

# CLIMATE PROSPERITY

A CANADIAN INITIATIVE

// THE ECONOMIC RISKS AND OPPORTUNITIES OF CLIMATE CHANGE FOR CANADA



National Round Table  
on the Environment  
and the Economy

Table ronde nationale  
sur l'environnement  
et l'économie

Canada

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**NATIONAL ROUND TABLE ON THE  
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EN134-49/2010E

978-1-100-15047-5

THIS IS NOT JUST ABOUT  
COPING WITH CLIMATE CHANGE,  
BUT **PROSPERING** THROUGH IT.

**CLIMATE PROSPERITY // THE ECONOMIC RISKS AND OPPORTUNITIES OF CLIMATE CHANGE FOR CANADA**

# THE PROGRAM

Climate change and Canada's response to it have profound economic implications for our nation's future. There are risks but there are also opportunities. We need to position ourselves to compete and prosper in an increasingly carbon-constrained global economy. Ensuring Canada is well-prepared to adapt and prosper as part of this new reality is the focus of a comprehensive policy research initiative by the National Round Table on the Environment and the Economy (NRTEE), called *Climate Prosperity*.



Our aim is to provide insight for Canadians and policy advice to governments on both the economic risks *and* the economic opportunities for Canada associated with a warming planet. We need to think differently about what this will mean, not just to our economy today, but to a changing economy for the future. Preparing ourselves for the transition to economic success in a low-carbon-emission economy is critical to help maintain our standard of living and ensure jobs for today's and tomorrow's generations.

Most of all, we need to change how Canadians see and think about climate change - from risk to opportunity, from cost to investment, from today to tomorrow. This is not just about coping with climate change, but prospering through it.

Climate change is a long-term challenge requiring long-term thinking. Thinking ahead will help determine what this will mean in the long-run for Canadians and what governments can and must do to get ready and help secure our future in a climate-changing world. The NRTEE's landmark program - the first and most comprehensive Canadian public policy analysis yet on the economics of climate change - will help do just that.

# THE STAKES

*First, climate change is real, and happening now.* If the world continues emitting greenhouse gases (GHGs), like carbon dioxide, at current levels, average global temperatures could rise by up to 6°C by the end of this century (*IPCC 2007. Fourth Assessment Report*). The NRTEE's recent report *True North: Adapting Infrastructure to Climate Change in Northern Canada*, documents the impacts of climate change on Canada's North and what adaptation measures are necessary. Even with concerted action to reduce greenhouse gas emissions by all countries, some climate change is inevitable. We need to establish what this means to Canada's environment and economy. And we need to position ourselves to deal with it so that we can avoid future costs.

*Second, the world is already responding to climate change and is moving to a low-carbon emission future.* This transition is already leading to investments in clean energy and new technologies. It will demand more emphasis on research and development and private sector innovation. It will require matching skills and training to new business and growth demands. It means ensuring that financing, trade, and investment instruments and pathways are aligned with future business opportunities and needs. And, it will require developing new governance mechanisms for strong public policy support.



Canada is an open, trading economy. Much of our wealth and prosperity comes from global economic ties. So how other countries confront climate change and adapt their economies in response, affects us.

Resilient through recession, we now need to be resilient through climate change. The traditional economic foundations and approach are not sufficient to sustain us as the world moves to a low-carbon emission global economy. Canada, along with our major trading partners, has signed on to the goal of achieving at least a 50-per cent reduction of global emissions by 2050 in order to keep the average global temperature rise to no more than 2° Celsius. Significant adjustments lie ahead. Being ahead of the climate change curve means considering what the economic risks and opportunities will be for our country's prosperity and taking the steps to get in front so we gain the most.

***CLIMATE PROSPERITY IS A TWO-YEAR POLICY INITIATIVE FOCUSING ON TWO PRINCIPAL RESEARCH STREAMS:***

- 1 > The economic implications to Canada resulting from a changing climate, how we should adapt to it, and what this will cost.
- 2 > The economic implications to Canada resulting from a global transition to a low-carbon economy, what this means to our future competitiveness, and what strategies we should adopt to succeed.

