



REPORT

Challenge Dialogue Paper

2019

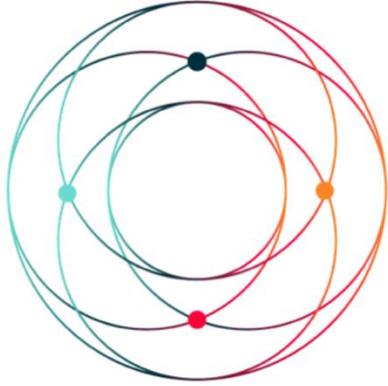


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BC PROFESSIONALS
ADAPTATION NETWORK

CHALLENGE DIALOGUE

A process to gather your input and feedback, beginning with

THE CHALLENGE PAPER

This is the beginning of an ongoing CHALLENGE DIALOGUE, which invites your expertise and involvement, at whatever level of commitment you can offer, to support this professional learning community.

Input and Feedback to THE CHALLENGE PAPER:

OPEN from March 29 to April 26, 2019



Resilience by Design Lab

explores community resilience, disaster risk reduction and climate change through social innovation and creative action research



Royal Roads University is on the traditional lands of the Xwsepsum (Esquimalt) and Lekwungen (Songhees) families, where this paper originated.

Who is involved in this Challenge Dialogue?

The Challenge Dialogue Organizing Team includes:

- The *Inspiring Climate Action* Project Team
 - Dr. Robin Cox, Project Lead, Professor and Director of Resilience by Design Lab, Royal Roads University
 - Dr. Dominique Sigg, Senior Policy Analyst, Climate Action Secretariat, BC Ministry of Environment and Climate Change Strategy
 - Dr. Johanna Wolf, Senior Policy Analyst, Climate Action Secretariat, BC Ministry of Environment and Climate Change Strategy
 - Vivian Forssman, Program Manager
 - Beverly DeVries, Project Co-ordinator
 - Dr. Holly Clermont, Researcher
 - Asma-na-hi Antoine, Manager, Indigenous Education and Student Services, Royal Roads University
- The Challenge Dialogue System® Mentor & Facilitator
 - Keith Jones, R. Keith Jones & Associates

***Inspiring Climate Action* sponsors** are:

BC Climate Action Secretariat and Natural Resources Canada

***Inspiring Climate Action* stakeholders** include:

BC post-secondary institutions	BC professional associations
<ul style="list-style-type: none"> ▪ Royal Roads University ▪ Simon Fraser University ▪ University of British Columbia ▪ Capilano University ▪ University of Northern BC ▪ University of Victoria ▪ Vancouver Island University 	<ul style="list-style-type: none"> ▪ Applied Science Technologists & Technicians of BC (ASTTBC) ▪ Association of BC Forest Professionals (ABCFP) ▪ BC Institute of Agrologists (BCIA) ▪ BC Society of Landscape Architects (BCSLA) ▪ College of Applied Biology (CAB) ▪ Engineers and Geoscientists of BC (EGBC) ▪ Planning Institute of BC (PIBC)
<p>Climate change experts</p>	
<ul style="list-style-type: none"> ▪ Pacific Climate Impacts Consortium (PCIC) ▪ Stockholm Environment Institute (weADAPT web platform) ▪ United Nations Climate Change Secretariat (UNFCCC), recently retired Richard Kinley, Deputy Executive Secretary ▪ Indigenous climate changemakers and leaders 	

Purpose

Welcome to Challenge Dialogue®, a collaborative process designed to support complex change initiatives. This Challenge Paper is focused on gathering your input and feedback on a project designed to enhance the capacity of BC professionals to lead and contribute to climate change adaptation: *Inspiring Climate Action: BC Professionals Adaptation Network*.

Steps for Providing Feedback

In an [online questionnaire](#), you will be asked to comment on:

- Key Challenge,
- Expected Outcomes,
- Definitions,
- Background,
- Project Assumptions, and
- Critical Questions.

For your convenience, all statements from this Challenge Paper to which you are being asked to respond are included in the questionnaire, with the exception of the Background. Please review the Background beforehand or have it at hand while you complete the questionnaire.

