



THE ADAPTATION PLATFORM -
EQUIPPING CANADIANS FOR A CHANGING CLIMATE

PLENARY MEMBERS (2015/2016)

- **Plenary Chair** – Natural Resources Canada, Earth Science Sector; Nick Xenos

Territorial and Provincial Governments

- Alberta – Alberta Climate Change Office; Kate Rich
- British Columbia – Ministry of Environment Climate Action Secretariat; Liz Lilly / Suzanne Spence
- Manitoba – Manitoba Conservation and Water Stewardship; Neil Cunningham
- New Brunswick – New Brunswick Environment and Local Government; Darwin Curtis
- Newfoundland and Labrador – Office of Climate Change and Energy Efficiency; Jackie Janes
- Northwest Territories – Environment and Natural Resources; Lisa Dyer
- Nova Scotia – Nova Scotia Environment; Andrew Murphy
- Nunavut – Department of Environment; Rob Eno / Kristi Lowe
- Ontario – Ministry of Environment and Climate Change; John Vidan / Kathleen O'Neil
- Prince Edward Island – Department of Environment, Labour and Justice; Jim Young
- Saskatchewan – Ministry of Environment; Scott Pittendrigh

- Yukon – Climate Change Secretariat; Rebecca World

Federal Government Departments and Agencies

- Agriculture and Agri-Food Canada; Alexandre Lefebvre
- Environment and Climate Change Canada; Matt Jones
- Fisheries and Oceans Canada; Paul Lyon / Keith Lennon
- Health Canada; Suzanne Leppinen / Carolyn Tateishi
- Indigenous and Northern Affairs Canada; Catherine Conrad
- Infrastructure Canada; Sonya Read
- Natural Resources Canada, Energy Sector; David Henry / Lynne Monastesse
- Natural Resources Canada, Canadian Forest Service; Vincent Roy
- Parks Canada; Mike Wong / Gilles Seutin
- Public Health Agency of Canada; Stephen Parker / Christina Lee-Fuller
- Public Safety Canada; Jacqueline Randall
- Standards Council of Canada; Michel Girard
- Transport Canada; Nicole Legault

Private Sector and Not-for-profit Organizations

- Chartered Professional Accountants of Canada; Gord Beal
- Canadian Electricity Association; Michelle Turner / Devin McCarthy;
- Canadian Federation of Agriculture; Drew Black
- Engineers Canada; David Lapp

- Federation of Canadian Municipalities; Jacques Nadeau
- Forest Products Association of Canada; Etienne Bélanger
- Insurance Bureau of Canada; Gregor M. Robinson / David McGown
- Institute for Catastrophic Loss Reduction; Paul Kovacs
- Mining Association of Canada; Ben Chalmers
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Observers

- Environment and Climate Change Canada, Climate Science; Marjorie Shepherd
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Adaptation involves making adjustments in our decisions, activities and ways of thinking in response to observed or expected changes in climate, with the goals of (a) reducing harm and (b) taking advantage of potential opportunities. Adaptation can include behavioural changes, operational modifications, technological interventions, planning changes and revised investment practices, regulations and legislation.

While adaptation in the natural environment occurs spontaneously, adaptation in human systems often benefits from careful planning that is guided by both scientific research and detailed understanding of the systems involved.

Warren, F.J. and Lemmen, D.S. (2014): Introduction; *in* Canada in a Changing Climate: Sector Perspectives on Impacts and Adaptation, (ed.) F.J. Warren and D.S. Lemmen; Government of Canada, Ottawa, ON, p. 20.

TABLE OF CONTENTS

Plenary Members (2015/2016)	i -
The Adaptation Platform	1 -
Plenary	3 -
Working Groups	4 -
<i>Agriculture</i>	5 -
<i>Coastal Management</i>	6 -
<i>Economics</i>	6 -
<i>Energy</i>	7 -
<i>Forestry</i>	7 -
<i>Infrastructure and Buildings</i>	8 -
<i>Measuring Progress</i>	9 -
<i>Mining</i>	9 -
<i>Northern Adaptation Partnership</i>	10 -
<i>Regional Adaptation Collaboratives and Tools</i>	10 -
<i>Science Assessment</i>	10 -
<i>Water and Climate Information</i>	11 -

THE ADAPTATION PLATFORM

The Adaptation Platform, a unique mechanism in Canada, brings together representatives from industry, professional and not-for-profit organizations, federal, provincial and territorial governments, and researchers to tackle shared climate change adaptation priorities. Collaboration between the public and private sectors, and across jurisdictions and disciplines, is essential to address the complex and cross-cutting issue of climate change adaptation.

