CLIMATE FORWARD:
A Next Step Policy Agenda for Canada

III REPORT ON THE NRTEE'S 20TH ANNIVERSARY FORUM

Securing Canada's Future
in a Climate-Changing World

1988 - 2008

Canada

National Round Table on the Environment and the Economy | Table ronde nationale sur l'environnement et l'économie

1988 - 2008

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INTRODUCTION

"Climate change is occurring. It most probably is intensifying. Human activity, mostly industrial human activity, as well as the way we consume energy, and our voracity for energy has something to do with climate change."

Pierre-Marc Johnson,
Forum Chair

On October 30th, 2008, the National Round Table on the Environment and the Economy (NRTEE) commemorated its twentieth anniversary by holding a forum to discuss our country's next climate-policy agenda. The forum, *Securing Canada's Future in a Climate Changing World,* gave one hundred leading Canadians a rare chance to discuss how climate change would affect Canada's environmental and economic future.

The NRTEE 20th Anniversary Forum was held just two weeks after Canadians re-elected Prime Minister Stephen Harper and five days prior to the American election that would elect Barack Obama as President. Anticipating a renewed interest and commitment to climate change action in Canada and abroad, the Forum sought to consider what priorities and steps are needed to secure our future in three key areas—ecosystems, the energy economy, and the Arctic—in the face of growing, expected climate change.

The actual round table built for the world leaders' 2002 G-8 Summit in Kananaskis set the stage for a unique moderated format to encourage not just dialogue and debate, but priority-setting and consensus. A formal audience participation process ensured that all perspectives were heard. Nine original commentary papers by invited participants seeded discussions. A forum guide providing background information on each round table theme and setting out the discussion questions was circulated in advance. Video and photos from the event, together with the Forum Guide, Commentaries and the audience survey results can all be found on the NRTEE website at: http://www.nrtee-trnee.ca/eng/news-media/events/other/20th-anniversary/20th-anniversary.php.

This report sets out what we heard at the Forum and offers observations from the NRTEE for Canada's next climate policy agenda—what we term "Climate Forward"—and the research priorities the NRTEE will be undertaking in this field. It does so at a time when, more than ever, Canada's economic and environmental future is entwined.

INTRODUCTION

"When we look at our task this morning we see it as a very daunting one with the credit meltdown and with the entrenched institutional inertia that we see quite frequently on the environmental and the sustainability front."

Bob Page, NRTEE Chair

PURPOSE

The NRTEE's mandate is "to play the role of catalyst in identifying, explaining, and promoting, in all sectors of Canadian society and in all regions of Canada, principles and practices of sustainable development".[1] Nothing is more important than the environmental and economic implications of climate change. It is this century's most significant and far-reaching sustainable development challenge. Canada's environmental and economic security depends on how we respond nationally and internationally to the planet's changing climate.

Securing our future in a climate changing world starts with being proactive and forward thinking here in Canada. It means adopting effective long-term climate policies and actions that make a real difference. It means making difficult choices between rival solutions and competing interests. And it means being mindful of what Canadian interests are at stake and how these should and can be accommodated.

Three core questions guided the Forum's deliberations:

Q1. *Do we have a good understanding of the key issues we must consider in order to secure Canada's future in a climate-changing world?*

Q2. *What are the key elements of a forward climate policy for Canada that must be included in order to successfully address these issues?*

Q3. *What are the most effective policy processes and governance structures we need to put in place to allow for the integration of environmental and economic interest in developing and implementing this forward climate policy?*

[1] National Round Table on the Environment and the Economy Act (1993). Accessed at http://laws.justice.gc.ca/en/ShowFullDoc/cs/n-16.4///en on February 3, 2009.

INTRODUCTION

"What is or isn't done in the next few years will reverberate throughout the entire adult lives of our children and grandchildren."

David Suzuki, Keynote Speaker

PARTICIPANTS

The NRTEE forum spanned the three round table sessions involving more than forty participants led by three moderators and the Forum Chair, Pierre Marc Johnson. Over one hundred people joined in the Forum during the day. Participants represented the full array of interests, perspectives, and leadership involved in climate change or environmental/economic issues, and public policy. They came from industry, the environmental community, government, academia, the media, and public policy think tanks. They came from every Canadian province and territory, as well as the US, the UK, Germany and Mexico. They were activists and advocates; experts and columnists; public servants and politicians; ambassadors and academics; CEOs and environmentalists. They shared an abiding interest in the issue of climate change and what it means for Canada's economic and environmental security. A full list of round table participants can be found in the Appendix.

FORMAT

A round table discussion format was chosen to foster dialogue and discussion, consensus and priority-setting. To stimulate the conversation and obtain a more in-depth initial perspective, three commentary pieces were commissioned for each of the forum's central themes. These were published in advance as "Commentaries" and made available to all via the NRTEE's website.

The goal of the forum was to identify priorities for Canadian policy makers. Moderators thus posed the following four questions:

Q1. *What are the most important elements related to the theme to be considered in Canada's future policy agenda?*

Q2. *What barriers and challenges prevent these issues from being addressed?*

Q3. *What are some possible solutions for addressing the barriers and challenges identified?*

Q4. *What do you feel is the #1 priority that Canadian policy makers must address with future climate policy pertaining to the theme?*

INTRODUCTION

"I think the way that we've constructed, and the way that you can see the room, it speaks to the way that the Round Table works. To provide a safe haven, a neutral, impartial space to advance sustainable development solutions. In short, we bring together people in order to bring forward ideas."

David McLaughlin,
President and CEO, NRTEE

The commentary authors initiated discussion of the first question in each session by building on the points raised in their writing. The first three questions were discussed on a voluntary basis, followed by an audience Q&A session. The fourth was posed to each participant individually in order to capture the diversity of perspectives at the table.

After each session, audience members and participants completed a short independently-administered survey seeking their views on the theme in question. Results were reported in real-time to all participants. This interactive format allowed for the sharing of expertise, ideas, reactions and solutions so that a deeper dialogue, and a deeper consensus, could be built.

Presented here is the fruit of that innovative discussion: *Climate Forward: A Next Step Policy Agenda for Canada*.

II A FORWARD CLIMATE POLICY AGENDA FOR CANADA

The Forum goals were to inform the development of a forward climate policy agenda for Canada and the next research agenda for the NRTEE in this area. We heard enough to do both. There were remarkable areas of consensus and accord. And, expectedly, there were some points of departure. But this diverse and informed group of leading Canadians was unanimous in expressing the importance of climate change to Canada's future.

This section first identifies "what we heard" followed by "what we recommend". By noting "what we will do" the Round Table acknowledges its role and the part it has to play.

WHAT WE HEARD

These are the main messages we heard:

Climate change is real. Our country needs to get more serious and engaged in accepting this reality and prepare ourselves to deal with it.

There is an urgent need to act decisively. Difficult, but necessary, decisions have been put off for too long.

Strong government leadership and policy decisiveness on climate change has been lacking. This has been a prominent barrier to actions that are needed, leaving people uncertain as to ultimate direction and goals and preventing the development of a public policy consensus on how to move forward.

Canada is lacking a unified vision for climate policy. From a national sustainable energy strategy that integrates energy resource and climate issues to water management and natural resource sector sustainability, there is a need for greater cohesion and integration in policy approaches across governments and sectors.

