



Food Security, Peak Energy and Climate Change: A Governance Challenge

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The questions of food security, peak energy and climate change are complex in themselves but together they represent a classic example of a ‘wicked problem’ⁱ. “We are simultaneously threatened by both the scarcity and the abundance of fossil fuels,”ⁱⁱⁱ says David Keith, Canada Research Chair in Energy and the Environment at the Department of Chemical and Petroleum Engineering and Department of Economics, University of Calgary.

How strange! Something that is simultaneously scarce and abundant and presents a threat either way. The very inter-relatedness of these problems necessitates their being treated as a system of effects, but in doing so we are confronted with the coexistence of opposites and non-linear logics. Oil is becoming increasingly scarce as the fuel the global economy and therefore presents a risk of global economic decline should it become excessively expensive or unavailable. At the same time, it is already too abundant as a contributor to green house gases (GHGs) and therefore presents a risk that it tips the global climate system into a period of unrestrained global warming. Climate is proving to be incredibly resilient to GHGs up to the tipping point of 450 ppm but after that all bets are off and it is likely to alter radically and massively without restraint.

Dependent as it on access to cheap oil and favourable climatic conditions, the world’s food system is at risk from both threats – from high-priced oil increasing the costs of fertilizers and food transportation, and from climatic shifts that could play havoc with water access and available land usage.

What’s more is that these three issues have private and public interests so thoroughly interwoven among them that resorting to traditional rational or public choice approaches to policy have proven consistently ineffective by the very self-interest that makes those approaches so normative. In choosing to satisfy our personal, private interests for cheap fuel, food, and comfort, we maybe be sacrificing any quality of life comparable to our own for our children and many generations to come. The opposite is also true. Making choices to protect the future may come at the cost of our current prosperity and global stability. So far the public policy choice is decidedly in favour of ‘protect the present’, and let the future take care of itself.

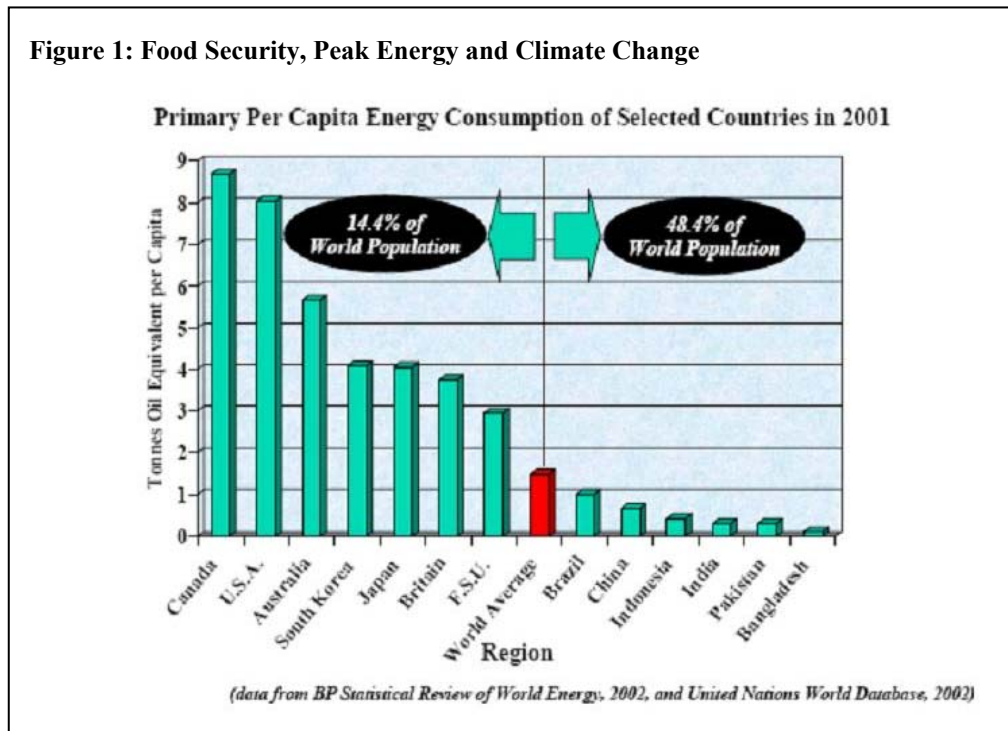
The combination of food security, peak energy and climate change represents a truly quantum break in the manner in which policy problems must be dealt with by governments and public agencies. Globalized market approaches to food security have only increased the local food system’s vulnerability even as it has produced greater quantities of food (albeit not necessarily better food) for more and more people. The economic policies based on the earth’s non-renewable resources that have proved so universally successful at improving well-being and prosperity have led us to the door socio-economic collapse as we seem to lack the energy resilience to adapt to the next logical phase of development free of non-carbon-based energy. A