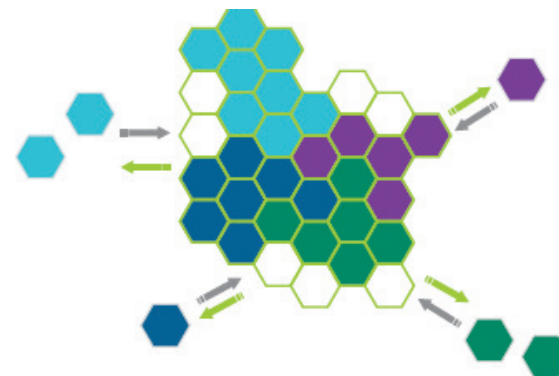
Platform participants are both the users and producers of adaptation knowledge and tools. As a result, the Platform's work is demand-driven, facilitating the analysis and implementation of adaptation action, and directly responding to the needs of decision-makers in Canada's public and private sectors. By providing the structure to pool financial resources, knowledge, and people, the Adaptation Platform works to create new information and tools for adaptation and get these products to the appropriate users.

Canada's Adaptation Platform is structured around several components: a plenary body, a series of subject-matter specific working groups, a secretariat and a broad network of individuals engaged in delivering adaptation actions. Additionally, Regional Adaptation Collaboratives (including the Pan-Territorial Adaptation Partnership) are active across the country performing outreach and enhancing regional dissemination of Platform results.

Natural Resources Canada, chair of the Adaptation Platform, has committed ongoing resources to support the overall Platform, selected Working Group activities, and to provide the secretariat function.

The Plenary, comprised of senior-level representatives of governments and national organizations, meets twice yearly. The main objective of Plenary is to identify critical and emerging adaptation priorities in Canada and to support collaborative efforts in focused areas of work. Plenary members also generate support for adaptation action and disseminate adaptation knowledge within their organizations and extended networks.

Working Groups focus efforts on shared adaptation priorities within their particular subject matter area. Plenary members can nominate participants from their organizations and networks that bring the resources (time, money, expertise) needed to develop and carry out working group activities. Additional members can be recruited by the Working Group chairs or co-chairs.



Administrative duties are carried out by a secretariat housed within Natural Resources Canada. Tasks include supporting Plenary, managing a shared workspace, facilitating interaction amongst the working group co-chairs, running a webinar series, and producing the annual report and regular newsletters.

The workspace is a virtual forum where Working Group and Plenary members can plan, work, share and review draft products. It complements traditional forms of discussion and collaboration such as teleconferences and face-to-face meetings.

Newsletters were circulated to over 1000 Platform members in the spring and fall of 2015. Thirteen webinars were held over the course of the year with an average of 102 people participating in each webinar, an increase of more than 20% from the previous year. All webinars have been recorded and are available at <http://webinars.cullbridge.com/course/view.php?id=575>.

The Adaptation Platform is successfully connecting the resources, people and ideas needed for Canada's regions and industries to understand the effects of a changing climate and adapt their operations accordingly. More information on the Adaptation Platform can be found at: <http://www.nrcan.gc.ca/environment/impacts-adaptation/adaptation-platform/10027>

ADAPTATION CANADA 2016

Significant effort of the Adaptation Platform in 2015/16 was devoted to preparing for Adaptation Canada 2016, the first national conference on climate change impacts and adaptation in more than a decade. The conference was organized jointly by [Ouranos](#) and the [Ontario Centre for Climate Impacts and Adaptation Resources](#) and held in April 2016. More information on the conference, including all of the presentations, can be found at <https://adaptationcanada2016.ca/>



PLENARY

The Plenary is a network of networks. Direct membership includes all provincial and territorial governments, multiple federal government departments, professional and industry associations, and research organizations. But the greater reach includes more than 250 organizations, 190 000 accountants and 290 000 engineers across Canada. This feature is a critical component of the Adaptation Platform communication strategy. Communication priorities include increasing dissemination to targeted audiences, enhancing engagement at senior levels within members' organizations, and making greater use of extended networks to promote inclusion of adaptation as part of day-to-day management practices.