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A market-wide price signal on carbon is an integral part of any long-term climate change solution. A carbon price signal is an essential step in fostering the development and deployment of low-carbon technology and changing business and consumer behaviour. Such a step will affect parts of our economy, consumers and regions, but should be implemented.

Mitigation and adaptation go together. Measures to reduce future carbon emissions are clearly required but adaptation measures are equally necessary to deal with the effects of climate change already apparent or expected due to emissions now in the atmosphere.

The public needs to be mobilized on climate change issues. Encouraging governments to act will be easier if the public better understands the need for climate action, what effects it is having and will have, and how they are implicated in the solutions.

We need to change how we talk about climate change. There is a need for new terminology that creates a stronger sense of urgency and focus amongst Canadians for addressing climate change.

Climate change is both an environmental and an economic issue. We need to consider equally the environmental and economic implications together of addressing climate change, particularly with our major trading partners such as the U.S.

Canada's current governance structures are inadequate to the task of developing and implementing long-term climate policy. Our governments don't coordinate or collaborate enough across jurisdictions and sectors. We need a more cohesive response and leadership role by all levels of government.

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Key messages that emerged from each of the round table themes include:

ECOSYSTEM SECURITY

- Canada needs a national vision for managing its ecosystems to ensure different levels of government are working in concert. Ecosystems have no regard for jurisdictional boundaries. Environmental stewardship is a joint responsibility.

- Water sustainability—not just for ecosystem security but also for energy and natural resource sectors—is a priority concern. It touches virtually all ecosystems, is being degraded by unsustainable practices, and is expected to be further pressured by climate change.

- An integrated framework applied to ecosystems-based regulation for sustainable development will ensure consideration of both the environment and the economy in policy solutions from the outset.

ENERGY ECONOMY SECURITY

- Given the integrated nature of climate policy across our energy economy, we need a sustainable energy strategy that integrates environmental, economic and natural resource concerns.

- Technology, innovation, and R&D are essential to addressing climate change.

- The issue of energy use by Canadians, including conservation and investment in renewable energy, goes hand-in-hand with the issue of pricing carbon.

ARCTIC SECURITY

- The Canadian Arctic is at risk. Irreversible climate changes are already apparent in this fragile ecosystem. But we have only partial knowledge of what climate change is doing to the North and what this means for policy responses to issues of melting sea ice, sovereignty, resource development, and Northern peoples and communities.

- Arctic melting has clear international implications. A combination of unresolved sovereignty issues and the promise of newly accessible natural resources will most likely lead to territorial disputes.

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- Canada's Arctic peoples and communities are exposed and at risk to climate change and need to be directly implicated in assessing risks, developing and implementing solutions.

WHAT WE RECOMMEND

A forward climate policy agenda for Canada must begin with integration. Climate change is pervasive and complex. Dealing with it will touch people, places and industries across Canada. Its far-reaching impacts could have profound effects on how we live and work, some of which we have not yet contemplated. There is a clear need for an integrated approach—across governments, across regions, and across sectors—to place us on a more secure footing in developing and implementing effective climate policy that will work. Climate policy issues are just as much economic issues as they are environmental ones, as much scientific issues as industrial issues, as much energy as atmosphere issues.

A new, nationally-integrated framework for addressing and communicating issues related to climate change and the impacts it has on our ecosystems, energy economy, and Arctic environment is necessary in order to more deliberately consider and address Canadian interests. We can look now to our Arctic environment for adaptation indicators; we can look to the west for examples of impacts on our natural resources and economic competitiveness; and, we can look across the country for effective mitigation strategies and potential new industrial strengths. These need to be brought together and considered in a more integrated fashion.

Similarly, Canadian climate policy cannot be made in isolation from the rest of the world. This integrated framework must consider decisions made by our neighbours to the south and by our counterparts overseas. Climate change will affect resource availability more severely in some areas, indirectly affecting Canadian trade relationships and foreign direct investment. As global governments transition more rapidly to low-carbon economies, there will be implications for Canadian products and services. If Canada is to prosper in the emerging low-carbon global economy, if it is to take its place as a competitive economy and a leader in research and innovation, such global trends must be taken seriously.

For this new nationally integrated framework to work, we must first understand the potential impacts of climate change on Canada, and must do so on a range of fronts. This includes economic costs and opportunities, adaptation and mitigation necessities, and social

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and community impacts in different regions of the country. It will also require a strong, shared national vision and a commitment to proactively address climate issues led by governments and sustained by the public. Once this commitment is made, new governance models and engagement processes put in place can help move the country towards greater national certainty for addressing climate change issues.

The National Round Table on the Environment and the Economy recommends the following "next steps" for creating Canada's forward climate agenda. We call it ***Climate Forward***. It is based on the core components of a truly integrated national decision-making framework: *policy, governance, and people*.

NEXT STEP 1—POLICY

Changing our long-term GHG emission profile demands serious and sustained climate mitigation actions. But addressing the climate change damage already done or that cannot be averted, requires an equally focused effort on adaptation. An integrated climate policy framework for Canada, if it is to be effective and sustained, needs to do both.

There are three "E's" to climate policy—environment, economy, and energy—and an integrated policy framework needs to address all three. Energy-related emissions account for over 80% of all Canadian carbon emissions. Mitigation efforts to reduce emissions require us to change the way we produce and consume energy, and to deploy new low-carbon technologies to produce the power the economy needs to work and grow. Energy-generated wealth is also a significant contributor to Canadian economic growth, jobs, and our standard of living. It is important to consider the effect of climate policies, both domestic and international, on our energy economy. It is equally important to consider the regional nature of that economy across Canada.

The core solutions for an effective, long-term climate mitigation policy for Canada are pricing carbon and creating an integrated, sustainable national energy strategy. An integrated climate policy framework for Canada will link energy development with economic growth and will set out a realistic and sustainable emission reduction plan for the country as a whole. These go together: a smart carbon pricing policy framework, one designed to meet ambitious GHG reduction targets, will foster the new low-carbon energy development and deployment necessary to get emissions down. It will change investment behaviour and consumer actions by changing how we value carbon. Rethinking

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energy systems, in turn, can open new possibilities for how industry, households, and communities use and re-use energy. It can give a more prolific place to renewable energy in our national energy portfolio.

At the same time, we need to consider more directly the environmental and economic implications of adapting to climate change manifestations already appearing due to atmospheric concentrations of CO_2 now present. From our ecosystems to infrastructure, adaptation policies and actions will increasingly be required to protect people, species, and communities and help us all adapt and become more resilient.

Canada should adopt an integrated, long-term climate policy framework based on the following two core policy elements:

a) an integrated national sustainable energy strategy that effectively and realistically ties carbon pricing into our GHG emission reduction targets, fosters R&D, innovation, and new technology development and deployment, and implicates Canadians as energy consumers to reduce emissions and help arrest climate change.

b) a sustained climate change adaptation strategy, linked with provinces and territories, to successfully prepare Canadians where they live, and businesses where they are located, to adapt to irreversible climate change. Beginning with the North will be an important, visible step, demonstrating clear recognition of the current and expected climate change impacts that region particularly faces.