Full responses to a Challenge Paper tend to take about an hour. If you are very pressed for time, please respond to the questions that you find most interesting, or prioritize Critical Questions (section 6) and Assumptions (section 5). We request you provide feedback to the Challenge Paper as soon as possible and no later than [April 26, 2019](#).

Be bold! We are looking for a full range of responses to spur meaningful conversation and learning, including practical, inspired, strategic, or gut reactions. We encourage reflection, interrogation, and innovation. For example,

- “Statement # resonated with me because...”
- “Building on this [Critical Question], I envision a new way to...”
- “There’s a key point missing here.....”
- “I completely disagree with assumption #... because...”

Each “Input and Feedback Request” box includes a link to an [online questionnaire](#). Please critically assess the statement(s), share your reflections, suggestions and ideas, and contribute any questions you may have.

Your responses are saved when you click the Next or Done button on each page of the questionnaire. You can return to questions to edit your responses.

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Context

The *Inspiring Climate Action: BC Professionals Adaptation Network Project* is intended to increase the province's capacity to adapt to climate change by enhancing the knowledge and skills of professionals, through climate change adaptation continuing professional development.

Climate impacts are increasingly affecting the everyday lives of all British Columbians. Drought, wildfires, extreme weather events, and erosion from flooding and sea level rise are becoming more prevalent. The size and distribution of species populations are shifting, impacting the fitness and productivity of ecosystems, forestry, fisheries, and agriculture. There are direct impacts to human health from heat waves, wildfire smoke, and pest-related illnesses. There is a growing awareness that professionals in our communities must be skilled in planning for climate change and responding to climate impacts.

Indigenous peoples are at the forefront of climate change adaptation. Indigenous knowledge, including Indigenous science, encompasses thousands of years of observing local patterns of ecological processes, communicated through formal systems of intergenerational knowledge transfer. Indigenous knowledge also includes a cumulative understanding of the risks and benefits of management practices in specific, place-based contexts. Indigenous world views recognize the strength of diversity in planning for uncertainty – both in the ecological realm and to integrate best possible knowledge with multiple perspectives. The Nuu-chah-nulth philosophy of Hishuk-ish-Tsawalk - “everything is one” exemplifies another important aspect of shared Indigenous world views, which respects the interconnectedness of humans with other beings and our physical environment. At the core of resilient and adaptive ways of living are reciprocal relationships with nature. “If we take care of the land, it will take care of us.”¹

As we begin this Challenge Dialogue, we recognize and offer our gratitude to Indigenous People for their sustained care of the environment on which we all rely. We recognize that ancestral knowledge belongs to Indigenous families, and implementation of the UN Declaration on the Rights of Indigenous People requires that shared knowledge be utilized with the expressed consent of the families in a spirit of collaboration and reconciliation. Bill Bresser, a member of the Royal Roads University Heron Peoples Circle, shares a reminder: “Nothing about us, without us.”

Your feedback to this Challenge Paper will build on the findings from a 2018 scoping study conducted by the Pacific Institute for Climate Solutions (PICS) and Adaptation to Climate Change Team (ACT) at Simon Fraser University (Appendix A).

¹ Indigenous Leadership Initiative, BC Assembly of First Nations, & Government of Canada. (2019, March). *Presentation of the First Nations-Federal Pilot Joint Working Group on Guardians*. Presented at the First Nations' National Guardians Gathering 2019, Vancouver, BC.

1. Key Challenge

The *Inspiring Climate Action: BC Professionals Adaptation Network* seeks to expand capacity and skills in climate change adaptation in BC.

Our challenge is to engage the collective interests and expertise of BC professional associations, post-secondary institutions, and climate change adaptation specialists to:

- Design, deliver and participate in an integrated body of Continuing Professional Development climate change adaptation courseware, for members of BC Professional Associations;
- Grow an active professional learning community of climate change adaptation practitioners, educators, and experts.

