# Acting on Climate Change:
# Extending the Dialogue Among Canadians

A collection of texts in response to

*Acting on Climate Change:*
*Solutions from Canadian Scholars*,

a consensus document released in March 2015

Sustainable Canada Dialogues

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# ENVIRONMENTAL SUSTAINABILITY RESEARCH CENTRE

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The Environmental Sustainability Research Centre is one of the five transdisciplinary hubs at Brock University, and pursues innovative research concerning the environment, sustainability and social-ecological resilience. The Environmental Sustainability Research Centre aims to: 1) resolve complex environmental/social problems by fostering transdisciplinary research at Brock, cultivating academic networks with other world-class institutions, and transforming scientific thinking into action; 2) create a vibrant learning community that enhances knowledge and develops skills through innovative teaching; and, 3) foster sustainable uses of our shared environments by engaging with communities of practitioners, policy-makers, artists, Indigenous Peoples and fostering knowledge mobilization at local through international levels.

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# Feeding the Social Animal:

## How to Engage Canadians in Climate Change Mitigation

### Context

Despite hundreds of reports and peer-reviewed publications showing the trends related to global climate changes and their impacts, actions to reduce greenhouse gas (GHG) emissions remain limited in most countries. Political will is missing, especially in countries where the exploitation of fossil fuel remains a priority. Since the first United Nations Earth Summit in Rio de Janeiro in 1992 and the recognition of environmental degradation, nations have pursued an agenda for better human wellbeing by developing international conventions such as the United Nations Framework Convention on Climate Change (UNFCCC; 1992). The UNFCCC unfortunately has not been able to move forward on this agenda, as have some other conventions. The Montreal Protocol, for example, which sought to reduce the impact of chlorofluorocarbons (CFCs) on the ozone layer, has rallied countries to rapidly find solutions. Canada was a signatory of the UNFCCC's Kyoto Protocol, with the hope that mitigation would be integrated into the political agenda and lead to effective reduction of GHG emissions. This has not been the case and GHG emissions are still increasing in the country. Indeed, Canada is now at the bottom of the Climate Change

Performance Index for both G8 and the Organisation for Economic Co-operation and Development (OECD) member countries (30th out of 30 in 2014), and has shown "… no intention of moving forward with climate policy and therefore remains the worst performer of all industrialised countries"[1].

As mentioned in the *Acting on Climate Change: Solutions from Canadian Scholars* report, urgent and sustained change is required at the individual, societal and political levels for our country to move ahead. Despite the polls showing that the world is concerned about the environment[2], attitudes have not changed or translated into action[3] either individually or politically. Identifying and understanding the obstacles that prevent Canadians from engaging in and sustaining effective mitigation and adaptive actions are critical steps in an integrated societal response to climate change.

1  Burck, J., Marten, F. and Bals, C. (2014). The Climate Change Performance Index 2014. A Comparison of the 58 Top $CO_2$ Emitting Nations, http://germanwatch.org, accessed on September 3rd, 2014.

2  http://www.theglobeandmail.com/news/national/canada-in-middle-of-the-pack-in-global-poll-on-environmental-concern/article24025494/

3  Speth, J. G. (2004). Red Sky at Morning: America and the Crisis of the Global Environment–A Citizen's Agenda for Action, Yale UP, New Haven.

## Barriers to Change

Various psychological barriers preventing individual action on climate change have been identified by numerous authors[4,5,6]. Many of these barriers are difficult to overcome. For instance, our "ancient brains" have evolved to focus on immediate issues related to exploiting resources and the risks and needs of our immediate social group. This conflicts with the types of thinking and action needed to deal with the global scale and more complex effects of climate change. Similarly, worldviews such as belief in the capacity of free-market capitalism to solve all problems are strong predictors of climate change scepticism and inaction, but notoriously difficult to change. However, some obstacles to change are less ingrained and perhaps more easily overcome through smart and targeted policy, communication and social interventions; these are presented in Table 1.

4  Kollmuss, A. and Agyeman, J. (2002). Mind the gap: why do people act environmentally and what are the barriers to pro-environmental behavior? Environmental Education Research, 8: 239–260.

5  Lorenzoni, I., Nicholson-Cole, S. and Whitmarsh, L. (2007). Barriers perceived to engaging with climate change among the UK public and their policy implications. Global Environmental Change, 17: 445–459.