NEXT STEP 2—GOVERNANCE

Canada's governments must work together to address climate change. To date, too little attention has been paid to climate governance—within governments and across jurisdictions—sidelining effective policy development and coordinated policy implementation. If Canada is to secure its future in this highly contentious public-policy domain, it is vital that we have effective policy-development mechanisms within government, mechanisms which integrate energy, economy, and environment issues with scientific research, and federal/provincial/territorial/municipal mechanisms that will foster greater collaboration across jurisdictions. Jurisdictions with comprehensive forward climate policy agendas have typically utilized integrating policy development mechanisms, usually at the highest levels, to develop such policy options.

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The regional nature of GHG emissions and the competitiveness issues emerging from long-term national and international climate mitigation and carbon pricing policies underscore the difficult decisions ahead for a country like Canada. Shared jurisdictional obligations for environmental issues is a major challenge and a complicating factor that we must address. Collaborative intergovernmental governance mechanisms will not just help develop more effective policy for all Canadians, but alleviate some of the tension in the federation going forward, likely to be generated by this complex and entangling issue.

Industry, particularly, wants certainty from policy makers. Such policy certainty is needed to generate the investment which industry requires in order to develop low-carbon technology. The future, however, is uncertain: we do not know how climate science will evolve; we do not know what decisions our trading partners will make; we do not know what new technology will make possible. Well-designed governance mechanisms can help governments, industry, and others address future uncertainties under clear rules with built-in adaptive responses. This will ensure that Canadian climate policy remains relevant, focused, and effective.

Governments also need to emphasize the monitoring and evaluation of climate policy instruments in order to more effectively identify examples of success and areas requiring improvement. Flexibility is key for effective adaptive policy management strategies. Our understanding of climate change impacts in Canada is constantly evolving, and our policy choices and governance models to address it should evolve accordingly.

Canada needs new governance mechanisms and processes that better integrate climate policy development and coordination across jurisdictions, in order to foster a more collaborative and certain Canadian approach to implementing climate policy. Canada needs better information that can be more effectively shared so that we can improve outcomes, progress, and effectiveness. For governments, this is a question of leadership; for industry, it is a question of investment; for citizens, it is a question of the way in which we live and work. All would benefit from coordinated policy development.

II

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NEXT STEP 3—PEOPLE

Canadians need to be more acutely aware of the stakes of climate change, and more directly engaged in determining climate change solutions. The nature of the issue itself—long-term and distant—and the language that often surrounds it—fearful and alarmist—have together made it difficult for policy makers to construct and sustain a durable political consensus for transformation. If this does not change, change will not come.

A sustained effort to mitigate climate change will require an equally sustained effort to mobilize Canadians. We need to raise our collective awareness on this issue. First, we must be aware of our shared responsibility to contribute to climate solutions. Second, we must be aware of the implications of not acting, and of what inaction will mean to Canada's long-term environmental degradation and economic competitiveness. And third, we must be aware of the steps needed to reduce carbon emissions now, what it will mean for the economy, and how we can all contribute.

There is a social dimension to climate change that is only now being grasped. This includes, as one increasingly visible example, the cultural implications of climate change for Canada's northern communities. We should understand that climate change has a real, social cost; we should understand how it damages communities and threatens entire ways of life.

Governments across Canada should undertake comprehensive social marketing campaigns aimed directly at educating Canadians on the need for climate change action. To be effective, these campaigns should embrace new methods of engagement for the inclusion of diverse interests and perspectives. Language should be a central concern for any communications initiative given the complexity of the issues at hand and the varying degrees of concern and knowledge on the issues by Canadians. If we are to mobilize public support for action on climate change, we must choose our words carefully.

WHAT WE WILL DO

As part of its convening role, the NRTEE was able to capitalize on the Forum to identify its priority research areas going forward. The Forum enabled the NRTEE to gain insight from this unique group of informed Canadians to help make decisions on our own "Climate Forward" agenda in each of the three areas of policy, governance, and people.

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Key areas emerging as future research priorities were:

- **Climate change**—its economic impacts and the pricing mechanisms for mitigating it
- **Ecosystem services**—the valuation of these services and the pricing of externalities that are currently not accounted for
- **Sustainable energy**—the development of a national strategy and the policy instruments for achieving it
- **Arctic development and adaptation**—the sustainable development of Northern resources and adaptation policies for local communities

Identification of these priorities reinforced the climate policy programs already underway at the NRTEE—national carbon pricing instrument design and implementation, which incorporates aspects of sustainable energy development, technology development and deployment, and governance; and, Northern infrastructure adaptation as an important step in preparing our North to adapt to current and emerging climate change impacts.

Priorities emerging from the forum also validated two new program areas the NRTEE now confirms it will undertake: Economic Risks and Opportunities of Climate Change and Water and Canada's Natural Resource Sectors. Both of these programs will undertake integrated policy development, examining issues across sectors, jurisdictions, and instruments. They will provide Canadian policy makers and experts with new, comprehensive insight on how climate change needs to be considered and evaluated and will offer effective, long-term policy solutions.

The Economic Risks and Opportunities of Climate Change have not been sufficiently integrated into mainstream thinking about the future of Canada's economy. The physical impacts of climate change, such as sea-level rise and changing weather patterns, have important economic as well as environmental implications, as does the global policy response to climate change with new international agreements and what this means for transitioning economies into a low-carbon future. Both have profound implications for Canada's economy over the coming decades. However, Canadian economic analysis of climate change to date has mostly focused on the economic costs of reducing emissions only; less is known about these other implications of climate change. Governments need to consider the impact of climate change not just on our environment, but also our economy, and what

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policy responses are required to reduce economic risk and maximize economic opportunities in this transition. In this way, we will create a new policy dialogue and public understanding of what climate change ultimately means for Canada and how we can secure our economic future in a climate-changing world.

We will undertake a 2-year program to enhance our understanding of the economic risks and opportunities that climate change brings for Canada as a result of both the physical impacts of climate change on our environment, and a global low-carbon transition. Our program will therefore seek to a) highlight and communicate the economic risks and opportunities from climate change and global efforts to reduce GHG emissions, thus informing the policy dialogue and public understanding of what climate change means for our own economic future; and b) provide policy advice to Canada's governments on how to reduce the economic risks of climate change, and maximise the economic opportunities for workers, industries, and regions. The NRTEE program will be dynamic and interactive, engaging stakeholders and citizens, aimed at producing multiple reports and events building on key developments such as the UN Climate Change Conference in Copenhagen and the G8 meeting that Canada will host in 2010.

Water and Canada's Natural Resource Sectors will identify the critical issues and opportunities associated with the complex links between water, natural resources development and climate change. It will catalyze the design and implementation of new approaches, policies and mechanisms through which water can be managed in a way that ensures both ecosystem health and the economic sustainability of the energy, forestry, agriculture and mining sectors. The program goals are:

1. To profile current and projected water consumption patterns and sustainability issues by Canada's principal natural resource sectors and the role and value of water within these sectors;

2. To examine the impact of climate change on water availability, supply and distribution across Canada and its projected impacts on the sustainability of Canada's principal natural resource sectors;

3. To recommend new and/or adapted policies, innovative mechanisms and approaches so that sustainable water management is ensured. We will make recommendations both to government and to the natural resource sectors themselves.

FORUM SUMMARY

"All levels of government have to work together and we must avoid letting the debate become partisan and divisive."