Input and Feedback Request: Key Challenge

What additional clarification would help you better understand the Key Challenge we are trying to address in this Dialogue? What questions or ideas did the Key Challenge statement spark in your mind? [Link to Questionnaire](#)

2. Expected Outcomes

By the end of the Challenge Dialogue, both the *Inspiring Climate Action* project team and the key stakeholder community will achieve the following:

- 2.1 Alignment on the meaning and significance of climate change adaptation.
- 2.2 Alignment on the potential for climate change adaptation Continuing Professional Development offerings and engagement in an active professional learning community, to build greater climate change adaptation capacity among BC professionals.
- 2.3 Identification of the **top 15 priorities** for Continuing Professional Development courseware topics (e.g. *Interdisciplinary and Collaborative Approaches to Climate Change Adaptation Fundamentals; Indigenous Approaches and Innovations: Climate Change Adaptation and Action; Climate Change Adaptation Risk and Vulnerability Assessments; Interpreting Regional Climate Data for Planning Purposes; Climate Change Adaptation Communications Strategies*, etc.)
- 2.4 Identification of the core climate change adaptation competencies to guide Continuing Professional Development offerings and professional skills mobilization in BC.

Input and Feedback Request: Expected Outcomes

Please share your reflections and questions regarding the Expected Outcomes for this Challenge Dialogue. What additional expectations would you like to suggest (as in... "I would consider this Dialogue a success if...")? [Link to Questionnaire](#)

Please include the Expected Outcome # in your responses, so we know which one(s) you are referencing.

3. Definitions

3.1 Climate Change Adaptation/ Climate Adaptation

Anticipating the adverse effects of climate change, taking appropriate action to prevent or minimize the damage they can cause to human and natural systems, and taking advantage of opportunities that may arise²

3.2 Low Carbon Resilience

The concept of low carbon resilience invites the strategic integration of climate change adaptation and mitigation³ such that emission reduction strategies integrate a consideration of adaptation; and adaptation strategies integrate a consideration of emission reduction.

3.3 Continuing Professional Development (CPD)

Ongoing learning that develops and maintains *professional* competence in workplace roles. CPD may be required to maintain certification in professional organizations; may be accessed through courses, conferences, and independent learning; and may include recognition by employers and post-secondary institutions.

3.4 Courseware

A range of Continuing Professional Development learning options, including webinars, pre-conference or other workshops, short courses, simulations, “tabletop” problem-solving exercises, software labs, etc.

3.5 Competency Framework

An inventory of expected behaviours, skills, and attitudes that lead to successful professional performance⁴

3.6 Content Domain

A body of knowledge or competencies that can be measured or examined

Input and Feedback Request: Definitions

Please share your reflections and questions regarding the Definitions for this Challenge Dialogue. What additional Definitions would you like to suggest? [Link to Questionnaire](#)
Please include the Definition # in your responses, so we know which one(s) you are referencing.

² Modified from Intergovernmental Panel on Climate Change and European Commission definitions

³ Harford, D., & Raftis, C. (2018). Low Carbon Resilience: Best Practices for Professionals: Final Report. Simon Fraser University Adaptation to Climate Change Team (ACT). Retrieved from http://act-adapt.org/wp-content/uploads/2018/12/lcr_best_practices_final.pdf

⁴ United Nations Educational, Scientific and Cultural Organization
https://en.unesco.org/sites/default/files/competency_framework_e.pdf

4. Background

4.1 Project Outcomes

The Challenge Dialogue, and this Challenge Paper, is the first phase of the *Inspiring Climate Action* project, which was launched in January 2019 and will end in 2022. Funded by BC Climate Action Secretariat (CAS) and Natural Resources Canada, the project builds on the work of many other important climate change adaptation and low carbon resilience projects and initiatives in BC – including a previous scoping study (see 4.3.1, below). The project will deliver a climate change adaptation competency framework; a professional learning community; and a minimum of 10 Continuing Professional Development courseware offerings for BC professionals focused on climate change adaptation topics. Courseware will be designed and developed by the seven participating post-secondary institutions (see Appendix B for more detail).

