opportunities, challenges, and innovations, and to adapt to rapid technological advances, complex social and health issues, and dynamic global markets, the Canadian workforce must have the right balance of skills.

Findings: To strengthen Canada's capacity for innovation and productivity, the Panel determined that early childhood exposure and education are fundamental and that advanced STEM skills are vital to prepare the next generation to take on a variety of roles, both in and outside of STEM fields. The Panel found:

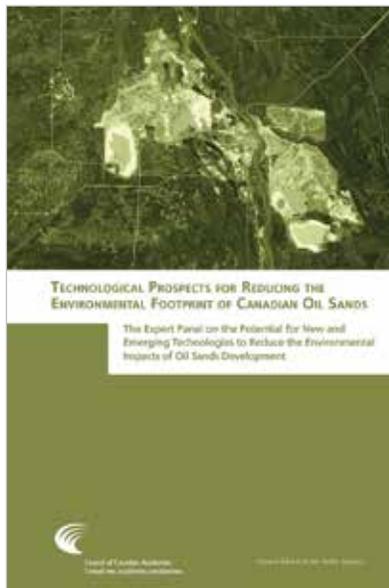
- Long-term economic outcomes matter. A focus on narrowly specialized STEM skills development to meet short-term labour market requirements may have little relevance for meeting long-term skill requirements.
- Developing a flexible labour force requires collective, coordinated action to facilitate education, training, and mobility.
- To build capacity and maximize Canada's potential for innovation, evidence points to the value of early childhood interventions to strengthen fundamental skills.
- Support for under-represented populations in STEM is important for broadening Canada's STEM skills supply.
- STEM skills are global skills. Emigration is more than offset by immigration. Overall, Canada does not appear to be losing skilled individuals.



THE EXPERT PANEL ON STEM SKILLS FOR THE FUTURE

David Dodge, O.C., FRSC (Chair), Senior Advisor, Bennett Jones LLP (Ottawa, ON); **Carl G. Amrhein**, Provost and Vice President (Academic), University of Alberta (Edmonton, AB); **Paul Beaudry, FRSC**, Professor, Economics; Canada Research Chair in Macroeconomics, University of British Columbia (Vancouver, BC); **Bernard N. Cormier**, Vice President, Human Resources, CAE (Montréal, QC); **Rosa M. Fernández**, Head of Research, National Centre for Universities and Business (London, United Kingdom); **Robert Gordon, O.ONT.**, Chair, Board of Governors, Bishop's University (Lennoxville, QC); **David Green**, Professor, University of British Columbia (Vancouver, BC); **Susan Holt**, President and CEO, New Brunswick Business Council (Fredericton, NB); **Peter Taylor**, Professor, Queen's University (Kingston, ON); **Ilse Treurnicht**, CEO, MaRS Discovery District (Toronto, ON); **Kimberly A. Woodhouse, FCAE**, Dean, Faculty of Engineering and Applied Science, Queen's University (Kingston, ON)



**Title:**

Technological Prospects for Reducing the Environmental Footprint of Canadian Oil Sands

Release Date:

May 2015

Sponsor:

Natural Resources Canada

OIL SANDS

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

Why this Matters: Canada's oil sands have been an important economic driver and have played a growing role in meeting global oil supplies. They contain an estimated 169 billion barrels of bitumen and span an area larger than the three Maritime provinces. As is widely known, they create a significant environmental footprint — one that is forecasted to grow in the decades to come. Addressing the environmental impact is a long-term endeavour and technology will be an important part of the path forward.

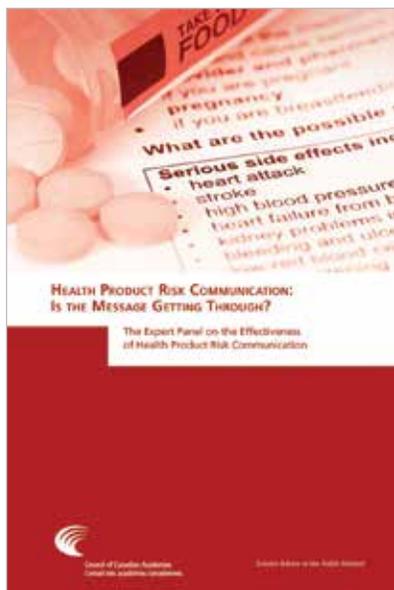
Findings: An opportunity exists to accelerate the pace of technology development, creating a path to potentially significant long-term reductions in the overall environmental footprint of the oil sands. This requires strong leadership, continued investment, and risk-taking by all. The Panel found:

- › There is no single “silver bullet” technology that can significantly reduce the volume of tailings and increase their consolidation for reclamation. However, a range of technologies used together may provide options for timely reclamation.
- › Opportunities to reduce GHG emissions lie primarily with in situ operations, a major source for emissions.
- › Impediments to the accelerated adoption of the most promising technologies relate to resources used, business decisions, and government policies.



THE EXPERT PANEL ON THE POTENTIAL FOR NEW AND EMERGING TECHNOLOGIES TO REDUCE THE ENVIRONMENTAL IMPACTS OF OIL SANDS DEVELOPMENT