The Adaptation Platform Plenary held two successful meetings in 2015/16 - evidenced by the sustained high level of participation at both meetings. Discussions continued to provide insights on the progress of adaptation in Canada and also to leverage the diverse resources of the group.

The spring meeting was held May 5 and 6, 2015 in Montreal, Quebec, bringing together 55 representatives to discuss ongoing work. A break-out session was held to identify priorities for collaborative work. Adjustments were recommended to programs of work for existing Working Groups, and the following areas were identified as key gaps: health, social impacts and responses, biodiversity/ecosystems, fisheries and aquaculture, and the international dimension.

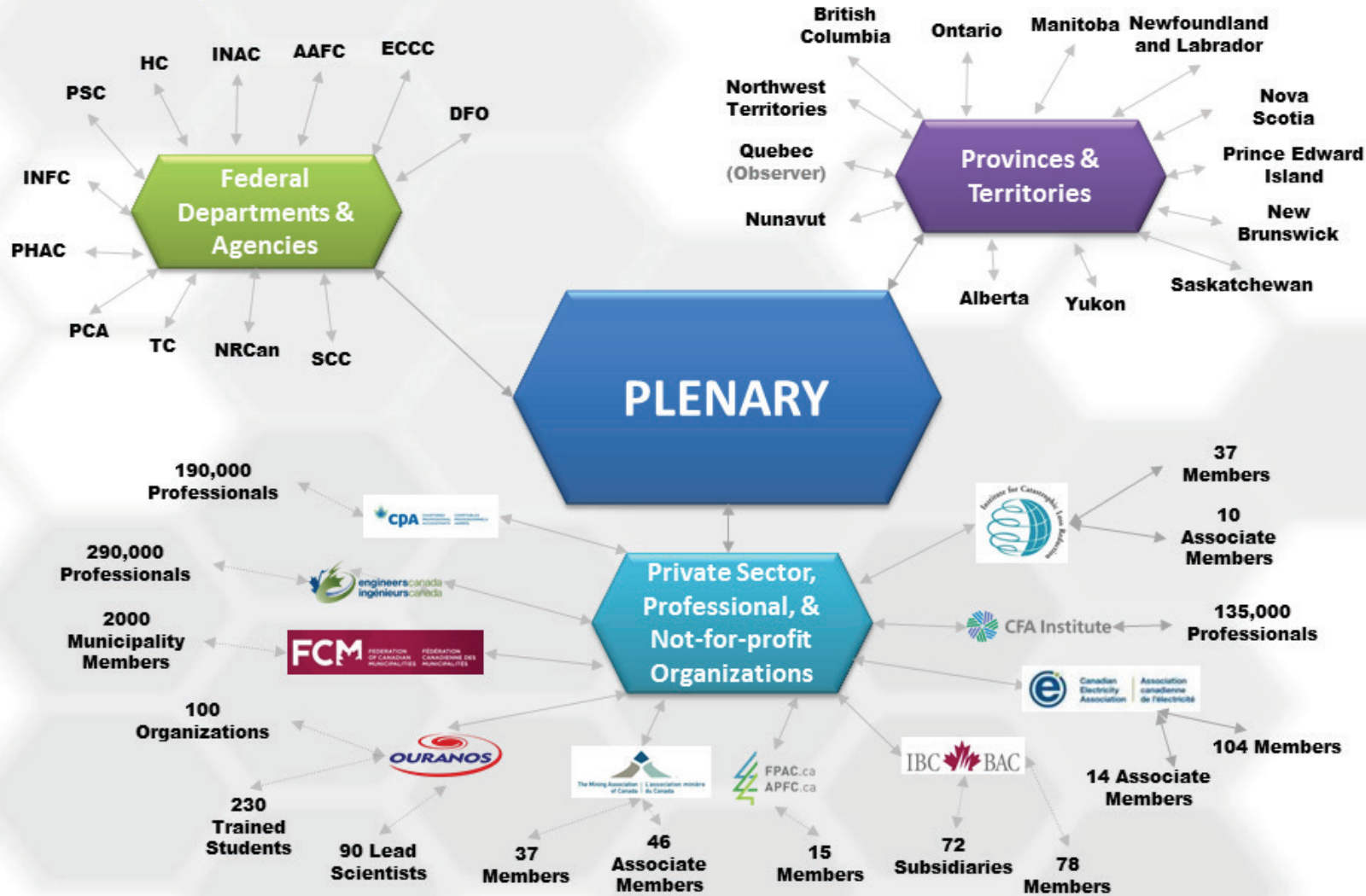
Additionally it was recognized that to better reach users and potential partners, a greater focus on capacity building and training, as well as reaching out to academia, would be beneficial.

