

## BRINGING CLARITY TO THE CHOICES AHEAD



### **WHO WE ARE**

The Canadian Institute for Climate Choices brings together experts from diverse disciplines to undertake rigorous research, conduct insightful analysis, and engage a range of stakeholders and rightsholders to bring clarity to the climate challenges and transformative policy choices ahead for Canada. We are publicly funded, non-partisan, and independently governed.

### **OUR VISION**

Canadians acting together on climate solutions to create resilient communities, thriving, inclusive economies, and a better world.

### **OUR MISSION**

We clarify Canada's climate policy choices to create a strong foundation for decision making.

SOUND RESEARCH.
INTEGRATED POLICY.
BETTER DECISIONS.



Environment and Climate Change Canada Environnement et Changement climatique Canada

The Canadian Institute for Climate Choices is made possible through the financial support of Environment and Climate Change Canada.





## ADDRESSING CLIMATE CHANGE FROM EVERY ANGLE

**Peter Nicholson** Chair

Climate change is transforming our world, creating significant challenges but also significant opportunities. And the Canadian Institute for Climate Choices is helping make sense of both.

The Institute was established in 2019 to provide practical and relevant research to inform Canada's climate policies—specifically those focused on reducing greenhouse gases, adapting to the unavoidable effects of climate change, and seizing the economic opportunities that come with these efforts. Since launching publicly just over a year ago, we've made strong progress—while adapting to the many challenges that accompanied the COVID-19 pandemic.

Our skilled and dedicated staff have proven their resilience and capacity to generate authoritative, informative research during an immensely difficult year. Our website provides timely analysis of major issues in Canada and abroad. And we've published ground-breaking reports and conducted extensive engagement that have established the Institute as a credible organization undertaking relevant research that serves the public interest and supports evidence-based decision making by governments across the country.

In part, that's because of our independence, our non-partisan approach and our commitment to evidence. While we firmly uphold the importance of Canada and its global peers taking science-based climate action, we're not guided by any preconceptions: we go where the facts lead us. We also take a uniquely integrative approach, looking at health, justice, well-being and other dimensions that often are not sufficiently considered in climate policy development.

It's also because we recognize that bringing together diverse points of view creates stronger policy. When I look at our advisory council, our board, our expert panels and our staff, I see strong regional representation, gender balance, and expertise in a wide variety of disciplines.

We aim to amplify Indigenous voices in policy discussions, recognizing their distinct perspectives as nations, rightsholders and, often, people living on the front lines of climate change. As we formulate our research and policy recommendations, we explicitly look at the impacts on marginalized communities, recognizing that challenges are toughest for those with the fewest resources.

Through staff training in justice, equity, Indigenous reconciliation and treaty relations, we continue our efforts to understand and better engage with diverse communities. Indigenous reconciliation and relationships received special focus this year, with sessions from Indigenous teachers guiding staff to a greater understanding of treaty relationships and Indigenous ways of knowing, all of which results in a deeper awareness of the many dimensions of the impacts of climate change.

As the Institute enters its third year we are reluctantly saying farewell to our founding president, Kathy Bardswick. She has given unstintingly and with great skill to get our organization up and running. Speaking for the board and the entire Institute I can say that she's done a fantastic job. Under Kathy's creative leadership the Canadian Institute for Climate Choices has already made a real impact and is now ideally positioned for growing impact in the years ahead.



## SHINING A LIGHT ON THE PATH AHEAD

Kathy Bardswick
President

If the Institute's first year was about building our foundation and capacity, this year has been about putting that capacity to work. Our job is tackling tough climate issues and addressing Canadian policy concerns in a way that serves decision makers—and I'm really, really proud of what we were able to do, despite a pandemic that prevented us from holding face-to-face sessions.

In 2020-2021 we put together an impressive portfolio of research and reports. Our first report of the year, *Marking the Way*, examined the elements of strong accountability legislation to help keep Canada on track for its climate goals. And in our report 11 Ways to *Measure Clean Growth* we considered how to judge the success of climate policies.