Eric Newell, O.C., FCAE, A.O.E. (Co-Chair), Former CEO, Syncrude Canada Ltd; Chancellor Emeritus and Special Advisor to the Provost, University of Alberta (Edmonton, AB); **Scott Vaughan (Co-Chair)**, President and CEO, International Institute for Sustainable Development (Ottawa, ON); **Michel Aubertin, FCAE**, Professor, Department of Civil, Geological and Mining Engineering, and Scientific Director, Research Institute on Mines and the Environment, École Polytechnique de Montréal (Montréal, QC); **Joule Bergerson**, Assistant Professor, Department of Chemical and Petroleum Engineering, Schulich School of Engineering, University of Calgary (Calgary, AB); **Ian D. Gates**, Professor and Head, Department of Chemical and Petroleum Engineering, University of Calgary (Calgary, AB); **Murray R. Gray, FCAE**, Vice-President, Research, Hamad Bin Khalifa University (Doha, Qatar); Past Scientific Director, Institute for Oil Sands Innovation, University of Alberta (Edmonton, AB); **Jacob Masliyah, O.C., FRSC, FCAE**, Distinguished University Professor Emeritus, University of Alberta (Edmonton, AB); **Gord McKenna**, Senior Geotechnical Engineer, BGC Engineering Inc. (Vancouver, BC); Adjunct Professor, Department of Renewable Resources, University of Alberta (Edmonton, AB); **Jay Nagendran**, President and Chief Executive Officer, Alberta Environmental Monitoring, Evaluation and Reporting Agency (AEMERA) (Edmonton, AB); **Paul Painter**, President and Co-founder, IL Fuels LLC; Emeritus Professor, Polymer Science and Engineering, Pennsylvania State University (University Park, PA); **Janet Peace**, Vice President, Markets and Business Strategy, Center for Climate and Energy Solutions (Arlington, VA); **Kevin Percy**, Executive Director, Wood Buffalo Environmental Association (Fort McMurray, AB). The CCA also recognizes the contribution of **Marlo Reynolds**, Vice President, Market Development, BluEarth Renewables Inc. (Calgary, AB) to this assessment.



Title:
Health Product Risk Communication:
Is the Message Getting Through?

Release Date:
June 2015

Sponsor:
Health Canada

HEALTH PRODUCT RISK COMMUNICATION

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

Why this Matters: Risk communication is an important component in the health and safety of Canadians. Effective risk communication can protect Canadians from preventable hazards such as medication side effects or errors, product defects, and uncertainties surrounding particular drugs. Pressures on governments for greater openness and transparency in their communication efforts are increasing.

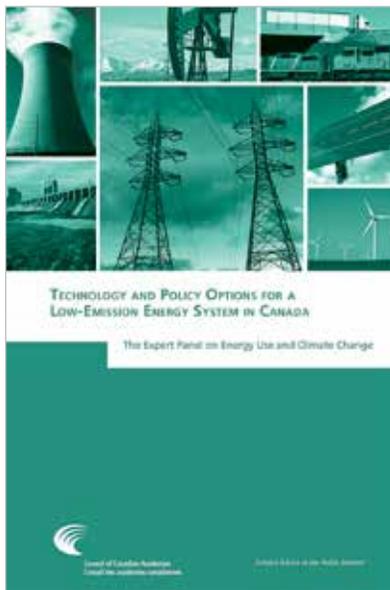
Findings: The Panel's report documents effective risk communication practices and risk communication tools used by regulators in Canada and around the world. It also overviews evaluation methods for these tools and offers practical guidance for regulators and practitioners to create meaningful evaluations. The Panel found:

- Recognition of the importance of dialogue and ongoing relationships is prompting a paradigm shift for risk communication.
- Regulators around the world use similar health product risk communication tools that are not systematically evaluated.
- Evaluation is an integral part of risk communication and can be supported with institutional commitment and sufficient resources.
- Careful planning determines relevant evaluation questions, which guide evaluation methods.



THE EXPERT PANEL ON THE EFFECTIVENESS OF HEALTH PRODUCT RISK COMMUNICATION

Annette M. Cormier O'Connor, FRSC, FCAHS (Chair), Distinguished Professor, Professor Emerita, School of Nursing, Faculty of Health Sciences, University of Ottawa (Ottawa, ON); **Wändi Bruine de Bruin**, University Leadership Chair of Behavioural Decision Making and Co-Director of the Centre for Decision Research, University of Leeds (Leeds, United Kingdom) and Collaborating Professor, Engineering and Public Policy, Carnegie Mellon University (Pittsburgh, PA); **Alan Cassels**, Affiliated Researcher, University of Victoria (Victoria, BC); **S. Michelle Driedger**, Professor, Tier II Canada Research Chair in Environment and Health Risk Communication, Community Health Services, University of Manitoba (Winnipeg, MB); **Josh Greenberg**, Associate Professor of Communication, Director, School of Journalism and Communication, Carleton University (Ottawa, ON); **Paul R. Gully**, Public Health Consultant; Adjunct Professor, School of Population and Public Health, University of British Columbia (Vancouver, BC); **Gary Kreps**, University Distinguished Professor, Director, Center for Health and Risk Communication, George Mason University (Fairfax, VA); **Louise Lemyre, FRSC**, Professor and the McLaughlin Chair on Psychosocial Risk, School of Psychology, Faculty of Social Sciences, Institute of Population Health, University of Ottawa (Ottawa, ON); **Ragnar E. Löfstedt**, Professor of Risk Management, King's College London (London, United Kingdom); **D. Warner North**, Principal Scientist, NorthWorks (San Francisco, CA); **Barbara Riley**, Executive Director, Propel Centre for Population Health Impact, University of Waterloo (Waterloo, ON)

**Title:**

Technology and Policy Options for a Low-Emission Energy System in Canada

Release Date:

October 2015

Sponsor:

Magna International Inc.

ENERGY USE AND CLIMATE CHANGE

Charge: What considerations, related to different energy sources and technologies as well as public policies, are involved in Canada's transitioning to a low-emission energy system?

Why this Matters: The evidence is clear: increased greenhouse gas emissions from human activity are causing pervasive changes to the Earth's climate, and significant and rapid efforts will be needed to reduce these emissions in the coming decades. Any solution to this challenge will require major changes to how we produce and use energy.

