

Revolution in Governance: A Matter of Global Necessity

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In 2006, Britain's Chief Science Advisor, Sir David King, warned the world of the dire consequences of not addressing the rapid increase of climate change. He noted that, with a three degree rise in world temperature, computer modelling has indicated that 400 million people could be at risk of starvation, between one and three billion could be facing water stress, crop yields could suffer declines of between 20 and 400 million tons, and finally one half of the nature reserves of the world could be destroyed. With the melting of the Greenland's ice cap, the world's oceans could see a six metre rise forcing mass world-wide population relocation (*The Independent*, "3 degrees:...", April 15, 2006)

In its rather understated way, the Intergovernmental Panel on Climate Change notes "observational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases" (Working Group II Contribution to the IPCC Fourth Assessment Report – Climate Change 2007: Climate Change Impacts, Adaptation and Vulnerability).

Ultimately, if temperatures rise in excess of 3 degrees globally, all bets are off regarding the nature and frequency of global catastrophic events. The numbers reflected above become a starting point in describing the extent to which this century's global civilization will be disrupted. Indeed some predict civilization may not last at all, that there are thresholds or "tipping" points beyond which the framework of social and political structure disintegrates. Cambridge Professor, Astrophysicist Sir Martin Rees declared in his 2003 work *Our Final Century*, "the odds are no better than fifty-fifty that our present civilization will survive to the end of the present century unless all nations adopt low-risk and sustainable policies". (See also Ronald Wright, *A Short History of Progress*, 2004, House of Anansi Press Ltd.)

What can be done to offset this apocalyptic scenario? Reengineering of governance structures and systems to design and effectively implement global adaptation strategies is needed. Kyoto is a telling example of how nation-states cannot hope to reach agreement on effective approaches to address global issues of this nature. Today, with the purported anthropogenic impact on climate witnessed over the past two hundred years since the

commencement of the Industrial Revolution, it is too late for a Kyoto strategy, no matter how revolutionary and deep the cuts to humanity's reliance on CO₂-generating products. Adaptation becomes the only viable alternative to be investigated and implemented on a global scale.

In a 2006 article in the Canadian journal *Policy Options*, entitled "Adapt and Thrive: Options for Reducing the Climate-Change Adaptation Deficit", Ian Burton presses:

Adaptation is now becoming an item on the policy agenda that cuts across the departmental and sectoral boundaries of government, and it must be factored into decisions in a generic way similar to issues such as gender equity, environmental impacts, and poverty eradication. There are two immediate implications of this: first, governments at every level and the private sector have to find ways of addressing adaptation in a more coherent way, and this requires some institutional reform or restructuring; second, such innovations need to be supported by a more integrated science and policy for adaptation. On the leading edges of this debate, experts have already begun to talk about adaptation science and adaptation policy.

Perhaps the greatest irony here is that governments are attempting to deal with the near-term challenge of too much heat, when it is generally acknowledged by climate experts that within a few thousand years the planet will face another ice age at which time CO₂ release may be the engineering option to mitigate the worst effects of the cooling cycle (see Tim Flannery, *The Weather Makers*, 2005, HarperCollins Publishers Ltd.) But, we digress; that would be outside the timeframe contemplated in this conference – perhaps another time...

In addition, the challenge is not only within national borders but across all countries and regions of the planet. As Sir Nicholas Stern argues in his book, *The Economics of Climate Change* (2006, Cambridge University Press), "climate change demands an international response, based on a shared understanding of long-term goals and agreement on frameworks for action."

It goes without saying that the North (defined here as that part of the globe above the 60th parallel) is not hermetically sealed from the rest of the planet. If anything, there is a clear

indication in the work of the IPCC that there will be a correspondingly greater impact on the north than other regions of the planet. Borrowing heavily from the work of IPCC, in a 2007 Government of Canada publication *From Impacts to Adaptation: Canada in a Changing Climate*, the following list of impacts is noted:

- Current levels of exposure and sensitivity to climate-related changes, as well as limitations in adaptive capacity, make some northern systems and populations particularly vulnerable to the impacts of climate change.
- Climate-induced changes in permafrost, sea ice, lake ice and snow cover have large implications for infrastructure maintenance and design.
- Climate changes will result in shifts in species availability, accessibility and quality, with consequences for biodiversity and human populations that rely on these resources.
- Increased navigability of Arctic marine waters and expansion of land-based transportation networks will bring both opportunities and challenges associated with culture, security and the environment.
- Maintaining and protecting aspects of traditional and subsistence ways of life in many Arctic Aboriginal communities will become more difficult in a changing climate.

The global implications of climate change for the north are staggering. The following is a quick list of some of the pressures that can be expected in the next half-century all of which will stress governments with polar geography.

- Increased use of the Arctic for transportation, reducing the distance between Europe and Asia by more than 7000 kms., and changing traffic patterns to access northern continents using access points in the Arctic.
- An expanded geo-political “battleground” for militaries with northern interests and access.
- Increased pressure on northern governments to accommodate the “environmental refugees” displaced by rising waters along coastlines, shifts in arable lands and changes in water availability.

- Increased land values for population settlement, agriculture and other renewable resources as northern regions become warmer, and in some areas wetter.
- Increased demands from sovereign nations experiencing reduced water availability to gain access to fresh water in northern regions of America, Asia and Europe.
- Improved economics of resource extraction as the north warms; there are vast untapped mineral resources throughout the north, and many areas remain unexplored yet have great potential. And this is in a day when, as populations around the world grow, there is an increasing global hunger for these resources.
- Increased access to the off-shore areas of the resource-rich Arctic; the U.S. Geological Survey estimates there could be as much as 90 billion barrels of recoverable oil, 30 percent of the world's undiscovered gas and as much as 20 percent of natural gas liquids.
- Ever-developing new technologies that can “unlock” other non-traditional forms of energy such as gas hydrates from deep sea and permafrost; in the Canada's Mackenzie Delta, extensive research is being conducted at the Mallik gas hydrate field by an international consortium (the technology is proven, although the economics may not yet there to make its production viable).

