ACTING ON CLIMATE CHANGE:
SOLUTIONS FROM CANADIAN SCHOLARS

Executive Summary

In fall 2014, UN Secretary Ban Ki-moon exhorted all countries in the world to raise the ambition of their climate change policies to avoid a global temperature increase of more than 2°C during this century. Answering this call, the scholars of *Sustainable Canada Dialogues*[1] (SCD), an initiative that mobilizes over 60 researchers from every province, worked collectively to identify a possible pathway towards a low carbon economy in Canada. Our network of scholars represents disciplines crossing engineering, sciences and social sciences, where sustainability is at the heart of our research programs.

Acting on Climate Change: Solutions from Canadian Scholars identifies ten policy orientations illustrated by actions that could be immediately adopted to kick-start Canada's necessary transition towards a low carbon economy and sustainable society. **We unanimously recommend putting a price on carbon as the key element of all climate action planning in Canada.**

The projections of Canada's possible future climate that we developed[2] show that improved and immediate action to mitigate global climate change could limit temperature increases to below 4.2°C, while current mitigation actions would allow the Canadian climate to increase by up to 14°C at the end of this century. We must act today to ensure tomorrow.

Besides putting a price on carbon, *Acting on Climate Change: Solutions from Canadian Scholars* examines how Canada can reduce its greenhouse gas emissions (GES) by: 1) producing electricity with low carbon-emitting sources; 2) modifying energy consumption through evolving urban design coupled with a transportation revolution; and 3) linking transition to a low-carbon economy with a broader sustainability agenda, through the creation of participatory and open governance institutions that engage the Canadian public. Our proposals take into account Canada's assets and are based on the well-accepted "polluter pays" principle. They are presented in detail in the core document that can be downloaded from the SCD website.

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[1] http://www.sustainablecanadadialogues.ca/en/scd

[2] *Acting on Climate Change: Solutions by Canadian Scholars*. Position paper by Sustainable Canada Dialogues, UNESCO-McGill Chair Dialogues on Sustainability. March 2015.

In the short term, policy orientations that could trigger climate action include:

- Implementing either a national carbon tax or a national economy-wide cap and trade program;
- Eliminating subsidies to the fossil fuel industry and fully integrating the oil and gas production sector in climate policies;
- Integrating sustainability and climate change into landscape planning at the regional and city levels to ensure that, amongst other goals, maintenance and new infrastructure investments are consistent with the long-term goal of decarbonizing.

In the short to middle-term, the transition could be facilitated by:

- East-West smart grid connections that allow provinces producing hydro-electricity to sell electricity to their neighbors while taking full advantage of Canada's low carbon energy potential;
- Well-managed energy efficiency programs that produce significant positive economic returns across the board, through cost savings as well as job creation. Energy efficiency programs could target the building sector as well as businesses and industries.

In the short to long-term, the transition could support a transportation "revolution":

- Transportation strategies that move the sector away from its dependence on fossil fuel could rest on the implementation of a basket of options, ranging from electrification to collective and active transportation.

Because renewable energy resources are plentiful, we believe that Canada could reach **100% reliance on low-carbon electricity by 2035**. This makes it possible, in turn, to adopt a long-term target of at least an **80% reduction in emissions by mid-century**, consistent with Canada's international climate mitigation responsibility. In the short-term we believe that Canada, in keeping with its historical position of aligning with US targets, could adopt a **2025 target of a 26-28% reduction in GHG emissions relative to our 2005 levels**.

We envision climate policy as the ongoing, long-term project of making the *transition* to a low-carbon society and economy. This notion of transition has many advantages: the 80% target establishes the direction of change, allowing Canada to plan for the future while recognizing that goals will take time to accomplish. It permits governments, businesses and citizens to situate their activities within a dynamic context. As with other past and future major transitions, e.g. industrialization or electrification, there will be controversies and setbacks. Some economic sectors will contract as others expand. The most important aspect of Canadian climate policies is to build a sustainable future *starting today*.

Recognition that certain forms of economic development cause environmental damage led to the notion of sustainable development as ''development that meets the needs of the present without compromising the ability of future generations to meet their own needs.'' We have adopted a more recent definition of sustainability that emphasizes the importance of desired futures. We propose that the specific transition pathways to a low-carbon economy in Canada

could rest on the hopes of Canadians for social and environmental well-being and help to articulate a vision for the country.

The transition to a low-carbon sustainable society will usher in great opportunities for innovation by developing new technologies, businesses and employment. The international landscape has changed substantively since Canada withdrew from the Kyoto Protocol in December 2011. Canada's major trade partner, the USA, doubled their GHG emissions reduction target in 2014. For example in 2011, the International Energy Agency (IEA) estimated that investments for energy efficiency were worth USD 310-360 billion[3]. A clear climate policy framework would reduce uncertainty in the business environment, encouraging companies to invest in low-carbon technologies.

We have identified policy orientations designed to deliver substantial, viable change based on our expertise and dialogue among our members. We do not claim to offer all possible policies or incentives to achieve sustainability, and we understand that further analyses, debate and refinement will be required. However, in virtually all cases, our proposals are in line with a number of international and national analyses of viable policy options to decarbonize.

We believe that putting options on the table is long overdue in Canada and hope that our input will help governments at all levels to make ambitious and thoughtful commitments to emissions reductions before December 2015 and the 2015 Paris-Climate Conference. We wish for an intense period of consultation and policy development to identify the policy instruments, regulations and incentives best suited to Canada. We offer our full cooperation to all levels of government in this challenging, but exciting, period. The time is now ripe to initiate ambitious climate change mitigation efforts.

[3] http://www.iea.org/bookshop/463-Energy_Efficiency_Market_Report_2014

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*This position paper received input from 71 Canadian scholars from every province. It was collectively written by 31 *Sustainable Canada Dialogues*[4] *(SCD)* scholars and reflects expert feedback from 11 SCD reviewers, who were not part of the core writing team, and from 10 external reviewers. The scholars who participated hold a total of 18 research chairs, e.g. Canada Research Chairs, and another 25 are heads of research or academic units.

[4] http://www.sustainablecanadadialogues.ca/en/scd