Findings: Overall the Panel acknowledged that the technologies to move toward a low-emission energy system, and policies promoting the use of those technologies, already exist, are well understood, and are constantly improving. The Panel found:

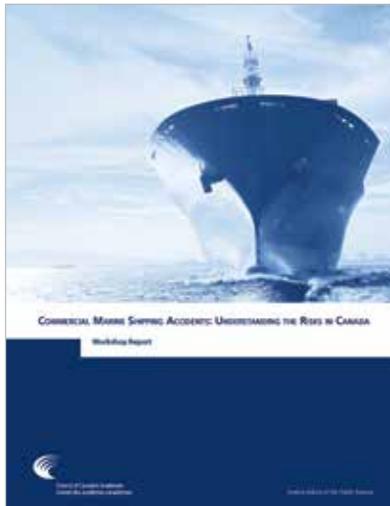
- ▶ Canada could achieve major emission reductions with the adoption of commercially available technologies.
- ▶ Deeper emission cuts will require shifting to low-emission energy sources and potentially capturing and storing carbon from continued fossil fuel use.
- ▶ A transition to a low-emission energy system is achievable with the right combination of stringent and flexible policies.
- ▶ Further improvements in energy efficiency can foster early gains and serve as a foundation for future change. All of this can be done with existing technologies across the electricity, industry, building, and transportation sectors.
- ▶ Low-emission electricity paired with the right combination of policies will be critical for widespread emission reductions.



THE EXPERT PANEL ON ENERGY USE AND CLIMATE CHANGE

Keith W. Hipel, FRSC, FCAE (Co-Chair), University Professor, Systems Design Engineering, University of Waterloo (Waterloo, ON); **Paul R. Portney (Co-Chair)**, Former Professor of Economics, University of Arizona and former President, Resources for the Future (Santa Barbara, CA); **F. Michael Cleland**, Private Consultant (Ottawa, ON); **Debra J. Davidson**, Professor of Environmental Sociology, Department of Resource Economics and Environmental Sociology, University of Alberta (Edmonton, AB); **Eddy Isaacs, FCAE**, Chief Executive Officer, Alberta Innovates – Energy and Environment Solutions (Calgary, AB); **Mark Jaccard, FRSC**, Professor, School of Resource and Environmental Management, Simon Fraser University (Vancouver, BC); **Vicky Sharpe**, Board Director and Senior Fellow, International Institute for Sustainable Development (IISD) (Toronto, ON); **Sara Jane Snook, FCAE**, Independent Engineering Consultant (Halifax, NS)



**Title:**

Commercial Marine Shipping Accidents: Understanding the Risks in Canada (Workshop Report)

Release Date:

April 2016

Sponsor:

Clear Seas Centre for Responsible Marine Shipping (Clear Seas)

RISKS OF COMMERCIAL MARINE SHIPPING

Charge: What are the main areas of social, environmental, and economic risk associated with key stages of marine shipping of goods [e.g., oil, coal, liquefied natural gas, hazardous and noxious substances] in Canadian waters? Are these risks commonly agreed upon? To what extent are they measurable?

Why this Matters: The shipping industry is important to the livelihood of Canadians but has also faced increased public scrutiny in recent years. The risks associated with opening the Arctic to greater ship traffic, increasing marine shipments of oil from Canada's oil sands, and the growth in vessel size (especially of container ships) have all contributed to this discussion.

Findings: Overall, the evidence shows that Canada's waters have been getting safer over the past decade, with fewer commercial marine shipping accidents. The Panel found:

- Commercial marine shipping has benefited from improved traffic control technology, better ship design, and a strengthened regulatory regime.
- Accidents do still occur, yet typically do not result in large impacts.
- Both the likelihood of an accident and the severity of its impact differ greatly across Canada's regions. This is due to variances in types of cargo, waterway characteristics, risk prevention policies such as moratoriums or pilotage zones, and a host of other factors.