world governance regime that has prided itself on its relative success at curbing global conflict improving prosperity and quality of life¹ through negotiation and trade now faces near-term prospects of civilizational chaos because those self same systems tilt the game of global financial and climate management in favour of those pursuing their own benefit over global public good.

Are Canadians interested in climate change? Yes. Nearly two-thirds of Canadians want to see Canada take action to tackle global warming despite the economic crisis, according to new polling released by McAllister Opinion Research in December 2008ⁱⁱⁱ. The poll also found that:

- 83% of the Canadians surveyed agreed that "Canada should commit to strong action on global warming without waiting for other countries"
- 78% of respondents agreed that "Canada's global warming targets should be based on what leading scientists say is needed to avoid serious harm to people and the environment, even if meeting these targets entails some cost to the economy."

Yet at the same time most Canadians would like to see taxes come down (despite being one of the lowest tax jurisdictions in the world), they voted against any semblance of a carbon tax in the 2008 general election, and they complain constantly about high gasoline taxes (despite having some of the lowest fuel prices in the world). If it was a choice between low gasoline prices and climate change, most Canadians would choose the former. This is reflected in the official government negotiating stance on climate change that wants to see China and other developing nations shoulder a bigger proportion of the global cost of climate change action, despite the fact that Canadians are the largest energy user per capita of any country in the world (see Figure 1).



¹ _____, "Worldwide Trends in the Human Development Index 1970-2010", in *2010 Human Development Report*, UNDP accessed at <http://hdr.undp.org/en/data/trends/>

The real question, according to *Globe and Mail* correspondent Jeffrey Simpson and co-author of *Hot Air* and *Carbon Shift*, is “whether Canadians are anxious to tackle climate change themselves, or whether they prefer that the changes be made by someone else, another region, or industry”^{iv} or country.

The sad truth is that when it comes to climate change Canadians are freeloaders. Their international reputation has become one of global hypocrisy, for they say one thing and do another. While the current government has been the recipient of much global and national criticism for their hypocritical stance in international climate debates, they are only mirroring the self-same hypocrisy of Canadians themselves. When it comes to energy we gleefully boast over a mere 2% of global hydrocarbon production, yet hide our head in the sand when it comes to discussions of the social, economic and environmental impacts of our energy production decisions.

This is curious given Canadians see better than those in most countries the direct climatic impacts that hydrocarbon use can have because of the fragility of our northern frontiers. Yet we ignore our first hand experience, in the belief that technology will rescue us without having to substantially change the way we extravagantly use energy^v. This is just another way of excusing ourselves from participating in any solution. If technology can keep our gluttonous appetite for energy fed by means other than oil and its by-products well that only means we don't have to do anything now do we? The honest Canadian view is that climate change is for suckers and those who may be alive long after we're all dead.