In Tip of the Iceberg: Navigating the Known and Unknown Costs of Climate Change for Canada, we looked at the costs of climate-related impacts — and those costs are significant. We then proposed three ways governments should make adaptation to climate change a priority

Canada's Net Zero Future: Finding our way in the global transition was our final report of the year and we examined how Canada could get from here to net zero emissions by 2050. It was a landmark report that prompted respectful, inclusive, evidence-based conversations, and that's absolutely crucial. Every part of this country is affected by climate change and has a stake in climate policy decisions. To respond effectively, governments must work collaboratively

across regions and across party lines. And time is of the essence.

The costs of climate change are sobering. At the same time, the opportunities are compelling. Global capital markets are shifting to responsible investing. Other countries are embracing the economic potential of a low-carbon future. Canada has the resources, technology and know-how to be on the forefront of that transition—if we keep our eye on the ball.

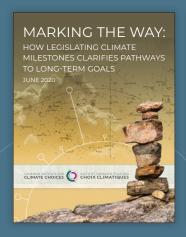
The Institute is helping drive that forward. Our board, advisory council and expert panels are providing the oversight and diverse points of view we need to guide our efforts. Our staff has done sterling work, and we've heard from industry, governments and universities that they value our research and are putting it to work.

When I took this position, my mission was to get the Institute off the ground, establish the building blocks for success and then pass the reins to a longer-term leader. Now, that time has arrived.

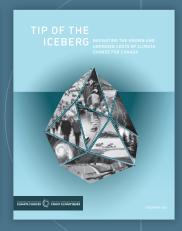
I'll be leaving with a sense of real optimism. I'm encouraged by how quickly the rest of the world is changing. Canada is moving in the right direction, and the recent Supreme Court ruling on carbon pricing creates more policy certainty.

Now the challenge is to stay on course. But thanks in part to the Institute's work, the path ahead is clearer—and understanding what needs to be done is a crucial first step.

# BRINGING CLARITY TO CANADA'S CHOICES









In year one, our *Charting the Course* report helped spark deeper conversations about what climate change means for Canada and the choices ahead.

In 2020-2021, we continued that conversation with four new reports, seven case studies and more than 30 blogs in both official languages that delve into important questions: What does climate success look like? What accountability tools will help keep Canada on track? What unavoidable costs of climate change will the country face and how can we keep them from spiralling higher? And finally, what are the plausible pathways to achieving a net zero future?

We aimed to lay the foundation for effective climate policies through new research and concrete recommendations informed by stakeholders, grounded in evidence, and tailored to the Canadian context. We undertook extensive engagement to make sure our research reflected the diversity of viewpoints within the country—and our communication team ensured the resulting analysis reached a wide range of Canadians.

Ultimately, our goal is to help policy makers and decision makers across the country navigate the uncertainty that climate change creates and to inform the choices that will shape Canada's future.



## LEGISLATING ACCOUNTABILITY TO REACH CLIMATE GOALS

Global experience shows that climate accountability legislation is not a silver bullet, but it can help bridge the gap between long-term emission goals and the nearterm policy actions required to achieve them. Done right, such laws play an important role in keeping governments on track. They break emissions reduction targets into interim milestones, require regular and transparent progress reports and, if necessary, inform plans to bring countries back on course.

Released in June 2020, our Marking the Way report examines the elements of strong climate accountability legislation. Rather than prescribe a specific approach that Canada should take, we weighed the strengths and weaknesses of a variety of options and identified best practices for determining milestones and delivering on them. We also recommended how these practices might be applied in a Canadian context, recognizing that federal, provincial, territorial and Indigenous governments have overlapping jurisdictions and responsibilities.

To ground these recommendations, we analyzed several real-world examples in a **series of case studies** that complemented Marking the Way. We reviewed how the U.K.'s 2008 Climate Change Act made long-term emissions targets legally binding, opening the door to citizen lawsuits if the government misses them. We also highlighted New Zealand, where legislation explicitly recognizes Indigenous Māori rights.

#### MARKING THE WAY





CANADIAN INSTITUTE FOR CHOIX CLIMATIC

To show how accountability legislation can be applied at a sub-national level, we considered Manitoba, the first province to implement climate accountability legislation in Canada. Its Climate and Green Plan Accountability Act sets cumulative emissions reduction goals for fiveyear periods but lacks long-term emissions targets.

We also explored B.C.'s Climate Change Accountability Act, which mandates interim emissions reduction targets, requires regular reporting and establishes an independent expert advisory board. It also sets sectorlevel targets, providing more detail on how and where emissions reductions could occur. However, because sectors themselves are not accountable entities. challenges may arise when it comes to enforcement and accountability.