4.2 Existing Climate Change Adaptation Courseware and Resources

There are several organizations that currently host climate change adaptation learning opportunities, beyond Continuing Professional Development listings by professional associations. These include:

- 4.21 Simon Fraser University's Adaptation to Climate Change Team (ACT), at <http://www.sfu.ca/act.html>, combines research, education, outreach, and policy innovation. It claims to be the only university-based think tank initiative in North America dedicated to climate change adaptation.
- 4.22 Climate Change Adaptation Community of Practice (CCACoP) is a national interactive online community facilitated and maintained by the Ontario Centre for Climate Impacts and Adaptation Resources. It is available at <https://www.ccadaptation.ca>.
- 4.23 Fraser Basin Council, at <https://www.fraserbasin.bc.ca>, supports the BC Regional Adaptation Collaborative Program, one of six regional adaptive collaborations across Canada within Natural Resource Canada's national program. It hosts a free webinar series on climate change adaptation, highlighting case studies, tools, and plans. It includes online portals to top learning tools, guides, and resources. Fraser Basin Council is also host to Adaptation Canada 2020, February 19-21 in Vancouver.
- 4.24 BC Climate Action Toolkit, at <https://www.toolkit.bc.ca>, is provided by a partnership between Fraser Basin Council and the Green Communities Committee (with representatives from the Province and Union of BC Municipalities). It was designed to provide BC communities with the latest news, best practices and practical advice to help them reduce GHG emissions and implement Climate Action Charter commitments. It will soon be relaunched with half of the site dedicated to adaptation.

- 4.25 Climate Telling: An Indigenous community portal for climate change and health, at <http://www.climatetelling.info/>, is an initiative of the Centre for Indigenous Environmental Resources with support from Indigenous Services Canada's Climate Change and Health Adaptation Program. It includes resources and tools for Indigenous communities interested in undertaking climate change and health-related initiatives. It is a platform for sharing knowledge, expertise, and experiences while exploring opportunities for collaboration among scholars, professionals, and community advocates.

4.3 Surveys

- 4.3.1 In 2018, the BC Climate Action Secretariat (CAS) commissioned the *Continuing Professional Development for Climate Change Adaptation in BC Scoping Study*, undertaken by the Pacific Institute for Climate Solutions (PICS) and Simon Fraser University (SFU)'s Adaptation to Climate Change Team (ACT).

This scoping study involved a gap analysis of existing and desired Continuing Professional Development offerings, interviews with practicing professionals throughout the province, and a workshop with representatives of professional associations and continuing education experts. It signalled strong support in BC for developing multidisciplinary climate change adaptation Continuing Professional Development offerings, which interpret complex theoretical knowledge into practical knowhow and profession-specific materials. Recommendations for Continuing Professional Development included delivery methods that support easy access and multi-disciplinary participatory activities; a design approach that integrates continuing studies adult learning theory with content domain expertise; and course topics that include both general foundations on climate change adaptation as well as profession-specific offerings. (See Appendix A).

- 4.3.2 In 2017, the Kresge Foundation published *Professional Societies and Climate Change: An analysis of how urban-focused professional societies are integrating climate change into their member engagement activities*. The Kresge Foundation reviewed publicly available material for 41 American professional societies to understand whether and how they were discussing climate change with their members, and then interviewed a subset of them. There was a wide variation in the level of sophistication and breadth of resources used to engage and educate society members. However, some clear themes emerged with recommendations to mainstream climate change into operations and engagement strategies of professional societies. These are outlined in Appendix C.
- 4.3.3 Some BC professional organizations have conducted their own surveys to determine how members are incorporating a consideration of current and future climate in their

professional activities. For example, the Engineers and Geoscientists of British Columbia (EGBC) conducted a climate change awareness survey in 2017. For some members, a lack of “the right information and tools/resources” was a barrier to the integration of climate considerations in their work. Many of those same respondents were unaware of existing climate change-related resources. Additional findings are available at <https://www.egbc.ca/getmedia/412710a2-fa56-489b-9a0a-a6c7d560ec4b/Climate-Change-Survey-Findings-June-2017.pdf.aspx>.

Input and Feedback Request: Background

What in this Background material requires additional clarification? Are there any other materials that you feel should be added? [Link to Questionnaire](#)

Please include the Background statement # in your responses, so we know which one(s) you are referencing.

5. Assumptions

To develop a common understanding between Challenge Dialogue participants, we offer assumptions which relate to this Key Challenge, for your consideration and feedback.