At this point I want to share a family story. It's not a story I'm proud of but it's relevant so bear with me. After my grandfather died and my parents were clearing out his personal papers it came to light that the day he was born my great grandfather took out a loan for \$1000 in my grandfather's name. The term was for fifty years, at which time the principal and all interest would become due. My great grandfather knew, of course, he would be dead by that time and when the note came due it fell to his son to make good. The \$1000 had become \$50,000 and while my grandfather's lumber business had been resilient enough to survive both the Depression Years and World War II, the surprise debt bankrupted the business and nearly his marriage. Upon learning this, I remember the feeling of outrage at my great grandfather. How could any parent do something so callous and self serving to their own child?

That said, my great grandfather's heartlessness pales next to what we are doing today in terms of our energy use, our unsustainable food system and our production of GHG emissions. We are literally stealing the futures of our children and grand children to feel a little more comfortable and a little less inconvenienced. We are squandering the planet's natural assets accrued over half a billion years in as little as 100 years, and we are foolishly setting off rapid and unrecoverable climate changes that will alter the face of civilization. So much for parental affection!

How did we get to be so hypocritical and heartless?

Quite simply Canadians have chosen to not be involved. They mouth the right words but won't put any skin in the game. We choose to believe that others will look after things. We so don't want to be inconvenienced or distracted from our daily pursuits that we will readily believe anything from anyone who says they're in charge – just so we don't have to be bothered. We behave like the clients of Bernie Madoff – too lazy to exert real ownership or too stupid to ask the right questions -- and in the end broke. For far too long we have allowed ourselves to become

the silent partners in our own governance -- too willing to accept paper dividends, too unwilling to investigate what's really going on.

It's not too late, however, to change. Ownership does have its privileges, the first of which is the right to information and the second is the right to choose to act.

The debate around food security, peak energy and climate change is nowhere near resolved. In fact, it is just beginning. There are no silver bullets! There is no one in charge – no matter who claims to be. No government can ensure both cheap oil and freedom from undesirable climate change. If Canadians can accept this, then maybe they can accept the flip side of no one being in charge – that is, everyone is in charge.

You the reader, you're in charge -- at least partly. As a citizen of Canada or as a resident of Ottawa or as an owner of a property or a business, that makes you a decision maker. How will you choose? What kind of place do you want to create for yourself and your children? Just how much energy, what kind of food and what kind of climate do you need to pursue the life you want? Are there others that share your vision of possibility? If you make a choice, what are you prepared to do about it?

Our cultured sense of entitlement is a huge barrier. Canadians consume five times as much energy as Europeans, nine times that of people in China, thirty times that of Indians and over 100 times that of those living in the developing world^{vi}. While the EU, for instance, has taken the stance that it will unilaterally reduce its emissions by 20% below 1990 levels by 2020 and up to 30% if cooperative agreements can be reached with other developed countries^{vii}, Canada by contrast, has committed only to reducing its emissions to between 45 - 65% below 2003 levels (which were already 22% higher than 1990 levels) by 2050. And as of this writing the Canadian Government has absolutely no policy to curb the use of carbon-based energy^{viii}. In fact the opposite is true as it has lobbied on behalf oil producers to resist such measures^{ix}. Canada has no policy, other than a few inconsequential and sunseting conservation incentives, to provide resilience to Canadians against future oil price shocks and no policy to reduce dependencies on the global food system.

Getting out of this 'trap' will not be easy. It will require a cultural shift to help people extricate themselves from the biases they hold about working with others^x. Such shifts are often supported by changes in internal and external incentives that have the effect of either encouraging cooperation or discouraging non-cooperation. Such shifts are not impossible, although they do need attention and time (usually a greater time period than the typical election cycle). They are the product of many conversations that build vision, trust and commitment.

Even if it were possible to get many Canadians involved with these issues, that in itself would not be enough to sustain their cooperation. There is an overwhelming temptation when it comes to public goods to cheat and let others do the work while we enjoy the benefits. This is invariably the biggest challenge of cooperation and it is one that is being played out in the international arena.