***TO ACHIEVE ITS GOALS, CLIMATE PROSPERITY WILL ASK THREE CORE QUESTIONS:***

- 1 > What risks does climate change pose to Canada's economic future?
- 2 > How can Canada seize the opportunities created by a transition to a low-carbon economy?
- 3 > What policy responses to climate change can help secure Canada's economic and environmental future?

To answer these questions, the NRTEE has launched an ambitious research agenda involving original economic modelling and analysis, extensive consultation with key environmental, industry and expert stakeholders, and active engagement with citizens to hear what Canadians think. We will produce a series of policy advisory reports and publications to government decision-makers covering different aspects of this emerging challenge to Canada.





## What risks does climate change pose to Canada's economic future?

### **WE HAVE IDENTIFIED AND WILL EXPLORE THE FOLLOWING MAIN TYPES OF CLIMATE RISKS TO CANADA:**

- > The physical impacts of a changing climate on aspects of our environment.
- > Domestic policy responses to climate change aimed at reducing our emissions.
- > Climate policies implemented by other countries that will affect our future prosperity.

Warming temperatures will impact parts of our environment in different ways. But not every region of Canada will be affected equally, and not every impact will be negative. We will examine and illustrate the scope and scale of climate impacts on our physical environment based on various degrees of warming. We will provide for the first time an estimate of the net national cost of climate change on Canada under action and inaction scenarios. And we will undertake four detailed case studies – on forestry, coastal zones, human health and public infrastructure - to illustrate a range of economic risks and to provide more in-depth information for our net national costs considerations.

Domestic action to reduce our own carbon emissions is necessary for Canada to meet its GHG reduction targets. The NRTEE's *Achieving 2050* report examined and recommended economy-wide carbon pricing as a key means to achieving our environmental targets at least economic cost. Building on this work, we will now consider the economic implications of Canadian and American climate policy with our major trading partner, the United States. The economic risks of border carbon adjustments on Canadian exports of energy and other resource and manufactured products are real. Because our economies are so integrated, we need to determine how best to design and implement climate policies that will achieve our GHG targets, minimize competitiveness impacts, and address regional and sectoral issues.

## How can Canada seize the opportunities created by a transition to a low-carbon economy?

The economic and technological transition demanded by global mitigation is significant, perhaps even transformational. It will involve the emergence of new technologies and industries and demand new skills and jobs. Countries will compete to benefit most from these opportunities. Developing new



capacities and comparative advantages in low-carbon innovation, skills, investment and financing, and governance, will all be critical success factors for the low-carbon economy of the future.

To set the stage, the NRTEE will explore how Canada is positioned for low-carbon competitiveness, compared to its major trading partners, through a first-ever international benchmarking study and index. Indicators of what drives future economic success are changing and we need to know what they are and how Canada stacks up. This will give us a baseline to help assess and measure Canada's future low-carbon performance. Results will provide insight and advice for Canadian policymakers on how to strategically invest for future competitiveness.

While climate change debate has typically involved governments, environmental groups, and industry associations, Canadians themselves will need to become more aware and involved in the choices and solutions ahead. From energy efficiency to buying behaviour, citizens as consumers will drive many of the market opportunities that will emerge. And, citizens as voters will determine the limits and acceptability of more ambitious climate policy responses by governments. The NRTEE will engage citizens in a representative way in our deliberations to acquire a better understanding of how Canadians view climate change risks and opportunities, and where and how far they are willing to go.

## What policy responses to climate change can help secure Canada's economic and environmental future?

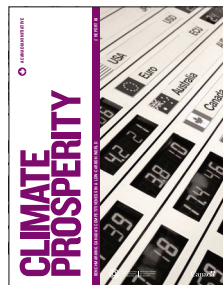
It will be important to know how other countries are preparing for this emerging low-carbon reality. Some of our most important economic partners are already investing heavily in 'clean technologies and green jobs'. They are marshalling government policy responses across departments and sectors because of the encompassing nature of climate change, not just for environmental policy, but for economic, energy, innovation, and other policy areas. These will be important learnings for Canada to consider as we shape our own climate policy responses to optimize the economic opportunities for all. The NRTEE will assess and disseminate information on low-carbon growth plans of our competitors.