Ultimately, we found that accountability frameworks incorporating global best practices offer a transparent way to navigate the challenges and opportunities of climate policy within a Canadian context.



Clean growth is a commonly cited objective in climate policy circles. But what does it actually mean, and what does success look like? We set out to provide a definition and clear progress indicators with our September 2020 report 11 Ways to Measure Clean Growth.

Drawing on a broad range of publicly available data, the report presents a vision of how Canada can prosper while addressing climate change, recognizing that cutting greenhouse gas emissions is just one part of ensuring a sustainable future. Our analysis found that Canada's prosperity is tied to progress across a range of climate, economic and social goals and neglecting any one dimension can undermine long-term economic growth and well-being.

Achieving consensus amongst our experts on how to measure clean growth wasn't easy. Ultimately, we landed on 11 data-driven indicators that can serve as dials on a clean growth dashboard, revealing whether Canada is moving in the right direction and at the right pace.

By necessity, these indicators are based on imperfect data. However, with ongoing data investment they can guide efforts by governments, businesses and communities to tackle climate change in a way

#### 11 WAYS TO MEASURE CLEAN GROWTH



that achieves sustainable and inclusive growth. As governments work to kickstart Canada's post-pandemic economic recovery, this research points to policy and investment priorities to create the conditions for prosperity, today and in the future.

To provide a tangible example of what clean growth means in practice and how to measure it, we also produced a case study on Nova Scotia's experience. Since 2005, the province has significantly reduced greenhouse gas emissions while maintaining steady economic growth through a combination of policydriven and market-driven shifts in economic structure. Using the indicators, we highlighted areas where Nova Scotia has made progress and areas where more effort is needed.



## NAVIGATING THE KNOWN AND UNKNOWN COSTS OF CLIMATE CHANGE

Over the past five decades, the costs of weather-related disasters like floods, storms and wildfires in Canada have risen from tens of millions of dollars to billions of dollars annually. However, as we discuss in our December 2020 report, *Tip of the Iceberg*, those climate-related damages are a fraction of what they will be unless governments, businesses and communities proactively invest in adaptation.

It's not just headline-grabbing disasters that will be expensive. Thawing permafrost is undermining buildings and infrastructure in the North. Productivity losses and business disruptions are slowing economic growth. Warmer waters are hurting fisheries, and the list goes on.

Tip of the Iceberg highlights the key impacts of a changing climate in Canada, quantifies the growing costs of weatherrelated disasters, and outlines the benefits of making adaptation and resilience a priority. It provides an overview of what we know about the economic implications of Canada's changing climate—and what we don't. As the first of a series of reports we're producing on the costs of climate change, it sets the stage for deeper dives in the coming years that focus on specific areas of impact such as health, infrastructure and economy-wide impacts.

Currently, the imperative to reduce greenhouse gas emissions tends to dominate climate debates in Canada. However, it's also crucial to ensure human and natural systems are prepared to adapt to the spectrum of effects climate change will bring in the decades ahead.

#### TIP OF THE ICEBERG





The impacts of the 2016 wildfires in Fort McMurray, Alberta offer a prime example. In spring 2020, we produced a case study on increasing wildfire risk, examining which approaches were effective in supporting local action and building community capacity. Foremost amongst these being the reduction of home vulnerability (through programs like FireSmart), strengthening building codes and investing in risk reduction.

More broadly, our research shows that current adaptation policies and investments in Canada fall far short of what is needed to address the known risks of climate change let alone those that are still unclear.

Tip of the Iceberg argues that addressing vulnerabilities and building climate change resilience can't wait until all the costs and issues are fully understood. As a starting point, we recommend Canadian governments:

- Dramatically scale up public investment in adaptation.
- · Work with other governments across the country to improve efficiency and coordination.
- · Systematically enhance disclosure of physical climate risks to mobilize planning and investment decisions.



## FINDING CANADA'S WAY TO NET ZERO

Canada has committed to achieve net zero carbon emissions by 2050. Released in February 2021, *Canada's Net Zero Future* represents the first comprehensive modelling of the ways the country can achieve that goal. We conclude that net zero is achievable, but success hinges on decisively scaling up solutions available today while skillfully navigating the uncertainty that lies ahead.