- 5.1 Professionals, especially those operating at a local level, play a crucial role in building resilience to climate change.
- 5.2 Professionals will require new knowledge and skills to address climate change adaptation challenges and professional responsibilities.
- 5.3 Professionals will require jurisdiction-specific, sector-specific and cross-disciplinary knowledge to navigate complex and dynamic climate change adaptation challenges.
- 5.4 Collaboration between regulators and professional organizations will help to build capacity for climate change adaptation
- 5.5 Climate change adaptation Continuing Professional Development should complement and build upon related existing professional development initiatives, rather than overlap and compete with those existing offerings.
- 5.6 Climate change adaptation Continuing Professional Development will require a specialized set of competencies (e.g., problem-solving, design thinking, etc.).
- 5.7 Climate change adaptation Continuing Professional Development courseware benefits from the integration of Indigenous world views, practices, science and other knowledge.
- 5.8 Professionals and communities working to advance reconciliation and build respectful relationships with First Nations are often the most successful in moving forward on collaborative, innovative and long-term climate change adaptation efforts.
- 5.9 Climate change mitigation efforts should not undermine adaptation efforts, and adaptation efforts should not undermine mitigation efforts, whenever possible. Low carbon resilience requires addressing these challenges simultaneously.
- 5.10 Climate change adaptation Continuing Professional Development curricula, courseware, and tools that already exist in other regions could be modified for our region and/or scaled up.

- 5.11 Government policy and regulations may necessitate certain climate change adaptation Continuing Professional Development offerings.
- 5.12 Climate change adaptation Continuing Professional Development needs to draw on the existing knowledge of learners, consider multiple perspectives, provide theory but focus more on practical examples, and integrate learning-by doing activities.
- 5.13 Climate change adaptation Continuing Professional Development should be accessible (e.g., regional offerings) and suit different learning styles (online, blended and face-to-face) and regardless of the way it is offered, should support active and experiential learning.
- 5.14 A social learning community (e.g., a network) that shares practices and integrates diverse disciplinary knowledge and skill sets could inspire the types of innovations that are and will be required for climate change adaptation.

Input and Feedback Request: Assumptions

Which assumptions require further clarification? Are there any with which you strongly disagree? What additional assumptions would you suggest? [Link to Questionnaire](#)

Please include the Assumption statement # in your responses, so we know which one(s) you are referencing.

6. Critical Questions

- 6.1 Envision a climate change adaptation challenge that you have faced or are likely to confront in your work. What additional knowledge and skills do you feel you need to better respond to this challenge? Be as specific as you can.
- 6.2 Imagine you are in a workshop to define Continuing Professional Development topics. In one of the brainstorming sessions, you are asked to write on a yellow sticky your top 3 priorities for climate change adaptation Continuing Professional Development topics. What would they be?
- 6.3 What are the top 3 design elements that you feel should be considered in shaping climate change adaptation Continuing Professional Development courseware? These may be issues related to accessibility, accreditation, price, or any other attribute you consider important.
- 6.4 Indigenous communities draw on local, intergenerational knowledge and expertise to innovate and adapt.^{5,6} How do/will you integrate Indigenous knowledge and practices with your own professional knowledge and practices?
- 6.5 It is recognized that Indigenous communities may be disproportionately and uniquely impacted by climate change.^{7,8} How do we as working professionals respectively and meaningfully support the climate resilience of Indigenous communities?
- 6.6 Is there a role for a distinct online BC Professionals climate adaptation network, and if so, what services would it provide?

⁵ IPCC. (2014). *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II, and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]* (p. 151 pp.). Geneva, Switzerland. Retrieved from https://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_FINAL_full.pdf

⁶ Ford, J. D., Cameron, L., Rubis, J., Maillet, M., & Nakashima, D. (2016). Including indigenous knowledge and experience in IPCC assessment reports : post-print version. *Nature Climate Change*, 6, 349–353. Retrieved from <https://hdl-bnc-idrc.dspacedirect.org/handle/10625/56538>

⁷ Reid, M. G., Hamilton, C., Reid, S. K., Trousdale, W., Hill, C., Turner, N., ... Matthews, H. D. (2014). Indigenous Climate Change Adaptation Planning Using a Values-Focused Approach: A Case Study with the Gitga'at Nation. *Journal of Ethnobiology*, 34(3), 401–424. <https://doi.org/10.2993/0278-0771-34.3.401>