Gisèle Quenneville, Moderator

Forum Chair, Pierre Marc Johnson set the tone for the day by saying, "The consequences of climate change are now fairly well elaborated in terms of how their repercussions affect ecosystems, livelihoods in certain cases, and how disruptive they can be in various places in the world." He noted that the way we define the problem becomes fundamental. The theme of "security" speaks to this. It relates mostly to the guarantee toward the future as we look at ecosystems, energy, and the Arctic, in a context that not only addresses the issues as they relate to climate change, but also of policy issues and approaches that might link the three themes.

ROUND TABLE 1
SECURING CANADA'S ECOSYSTEMS

Q. *What are the most important public policy issues related to securing Canada's ecosystems in the face of climate change?*

Mel Cappe was the first commentary author to discuss important elements for ecosystem security in Canada's climate policy. He asserted that "climate change is one of those horizontal issues that cuts across the full array of economics, social, cultural, and foreign policy". It is imperative to break down the silos so that government departments work together and can ensure that partisan politics does not hijack the debate. Research and evidence have huge parts to play in informing the way forward for climate change and security.

In response to the first question, participants also noted the importance of public engagement and understanding of climate change issues at a micro level. Several people expressed the view that the use of the term security to frame the need for ecosystem protection was abstract—even arcane. It was felt that this term would not easily be grasped by policy makers or the public, and that it would be a mistake to replace one abstract concept with another since ecosystems are already abstract for some. On the other hand, at least one participant believed that linking security and ecosystems can be effective, especially in an international context.

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"I think the barrier is the kind of language we use and the stories that we tell, and the stories that we let go unchallenged."

David Chernushenko, President, Green & Gold Inc., and Vice-Chair, NRTEE

"If we don't have a collective vision, if we don't integrate the authoritative resources that we have so that we're all working to the same end…we're going to spin our wheels for a long time."

Bill Borland, Chairman, Board of Directors, Canadian Water Network, and past NRTEE Member

Communication strategies are vital for getting policy-making frameworks and decision-making frameworks into Canadian boardrooms and Cabinets. Especially in the current economic and financial meltdown, approaches to environmental conservation need to be carefully considered in order to remain salient. An integrated, bottom-up approach may be effective, and emphasis on economic opportunities resulting from climate change can be used to communicate issues. Bite-sized agendas that are easily comprehensible can also be used to increase understanding.

Avrim Lazar noted that "the single biggest policy imperative is how do we create wealth, how do we create well-being, without creating greenhouse gases." Canadians must stop associating human well-being with the consumption of resources, and consumption should become as circular as possible, rather than disposable. This will be a particular challenge for recessionary times.

The timeliness of solutions is also an important consideration and issue prioritization should be applied in a climate policy framework. A commitment needs to be made to groups and regions at immediate risk from climate change, including those First Nations and Inuit currently living in vulnerable conditions.

Q. *What barriers and challenges prevent these issues from being addressed?*

Roger Gibbins began the discussion on barriers and challenges that affect public policy as it relates to ecosystems. Recalling an earlier remark from Bob Page that we are on a new frontier, he noted that new frontiers are not easily won. The issue of climate change seems not only to have dropped down the political agenda, but to have fallen completely off it. The question at the heart of this thus becomes, "Is there a language that provides better traction for Canadians and for political leaders?"

The need for leadership was also raised and a distinction drawn between leadership and the regional level. Gibbins' view was that national leadership makes sense on the climate mitigation side, while regional and local leadership makes sense for climate adaptation policies.

Further barriers noted included a lack of public understanding and scepticism about the effectiveness of promised policies; the fact that climate change is a global problem and therefore difficult to translate

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"National vision… based on a recognition that we have a collective heritage in Canada to our natural resources and a collective responsibility."

Merrell-Ann Phare, Executive Director/Legal Counsel, Centre for Indigenous Environmental Resources

to a national scale; the inability or unwillingness of policy experts to put messages in politically communicable form; and, lack of vocabulary for effectively communicating the challenge. The notion of constant growth, as reflected in a constantly increasing GDP, as a prerequisite to our vision for a sustainable Canada was challenged. In Canada, the barrier to addressing this idea is the fact that resources are seen as provincial property, and so there is no collective responsibility to decide how these resources will be used from start to finish.

Multi-jurisdictional issues were broadly discussed. Michael Harcourt noted that Canada's biggest barrier "is that we don't have a way of linking the siloed national government, which can provide some direction, with jealous provinces that have jurisdictions over their creatures, called municipalities, in a way that everyone can get the same sustainability strategy that then allows us a 20 or 30 year adaptation/mitigation policy to reduce consumption without losing the quality of life."

In terms of thinking about the issue in an international context, there is a perceived disconnect between the scale of the problem and the necessary scale of the solution. Canadians need to stop thinking about how globalization hurts the economy and start thinking about how globalization helps the green economy.

Q. *What are some possible solutions for addressing the barriers and challenges identified?*

Preston Manning started discussion of solutions by stating that establishing an integrative framework is part of the solution that incorporates ecosystem-based regulations. With regard to the language factor he noted that "the inability or unwillingness of policy experts and policy developers to put their messages in their politically communicable form" is a barrier, and he stressed the importance of developing a trans-partisan or multi-partisan vocabulary.

The model of the NRTEE itself was pointed to as part of the solution, given its ability to host debates that seek a way forward, rather than resulting in divided schools of thought. It was noted, however, that the NRTEE should seek to improve its communication of these debates so they reach more of the public.

Some believed that communicating with the public is not a major problem since the public already gets it. This economic crisis could provide an opportunity to look at these issues through an economic

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"I think we must all recognize that the level of awareness, the level of consciousness of Canadian citizens is quite high in the area of climate change. However, when it comes to knowledge and how to apply it and operationalize this concept of climate change, there is still a lot of work to be done."

Hélène Lauzon, President, Quebec Business Council on the Environment

lens. Solutions must connect scientists and decision makers, and a national vision considering industry competitiveness and incorporating different levels of government (specifically cities) needs to be developed for managing ecosystems. Water was highlighted by a number of people at the table as an important, far-reaching and tangible resource that should be considered a priority for policy makers.

AUDIENCE Q&A SESSION– MAIN POINTS RAISED

A. *The notion of "equity" is absent from the discussion; many people are not as concerned about the size of the economy as they are with their piece of it.*

A. *A sense of urgency is missing.*

A. *Canada needs to make fundamental changes in the way its economy works.*

A. *Change doesn't happen without examples that can be followed, and these are lacking.*

A. *Accelerating capital stock turnover to achieve green industrial processes is a key issue. Another is the anticipated impact of the global trading regime as this file moves forward.*

A. *International cooperation is an essential part of any decision made in Canada since ecosystems do not recognize borders.*

A. *Federal and provincial institutions and policies, and even cities, have not focused on solutions. We need to ask, "What are the institutional solutions that would make this issue bite?"*

A. *Use of the word "security" can be essential for creating urgency at the level of governments.*

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In response to the final question about the #1 priority that Canadian policy makers must address with future climate policy to secure our ecosystems, round table participants made the following points about what that priority was for them.