Plenary convened for the eighth time on October 27 and 28, 2015 in Whitehorse, Yukon. The event was hosted by the Pan-Territorial Adaptation Partnership – a collaboration amongst the Governments of Nunavut, Northwest Territories and Yukon.

This was the first Plenary meeting held north of 60° and it provided an excellent opportunity to share the unique adaptation challenges facing Canada's north. Presentations showcased regional experience in creating and sharing adaptation knowledge with diverse audiences (e.g. elders, communities, industry) and in building effective partnerships. Key discussions were conducted using a "community circle" approach, a commonly used method for consultations in the North.

Plenary Meeting Reports are posted on the Adaptation Platform workspace or available upon request from adaptation@NRCan.gc.ca.

The Plenary: A Network of Networks



AAFC: Agriculture and Agri-food Canada, DFO: Fisheries and Oceans Canada, ECCC: Environment and Climate Change Canada, HC: Health Canada, INAC: Indigenous and Northern Affairs Canada, INFC: Infrastructure Canada, NRCan: Natural Resources Canada, PCA: Parks Canada Agency, PHAC: Public Health Agency of Canada, PSC: Public Safety Canada, SCC: Standards Council of Canada, TC: Transport Canada

WORKING GROUPS

Products that put the information and tools in the hands of the people implementing climate change adaptation are typically produced under the guidance of the Working Groups. Like Plenary, Working Groups are a network of networks. Typically co-chaired by members from different organizations, Working Groups bring together people with expertise and common interest in specific issues or sectors. Participants collaborate to define, and then work towards achieving, their climate change adaptation objectives. Terms of reference are developed for each Working Group and a program of work is developed and brought to Plenary for endorsement. The program of work is revisited on a timeline established by each Working Group, but often follows government funding cycles. Many of the Working Groups develop a State of Play document that serves as a reference tool when identifying and discussing initiatives to be undertaken.

Members of a Working Group may contribute by providing funding, expertise and information from their organizations; writing and reviewing documents; acting as advisory committee members on projects; or hosting meetings. Working Groups meet primarily by teleconference, and some carry out work using the online workspace. Working Group activities carried out by member organizations as well as through calls for proposals and contracted work. Priorities for funding would be identified based on the mandate of the potential funder, which could include any Plenary member organizations.

Highlights of the activities undertaken between April 2015 and March 2016 by of each of the Working Groups are presented below.

Please consult the following national sites for access to important climate change adaptation products produced under the Platform.

- [Natural Resources Canada](#)
- [The Adaptation Library](#)

Regional dissemination is also undertaken in partnership with five Regional Adaptation Collaboratives and the Northern Adaptation Partnership:

- [British Columbia](#)
- [Prairies](#)
- [Ontario](#)
- [Quebec](#)
- [Atlantic](#)
- [Northern](#)

Agriculture

To provide a starting point for discussions the Agriculture Working Group produced two analytical papers containing information collected from members as part of a stock taking exercise. The papers were instrumental in the initial work of the Working Group, enhancing understanding of conditions in each jurisdiction and highlighting the different stages each is at with respect to agricultural adaptation. The papers also helped frame lessons learned and good practices that are now being translated to support programs and the needs of other jurisdictions. This work has helped member organizations, including provincial governments, to inform their own policies and programs, and has provided industry members additional insight into the current state of agricultural adaptation and the needs and challenges moving forward.

The papers were also used to inform a joint Working Group submission to the Pan-Canadian Framework on Climate Change online portal.

An additional focus for the working group was development of a panel presentation for the [2016 Adaptation Canada Symposium - "An Overview of Agricultural Adaptation Activities in Canada"](#). Session presentations highlighted anticipated climate changes and their effects on the sector, provided a snapshot of current adaptation activities across the country, identified some challenges in adaptation for the agriculture sector and discussed some potential solutions. Examples from Ouranos research on increased pressure from pests on crops, as well as a summary of the collaborative adaptation planning process and projects from the British Columbia Agriculture & Food Climate Action Initiative were presented. The session concluded with a presentation by the Soil Conservation Council of Canada on management trends for Canada's farmland soil resources, their health and potential to sequester carbon and an interactive discussion with audience members. The session generated awareness, discussion and networking to advance climate change risk assessments and adaptation in the agriculture sector, in addition to communicating current sector progress and trends to non-agriculture attendees.