⁸ Expert Panel on Climate Change Adaptation and Resilience. (2018). *Measuring Progress on Adaptation and Climate Resilience: Recommendations to the Government of Canada* (No. En4- 329/2018E- PDF). Retrieved from http://publications.gc.ca/collections/collection_2018/eccc/En4-329-2018-eng.pdf

- 6.7 How should professional associations encourage their membership to consider and address climate impacts?
- 6.8 Should climate change adaptation competencies and training be a required part of professional development and accreditation? Why or why not?
- 6.9 What are the top 3 barriers we are likely to face with the *Inspiring Climate Action* project? How might we overcome these barriers?
- 6.10 What other critical questions should we be asking regarding this Challenge?

Input Request: Critical Questions [Link to Questionnaire](#)

7. Next Steps

Please provide your feedback on this *Challenge Paper*, by responding to the [Dialogue Questionnaire](#) as soon as possible and no later than April 26, 2019. Contribute as much as you like, or as much as you can.

- 7.1 All feedback will be compiled into a *Progress Report* that will be shared back with you for your further comments and feedback in mid-May.
- 7.2 Feedback from the *Challenge Paper* and *Progress Report* will be used to determine next steps.
- 7.3 A *Challenge Dialogue Report*, including recommendations and an action plan will be distributed to all Challenge Dialogue participants by the end of June, 2019.
- 7.4 Appendix D provides an overview of the Challenge Dialogue System®.

Input and Feedback Request: Next Steps

Do you have any questions regarding the next steps? Are there any other comments you would like to share? [Link to Questionnaire](#)

If you reference a Next Steps statement, please include a statement # in your responses, so we know which one(s) you are referencing.

Thank you for your Input and Feedback on the Challenge Paper!

This is the beginning of an ongoing Challenge Dialogue, which invites your expertise and involvement, at whatever level of commitment you can offer to support a professional community of learning and practice focused on climate change adaptation.

We look forward to sharing the results of this Challenge Paper with you.

Appendices are provided as background reading; reviewing is optional.

Appendix A: Continuing Professional Development for Climate Change Adaptation Scoping Study

The *Inspiring Climate Action: BC Professionals Adaptation Network Project* builds upon the findings from a scoping study conducted by the Pacific Institute for Climate Solutions (PICS) in collaboration with the Adaptation to Climate Change Team (ACT) at Simon Fraser University. Below is a brief summary of that report highlighting information that forms an important component of the foundation for this current project.

Summary

The *Continuing Professional Development For Climate Change Adaptation: Scoping Study* took its cue from a 2018 report of the Auditor General of BC which examined the province's performance in addressing climate change risks through adaptation and mitigation.⁹ That report recognizes the role professionals play in climate change adaptation and the need to develop continuing education programs focussed on the impact of climate change and how it will affect the day-to-day work of these practitioners. Similarly, previous work by ACT concluded that education is an important opportunity for moving forward on addressing climate change.¹⁰ The study was also informed by a Professional Reliance Review by the Province, which recommended required Continuing Professional Development for natural resource professionals.¹¹

Funded by the Climate Action Secretariat of the BC Ministry of Environment and Climate Change Strategy, the study examined how practicing professionals could be better prepared to consider climate change adaptation as they design and plan infrastructure and services in British Columbia. While this work begins to address the complex question -- *What constitutes a well-educated professional when it comes to climate change adaptation?* -- the more immediate objective of the study was to determine whether and how Continuing Professional Development (CPD) could be used to educate BC professionals on climate change adaptation.

Project components

The study undertook three complementary activities to generate data to answer its organizing question. First, the study collected and analyzed professional associations' CPD requirements and available course offerings related to climate change adaptation to identify current best practices in BC, Canada, and other jurisdictions. The analysis of CPD requirements from 35 different professional groups showed similar requirements in terms of the amount of CPD but

⁹ Auditor General of British Columbia. (2018). *Managing Climate Change Risks: An Independent Audit*. Report.