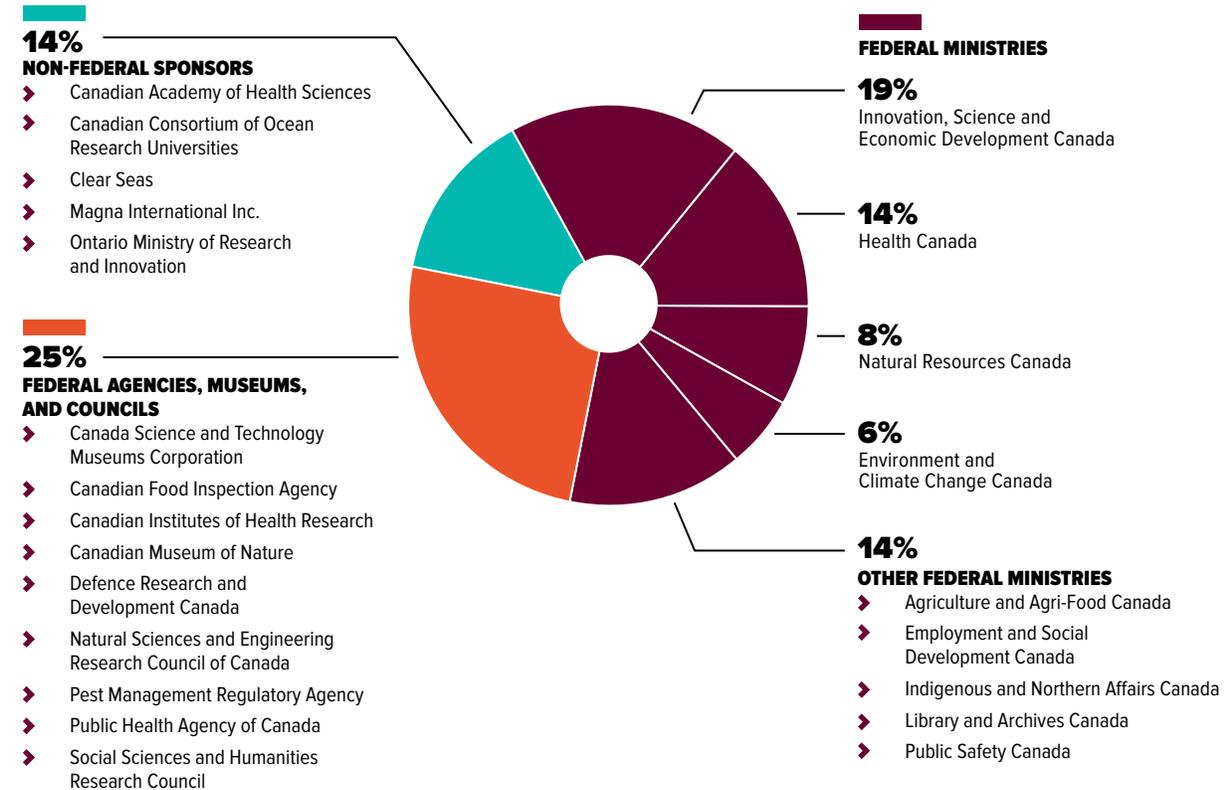
WORKSHOP PARTICIPANTS

James R. Parsons (Chair), Academic Director, Marine Institute of Memorial University (St. John's, NL); **Mary R. Brooks (Steering Committee)**, Professor Emerita, Dalhousie University (Halifax, NS); **Michael C. Ircha (Steering Committee)**, Senior Advisor, Association of Canadian Port Authorities; Adjunct Research Professor, Carleton University (Ottawa, ON); Professor Emeritus and Associate Vice-President (Academic) Emeritus, University of New Brunswick (Fredericton, NB); **Francis Wiese (Steering Committee)**, National Marine Science Lead, Stantec Consulting (Anchorage, AK); **Sean Broadbent**, Postdoctoral Fellow and Research Director, Environmental Management Planning Group, Simon Fraser University (Vancouver, BC); **Rosaline Canessa**, Associate Dean, Faculty of Social Sciences, and Associate Professor, Department of Geography, University of Victoria (Victoria, BC); **Jackie Dawson**, Canada Research Chair in Environment, Society and Policy, and Associate Professor, Department of Geography, University of Ottawa (Ottawa, ON); **Hadi Dowlatabadi**, Canada Research Chair in Applied Mathematics and Global Change, Institute for Resources Environment and Sustainability, University of British Columbia (Vancouver, BC); **Gordon Houston**, Proprietor, Gordon Houston & Associates (Vancouver, BC); **Raymond W. Johnston**, Special Advisor, Chamber of Marine Commerce (Ottawa, ON); President, Green Marine Management Corporation (Québec, QC); **Timothy Keane**, Senior Manager, Arctic Operations and Projects, Fednav Limited (Montréal, QC); **Serge A. Le Guellec**, President and General Manager, Transport Desgagnés Inc. (Québec, QC); **Jérôme Marty**, Science Advisor, Fisheries and Oceans Canada (Ottawa, ON); **Barbara Neis, FRSC**, University Research Professor, Department of Sociology, Memorial University; Senior Research Associate, SafetyNet Centre for Occupational Health and Safety Research (St. John's, NL); **Paul O'Reilly**, Senior Vice President, Marsh Canada Limited (Toronto, ON); **Ronald Pelot**, Professor, Department of Industrial Engineering, and Assistant Dean, Engineering Co-operative Education, Dalhousie University; Associate Scientific Director, MEOPAR NCE (Halifax, NS); **Robert Powell**, Lead Specialist, Priority Conservation, WWF Canada (Vancouver, BC); **Victor M. Santos-Pedro**, Former Director, Marine Safety, Transport Canada (Ottawa, ON); **Claudio Verconich**, Vice President – Marine, Global Special Projects and Underwriting, Liberty International Underwriters, Liberty Mutual Group (Toronto, ON)

The CCA defines *science* as any evidence-based discipline including the natural, social, and health sciences as well as engineering and the humanities. Since 2006, the CCA has completed over 35 assessments on a wide range of topics from a diverse set of sponsors.

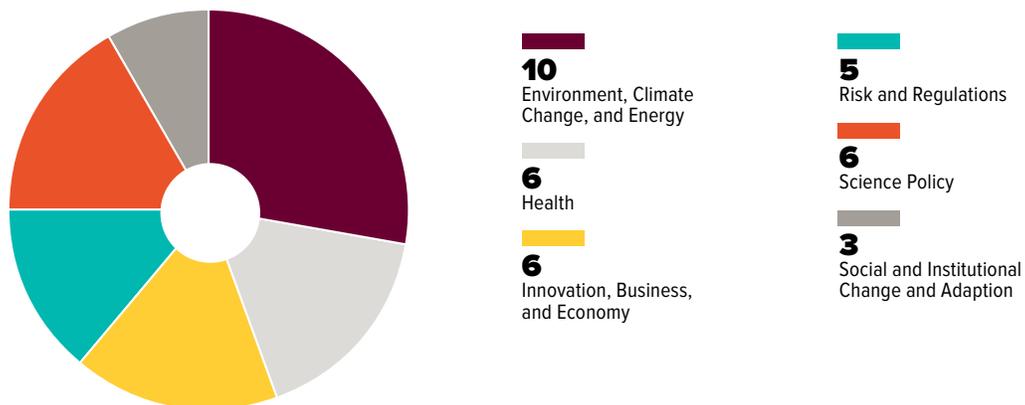
DIVERSITY OF SPONSORS

(Percentage of Reports Sponsored)



BREADTH OF REPORT SUBJECTS

(Reports 2006–2016)



LOOKING AHEAD

As fiscal year 2015/16 came to a close, several projects remained underway from a variety of sponsors.