- Individual actions.
- Follow through 20-30-year urban transition strategies with a sense of urgency (ex. CitiesPLUS).
- Creation of a clear national vision of the future that Canada is trying to create, based on ecosystem limits.
- Get integrated decision-making frameworks into boardrooms and Cabinets.
- Engage more young people.
- Create a global signature piece for a Great Lakes Sustainability agreement that will rebuild the economy, making it cleaner and more equitable.
- Promote a global trade agreement that will protect the environment and prevent anarchy.
- Stop procrastinating and act.
- Use political leadership to make it real.
- Stimulate the economy to accelerate Canada's transition to a low-impact industrial infrastructure. Reach out to Americans on energy and environmental security, and remember that the key to international cooperation is equity.
- Set up five national demonstration projects to show how the green economy can help conserve Canada's threatened ecosystems.
- Develop a national energy strategy.
- Build on areas that have the potential for consensus between parties, such as the need to price carbon, the need to protect large-scale linked landscapes such as the boreal forest, and the need for a national renewable energy strategy.

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ROUND TABLE 2
SECURING CANADA'S ENERGY ECONOMY

"While we face some tremendous challenges, these challenges present us with new opportunities and it's up to us to seize the opportunities, but there's a sense that we must seize them with urgency and action must start immediately."

Bernard Lord, Moderator

"I think the greatest challenge is for us to find a way to define what Canada's role is in the world going forward against the climate policy agenda that we have in place."

Dr. Angus Bruneau, Corporate Director, St. Johns, Newfoundland and Labrador, and NRTEE Member

Q. *What are the most important public policy issues related to securing Canada's energy economy in the face of climate change?*

Steve Williams started the discussion of the most important issues for Canadian policy makers by addressing the place of energy in the country's future climate policy agenda. In agreement with participants from the first session, he noted the absence of a comprehensive national energy vision or strategy. He felt this national energy strategy is urgently needed, and that it "should be clear, it should address the short-, medium-, and the long-term issues, and it must be integrated." It is necessary to translate complex subjects into a message that relates to individual consumption patterns.

A number of participants agreed with this need and added that it should be placed in the context of competitiveness, and that it should be sizable, actionable, and optimistic. Based on the Stern view, three components need to be present: a clear price on carbon in the market, the stimulation of innovation and new technologies, and public engagement and behaviour change. Clear, up-to-date data is needed for communication with the public. A level playing field and clarity are required, and the strategy should include a sound policy framework. An answerable question needs to be posed and a select number of clear priorities need to be identified. When an issue has too broad a focus, nothing happens.

Attention was called to the fact that material by-products from energy processes are cause for concern in the context of climate change. Investment in technologies and the creation of intellectual capital will help create choices in dealing with these by-products. Andrew Coyne emphasized that we need to get the price right. He said "Subsidies socialize the cost, regulatory schemes disguise the cost. They are all ways of avoiding the question of bringing the cost home to people in their everyday decision making."

Regarding the creation of a national energy strategy, Duncan Hawthorne raised the point that "we're not going to regulate our way out of this. We actually have to engage, we have to tell a compelling story. People have to see it as something they play a role in." Other participants noted that Canada needs to redirect its

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"Put the climate change agenda actually within a framework of competitiveness and understand how by building conversation, by leveraging and enabling technology, by pricing carbon, by doing all the actions we spoke about it actually strengthens and builds Canada into a global competitive nature."

Elyse Allan, President and CEO, GE Canada

resources pertaining to financial investments and markets and increase investment in clean technologies. Conservation needs to be a central pillar of public policy, and should go hand in hand with innovation. Efficiency is not the answer since often as efficiency increases, so does overall usage.

Q. *What barriers and challenges prevent these issues from being addressed?*

Peter Robinson was called upon to address the question of barriers and challenges. He noted that "we need a new narrative, we need a new way of going to almost a social marketing approach to letting folks know that there are consequences, it's not just all costs, there are benefits that can be realized." In response to Robinson's comments, it was noted that we need to price carbon as quickly and simply as possible, but that all energy needs to be priced properly.

One highlighted barrier was the fact that Canada does a poor job at turning intellectual property into market-ready profit-making technologies, and that it does not invest enough in R&D. The vested interests of Canadian regions are another barrier to developing a national strategy. As in the ecosystems session, language and lack of public understanding of the issues were noted as barriers.

In the UK, the emergence of a new dialogue between the public and government 'I will if you will' is helping to overcome barriers related to one party waiting for the other to make a move. One participant noted that although he liked the idea, one party still needs to begin the process.

There was consensus that a policy setting the price on carbon is needed, though debate arose over how high this price should be and how it should be applied. It was noted that the market is not prepared, yet shifts in behaviour are unlikely until the price is imposed. The barrier of public hypocrisy was raised as an important obstacle due to the fact that the public wants something done but is unwilling to pay for it. This hypocrisy stands in the way of political decision-making.

Q. *What are some possible solutions for addressing the barriers and challenges identified?*

David Keith set the stage for discussion of how to address the identified barriers and challenges. He agreed that the role of government is to set a price on carbon and then get out of the way.

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"Until we actually get some real certainty and clarity of what that [carbon] price is going to be in the long term I don't think we are going to see shifts in behaviour at both the consumer and at the industrial level."

Dr. Marlo Raynolds, Executive Director, Pembina Institute

"Canada does not feature in the markets around clean technology and investments in the way that we need to."

Vicky Sharpe, President and CEO, Sustainable Development Technology Canada

"Canada needs better ways to get high quality scientific and technical advice to policy makers." He agreed with a comment made in the first panel: that although the NRTEE has been instrumental in convening groups to bring pertinent information forward, it has not been effective in reaching decision makers in a systematic way.

One must distinguish between government policy and programs. Rather than a host of programs, Canada needs focused policies. Although there was criticism of the Canadian government for a lack of political leadership, some participants responded by noting that people like the ones present at the Forum need to start taking ownership of issues. Government needs to begin to talk about shock and shame in relation to energy and climate change in order to create urgency and recognition of the crisis. At the same time, a dialogue of opportunity needs to be built, a dialogue that includes sources of employment and capital. However, business leaders do not need to wait for policy to take advantage of these opportunities.

AUDIENCE Q&A SESSION– MAIN POINTS RAISED

A. *There is a mismatch in Canada between what is ecologically and economically possible; we need more discussion on how to make the necessary steps politically possible.*

A. *The first imperative is to get the price of carbon right, but regulation does have a role to play.*

A. *We need to ask, how can Canadians ensure that the governance is strong enough and politically supported in order to make the tough decisions needed to move forward?*

A. *There needs to be more discussion on economic opportunities resulting from climate change for the energy industry.*

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A. *The market system must be used to fight climate change, and a price on carbon, innovation, and regulation are all parts of the solution.*

A. *Canada needs to be a leader in innovation and needs to avoid trade-off debates since the problem requires multiple solutions.*

In response to the final question about the #1 priority that Canadian policy makers must address in order to secure our energy economy, round table participants described their priorities as follows:

- Competitiveness—by building conservation, leveraging and enabling technology, and pricing carbon.
- Price carbon and price it now.
- Clarity is required about the scale and speed of transformation, and the opportunities.
- Create a portfolio of policies to help the public adjust to a price on carbon.
- Strip existing subsides and avoid adding new ones.
- Create a national vision including energy, environmental, and economic consequences of actions.
- Move up the value chain in sustainable technology R&D and promote the green economy.
- Focus on communities for energy savings.
- Politicians need true data and they need to show leadership and decisiveness

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ROUND TABLE 3
SECURING CANADA'S ARCTIC ENVIRONMENT

"[We must] make sure that our knowledge capacity is top drawer…[we must] combine science and traditional knowledge of the peoples who've been in the North."