Coastal Management

Among other products, two new public outreach and education themed projects were completed this year. The first was led by Golder Associates Ltd in British Columbia and involved a broad range of stakeholders to produce a coastal adaptation video series to inform decision makers and coastal managers. The series showcases the need for climate adaptation and practical steps towards creating resilient communities. The videos will help end-users better use existing

information and products to integrate climate change adaptation into their everyday processes and decisions. [Fourteen high quality videos](#) (averaging 8 minutes) are available.

Another initiative was led by Stewardship Council British Columbia who collaborated to create a Green Shores curriculum/certification program, targeting decision makers in British Columbia. This program provides resources, education, and professional training to move from hard adaptation solutions, like dikes and seawalls, to cost-effective soft edge solutions that offer flood protection, ecological resilience.

Two levels of training have been developed, Introduction (Level I) and Advanced (Level II). These practical courses introduce participants to the purpose and application of Green Shores practices, how these practices can aid in adaptation, and the roles and responsibilities of government, landowners, and professionals for shoreline developments. In addition participants take part in a site visit to build practical knowledge. All participants receive a Certificate of Completion from Continuing Studies at the University of Victoria upon finishing of the course.

Additionally, [two webinars](#) were delivered to transfer the learning and results from multiple Coastal Management Working Group projects across Canada to interested parties, with more planned for next year.

Economics

In September 2015 Natural Resources Canada hosted a two-day workshop entitled *Economic Impact of Climate Change and Cost-Benefit Analysis of Adaptation Measures*. This meeting brought together Economics Working Group members with members of

regional economic study teams to discuss results generated to date, identify how best to integrate and communicate the results, and to discuss lessons learned and next steps. The regional economic study projects ([Atlantic provinces / Quebec coastal region](#) and [Great Lakes – St. Lawrence region](#)) have been successful in breaking new ground on the cost of climate change and costs/benefits of adaptation strategies and will help fill large information gaps in the issue.

The economic significance of planning for climate resilience was highlighted in a [case study report](#) of TransLink, and profiled in a [video](#). As a transportation provider, TransLink sees climate change directly impacting service delivery and infrastructure maintenance and development. While climate change adaptation isn't a term commonly used at TransLink, the organization considers climate change risks and impacts as one of the factors in strategic decision-making around capital projects. Accountants at TransLink contribute to adaptation decisions through risk management, capital planning and reporting. Their skills in investigation, analysis and planning are particularly helpful. They urge the profession to increase training in (a) identifying and managing climate change risks; and (b) enabling skills, such as change management, to enable better collaboration with colleagues in other functions.

The publication [Paying for Urban Infrastructure Adaptation in Canada: An Analysis of Existing and Potential Economic Instruments for Local Governments](#) identifies and analyzes financial instruments and funding sources that may assist Canadian municipalities to pay for urban infrastructure investments necessary to adapt to a changing climate. Both existing instruments and potential new innovative measures are assessed based on several criteria: effectiveness, ease of implementation, public acceptance, equity and flexibility, and recommendations are provided for local and higher levels of government.

Energy

Highlights of work conducted under the Energy Working Group work in 2015/16 include a [national level report](#), led by the Canadian Electricity Association, on the state of climate adaptation in the electricity sector and includes recommendations for stakeholders. Ouranos produced a series of adaptation [Case Studies in the Energy Sector](#) looking at initiatives from around the world and highlighting transferable success stories.

Another initiative worked to update Energy2020, a robust, integrated energy model that utilizes the most recent socioeconomic data and assessment methodologies. [Energy2020](#) was modified to forecast how climate change temperature changes will impact energy demand in Canada. Results showed a shift in energy demand and mix due to warmer summers that will require increased air conditioning, and warmer winters that will require less heating. This information will be valuable for future energy supply and demand planning.

Coupled with other regional projects and research, the Energy Working Group project results provide new tools and resources for decision-makers, and continues to refine the conversation on climate adaptation in the energy sector. Additionally, there were [three webinars](#) delivered to transfer the learning and results from multiple Energy Working Group projects across Canada to interested parties.