We will ultimately develop policy pathways that highlight the longer-term economic opportunities for Canadian competitive success in this global low-carbon transition and where we need to focus. Investment capital on a huge scale is needed to transition our economy onto a clean energy path. Long time frames are required to shift current energy and capital stock onto the



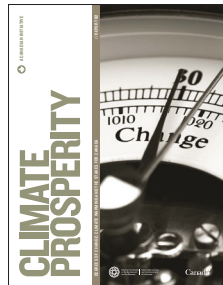
new path. Government policies based on private sector capacity and innovation are needed to bridge and steer us. The NRTEE will conduct policy area studies in energy, innovation, skills, investment, and governance as part of developing a policy pathway forward to seize this new climate economic opportunity.

Portrayal of the climate change challenge is dominated by attention on the economic costs of carbon mitigation. This ignores an important part of the balance sheet: the economic risks of global failure to prevent significant climate impacts, and the investments needed to effectively adapt to current and projected climate impacts. Mitigation is global and long-term but adaptation is local and immediate. Flowing from our examination of the physical impacts and net national costs of climate change, the NRTEE will consider and propose policy adaptation pathways for Canada that address key risks and opportunities we see ahead.



**REPORT 01 //**  
**MEASURING UP:**  
**BENCHMARKING CANADA'S**  
**COMPETITIVENESS IN A**  
**LOW-CARBON WORLD**

This report will assess Canada's capacity to be competitive in a new global low-carbon economy, by comparing us to other G8 nations in areas such as emissions and energy, skills, investment, innovation and governance.



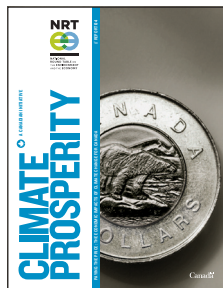
**REPORT 02 //**  
**DEGREES OF CHANGE:**  
**CLIMATE WARMING AND**  
**THE STAKES FOR CANADA**

This report will communicate the risks and benefits that a warming climate poses to Canada over the next one-hundred years in areas such as ecosystems, water resources, health, infrastructure and natural resource sectors and how adaptation can help.



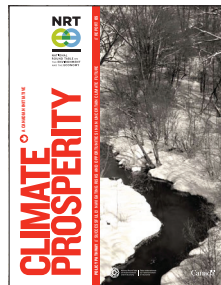
**REPORT 03 //**  
**PARALLEL PATHS:**  
**CANADA-U.S. CLIMATE**  
**POLICY CHOICES**

This report will examine Canadian climate policy choices based on potential U.S. courses of action and what this means for achieving Canadian environmental goals at the least economic costs.



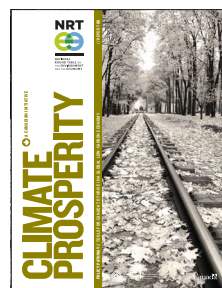
**REPORT 04 //**  
**PAYING THE PRICE:**  
**THE ECONOMIC IMPACTS**  
**OF CLIMATE CHANGE**  
**FOR CANADA**

This report will provide, for the first time, national economic costings of the impact of climate change on Canada, together with a detailed look at three key sectors.



**REPORT 05 //**  
**POLICY PATHWAY REPORT**  
**FOR CLIMATE IMPACTS AND**  
**ADAPTATION**

Building on previous reports in the series, this advisory report will provide a range of policy pathways and actions to help Canada take advantage of its potential to adapt to a changing climate.



**REPORT 06 //**  
**POLICY PATHWAY REPORT**  
**FOR GLOBAL LOW-CARBON**  
**TRANSITION**

Building on previous reports in the series, this advisory report will provide policy pathways and actions necessary for Canada to thrive in a global low-carbon economy in areas such as energy, innovation, skills, investment and governance.





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