THE SOCIAL AND ECONOMIC VALUE OF COMMERCIAL MARINE SHIPPING IN CANADA

(expected release: January 2017)

In November 2015, the CCA began a second assessment for Clear Seas, on the social and economic value of commercial marine shipping in Canada. This assessment is a complementary follow-on to the workshop report, *Commercial Marine Shipping Accidents: Understanding the Risks in Canada*. The Chair of the Expert Panel on the Social and Economic



Value of Marine Shipping in Canada is Mary R. Brooks, Professor Emerita, Dalhousie University.

Charge: *What is the social and economic value of commercial marine shipping to Canada and its regions?** *How will global trends related to shipping affect future shipping activity in Canada?*

Sponsor: The Clear Seas Centre for Responsible Marine Shipping (Clear Seas)

*The regions are: Atlantic Canada, Central Canada (Quebec and Ontario), Northern Canada (the Arctic and the three territories), the Prairies, and Western Canada (British Columbia and Alberta).



Editorial Credit: joseph s'tan matt/Shutterstock.com

ADAPTING TO THE TRANSPORTATION NEEDS OF AN AGING POPULATION

(expected release: late 2017)

Canada's aging baby boomer generation is changing the demographic profile of this country, matching a worldwide trend. By 2036, it is anticipated that there will be 9.8 million Canadians age 65 years and older. These shifting demographics will have an impact on the national transportation system, presenting a range of challenges and opportunities for decision-makers.

This shift provides a strong motivation to explore innovative strategies that can help encourage and

facilitate the use of the transportation system by seniors, while also making it more accessible for all Canadians. Under the guidance of the CCA's Scientific Advisory Committee, a multidisciplinary, multi-sectoral expert panel is being assembled.

Charge: *How can technology and innovation help the Canadian transportation system adapt to the needs of an aging population?*

Sponsor: Transport Canada



THE STATE OF SCIENCE AND TECHNOLOGY & THE STATE OF INDUSTRIAL RESEARCH AND DEVELOPMENT IN CANADA

(to be released in a two-part series in late 2016 and late 2017)

This assessment will be the third edition in the State of S&T and Industrial R&D assessment series. An understanding of the S&T and IR&D environment is crucial to supporting Canada's innovation, science, and economic development. The CCA's reports on the state of

S&T and state of IR&D provide valuable data and analysis documenting Canada's S&T and IR&D strengths and weaknesses. New data will help identify trends that have emerged in the Canadian S&T and IR&D environment in the past four to five years. Under the guidance of the CCA's Scientific Advisory Committee, a multidisciplinary, multi-sectoral expert panel is being assembled.

Charge: *What is the current state of science and technology and industrial research and development in Canada?*

Sponsor: Innovation, Science and Economic Development Canada (ISED)

INFORMING DECISIONS

With over 35 published reports, the CCA has been informing and inspiring decision-makers across the country since 2006. Its inaugural report, *The State of Science and Technology in Canada*, informed the four key priority areas for the government's S&T strategy, *Mobilizing Science and Technology to Canada's Advantage*. Since then, the tangible impacts of CCA reports have continued to accumulate. While these impacts may not surface immediately, it is clear that CCA reports make a significant impression on governments, industry, academia, and beyond.

“The CCA’s ocean science in Canada report is a helpful resource for the Ocean Tracking Network and we refer to it often. It has been very useful, both in describing the state of ocean research in Canada, and also the priority needs of Canadians within ocean research. When the report was initially released, we held a workshop with our colleagues based specifically on the CCA report, which has since been incorporated into our strategic plan, our science plan, and reports that have gone to our governing council and management committee. It has also provided context and demonstrated the relevance and urgency for several new research initiatives in which we have participated.”

› **Kathryn (Kes) Morton**, PhD, P.M.P., Senior Project Manager, Ocean Tracking Network Biology Department, Dalhousie University, on *Ocean Science in Canada: Meeting the Challenge, Seizing the Opportunity* (2013)

“The 2013 CCA report on innovation impacts is an authoritative statement on global best practices in the evaluation of government investments in innovation. As such, it set the stage for the 2014 Report of the Expert Panel Examining Ontario’s Business Support Programs, allowing the Ontario Expert Panel report to focus on the specifics of the design and evaluation of Ontario government interventions.”

› **Margaret Dalziel**, Chair of the Expert Panel Examining Ontario’s Business Support Programs, on *Innovation Impacts: Measurement and Assessment* (2013)

“The infographic and framework from the marine shipping workshop report have been posted in our training rooms and were shared at a recent oil spill response workshop we hosted. They have generated a great deal of interest. The report itself is well written and relevant to our industry. Our hope is that this report will spur some improvement on data collection on oil transportation and spill incidents, the lack of which is highlighted in the findings.”

› **Mark Brown**, Manager, Great Lakes Region, ECRC-SIMEC, Eastern Canada Response Corporation Ltd, on *Commercial Marine Shipping Accidents: Understanding the Risks in Canada* (2016)

“In 2012, after the **[women in university research]** report commissioned by the Canadian government showed conclusively that women still struggle for equity at Canadian universities, we set about determining what we needed to do at McMaster to address this. [...] Our university is committed to fostering an inclusive community and to ensuring equity in compensation and treatment, so once the evidence was in, the decision was clear: we had to close the unfair gap in pay between our female and male professors.”

- **David S. Wilkinson**, Provost and Vice-President (Academic) at McMaster University, on *Strengthening Canada's Research Capacity: The Gender Dimension* (2012) and McMaster's decision to increase the annual salary of its female academics by \$3,500 (Times Higher Education, May 14, 2015)

“The **[Indigenous food security]** report by the Council of Canadian Academies, along with other timely reports, informed the policy development of the young and growing Nutrition North Canada program. As noted in the report, food insecurity is a complex and multifaceted issue that cannot be addressed with a single program. Indigenous and Northern Affairs Canada is committed to working with provincial, territorial, and regional partners, including Indigenous organizations, to address northern food security.”