6  American Psychological Association (2009). Psychology and Global Climate Change:  Addressing a Multi-faceted Phenomenon and Set of Challenges. Report of the American Psychological Association Task Force on the Interface Between Psychology and Global Climate Change, http://www.apa.org/science/about/publications/climate-change.aspx, accessed on September 9th, 2014.

**Table 1. Psychosocial barriers to climate change mitigation and adaptation that may be most readily overcome (adapted from Gifford et al.)[7]**

|  | Barriers | Characteristics/Example |
|---|---|---|
| **Other people** | Social comparison & norms | We compare our actions against others' to decide on what the "correct" response to climate change should be. |
|  | Perceived inequity | "___ is not changing their behaviour, so why should I?" |
|  | Psychosocial risk | We may be criticized or rebuked by others if we engage in mitigation behaviour, and this might damage our self-esteem. |
| **Ideologies** | Salvation through technology | Excessive trust that technology will solve the problems associated with climate change prevents us from acting ourselves. |
| **Limited reasoning** | Ignorance | Not being aware of climate change impacts or not knowing what actions we can take to mitigate/adapt. |
|  | Uncertainty & scepticism | Doubt or denial regarding the existence of climate change, its anthropogenic causes, or the contribution of our own actions. |
|  | Spatial discounting | When impacts are presumed to be worse elsewhere, we are less motivated to act on our local environments. |
|  | Perceived powerlessness | We are less likely to act when we believe our actions will make no difference. |
| **Limited behaviour** | Doing the bare minimum | We make easy, but low-impact changes in our behaviour while avoiding higher-cost but more effective actions. |
|  | The rebound effect | "Now I have this fuel-efficient car, I can drive further" may cancel out the mitigation benefits of having changed from the less fuel-efficient car. |

7  Gifford, R., Kormos, C. and McIntyre, A. (2011). Behavioral dimensions of climate change: drivers, responses, barriers, and interventions. WIREs Climate Change, doi: 10.1002/wcc.143.

| | | |
|---|---|---|
| **Investments** | *Sunk costs* | "Why would I take public transit, now that I've spent all this money on a car?" |
| | *Conflicting values, goals, & aspirations* | Climate change is not high on the list of priorities in our lives, and may be incompatible with some goals (e.g. wealth generation). |
| | *Lack of place attachment* | We are more likely to look after a place we feel attached to than one we do not. |
| **Mistrust and denial** | *Mistrust* | We are less likely to engage in mitigation/adaptation if we do not trust the source of our information (e.g. government or scientists). |
| | *Perceived program inadequacy* | Most climate change mitigation programs are voluntary and we can choose not to participate. |
| | *Reactance* | Some of us react strongly against policy or advice that we think limits our freedom. |
| **Perceived risk** | *Financial risk* | The cost of investing in new adaptive technologies outweighs the benefits, or takes too long to recoup the initial financial outlay. |
| | *Functional risk* | Concern that new technologies (e.g. wind turbines) may not work or will be inconvenient. |
| | *Physical risk* | "Cycling is a good idea, but there are no bike lanes where I live — it's dangerous!" |
| | *Temporal risk* | We may spend significant amounts of time changing our behaviour to learn that it is unsuccessful; thus, our time has been wasted. |

Scepticism — and at its extreme, denial — of climate change prevents action, and varies among countries, worldviews, cultures, religions, and political associations. In Canada[8], the U.S.[9] and the U.K.[10], scepticism is strongly predicted by conservative political values and low pro-environmental values. Overall levels of scepticism in Canada appear relatively low, compared to the U.S., with only 8% agreeing with the statement *I do not believe climate change is a real problem*[4]. However, up to 41% of Canadian respondents believe that climate change is a natural phenomenon[11]. This is significant, because belief in the human — rather than natural — origins of climate change is the single most important factor predicting the willingness of Canadians to engage in mitigation behaviour[12]. Several other barriers to acting, including powerlessness, uncertainty, the commons dilemma and perceived risk, have been identified in specific populations (e.g.[13]). Of these, perceived risk and the belief in human influence on climate change appear to be the most relevant for Canadian adults[7].

While many people may accept that there are changes happening, responding to them is another issue. In a project on Atlantic Canada coastal communities examining the perceptions of people facing extreme events, people did not feel that they learned lessons from recent storms and had no plans to change

8  Pickering, G. J. (2015a). Head in the (Oil) Sand? Climate Change Scepticism in Canada. Journal of Environmental and Social Sciences, 2(2): 117.

9  Maibach, E., Roser-Renouf, C. and Leiserowitz, A. (2009). Global warming's Six Americas 2009: an audience segmentation analysis. Yale University and George Mason University. Yale Project on Climate Change Communication, New Haven, CT.