Forestry

The Forestry Adaptation Working Group developed a report providing a centralized collection of information on current or recent forestry adaptation initiatives across Canada. The report outlines projects,

policy initiatives, and forestry management practices that have attempted to deal with future climate change. This compendium is a first step in cataloguing current or recently completed forestry adaptation initiatives. In order to keep this document evergreen, the working group developed a database that can be updated by each member of the Working Group.

The Forestry Adaptation Working Group also presented a webinar series of 6 presentations to showcase Adaptation work in forestry in Canada. Over 650 participants registered across Canada to the webinars.

"I really appreciate these webinars to get knowledge first hand from the researchers! It is very beneficial to hear the background behind the studies and the context."

Through funds from the Canadian Council of Forest Ministers (CCFM CC task force), a contract was given to the Ontario Centre for Climate Impacts and Adaptation Resources to set up the logistics for the series through the [Forestry Adaptation Community of Practice](#) (FaCOP). In the last year, 103 new members have joined the FaCOP for a total of 390 members.

Infrastructure and Buildings

The Infrastructure and Buildings Working Group provides an important expansion to the subject matter areas being addressed under the Adaptation Platform.

Supported by discussions of the Working Group, the Institute for Catastrophic Loss Reduction has partnered with researchers at the University of Guelph and Western University to develop a research program aimed at improving understanding of the efficacy, reliability and operation of lot-level urban flood mitigation building components. The first stage in the program has included developing a lab designed to test backwater valves (widely-used check valves designed to reduce risk of sewer backup at the property level) under a variety of installation and operational conditions.

Backwater valves are commonly required or promoted by insurers and municipalities in Canada. Over the past few years several new types of valves have been introduced into the market. Currently there is no objective information to compare the efficacy and reliability of the range of valves on the market. There is also no available information to help municipalities, homeowners and insurers understand how backwater valves perform under a variety of operational conditions. The lab is meant to provide information that will increase the capacity of homeowners, municipalities and the construction industry to mitigate flood loss, through provision of information on appropriate selection of valves based on plumbing arrangements in specific structures and information on maintenance practices. Outputs of the project are relevant for urban municipalities at a national scale, homebuilders, insurers, homeowners, and a variety of other stakeholders interested in urban flood management, wastewater systems, and construction code development.



Image: Backwater Valve Testing Lab located at Western University

Measuring Progress

Discussion and analysis of measuring progress on adaptation continued to benefit from the experience of other countries addressing the same challenge. Key products completed in 2014/15 include an assessment of the transferability of the UK's approach to monitoring and evaluating climate adaptation progress to the Canadian context. Among many useful conclusions the report highlights that adaptation indicators represent only one component of monitoring and evaluating adaptation, and must be considered alongside qualitative information in order to obtain a more complete understanding of progress made.

The Working Group also organized [two webinars](#) as part of the Adaptation Platform webinar series. The first of these featured a presentation by UK experts on that country's approach to measuring

and evaluating progress in climate change adaptation, while the second webinar examined the use of indicators to measure adaptation progress in Canada, asking the fundamental question "are we on the right track?"

Having completed the first program of work in this area it has been decided that performance measurement going forward would be best integrated into the work undertaken within the subject-matter specific Working Groups.

Mining

The Mining Working Group presented to Plenary as part of the October 2015 meeting in Whitehorse. The presentation highlighted the progress made by the Working Group on engagement of the sector, understanding the policy context and costs and benefits of action. The [economic case studies](#) in particular contain valuable information for developing business cases.

Their industry survey, completed near the end of program, indicated that two thirds of respondents viewed climate change as a risk to their business, but fewer respondents indicated that actions had been taken to address the risks. Future efforts of the Working Group will focus on communication and dissemination of results. Additional work may be needed to address longer-term issues such as reclamation, as well to examine opportunities to stimulate innovation and more transformational approaches to adaptation.

Northern Adaptation Partnership

2015-2016 was a transition year for the Northern Working Group, with leadership transferred to Indigenous and Northern Affairs Canada (INAC) and the Government of Nunavut as co-chairs. The working group format was also reviewed. INAC received funding under Budget 2016 to implement the *Climate Change Preparedness in the North Program* - which will support the creation of the Northern Adaptation Partnership. This body will help coordinate adaptation efforts in the North and will replace the Northern Working Group, and the name has been changed to reflect this new role.