- **Stephan Van Dine**, Assistant Deputy Minister, Indigenous and Northern Affairs Canada, on *Aboriginal Food Security in Northern Canada: An Assessment of the State of Knowledge* (2014)

“Actua has benefited significantly from the CCA's **[STEM skills]** report. Fundamentally, the report underscored clearly what Actua and our network of 33 university- and college-based members have experienced over our 20-year history: that engaging youth early and often with transformational STEM experiences will position them with the resilience and flexibility they will need to succeed in a quickly evolving and hard-to-predict future labour market. The report's findings also highlighted the ever-mounting challenge that we still face in building the fundamental STEM skills of all Canadian youth, specifically those who remain under-represented in STEM fields. The call to action presented in the report for investing in evidence-based models, like Actua's, has lent strength and profile to Actua's work. Lastly, having Actua featured as an example of a promising practice has lent credibility to our work and attached our outcomes more formally to a world-class research report.”

- **Jennifer Flanagan**, President and CEO of Actua, on *Some Assembly Required: STEM Skills and Canada's Economic Productivity* (2015)

“I wish to commend the CCA on producing a comprehensive, high-quality report on the current state of knowledge surrounding timely **access to health and social data**. It has provided CIHR with relevant evidence to inform ongoing and future policy and program development. Specifically, the CCA report has served as an important resource in the creation of CIHR's Data Asset Map and its Health-Related and Health Research Data Framework. The desired outcomes and actions in the Framework are aligned with the gaps identified in the CCA report. It is also being used as input into a review of CIHR's data-relevant initiatives and the Tri-Agency Statement on Digital Data Management. Thank you again for your efforts.”

- **Jane E. Aubin**, PhD, Chief Scientific Officer and Vice-President, Research, Knowledge Translation and Ethics, Canadian Institutes of Health Research, on *Accessing Health and Health-Related Data in Canada* (2015)



A GROWING DEMAND FOR EVIDENCE- INFORMED POLICY



There is little doubt that this is an important time in Canada's history for science, for policy, for research, and for innovation. Over the past decade, the CCA has enjoyed considerable respect for the high quality of its reports on important policy topics. We expect there will only be continued demand for more data, more information, more evidence, and more input to help answer the challenging and pressing questions facing Canada and Canadians. These questions may come from all levels of government, non-profits, foundations, or academic organizations and may require different assessment formats and timeframes. There is much work to be done, and the CCA looks forward to playing its part.

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 CCA for consideration. The criteria used to evaluate proposed assessments are listed below. These criteria are also preferable for assessments conducted for the private sector, non-profits, other non-governmental organizations, and provincial and municipal governments.

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 CCA is unique.
- ▶ The assessment topic is a science-based question that has been coordinated with relevant departments/agencies and external stakeholders.

CCA 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 (e.g., 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 CCA'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, report review processes, and the public release of reports.

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 CCA report. Reports are posted on the CCA's website, www.scienceadvice.ca, in both official languages, and can be downloaded free of charge to ensure their availability to the public.

FUNDING

The CCA was established with an investment by the Government of Canada in the form of a 10-year grant worth \$30 million. This founding grant was intended to support core operations of the CCA through to March 31, 2015. In the April 2015 federal budget, this commitment was renewed with an additional endowment of \$15 million over five years. Conditions on the

use of the funds provided by the government are set out in a formal funding agreement between the CCA and the Government of Canada as represented by the Minister of Industry, Science and Economic Development. The CCA also conducts assessments outside of the federal government agreement. These assessments are referred to the CCA by non-profits, non-governmental organizations, the private sector, or provincial and municipal governments.

STRUCTURE AND GOVERNANCE

The CCA is governed by a 12-member Board of Governors. The Board is responsible for setting the strategic direction of the organization, ensuring that the CCA fulfills its mandate, and overseeing the CCA's operations.

Each founding Member Academy nominates 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, Science and Economic Development, and are formally appointed by the Members at the Annual General Meeting.

Governance of the CCA is supported by four committees of the Board of Governors:

- › Executive Committee
- › Audit, Finance, and Risk Committee

- › Nominations and Governance Committee
- › Human Resources and Compensation Committee

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

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

STATEMENT OF INVESTMENT POLICY

The Statement of Investment Policy was formally approved by the Board of Governors and is available on the CCA website.

FINANCIAL STATEMENTS: FISCAL YEAR ENDED MARCH 31, 2016

The CCA retained the Ottawa-based accounting firm Parker Prins Lebano to audit the financial results for the fiscal year 2015/16. The CCA's financial statement for 2015/16 is provided in Annex III. Parker Prins Lebano, an independent financial auditor, wrote the CCA on June 3, 2016 confirming that, based on their audit findings, all expenses associated with the Agreement were eligible in nature.

HUMAN RESOURCES

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

ANNEX II:

BOARD OF GOVERNORS, SCIENTIFIC ADVISORY COMMITTEE, AND STAFF

BOARD OF GOVERNORS

(As of March 31, 2016)

Margaret Bloodworth, C.M., Chair

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

Graham Bell, FRSC*

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

John Cairns, FCAHS*

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

Henry Friesen, C.C., FRSC, FCAHS

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

Carol P. Herbert, FCAHS

Professor Emerita, Family Medicine, Western University; President of the Canadian Academy of Health Sciences (London, ON)

Claude Jean

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

Maryse Lassonde, O.C., O.Q., FRSC, FCAHS**

Scientific Director, Quebec Natural Sciences and Technology Granting Agency; President, Royal Society of Canada (Montréal, QC)

Peter MacKinnon, O.C.