10  Whitmarsh, L. (2011). Scepticism and uncertainty about climate change: Dimensions, determinants and change over time. Global Environmental Change, 21(2): 690-700.

11  http://www.ipsosglobaltrends.com/environment.html

12  Pickering, G.J. (2015b). Psychological Barriers to Climate Change Mitigation in Canadians: the Importance of Powerlessness, Perceived Risk, Uncertainty, and the Commons Dilemma. 7th International Conference on Climate Change: Impacts and Responses, Vancouver, 10-11 April, 2015.

13  Aitken, C., Chapman, R. and McClure, J. (2011). Climate change, powerlessness and the commons dilemma: Assessing New Zealanders' preparedness to act. Global Environmental Change, 21: 752–760.

their actions[14]. If they were not personally affected, they did not have to change their way of thinking or acting now or in the future, saying they were environmentally conscious and already prepared. At the community level, storms may have increased people's awareness, but no change in behaviour was observed. Knowing about climate change and resulting extreme events does not always translate into actions. Members of resource-based communities may not separate climate change risks from other climatic variations they experience on a day-to-day basis[15]. This may also be true for many other communities.

Public resistance to climate change can also be anchored in the fear that the required actions will lead to drastic changes in behaviour and consumerism. This fear can further reduce the level of social acceptability of Canadians to act to reduce GHG emissions. Public awareness and education may not be sufficient to motivate people into action (as shown earlier for Atlantic coastal communities). The first step is not only acquiring knowledge of what climate change is, but also understanding it. Without a critical level of understanding, it is not possible for communities to socially accept the need to act. At the community level, to act means improved governance must take place, where all sectors of the population must be involved.

## The Issue of Today and Pragmatism

People may not engage in climate change action because the issue seems too overwhelming for them to understand and act, and they believe that only governments can do something. This relates again to the issues of powerlessness and uncertainty introduced earlier, i.e. "what does a person like me do in a situation like this?" Part of the reason for this disengagement with higher scale issues is the lack of connection between various governmental levels from the local or municipal to provincial then national and international levels. The current short-term electoral and political systems lead governments to also be pragmatic and make decisions on urgent and popular issues like education, economic development and health, rather than looking at long-term and more global issues like climate change, where their decisions may have no impact on their desire to be re-elected. Government decisions are often made in proportion to the levels of immediate risk for the people and the political interests of the party in power[16].

## Strategies For Change: Accepting That We Are All Part of the Solution

No one likes changes. Accepting change and the need to act to reduce the threats of climate change is challenging for both individuals and communities. It can be accomplished if attitudes towards our environment change. Attitudes can be defined as beliefs and feelings that people have regarding an object or an issue and how they react to it[17]. Environmental attitudes are often related to what people consider 'environmental concern'. Dunlap and Jones[18] have defined environmental concern as "the degree to

14  Vasseur, L., Znajda, S. and Plante, S. (2015). How Coastal Community Members Perceive Resilience: A Case from Canada's Atlantic Coast. Ecology and Society (in review).

15  McLeman, R.A., Brklacich, M., Woodrow, M., Vodden, K., Gallaugher, P. and Sander-Regier, R. (2011). Opportunities and Barriers for Adaptation and Local Adaptation Planning in Canadian Rural and Resourced-Based Communities. In Ford JD, Berrang-Ford L (Eds) Climate Change Adaptation in Developed Nations: from Theory to Practice. Springer, London, 449–459.

16  Hultman, N.E., Hassenzahl, D.M. and Rayner, S. (2010). Climate Risk. Annual Review of Environment and Resources, 35: 283–303.

17  Tarrant, M. A. and Cordell, H.K. (1997). The effect of respondent characteristics on general environmental attitude-behavior correspondence. Environment and Behavior, 29(5): 618-637.

18  Dunlap, R. E. and Jones, R.E. (2002). Environmental Concern: Conceptual and Measurement Issues. In R. E. Dunlap & W. Michelson (Eds.), Handbook of Environmental Sociology: 482-524.

which people are aware of problems regarding the environment and support efforts to solve them and/or indicate a willingness to contribute personally to their solution" (p. 365). However, moving from the step of awareness to the step of being involved in finding solutions and acting can be incredibly complex. Both the mental and moral motivations to change behaviours must be considered[16]. Mitigation relates to some changes in behaviour and this may be threatening for people in terms of their identity, lifestyle or wellbeing. For example, the attachment of people to their car is very strong in North America, and the idea of having to reduce its use can be a challenge[19]. Convincing people to not travel as much or even to rethink their travel may be an important step, but it remains complex as there may be perceived potential threats to connectivity among family members or friends, distinctiveness, and self-esteem[20].