Jodi White, Moderator

"On the Arctic I think our greatest and most pressing concern is our domestic policy in terms of the Arctic and what are the priorities for it, including the local people above all."

Bob Page, TransAlta Professor of Environmental Management and Sustainability, Institute for Sustainable Energy, Environment and Economy's Energy and Environmental Systems Group, University of Calgary, and NRTEE Chair

Q. *What are the most important public policy issues related to securing Canada's Arctic environment in the face of climate change?*

Thomas Homer-Dixon started the discussion by saying that the issue of the consequences of climate change for the Arctic has been misconstrued in public policy debates. He added that "the focus almost exclusively on territorial integrity, on resource extraction in the Arctic basin as a result of loss of sea-ice, on transportation potentially through the North-West and North-East Passage, and on the balance of power between states in the region is misguided and…in some respects…bizarre." The real security concerns and risks for the Arctic come from outside the region. Climate change could turn the Arctic Circle from a highly reflective surface to an absorptive one, thus implicating food production in some of the most populated regions of the world. The current focus on state-centric issues distracts from systemic problems. A significant educational process is required and policy action is imperative.

Others highlighted the need for Inuit participation and a bottom up policy development framework. A robust Arctic science program is also necessary and Canada's biggest challenge is the need to come up with an observational and management program as well as a whole range of tools that are not currently being used, such as polar genomics.

Warming temperatures in the Arctic are an international problem, not a national one. Canada should assume a leadership role on this issue. What is happening in the Arctic is a non-linear event and Canada has an obligation to advocate for decisive policies. One of the biggest challenges will be getting Arctic states to work together. The current regulatory framework is weak and Canada lacks institutions to tackle policy challenges in the North, including shipping, competition for resources, overlapping land and political claims. For example, Canada is the only polar country without a polar university. This issue goes far beyond climate change—although climate change is focusing attention on it—and geopolitical conditions are transforming the very nature of the Arctic. Canada needs both multilateral and unilateral capabilities.

III FORUM SUMMARY

"A big challenge for policy makers—and it's the same challenge for us in the North—is that Canada doesn't expand their vision… beyond the southern mindset of Canada and that's as big an issue for us in trying to convince the rest of Canada that climate change is a serious issue for us as much as it is for the policy makers."

Violet Ford, Executive Council Member and Vice President on International Affairs, Canadian Circumpolar Institute

Q. *What barriers and challenges prevent these issues from being addressed?*

David Runnalls commented that the first challenge that may prevent these issues from being addressed is our "inability to grasp the science, grasp the enormity of the problem. And therefore the inability of most of us to recognize that this is a global problem, it's not just a Northern problem." Canada is weak in science, weak in its university capacity, weak in its capacity to make and enforce environmental regulations, and weak in its military power in the region, all of which present serious barriers to addressing what needs to be done.

Another large barrier noted is that Canada does not expand its vision beyond the southern mindset. Inuit people have therefore had a limited say in policy development. Media focus suggests a race for the Arctic, and this distracts policy makers from the critical issue these problems will not be solved in the Arctic because they are not created there. UK High Commissioner, Anthony Cary, noted that the "the biggest barrier to policy making in this country has been the extent to which the debate has been polarized on these issues." He added that the government has seen its job as finding a balance between economic prosperity and environmental responsibility, which is the wrong way to frame this issue. It is not about finding that mythical balance, but finding a whole different model that includes business opportunities.

Other noted challenges included the need for the translation of knowledge into programs and policies that turn science into solutions. Solutions require long-term, sustainable funding, which has not been allocated in the past. North-South connections continue to be a barrier. In terms of military security, Canada lacks the capacity to respond to emergencies within its own territory, both from the air and the sea. Being a responsible government entails having the necessary capabilities to protect the people and space in the North.

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"The problems of climate change in the Arctic are not going to be solved in the Arctic. The problem doesn't arise in the Arctic, it arises elsewhere, and it will have to be solved elsewhere and not in the Arctic."

Terry Breese, Deputy Chief of Mission, American Embassy in Ottawa

"If we don't have Canada at the table, actively involved and in a leadership position on a research and science perspective that in fact the world's understanding of climate change will be hindered."

Elizabeth Dowdeswell

Q. *What are some possible solutions for addressing the barriers and challenges identified?*

Ian Church listed five priority areas for solutions to address climate change in the Arctic: protecting the ecosystems, the landscape and the people; recognizing that the environment is going to change very rapidly and that we have to adapt; acknowledging that our knowledge is limited; building a capacity to inform and engage Northerners; and, finally, building effective governance systems. He noted that "We don't understand that we can learn a lot about what's driving our systems by also getting involved, and understanding and appreciating what's going on in the southern hemisphere."

Canada needs a strategic policy focus for the Arctic and the capacity to receive science and technology in the most appropriate way. There used to be a Canadian ambassador for circumpolar events, a role that could be brought back. As a country, we need to start sending the message that our sovereignty is not in doubt. It will be important to ensure that the Obama administration ratifies the UN Law of the Sea Convention. Terry Breese of the US Embassy noted that this ratification is very likely to be part of an updated Arctic Strategy to be released by the US government.

AUDIENCE Q&A SESSION– MAIN POINTS RAISED

A. *Canada already faces irreversible impacts caused by climate change so adaptation is no longer a policy option, but a policy imperative. It has to be dealt with from the bottom up.*

A. *We talk about leadership, but we do not know who should lead or how to start; we need to move horizontally. Future policy frameworks need to include a risk management strategy to analyze where we are, so we can recalibrate and move forward.*

In response to the final question about the #1 priority that Canadian policy makers must address with future climate policy in order to

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A. *A major security threat for Canada right now is that we are dealing with a closed and fragile ecosystem for which it has very little influence or control over the major economic activity going on in that ecosystem. We need to ask, how can Canada improve its institutional process mechanisms to have control over that? How can Canada engage the other countries, and not just the Arctic five?*

A. *Cumulative environmental impacts and interrelationships between oil and gas, greenhouse gases, and other issues have to be managed.*

A. *The complexity of issues requires new kinds of global governance structures to manage systemic problems. It is also time to form a regional treaty to deal with tourism, shipping, emergency response and resource development. Economic opportunities for Northerners should be emphasized, and they should be part of the governance model.*

secure our Arctic environment, round table participants described their priorities as follows:

- Canada must get its own house in order before it moves internationally, and develop domestic policies that consider Arctic populations.
- Canada must be responsible, clean up its own act, and carry out constructive diplomacy.
- A sustainable Arctic development strategy needs to be created with the involvement of people in the region.
- Support the Arctic Council to develop an international convention on the environment.
- Begin by pricing carbon.

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- Incorporate science and traditional knowledge in the Arctic strategy so as to promote economic development that serves Northerners without compromising environmental standards.

- Canada needs instruments, thoughts, and policies.

- Increase media exposure of the issues in order to bring them to the Canadian public.

- Strengthen regional approaches to the management of Arctic issues and build on the Ilulissat Declaration by developing common standards for shipping, environmental cooperation and resource management.

- Need to work on various time and spatial scales.