Interim President, Athabasca University (Athabasca, AB); Former President and Vice Chancellor, University of Saskatchewan (Saskatoon, SK)

Richard J. Marceau, FCAE****

Vice President (Research), Memorial University of Newfoundland (St. John's, NL)

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)

Lydia Miljan

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

Ted Morton

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

Linda Rabeneck, FCAHS**

Vice President, Prevention and Cancer Control at Cancer Care Ontario; President-elect, Canadian Academy of Health Sciences (Toronto, ON)

P. Kim Sturgess, FCAE***

CEO and Founder, Alberta WaterSMART (Calgary, AB)

*term ended January 2016

**appointed January 2016

***term ended July 2015

****stepped down March 2016

SCIENTIFIC ADVISORY COMMITTEE

(As of March 31, 2016)

Susan A. McDaniel, FRSC, Chair

Director, Prentice Institute; Canada Research Chair (Tier 1) in Global Population and Life Course; Prentice Research Chair in Global Population and Economy; 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, AI and Optimization, IBM T.J. Watson Research Center (Yorktown Heights, NY)

Clarissa Desjardins**

CEO, Clementia Pharmaceuticals Inc. (Montréal, QC)

Chad Gaffield, FRSC*

Professor of History and University Research Chair in Digital Scholarship, University of Ottawa (Ottawa, ON)

Jean Gray, C.M., FCAHS

Professor Emeritus, Medical Education, Medicine, Pharmacology, Dalhousie University (Halifax, NS)

John Hepburn, FRSC

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

Eddy Isaacs, FCAE*

President, Eddy Isaacs Inc. (Edmonton, AB)

Gregory S. Kealey, FRSC

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

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**

Independent Consultant (Ottawa, ON)

Stuart MacLeod, FCAHS*

Professor of Pediatrics (Emeritus), University of British Columbia (Vancouver, BC); Adjunct Professor, Community Health and Epidemiology, Dalhousie University (Halifax, NS)

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)

Eliot A. Philipson, O.C., FCAHS*

Sir John and Lady Eaton Professor of Medicine Emeritus, University of Toronto (Toronto, ON); Former President and CEO, Canada Foundation for Innovation (Ottawa, ON)

*appointed December 2015

**term ended December 2015

STAFF OF THE COUNCIL OF CANADIAN ACADEMIES

Eric M. Meslin, PhD, FCAHS*

President and CEO

Janet W. Bax, MA

Interim President

Jennifer Bassett, PhD

Research Associate

Laura Bennett, MA

Research Associate

Dane Berry, MPP

Associate Project Director

Anna Buczek, BSCh***

Outreach and
Communications Specialist

**Tom Bursey, MBA,
FCPA, FCMA, ICD.D**

Vice President, Corporate
Services and CFO

Rebecca Chapman, PhD***

Research Associate

Tijs Creutzberg, PhD

Director of Assessments

Kristen Cucan, BA**

Project Coordinator

Marc Dufresne, MSc

Senior Bilingual
Publications Specialist

Matthew Falconer, MA

Communications Assistant

Andrea Hopkins, MA

Project Coordinator

Suzanne Loney, MA

Research Associate

Kelly Loverock, MA***

Website and
Communications Specialist



Cate Meechan, BA**

Director, Communications

Emmanuel Mongin, PhD

Associate Project Director

Nancy Neil, BGS

Manager, Office Operations;
Executive Assistant to
the President

Samantha Rae Ayoub, MA

Communications and
Publishing Director

Joe Rowsell, MPhil

Research Associate

Christina Stachulak, MSc

Senior Advisor to the President

Andrew Taylor, MA***

Project Director

Weronika Zych, MSSc

Project Coordinator

Ranges of remuneration – For the fiscal year ending March 31, 2016, compensation was within the following salary ranges: Council Management (Officers) – President [\$206,908 – \$309,575] and Vice President and CFO [131,296 – \$196,444].

*joined the CCA in February 2016

**left the CCA during fiscal year 2015/16

***maternity and/or parental leave during fiscal year 2015/16

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, 2016, and the Statements of Changes in Net Assets, 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, 2016, 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 Professional
Accountants Professional Corporation

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

Ottawa, Canada
June 3, 2016

COUNCIL OF CANADIAN ACADEMIES

STATEMENT OF FINANCIAL POSITION AS AT MARCH 31, 2016

ASSETS	2016		2015	
CURRENT				
Cash	\$	–	\$	1,048,499
Accounts receivable (note 6)		426,416		375,060
Prepaid expenses (note 7)		17,651		25,262
		444,067		1,448,821
DEFERRED COMPENSATION FUND – CASH (note 10)		971,088		508,362
CAPITAL (note 4)		150,158		85,311
	\$	1,565,313	\$	2,042,494
LIABILITIES				
CURRENT				
Bank indebtedness	\$	67,072	\$	–
Accounts payable		118,597		170,272
Deferred revenue		235,795		190,072
Deferred grant contributions (notes 5 and 9)		172,761		1,173,788
		594,225		1,534,132
NET ASSETS				
Unrestricted net assets		(150,159)		(85,312)
Net assets invested in capital assets		150,159		85,312
Deferred compensation fund (note 10)		971,088		508,362
		971,088		508,362
	\$	1,565,313	\$	2,042,494

On behalf of the Board:

Carol P. Herbert
Director

The accompanying notes are an integral part of the financial statements.