To produce this report, we analyzed over 60 possible scenarios in which Canada reaches net zero by 2050, looking for which solutions show up repeatedly and which ones come with more uncertainty in the role they might play. We also unpacked the significance of larger drivers—both within and outside Canada's control—and the conditions that are likely to influence success.

To help clarify the many options, we divided solutions into two categories. "Safe bets" are solutions that show up no matter how Canada's transition plays out. They leverage existing technologies that face no major barriers to scaling, such as electric vehicles, energy efficiency and non-emitting electricity. Scaling up safe bets is critical to meeting Canada's climate goals, particularly the 2030 target. "Wild cards," on the other hand, are big-risk technologies with potentially big rewards like direct air carbon capture or hydrogen fuel cells—that could prove critical to unlocking the deeper, cost-effective reductions needed to reach Canada's 2050 goal.

Our analysis makes two things clear:

 Canada must create incentives for the widespread deployment of safe bets. At least two-thirds of the emissions reductions needed to get to Canada's 2030

#### **CANADA'S NET ZERO FUTURE**







target will rely on quickly and decisively scaling up proven technologies, and this can be done by building on existing policies. But that alone won't be enough.

 To reach Canada's longer-term goal, our modelling shows that wild cards will also be critical—but they require supportive policy now to drive their development and advancement, so that they are ready when we need them.

Canada's Net Zero Future does not recommend any specific pathway to net zero. Instead, it lays out the possibilities and their potential to reduce emissions, leaving it to decision-makers to weigh the various options based on considerations such as public benefit, social values and priorities, regional resources and economic development potential, and more. By providing an evidence-based touchstone for constructive dialogue, this report and our extensive engagement efforts surrounding its launch have prompted thoughtful discussion among a broad range of stakeholders involved in shaping Canada's priorities and choices on the path ahead.

### INFORMING OUR RESEARCH AND **COMMUNICATING THE RESULTS**

For our research and analysis to be relevant, practical and constructive, it must address the needs and realities of policy makers and decision makers across Canada. That's why we undertake extensive engagement with stakeholders and rightsholders across the country who hold diverging viewpoints on Canada's climate policy choices.

In the fall, we participated in the Strategic Dialogues on Climate Change Policy Research in Canada organized by Ouranos and the Institut de l'Énergie Trottier on our behalf. This series of virtual events brought together climate policy experts and other stakeholders in that field to discuss the most significant and pressing research gaps and priorities.

At different points in the research cycle for each Institute report, we've sought input from federal, provincial and territorial government representatives, industry groups and professional associations, banks, power companies, Indigenous organizations and youth. Each of our reports also undergo rigorous expert and peer review processes. including review by in-house and external Indigenous reviewers in an effort to ensure the contents reflect Indigenous ways of knowing and support reconciliation.

Because today's youth will live with the consequences of today's climate choices the longest, and many young people are emerging as influential leaders in climate policy discourse, the Institute is committed to considering their concerns and needs. In 2020 we formally launched our youth engagement efforts with a bilingual workshop in October. The event introduced 52 youth from a broad range of backgrounds to our work

and provided an opportunity for us to understand their perspectives. We followed this up with a survey to assess climate interests and priorities among Canadians under 30, to help inform the Institute's research priorities and approach to youth engagement going forward.

But engagement is just one half of the equation. For our research to inform climate choices, it must reach decision makers. Through our website, blogs and newsletters, we make our resources and analysis accessible to Canadians, while our social media channels drive our target audiences to that information.

#### **OUR YEAR: BY THE NUMBERS**

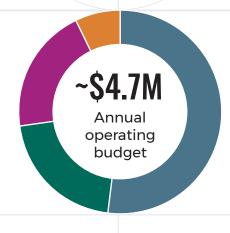


The data shows our publications are being read. Website traffic and report downloads rose substantially over the past year. Meanwhile, engagement with our newsletter content is exceptionally high, with excellent open and click rates compared to industry averages, very few people unsubscribing, and a steady stream of new sign-ups.

Our efforts to support informed, evidence-based coverage of top climate policy issues by Canada's news media are also raising the profile of Institute staff and experts. But perhaps the strongest measure of our success is the steady stream of invitations we receive to present the results of our research. Over the course of 2020-2021, we provided dozens of briefings and webinars for an impressive diversity of stakeholders across the country and across the political spectrum. It's a list that includes political caucuses, federal and provincial officials, industry groups, think tanks, ENGOs, banks and more.