- Need to put indigenous peoples—and not just the environment—on the agenda.

IV AUDIENCE SURVEY

Innovative Research Group Inc. was hired to survey the forum audience about discussion themes. The first question was open-ended where participants had the option of stating what they felt Canada's top priority should be in ensuring the protection of its ecosystems, its energy economy, or its Arctic environment. The results from this question are presented in the graphs in this section. The next three questions were in a multiple-choice format and included the following:

Q1. *What is the most important barrier preventing policy makers from addressing this issue? (in reference to the priority chosen in the first question)*

Q2. *What policy type would be best at overcoming this barrier?*

Q3. *When it comes to preserving Canada's ecosystems/energy economy/Arctic environment, what area of research do you think the NRTEE should prioritize?*

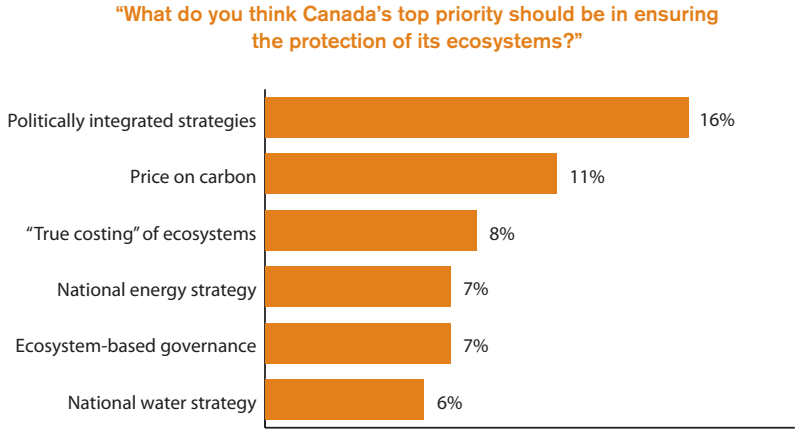
Following each round table discussion, audience members and participants answered the questions by completing a one page "scannable" ballot. 103 participants completed the first round. 115 completed the second. 83 completed the third.

ROUND TABLE 1: ECOSYSTEMS

The following results are in response to the open-ended question, "What do you think Canada's top priority should be in ensuring the protection of its ecosystems?" Although the totals do not add up to 100%, they reflect the most popular responses.

In terms of the most important barrier preventing policy makers from addressing this issue, 62% of respondents felt that lack of government leadership stood in the way. 22% identified multi-jurisdictional authority as a barrier to progress on the issue.

IV AUDIENCE SURVEY

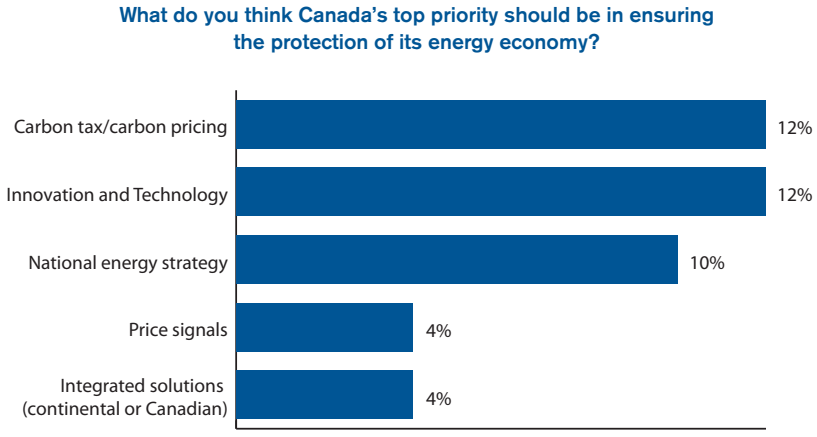


55% felt that market-wide price signals would be best at overcoming the barrier of lack of government leadership.

When asked for the area of research that the NRTEE should prioritize, 36% indicated that work on the economics of climate change would be valuable. 30% felt that valuation and governance of ecosystem services should be a priority, and 22% felt that water policy and climate change deserved attention.

ROUND TABLE 2: ENERGY ECONOMY

The following graph illustrates answers to the open-ended question, "What do you think Canada's top priority should be in ensuring the protection of its energy economy?" The statements listed reflect the most popular responses.



Consistent with findings from the first round table session, 63% of participants felt that lack of government leadership is the most

IV AUDIENCE SURVEY

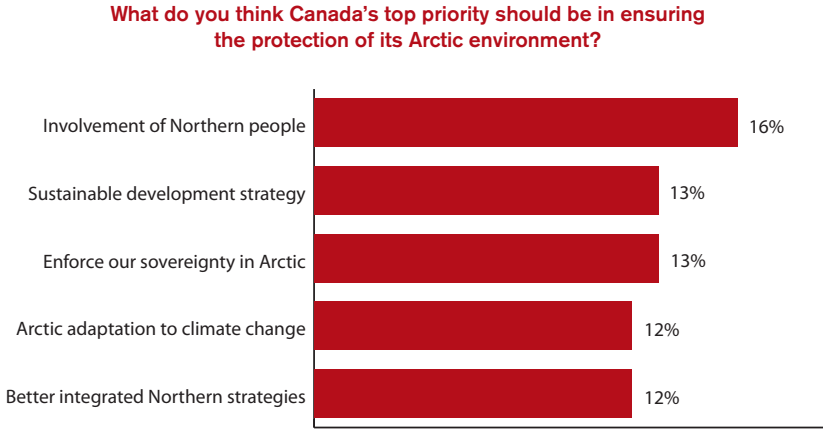
important barrier preventing policy makers from addressing the priority issues related to protecting Canada's energy economy. Again, multi-jurisdictional authority was the second most popular response, chosen by 13%.

The best policy type identified for overcoming this barrier was market-wide price signals, selected by an overwhelming 76%.

56% felt that the NRTEE should prioritize the development of a national sustainable energy strategy in its future work. 16% responded that technology policy options would be an appropriate area of research and 15% chose sector-level policy analysis as an area for NRTEE work.

ROUND TABLE 3: ARCTIC ENVIRONMENT

In response to the open-ended question about what participants thought Canada's top priority should be in ensuring the protection of its Arctic environment, the top five responses included:



Once again, when asked about the most significant barrier preventing policy makers from addressing priority issues, a majority of 63% felt that lack of government leadership stood in the way. Lack of resources garnered 12% of the responses and lack of public buy-in on the issue captured 11%.

The question of which policy type would be best at overcoming barriers was answered with a clear majority in the first two round table sessions. However, the selection of a policy type for protecting Canada's Arctic environment was less obvious, and 46% chose "other" when given the choice of policy options. 27% felt that regulations and

IV AUDIENCE SURVEY

standards would be effective and 20% felt market-wide price signals to be an appropriate choice.

For the final question about priority issues for the NRTEE, 39% felt that the NRTEE should focus on climate change adaptation in the North and 25% felt that sustainable development of the Arctic was most important.

V ENGAGEMENT TO ACTION

Some necessary elements of Canada's forward climate policy are clearly identified. Others require further study. Public understanding of the key issues for Canada's future climate policy agenda varies greatly and there is work to be done to build and share knowledge across the country. There is a need for horizontal collaboration between issues and between levels of government. To achieve any national vision or sustained national effort on climate change, Canada needs effective communication coupled with diverse policy packages.