But no one should be afraid of change. We all contribute to climate change and therefore we are all part of the solution. Social acceptability is the first positive step. Despite the current level of inaction at the federal level, we can all act. There are many small actions that can be immediately taken at home, such as making sure lights are off, reducing car idling (especially in winter or at Tim Hortons), walking to the corner store when possible (certainly healthier), and lowering the temperature of the house by one degree in the winter (for example, from 21 to 20°C). Many of these actions can be beneficial not only for the environment but also for people's wallet. Even businesses have many options that can also help save money. Inaction is not

an excuse, and will ultimately cost taxpayers substantially more. Not acting now will result in a lot more struggle for the children of tomorrow. Have you ever talked to them about the legacy you will leave them?

Enhancing public awareness and engaging at the community level remain important[21]. By involving local communities in exercises such as round table discussion or participatory mapping[22], it is possible to achieve an interactive, collaborative environment where local viewpoints and concerns can be integrated. Such approaches can also help elevate the level of social acceptability of communities. Creating a milieu where climate change behaviour is increasingly seen as normative may be a productive strategy. For instance, Canadians report "*Looking foolish due to being the only one to change actions*" as an important factor in shaping decisions about actions that might affect climate change[7]. The fear of looking foolish is significantly correlated with a number of other barriers to behavioural change, including perceived powerlessness and the commons dilemma, perhaps suggesting that as climate change action is seen as increasingly "normal", rates of public participation may increase markedly. Engaging communities in the process of climate change mitigation and adaptation through simple local actions can help people, as a group, connect to the issues of climate change and make them understand that together they are part of the solutions. This increase in ownership of the problem through a process of social acceptability helps alleviate the sentiment behind "being foolish if I do something". Building support

19  Prillwitz, J. and Barr, S. (2009). Motivations and barriers to adopting sustainable travel behavior, ProST Working Paper, Department of Geography, University of Exeter.

20  Murtagh, N., Gatersleben, B. and Uzzell, D. (2012). Self-identity threat and resistance to change: Evidence on regular travel behaviour. Journal of Environmental Psychology, 32(4): 318–326.

21  Scyphers, S.B., Picou, J.S., Brumbaugh, R.D. and Powers, S.P. (2014). Integrating societal perspectives and values for improved stewardship of a coastal ecosystem engineer. Ecology and Society, 19(3): 38–55.

22  Frazier, T.G., Wood, N. and Yarnal, B. (2010). Stakeholder Perspectives on Land-Use Strategies for Adapting to Climate-Change-Enhanced Coastal Hazards: Sarasota, Florida. Applied Geography 30: 506–517. doi:10.1016/j.apgeog.2010.05.007.

at the community level can bring a positive atmosphere, and the feeling that everyone can contribute. Together people can feel more capable and empowered to be involved.

Multilevel governance is needed to bring the connection between what people can do at the local level and how it is matched at the national or provincial government level. Planning and decision-making must be well lubricated, with administrative bodies already in place wherever necessary to reach all levels of governance. Humans are both individualistic and pluralistic in nature, and to overcome the current challenges related to climate change we need to reconcile top-down national policies to the bottom-up (community) strategies by emphasizing issues such as livelihoods, wellbeing, environmental conservation, and good governance for now and the future[23]. This will require a dramatic shift in decision-making, and embracing adaptive

governance as a stepping stone towards a more resilient country in the face of climate change.

To get there, a step-by-step process will be required. Making sure that climate change becomes a priority in Canadian lives is a first step, which can be followed by small incremental steps, such as gradually becoming more efficient with energy and learning about consumption habits. Soon, actions with more impact on climate change must be undertaken, but this will most likely require financial support or other types of incentives that target both the citizen and industry. Carbon taxes are only one of the many possible ways to encourage reduction of emissions. For citizens, direct incentives (e.g., tax breaks) may be more appealing. Finally, applied research is urgently needed around further elucidating the relationship between social representation and action, and optimal messaging/communication strategies to fully engage Canadians in taking the necessary action to address this wicked and existential challenge.

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23  Vasseur, L. and Jones, M. (2015). Adaptation and resilience in the face of climate change: protecting the conditions of emergence through good governance. GSDR Brief, http://www.gsdr2015.wordpress.com.