## THE INSTITUTE: BY THE NUMBERS

FINANCIAL SNAPSHOT



52%

Salaries and Benefits 21%

External Research 20%

Communication and Engagement 7%

Operations and Administration

2020/2021 DIVERSITY OVERVIEW

24
Staff + Interns
+ Contractors

63%

women/ non-binary 21%

BIPOC

8%

Indigenous

33%

Youth (under 30)

17%

Francophone

Board +
Expert Panels +
Advisors

45% women/non-binary

19%

BIPOC

6%

Indigenous

3%

Youth (under 30) 16%

Francophone

REGIONAL RESENTATION The Institute aims to reflect the diversity of the Canadian population within its staff, board, expert panels, and advisory council.

2º/o

15%

British Columbia 12%

Prairies

48%

Ontario

17%

Quebec

5%

Atlantic Provinces 3%

International



## 2021-2022: OUTLOOK AND PRIORITIES

In 2020-2021, the Institute published a first round of foundational, integrated research on priority topics related to climate change mitigation, adaptation and clean growth. In the year ahead, we'll build on that foundation with reports and case studies that take a deeper dive into emerging issues in these research areas.

#### **RESEARCH PRIORITIES**

## Mitigation: Reviewing provincial and territorial carbon pricing plans

Our most recent report—Canada's Net Zero Future—identified a wide range of policy tools and approaches to help the country achieve its emissions reduction targets by 2050. Increasing the stringency of carbon pricing was one of them. And in March 2021, the Supreme Court of Canada removed a significant barrier to that policy objective when it upheld the constitutionality of the federal government's carbon pricing regime.

To help inform future refinements to carbon pricing systems in Canada, the Institute is undertaking indepth research on behalf of Environment and Climate Change Canada. Due for publication this spring, this technical report assesses carbon pricing regimes across the country and identifies how policy design choices in various jurisdictions determine how effective a pricing policy is in reducing emissions.

We're also exploring research building on our net zero work that will consider policies to help Canada make progress on the journey to 2050.

## Adaptation: deepening our understanding of climate costs and adaptation benefits

No matter how quickly and effectively Canada reduces greenhouse gas emissions going forward, the impact of past emissions will prove significant. Our *Tip of the Iceberg* report sets the stage for additional reports in a series examining those costs—and the benefits of proactively adapting to them—through specific lenses. These reports include a focus on:

- Health (Spring/Summer 2021) projecting the costs of climate-related illness, death and lost productivity and the benefits of building resiliency to our health systems, especially for those most vulnerable to impacts of a changing climate.
- Infrastructure (Fall 2021) quantifying the potential climate-related impacts on Canada's built environments and exploring how policy-makers can guide capital to more resilient infrastructure; the analysis also includes a closer look at the impacts in Canada's North.
- Macroeconomics (Spring 2022) unpacking how climate change will affect Canada's GDP, employment, economic growth and more, including regional results.

## IN THE COMING YEAR, WE'LL CONTINUE TO REACH OUT TO CANADIANS ENGAGED IN CLIMATE POLICY DISCOURSE TO INFORM OUR RESEARCH AND SHARE THE RESULTS.

### Clean growth: taking advantage of low-carbon opportunities (Fall 2021)

As we discussed in our 2020 clean growth report, the shift to a low-carbon future presents many risks but also many opportunities. As the rest of the world moves ahead with net zero plans, international markets are sending clear signals they're shifting away from carbonintensive companies.

Our next clean growth report will focus on markets and carbon risk—specifically exploring the implications of this global transition for business competitiveness, the economy, and Canadians. We'll look at how businesses and governments can manage risks, leverage opportunities and improve outcomes.

### Cross-cutting case studies: learning from diverse voices

In addition to the reports outlined above, we've developed or commissioned a range of case studies that provide analysis of climate change and clean growth issues from a "bottom-up" perspective. They draw on experiences in specific locations and address specific issues. These case studies complement our broader, national research in our main reports.

We have commissioned six case studies produced by Indigenous researchers and thinkers that explore climate change from their perspectives. These studies integrate elements of mitigation, adaptation and clean growth through real-word experience. The six studies were chosen through a broad call for proposals, which solicited interest from across the country.