In short, new and improved engagement processes are needed to build networks between stakeholder groups and to get informed buy-in and participation from people across the country. Traditional consultation methods often do not address issues in the depth that they deserve. As we strive to find new ways of making decisions and to build on our experiences, it is crucial that we be willing to work with—and learn from—one another.

The Forum served its purpose as an innovative engagement tool to bring together a wide range of stakeholders to catalyze issues and present a comprehensive view of where policy makers need to focus efforts for addressing climate change in Canada. We saw it as a first step towards new engagement processes that recognize the complexities of issues, and their widespread implications. The climatic changes looming in our future mean that we can no longer simply take sides on issues. We must move forward together.

New, effective engagement processes that allow for contribution by diverse groups will ultimately lead to a sense of urgency and action on climate change. We need to work together, understand divergent perspectives, and begin to act decisively. The NRTEE will continue to play a key role in bringing stakeholders together, stimulating discussion and providing policy recommendations to governments and citizens, and will do so to protect Canada's place in a climate-changing world.

APPENDIX ROUND TABLE PARTICIPANTS

ROUND TABLE 1: ECOSYSTEMS

Gisèle Quenneville, Moderator

Bill Borland, AMEC, New Brunswick

Mel Cappe, Institute for Research on Public Policy (IRPP), Quebec

David Chernushenko, NRTEE, Ontario

Linda Coady, VANOC, British Columbia

Roger Gibbins, Canada West Foundation, Alberta

Mike Harcourt, Sustainability Solutions, British Columbia

Toby Heaps, Corporate Knights, Ontario

Hélène Lauzon, Quebec Business Council on the Environment, Quebec

Avrim Lazar, Forest Products Association of Canada, Ontario

Preston Manning, Manning Centre for Building Democracy, Alberta

Merrell-Ann Phare, Centre for Indigenous Environmental Resources, Manitoba

Ken Ogilvie, Independent Consultant, Ontario

Rick Smith, Environmental Defence, Ontario

ROUND TABLE 2: ENERGY ECONOMY

Bernard Lord, Moderator

Elyse Allan, GE Canada, Ontario

Angus Bruneau, NRTEE, Newfoundland and Labrador

Mike Cleland, Canadian Gas Association, Ontario

Andrew Coyne, Maclean's, Ontario

Duncan Hawthorne, Bruce Power, Ontario

David Keith, University of Calgary, Alberta

Andrew Lee, Sustainable Development Commission, UK

Sheila Leggett, National Energy Board, Alberta

John Manzoni, Talisman Energy, Alberta

APPENDIX

Jeff Passmore, Iogen Corporation, Ontario

Marlo Raynolds, Pembina Institute, Alberta

Peter Robinson, David Suzuki Foundation, British Columbia

Vicky Sharpe, Sustainable Development Technology Canada, Ontario

Steve Williams, Suncor Energy, Alberta

ROUND TABLE 3: ARCTIC ENVIRONMENT

Jodi White, Moderator

Patrick Borby, Indian and Northern Affairs Canada, Ontario

Terry Breese, US Embassy in Ottawa, Ontario

Sir Anthony Cary, British High Commission in Ottawa, Ontario

Ian Church, Government of Yukon, Yukon

Elizabeth Dowdeswell, University of Toronto, Ontario

Violet Ford, Inuit Circumpolar Council (ICC), Ontario

Fen Hampson, Carleton University, Ontario

Paul Heinbecker, Centre for International Governance Innovation, Ontario

Thomas Homer-Dixon, University of Waterloo, Ontario

Robert Huebert, University of Calgary, Alberta

Bob Page, NRTEE, Alberta

David Runnalls, International Institute for Sustainable Development (IISD), Manitoba

Mercedes Stephenson, The URC Investigates, Ontario

APPENDIX

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Paul Allen, Natural Resources Canada
Heather Arnold, Nature Conservancy of Canada
John Arseneau, Environment Canada
Elizabeth Atkinson, Natural Resources Canada
Maxime Beaupré, Privy Council Office
John Bennett, ClimateforChange.ca
Jean-Thomas Bernard, Université Laval
Steve Bigras, Canadian Polar Commission
Pierre Boucher, Cement Association of Canada
David B. Brooks, Friends of the Earth
Jim Burpee, Ontario Power Generation
Ian Burton, Environment Canada
Stephanie Cairns, Wrangellia Associates
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Cécile Cléroux, Environment Canada
Tom Conway, Resource Futures International
Nancy Coulas, Canadian Manufacturers and Exporters
Neil Cunningham, Manitoba Science
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Cindy Dickson, Council of Yukon First Nations
John Dillon, Canadian Council of Chief Executives
John Drexhage, International Institute for Sustainable Development
Elizabeth Duffy-Maclean, Bullfrog Power
Stewart Elgie, University of Ottawa
Ken Elsey, Canadian Energy Efficiency Alliance
Sara Filbee, Industry Canada
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Pierre Guimond, Canadian Electricity Association
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APPENDIX

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Dean Knudson, Environment Canada

Phil Kurys, Transport Canada

Gordon R. Lambert, Suncor Energy Inc.

Roger Larson, Canadian Fertilizer Institute

David Layzell, Institute for Sustainable Energy, Environment and Economy

Bud Locklear, Embassy of the United States of America

Cyril Loisel, Institut du développement durable et des relations internationales

Tony Macerollo, Canadian Petroleum Products Institute

Hugh MacLeod, Government of Ontario

Jim MacNeill, International Institute for Sustainable Development

Chantal Maheu, Natural Resources Canada

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Michael Martin, Environment Canada

Maria Mavroyannis, Deloitte and Touche

Karel Mayrand, David Suzuki Foundation

Velma McColl, Earnscliffe Strategy Group

Jane McDonald, Sustainable Prosperity

John Moffet, Environment Canada

Mark A. Nantais, Canadian Vehicle Manufacturers' Association

Scot Nickels, Inuit Tapiriit Kanatami

Bob Oliver, Pollution Probe

Patricia O'Reilly, Suncor Energy Inc.

Marc Paquin, UNISFÉRA

Richard Paton, Canadian Chemical Producers' Association

Gordon R. Peeling, Mining Association of Canada

Isabelle Proulx, Natural Resources Canada

Shahrzad Rahbar, Canadian Gas Association

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David Sawyer, Enviro Economics Inc.

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Rodney Semotiuk, Advanced Technologies and Fuels Canada Inc

Trevor Swerdfager, Fisheries and Oceans Canada

Peter Sylvester, Canadian Environmental Assessment Agency

Patrick Tobin, Rio Tinto

Glen Toner, Carleton University

Scott Vaughan, Office of the Auditor General of Canada

Felipe Andrián Vázquez-Gálvez, Commission for Environmental Cooperation

Euan Wallace, British High Commission

Judith Watling, Policy Research Initiative

Wendy Watson-Wright, Fisheries and Oceans Canada

Dave Watters, Global Advantage Consulting

Elizabeth Weir, Efficency NB

Jonathan Westeinde, Windmill Development Group

Leslie Whitby, Indian and Northern Affairs Canada

Graham Whitmarsh, Government of British Columbia

Alex Wood, TD Bank Financial Group

Tony Young, Environment Canada