¹⁰ Crawford, E. & Raftis, C. (2018). *Professionals' Best Practices for Low Carbon Resilience: Summary of Phase One Engagement of Professionals and Professional Associations and Proposed Research Agenda*. Adaptation to Climate Change Team (ACT). Report.

¹¹ M. Haddock (2018), *Review of Professional Reliance in Natural Resource Decision-Making*. Independent Report Prepared for the Government of British Columbia.

very different approaches to compliance. What qualifies as CPD tends to be defined rather liberally.

The scan focussed on professional groups with direct contact with climate change adaptation issues such as engineers, planners, architects, landscape architects, foresters, biologists, as well as supporting professions such as accountants and lawyers. While the research did not find any comprehensive training on climate change adaptation, it identified numerous *one-off* courses. These courses use a range of delivery modes, varying approaches to evaluating participant performance, and differing scopes and lengths of curricula. While not exhaustive, the material reviewed was representative. This component of the study concluded that there is “a lack of education and training designed to help professionals gain core adaptation knowledge and upgrade existing qualifications and skills [in climate change adaptation]” (p. 7) and that general education on climate change adaptation education is by specific professions as well across disciplines. Such educational material is not currently available in British Columbia or common in Canada or other jurisdictions.

The second study component was a day-long workshop that brought together representatives of professional organizations and key sectors as well as continuing education experts to assess the potential for using CPD to provide education on climate change adaptation to a range of BC professionals. The workshop, entitled *Continuing Professional Development: Building Capacity For Climate Action*, involved 28 participants primarily from the Lower Mainland in discussions of what education is needed and how best to provide that education. Discussions included preferred form, content, key principles, and delivery options for climate change adaptation education and clarified that professional organizations do not see themselves as leaders in educating in this area but support the development of curriculum for continuing professional development. A central and important tension that emerged was between discipline-specific training and multidisciplinary education. Workshop participants emphasized the importance of highlighting the benefits of professional development for course participants, the need to motivate interest in CPD programs, the importance of establishing a relationship between participants and educators, a preference for short modules and practice-based case studies, and the need to foster communities of continuous learning.

The third and final part of the project involved telephone interviews with 26 practicing BC professionals with questions designed to test the conclusions derived from the workshop. Although constrained by the time of year (summer) and availability of participants, the interviews solicited considerable information about climate change adaptation and attitudes towards continuing professional development generally and CPD on climate change adaptation. Participants expressed a need for both general curriculum and more in-depth profession-specific education. Significantly, a multidisciplinary approach to learning about climate change adaptation was seen as providing a more comprehensive perspective necessary to all planning

and development. Local delivery of CPD was seen as desirable; however, annual conferences were also noted as venues for this learning.

Recommendations and Next Steps

While the project was constrained by time and size, the small but representative sample of participants provided adequate and consistent data on which to base a set of recommendations. In general, the study concluded thus:

By combining expert oversight with design from continuing education and content development and delivery with and by experts, we are confident a strong core of educational material on climate change adaptation can be created that will serve the province of British Columbia extremely well and which may be extended to serve the needs of other jurisdictions in Canada.

In addition to the overall conclusion that CPD general and sector-specific courses on climate change adaptation be developed and delivered in collaboration with professional associations, the project recommended that such CPD course offerings:

- build in learner motivation as part of course design and emphasize the benefit of CPD to professionals
- be delivered both locally and centrally, as part of professional organizations' annual events
- be presented as a set of courses ranging from general knowledge to profession specific with the option to gain certification on completion of a specified set of offerings
- build on existing CPD programs and professionals' areas of interest and expertise
- demonstrate to professionals how their existing skills are relevant to the climate change adaptation
- foster a community of continuous learning for participants with ongoing access to resources and data

Next Steps: Inspiring Climate Action project

The current project, *Inspiring Climate Action: BC Professionals Adaptation Network*, will build from the findings of this exploration by: 1) surveying a broader sample of professional association members to validate and extend the study findings; 2) engaging key stakeholders, many of whom participated in the study, in a dialogic process to work with the study findings and the survey to develop a prioritized list of CPD topics, training modalities, and climate change adaptation competencies to inform the design and delivery of climate change adaptation CPD training offerings in BC; and support a professional community of learning focused on climate change adaptation.