We have also co-developed a series of case studies with the Smart Prosperity Institute that highlight the benefits of nature-based solutions. We'll examine how urban forests, green roofs and wetlands have the potential to both absorb greenhouse gases and buffer against the impacts of floods, storms and other climate-driven stresses. A fourth study explores the effects of a changing climate on Indigenous food security and affordability.

Finally, we have commissioned case studies that consider social and distributional issues in climate policy. One considers how flooding risks in Windsor, Ontario, interact with socioeconomic circumstances. Another examines racism and diversity in the context of climate change and climate change policy in Canada's Atlantic region.

#### **ENGAGEMENT FOCUS**

In the coming year, we'll continue to reach out to Canadians engaged in climate policy discourse to inform our research and share the results. We continue working to ensure our research and policy recommendations reflect the diversity of perspectives in Canada (including women, Indigenous peoples, youth and other underrepresented individuals and groups) and breaks down barriers to engagement among those who face systemic discrimination and exclusion. We will also continue engaging extensively with governments of all political stripes, corporate leaders and civil society organizations instrumental to accelerating Canada's transition to a low-carbon, resilient and prosperous future.

## **GOVERNANCE**

#### **BOARD OF DIRECTORS**

The Climate Institute's Board of Directors provides overall strategic direction and ensures the Institute's operational excellence, transparency and financial accountability.

#### Peter Nicholson (Chair)

Retired inaugural president of the Council of Canadian Academies Annapolis Royal, NS

#### Elizabeth Beale

Retired President and CEO, Atlantic Provinces Economic Council Halifax, NS

#### Mel Cappe

Professor, Munk School of Global Affairs and Public Policy, University of Toronto Toronto, ON

#### **Dave Collyer**

Corporate Director and Energy Consultant Calgary, AB

#### **Charmaine Dean**

Vice President, Research and International, University of Waterloo Waterloo, ON

#### **Bruce Lourie**

President, Ivey Foundation Toronto, ON

#### **Normand Mousseau**

Professor of physics, Université de Montréal et Directeur académique de l'Institut de l'énergie Trottier Montréal, QC

#### Sandra Odendahl

Vice President, Social Impact and Sustainability, Scotiabank Toronto, ON

#### **Chris Ragan**

Directeur de la Max Bell School of Public Policy de l'Université McGill Montreal, QC

#### **Sybil Seitzinger**

Executive Director, Pacific Institute for Climate Solutions Victoria, BC

#### **Dominique Souris**

Co-Founder and Executive Director, Youth Climate Lab Ottawa, ON

#### **Tosh Southwick**

Associate Vice President of Indigenous Engagement and Reconciliation, Yukon College Whitehorse, Yukon

#### **EXPERT PANELS**

Our work is grounded in the best available research and evidence, and informed by a prominent group of experts from across Canada. Three Expert Panels (Adaptation, Mitigation and Clean Growth) provide guidance on research scope and methods, technical review for major publications and policy recommendations, and advice to support the Institute's engagement and communications initiatives.

#### **Adaptation Panel**

#### Blair Feltmate (Chair)

Head, Intact Centre on Climate Adaptation, University of Waterloo Waterloo, ON

#### Jean Andrey

Dean, Faculty of Environment, University of Waterloo Waterloo, ON

#### **Alain Bourque**

Directeur général Ouranos -Consortium sur les changements climatiques Montréal, OC

#### **Christina Chan**

Co-Director, Global Adaptation Commission and Director, Climate Resilience Practice, WRI Washington, DC

#### **Bernadette Conant**

Chief Executive Officer, Canadian Water Network Waterloo. ON

#### **Ashlee Cunsolo**

Director, Labrador Institute of Memorial University Happy Valley-Goose Bay, NL

#### **Bev Dahlby**

Research Director, Tax and Economic Growth, School of Public Policy, University of Calgary Calgary, AB

#### Jimena Eyzaguirre

International Team Director and Senior Climate Change Adaptation Specialist, ESSA Technologies Ltd. Ottawa, ON

#### **Deborah Harford**

Executive Director, Adaptation to Climate Change Team (ACT), Simon Fraser University Climate Solutions Fellow, SFU Centre for DialogueAdjunct Professor, School of Resource and Environmental Management, SFU Vancouver, BC