The Northern Adaptation Partnership will provide oversight and guidance throughout the implementation of a Northern Adaptation Strategy developed by INAC in partnership with territorial governments, regional Indigenous governments in the Nunavik and Nunatsiavut regions, Indigenous organizations and communities, and other federal departments. The Strategy will identify Northern climate change adaptation priorities as well as promote transfer of information and the development of partnerships to support the development of adaptation actions in the North.

Regional Adaptation Collaboratives and Tools

The RAC and Tools Working Group completed their work plan in 2014. Activities focused on priority projects which enhanced the results and dissemination of the previous RAC and Tools programming. The RAC and Tools program and Working Group accomplishments continue to be the foundation for on-going adaptation work.

Science Assessment

Science assessment efforts in 2015/16 focused on completing the report [Canada's Marine Coasts in a Changing Climate](#) for release in April 2016. The report, which involved 64 authors and 74 expert reviewers, synthesizes more than 1300 publications to examine the impacts of climate change on Canada's coastal ecosystems, communities and infrastructure, as well as adaptation approaches to reduce risks. The report includes background chapters examining both the biophysical and human dimensions of coasts, regional chapters presenting perspectives from Canada's east, west and north coast regions, a series of Frequently Asked Questions, and a national-scale Synthesis.

This year also saw completion of [Managing Climate Risks: Highlights for Business Leaders](#). This is a summary product, based on the 2014 assessment [Canada in a Changing Climate: Sectoral Perspectives on Impacts and Adaptation](#). It presents business-relevant information on climate change impacts, risks and responses, and highlights approaches and resources to enhance climate resilience for Canadian businesses.

High level key messages from the publication include:

1. Climate is already changing, and will continue to change.
2. To build economic resilience to future climate realities, businesses and industry sectors need to adapt.
3. Taking a proactive, planned approach to adaptation makes good business sense.
4. Businesses can get ahead by taking advantage of the information resources and collaborative platforms available to support adaptation.

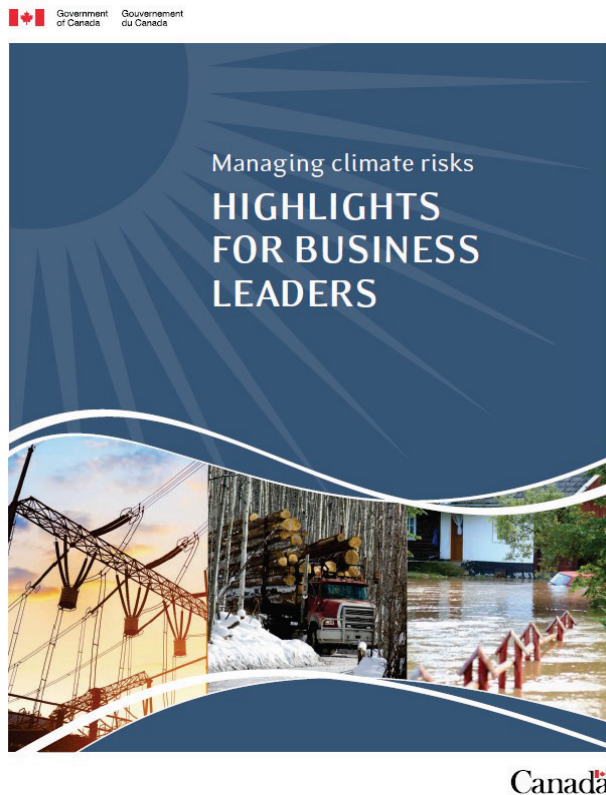
Lastly, the working group developed a questionnaire on science assessment awareness and use. The survey was administered by the Government of Manitoba and distributed through the Regional Adaptation Collaboratives. Take away messages include:

- Climate change is on the agenda for many (74%).
- Science assessments are used, and useful for many different purposes, especially when identifying priorities.
- Canadian assessments are informing adaptation decisions.
- Targeted summaries are the most used supplementary product.

For more information on the questionnaire, contact Fiona Warren (Fiona.warren@canada.ca).

Water and Climate Information

The Water and Climate Information Working Group was relatively inactive in 2015-16, with the exception of sharing of funding opportunities. The Co-chairs are currently reviewing the group's mandate and membership in the context of future planned work and needs.





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