Appendix B: *Inspiring Climate Action: BC Professionals Adaption Network Project Elements*

- **Competency Model:** A Climate Adaptation Competency Model will inform courseware design (e.g. learning outcomes) and evaluation. A competency framework software tool will be implemented for use by professionals who are considering learning pathways.
- **Gap Analysis:** Includes a survey of the membership of at least 6 professional associations and a review of current CPD offerings, available through associations and other providers.
- **Courseware Offerings:** Two pilot CPD courseware offerings on climate change adaptation topics will be designed and developed at Royal Roads University, and will be delivered and evaluated at least once prior to Sept 2020. This will inform the development of eight to fifteen other courseware offerings, to be designed and developed by BC post-secondary institutional partners, in collaboration with professional organizations, climate experts, and climate change adaptation influencers.
- **Business Model for Continuing Studies Units offering CPD:** The project provides moderate funding to each participating university to cover costs to design and develop CPD courseware for this project. Shared marketing, a recognizable brand, and accessible registration processes will be established to optimize participation of professional organization members, while providing BC universities with new programming focus and revenue opportunities. University Continuing Studies Units will charge fees for **Inspiring Climate Action** courseware offerings as a way to recover costs for facilities and instructor-mediated learning.
- **Outreach:** Social media and other outreach methods will foster a climate change adaptation professional community-of-practice (CoP) among practitioners, researchers, and other experts. Informal learning activities (e.g., face-to-face and online events) will help facilitate climate change adaptation knowledge exchange and mobilization over the life of the project.
- **Website:** A site showcasing regional case studies and professional learning opportunities will be developed as a microsite within Stockholm Environment Institute's weADAPT platform, to support the **Inspiring Climate Action** initiative. See <https://www.weadapt.org>.
- **Legacy Planning:** The project team will explore options to extend the model to other parts of Canada and long-term funding options to sustain the BC professional learning community.
- **Licensing:** All artefacts developed for courseware products will be Creative Commons licensed, and publicly available with no cost to access. Creative Commons licensed artifacts will include, for example, videos, open access papers on climate change adaptation, framework tools, open textbooks, open case studies, etc. While resources and tools will be free to access and use, course offerings will have a fee structure similar to other CPD offerings where instructors/experts guide the learning.

Appendix C: Kresge Foundation survey of American professional societies

Themes

- Professionals listened to their peers, suggesting a need to find champions within each profession.
- Competing priorities were perceived as more imminent, limiting climate action.
- Most viewed climate change within a sustainability frame or a disaster preparedness/resilience frame.
- To enable professionals to act, it is necessary to bridge the science-policy divide and educate the public to demand more climate action.
- Professionals tend to have a depth of knowledge in one area but lack the breadth of knowledge to deal with wicked problems.
- Larger reports were less likely to be used than concise, interactive, ‘pithy’ resources based on professionally relevant information.
- Young professionals, and a small subset of progressive members, were often drivers of climate and sustainability work.
- Professional organizations collaborate extensively.
- Water was predominant among climate issues.
- Professionals hungered for metrics/indicators and standards of practice for resilience and climate work.

Recommendations

- Create a “standard-bearer road show”, identifying members doing exemplary work and providing them with a platform to share their stories with peers;
- Create a mechanism for stories to be collected and shared;
- Create a professional society peer learning network, to promote peer learning across organizations (e.g., Society of Adaptation Professionals);
- Regularly survey memberships to understand their current knowledge base around climate change, what climate-related resources they are using, what resources they need and want, and what they are individually doing around climate resilience.
- Invest in peer networking, through existing channels and creating new spaces.

Detailed findings are available at https://kresge.org/sites/default/files/library/env1007-psreport-0117_revised_11917.pdf

Appendix D: The Challenge Dialogue System®

Depicted below is an overview of the Challenge Dialogue System®. Supplementary project inputs are shown on the lower left of the diagram.

Facilitating, Enabling and Empowering Transformative Change: Challenge Dialogue System®

The figure below describes the 8-steps for undertaking a Challenge Dialogue. It is one of several applications of the Challenge Dialogue System (CDS)® — a flexible methodology with a powerful capacity to help diverse groups and teams collaborate and innovate to address and accomplish complex tasks.