#### **Glen Hodgson**

Economist, Financial Consultant, Senior Fellow, C.D. Howe Institute Ottawa. ON

#### **Brian Horton**

Manager, Northern Climate ExChange, Yukon College, Yukon Research Centre Whitehorse YT

#### Ian Mauro

Principal, Richardson College for the Environment Executive Director, Prairie Climate Centre, University of Winnipeg Winnipeg, MB

#### Deborah McGregor

Canada Research Chair, Indigenous Environmental Justice, York University Toronto, ON

#### **Daniel Scott**

Executive Director, Interdisciplinary Centre on Climate Change (IC3), University of Waterloo Waterloo, ON

#### Roger Street

Research Associate, Environmental Change Institute, University of Oxford Oxford, UK

#### **Enooyaq Sudlovenick**

Marine Mammal Scientist and PhD Student University of Manitoba Winnipeg, MB

#### **Mitigation Panel**

#### Nancy Olewiler (Chair)

Professor, School of Public Policy, Simon Fraser University Vancouver, BC

#### **Louis Beaumier**

Directeur exécutif, Institut de l'énergie Trottier Montréal, QC

#### Kathryn Harrison

Professor of Political Science, University of British Columbia Vancouver, BC

#### Mark Jaccard

Director and Distinguished Professor, School of Resource and Environmental Management, Simon Fraser University Vancouver, BC

#### **David Layzell**

Director, Canadian Energy Systems Analysis Research (CESAR), University of Calgary Calgary, AB

#### **Justin Leroux**

Associate Professor of Economics, HEC Montreal Montreal, QC

#### **Catherine Potvin**

Canada Research Chair, Climate Change Mitigation and Tropical Forests, McGill University Montréal, QC

#### **Nicholas Rivers**

Canada Research Chair, Climate and Energy Policy, University of Ottawa Ottawa, ON

#### Jennifer Winter

Assistant Professor, Department of Economics and Scientific Director, Energy and Environmental Policy Research Division, School of Public Policy, University of Calgary Calgary, AB

#### Clean Growth Panel

#### Stewart Elgie (Chair)

Executive Chair, Smart Prosperity Institute Professor, Law & Economics, University of Ottawa Ottawa, ON

#### **Catherine Beaudry**

Canada Research Chair, Creation, Development and Commercialization of Innovation, Polytechnique Montréal, QC

#### **Don Drummond**

Stauffer-Dunning Fellow, Queen's University Ottawa, ON

#### Carolyn Fischer

Canada 150 Research Chair, Climate Economics, Innovation and Policy, University of Ottawa Ottawa, ON

#### Sara Hastings-Simon

Research Fellow, University of Calgary Calgary, AB

#### Jane Kearns

Vice President, Growth Services and Senior Advisor, Cleantech, MaRS Discovery District Toronto, ON

#### **James Meadowcroft**

Professor, School of Public Policy and Administration, Carleton University Cantley, QC

#### Mike P. Moffatt

Senior Director, Policy and Innovation, Smart Prosperity Institute London, ON

#### **Helen Mountford**

Vice President for Climate and Economics, World Resources Institute Washington, DC

#### Peter W.B. Phillips

Founding Director of the Johnson-Shoyama Centre for the Study of Science and Innovation Policy, University of Saskatchewan Saskatoon, SK

#### **ADVISORY COUNCIL**

Our advisors are leaders in government, industry and civil society across Canada, and their perspectives help ensure the Institute's work is relevant, timely and practical.

<b>Catherine Abreu</b>	<b>Monique Leroux</b>	<b>Jean Simard</b>
Ottawa, ON	Montréal, QC	Montréal, QC
Geoff Cape	<b>Shianne McKay</b>	<b>Scott Skinner</b>
Toronto, ON	Brandon, MB	Dartmouth, NS
Corey Diamond	<b>Suzann Méthot</b>	<b>Sasha Sud</b>
Toronto, ON	Montréal, QC	Toronto, ON
Robert Larocque	<b>Miles Richardson</b>	<b>Katie Sullivan</b>
Ottawa, ON	Vancouver, BC	Toronto, ON
Steve Lee	<b>David Runnalls</b>	<b>John Zhou</b>
Toronto, ON	Ottawa, ON	Edmonton, AB