COUNCIL OF CANADIAN ACADEMIES

STATEMENT OF CHANGES IN NET ASSETS FOR THE YEAR ENDED MARCH 31, 2016

UNRESTRICTED NET ASSETS		2016		2015
Balance, beginning of year	\$	(85,312)	\$	(128,129)
Excess of revenue over expenditure		–		–
Add: amortization		69,985		49,761
Less: amount invested in capital assets		(134,832)		(6,944)
Recognition of deferred contributions		462,726		508,362
Allocation to deferred compensation fund		(462,726)		(508,362)
BALANCE, END OF YEAR	\$	(150,159)	\$	(85,312)
NET ASSETS, INVESTED IN CAPITAL ASSETS				
Balance, beginning of year	\$	85,312	\$	128,129
Invested during the year		134,832		6,944
Less: amortization		(69,985)		(49,761)
BALANCE, END OF YEAR	\$	150,159	\$	85,312
DEFERRED COMPENSATION FUND				
Balance, beginning of year	\$	508,362	\$	–
Allocation from deferred contributions		462,726		508,362
BALANCE, END OF YEAR	\$	971,088	\$	508,362

The accompanying notes are an integral part of the financial statements.

COUNCIL OF CANADIAN ACADEMIES

STATEMENT OF OPERATIONS FOR THE YEAR ENDED MARCH 31, 2016

REVENUE	2016		2015	
Investment income	\$	2,126	\$	21,076
Add: grant revenue		2,538,301		4,729,185
Revenue from other sources		726,085		237,590
		3,266,512		4,987,851
EXPENDITURE				
Amortization	\$	69,985	\$	49,761
Assessment consultants		13,305		90,969
Central operations		254,375		227,570
Governance		57,185		58,536
Investment consultants		5,424		14,836
Panel meetings		148,556		509,315
Publications		181,518		755,922
Rent		281,495		368,489
Salaries and benefits		2,131,748		2,898,163
Other activities		122,921		14,290
		3,266,512		4,987,851
EXCESS OF REVENUE OVER EXPENDITURE FOR THE YEAR	\$	–	\$	–

The accompanying notes are an integral part of the financial statements.

COUNCIL OF CANADIAN ACADEMIES

STATEMENT OF CASH FLOWS FOR THE YEAR ENDED MARCH 31, 2016

	2016	2015
CASH FLOWS FROM (USED FOR) OPERATING ACTIVITIES		
Excess of revenue over expenditure for the year	\$ —	\$ —
Items not requiring an outlay of cash:		
Amortization	69,985	49,761
Unrealized gain on investments	—	(81,860)
Allocation to deferred compensation fund	462,726	508,362
	532,711	(476,263)
Net change to non-cash items related to operations:		
Accounts receivable	(51,356)	(124,695)
Prepaid expenses	7,611	11,831
Accounts payable	(51,675)	(41,365)
Deferred revenue	45,723	190,072
Deferred contributions	(1,001,027)	(5,237,547)
	(518,013)	(4,725,441)
CASH FLOWS FROM (USED FOR) INVESTING ACTIVITIES		
Purchase of capital assets	(134,832)	(6,944)
Redemption of investments	—	5,829,487
	(134,832)	5,822,543
NET (DECREASE) INCREASE IN CASH	(652,845)	1,097,102
CASH, BEGINNING OF YEAR	1,556,861	459,759
CASH, END OF YEAR	\$ 904,016	\$ 1,556,861
CASH CONSISTS OF:		
Deferred compensation fund – cash	\$ 971,088	\$ 508,362
(Bank indebtedness) cash	(67,072)	1,048,499
	\$ 904,016	\$ 1,556,861

The accompanying notes are an integral part of the financial statements.

COUNCIL OF CANADIAN ACADEMIES

NOTES TO FINANCIAL STATEMENTS MARCH 31, 2016

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.

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.

4. CAPITAL ASSETS

		COST		ACCUMULATED AMORTIZATION		2016 NET BOOK VALUE		2015 NET BOOK VALUE
Furniture and fixtures	\$	385,976	\$	356,899	\$	29,077	\$	29,478
Computer and software		516,403		396,323		120,080		44,213
Leasehold improvements		97,701		96,700		1,001		11,620
	\$	1,000,080	\$	849,922	\$	150,158	\$	85,311

The accompanying notes are an integral part of the financial statements.

5. DEFERRED GRANT CONTRIBUTIONS

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

6. ACCOUNTS RECEIVABLE

Accounts receivable consists of trade receivables of \$336,756 and GST receivable of \$89,660 for a total of \$426,416.

7. PREPAID EXPENSES

Prepaid expenses consist of hotel deposits of \$13,500, D&O liability insurance of \$2,863, prepaid postage of \$32, prepaid quarterly lease charge on photocopier of \$679 and a commercial insurance policy of \$577 for a total of \$17,651.

8. COMMITMENTS

The organization entered into a four year lease commencing February 1, 2016, as well as office equipment contracts. The annual payments over the next five years are as follows:

F/Y 2017	\$188,584
F/Y 2018	\$170,809
F/Y 2019	\$153,035
F/Y 2020	\$153,035
F/Y 2021	\$3,919

9. 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 remaining funds within the Council can be used at the Council's discretion. The Council received a further \$15 million over 5 years starting in 2015-16 with mandates on its use as prescribed by the funding agreement.

10. DEFERRED COMPENSATION FUND

During the 2014/15 fiscal year end, the original funding agreement entered its final year. Council management worked closely with the Board of Governors to ensure that there were no unfunded liabilities for the Council and the Governors. With the assistance and diligent efforts of the President and Board chair, an internally restricted fund was established to set aside funds for these potential liabilities. Council management intends to risk manage this situation in the future, by working closely with the Audit, Finance and Risk Committee.

Cash segregated internally for the funding of the deferred compensation fund has been classified as long-term in nature due to the anticipated timing of the use of the funds.

11. COMPARATIVE FIGURES

Certain of the comparative figures have been reclassified in order to conform with the current financial statement presentation.



Council of Canadian Academies
Conseil des académies canadiennes

Council of Canadian Academies
180 Elgin Street, Suite 1401
Ottawa, ON K2P 2K3
Tel: 613-567-5000
www.scienceadvice.ca