Working collaboratively is almost invariably an exercise in contingent cooperation^{xi} and therefore to sustain it, the willingness of participants to cooperate must be continually reinforced while the potential for non-cooperation vigorously resisted. This is not effectively accomplished either through environmental altruism or by government decree but through the application of a variety of mechanisms which can be applied heuristically as the need requires.

These inter-related mechanisms can be grouped into six basic families:

- ◆ possibility mechanisms, which reinforce the purpose and future towards which community collaborators act;
- ◆ commitment mechanisms that encourage risk-reward sharing and elicit contributions in an environment of openness and transparency;
- ◆ social learning mechanisms, which encourage mutual understanding and permit partners to experiment, prototype and learn from each other;
- ◆ shared decision making mechanisms, that reinforce shared ownership and allow for dissent;
- ◆ mechanisms for joint action that coordinate and align the capacities of partners towards a common goal; and
- ◆ mechanisms of mutual accountability, monitoring, and evaluation, including mechanisms to jointly celebrate progress and success.

The problem of the food-energy-climate triangle is that it has no obvious solution. It is highly improbable that it has a single comprehensive solution. It is also more than improbable that any one person will have a solution, even though many will lay claim to one. Our pursuit of a response to the food-energy-climate issue, however, will most likely be successful on the basis of shared ownership, collaboration, experimentation and verified mutual trust. This is the new mode of *collaborative governance* in which we all need to learn to operate in.

Here in Ottawa today, the choice to pursue “the Ottawa we want” begins with our acceptance of our own individual responsibility for the present and the likely consequences of the present in the near term. If we can’t accept our authorship of our present, how can we truly author a different future? What then becomes a necessary first step is to find ways of connecting with others willing to take similar ownership and to engage them in conversation. A community begins with a conversation, so too does it’s future.

ⁱ Rittel, Horst, and Melvin Webber; "Dilemmas in a General Theory of Planning," pp. 155–169, *Policy Sciences*, Vol. 4, Elsevier Scientific Publishing Company, Inc., Amsterdam, 1973. [Reprinted in N. Cross (ed.), *Developments in Design Methodology*, J. Wiley & Sons, Chichester, 1984, pp. 135–144.].

ⁱⁱ David Keith, “Dangerous Abundance” in Thomas Homer-Dixon, ed., *Carbon Shift*, Random House of Canada, Toronto, 2009: 27-57

ⁱⁱⁱ *Canadians’ Opinions on Global Warming*, McAllister Opinion Research, Vancouver, December 2008

^{iv} Jeffrey Simpson, “Broken Hearts, Broken Policies: The Politics of Climate Change”, in Thomas Homer-Dixon, ed. *Carbon Shift*, Random House Canada, Toronto, 2009: 178-201

^v _____. 76% of respondents to *Understanding Modern Environmentalism* by Harris Decima April 08 accessed at <http://www.slideshare.net/adk338/understanding-modern-environmentalism-by-harris-decima-april-0>

^{vi} David Hughes, “The Energy Issue: A More Urgent Problem than Climate Change?”, in Thomas Homer-Dixon, ed. *Carbon Shift*, Random House Canada, Toronto, 2009: 59-95

^{vii} EU Communication, Jan. 28, 2009

^{viii} Blatchford, Andy. “Canada won't follow new U.S. plan to slash industrial greenhouse gases: Baird”, *Winnipeg Free Press*, 28 Nov. 2010 accessed at <http://www.winnipegfreepress.com/canada/breakingnews/canada-wont-follow-new-us-plan-to-slash-industrial-greenhouse-gases-baird-110935579.html>

^{ix} DE SOUZA, Mike. “Canadian diplomats sought help from U.S. oil companies”, *Montreal Gazette*, November 29, 2010

^x Heath, Joseph. *The Efficient Society: Why Canada is as close to Utopia as it gets*, Penguin Canada, Toronto, ON, 2001

^{xi} Wilson, Christopher. “I Will if You Will: Facilitating Contingent Cooperation”, *Optimum Online*, Vol. 37, Issue 1, Apr 2007