Clearly, world demand for the resources increasingly available throughout the north will continue to grow in coming decades, and governments will be pressed to respond to these demands. Nations around the circumpolar north will have to face the dilemmas inherent in the looming clash between that “invincible force meeting that immovable mass” – world demand colliding with sensitive ecosystem management and traditional lifestyles and interests of aboriginal peoples who have populated the north for thousands of years.

As requested by conference designers, we wish to provoke response by saying that there will have to be change. The world demands are too great for sovereign governments not to respond. Energy and non-renewable resources are just too attractive for world markets, land for settlement and agricultural production will be under increasing pressure, and water is rapidly becoming the geo-political “flash point” of this century.

Sovereign governments ringing the Arctic must adapt, and the only way to effectively do so is through cooperation, in ways that are far most substantial than Kyoto! Inevitably, Arctic nations will need to “give up” some of those inherent values that come with being sovereign. It

has been easy in the past for nations to have long standing disputes over the Arctic territorial map (Canada and the United States over the Northwest Passage; Canada and the United States over the dividing line north from the border between Alaska and Yukon; Canada and Denmark over Hans Island; Russia and just about everyone else on where the nations divide the Arctic sub-sea riches...) in that cold harsh climate and massive year round ice formations too great to overcome economically with current technologies meant that no one really had to worry about fighting for something that was effectively out of reach to the planet.

Science predicts that within a few years we will see the complete demise of year round ice covering the Arctic seas and waterways, Northwest and Northeast. In a recent international study headed by ice expert Christian Hass of the University of Alberta in Canada, records that ice thickness in the central Arctic Ocean has reduced by 50 percent between 2001 and 2007, a mere 6 years! They reflect that “the Arctic sea ice cover has transitioned into a different climatic state where completely ice-free summers would soon become normal” (Ottawa Citizen, August 6, 2008, “‘Drastic thinning’ of ice in Arctic hits 50 per cent”). The article goes on to present the global dilemma: “That’s a startling prospect for all polar nations, including Canada, which are concerned about how climate change is transforming the Arctic Ocean environment, but are equally intrigued by the opportunities opening up for trans-Arctic shipping and off-shore oil and gas development”.

Seasons to explore sub-sea resources will lengthen and this will be coupled with new technologies to do so more effectively for longer periods. Indeed the rapidity of the ice retreat is surprising. In an article, Dr. Mark Serreze, a senior researcher at the University of Colorado’s National Snow and Ice Data Centre concludes that “It’s a new era of research because we weren’t thinking we would lose sea ice this quickly. Compared to what our climate models said, we’re 20, 30 years ahead of schedule in terms of ice loss. This kind of caught us by surprise...” (Globe and Mail, August 6, 2008, “Frozen Northwest Passage expected to open up”). In effect, treasures heretofore inaccessible will be available to the planet and sooner than anticipated.

The environmental risks are high, and there is awareness and concern about the consequences within the public, private and NGO communities. Shell's proposed drilling in the Beaufort Sea off the Alaska coast has been stymied by court action brought by groups, such as aboriginal whalers, opposed to such drilling in 2008 (*Anchorage Daily News*, “Shell says no Beaufort oil drilling in 2008”, February 19, 2008,

<http://www.adn.com/money/story/319206.html>). Shell is confident that it can deal with concerns such as oil spills from a well blow-out in the Beaufort Sea and has a spill-clean up plan in place. (Shell's Beaufort Sea Exploratory Drilling Program Oil Spill Response in Ice; Prepared for: Shell Exploration and Production Co. August 2007; Prepared By: David F. Dickins, DF Dickins Associates Ltd. info@dfdickin.com; Alan A. Allen Spiltec allan@spiltec.com; <http://www.dfdickins.com/ShellOSR2007.pdf>).

An uncontained spill could pose serious problems for the ecosystems of these Arctic waters, negatively affecting bowhead whales and other marine mammals, and fish on which Alaskan aboriginal people depend. Others share the whalers concerns. In a paper entitled "Oil Spill Response Challenges in Arctic Waters" the World Wildlife Fund (WWF) cites numerous oil spills in northern waters where delay in appropriate response has resulted in oil pollution continuing for decades, e.g. the Exxon Valdez in Prince William Sound. To quote from the report:

WWF believes that there are certain places on our planet that are too sensitive to be put at risk from an oil spill. No operator can guarantee 100% that there will not be a spill, and even in ideal conditions oil spills leave their mark. The Arctic offers the highest level of sensitivity and the lowest level of capacity to clean up an accident. This combination makes it unacceptable to expose the Arctic to an unfettered scramble for oil.

WWF is seriously concerned that areas which have previously been protected and off-limits for exploration are now being opened up and considered for hydrocarbon activities. Typical arctic conditions such as extreme temperature, unstable ice, safety and poor visibility create a significant 'response gap' that limits the ability to clean up any spills, thus leaving these special and highly vulnerable places unprotected. The political and economic drivers may have changed but the environmental and social risks are even greater." p.1

And further on:

This report reveals substantial gaps in oil spill response capacity that WWF believes must be filled as a pre-condition before any further petroleum development in the Arctic. The risk of environmental and economic damage resulting from major spills in Arctic waters can be greatly reduced if individuals from the private and public sector take action now to address the response gap issue before proceeding with new development.

The oil spill response constraints posed by arctic conditions contribute considerably to the risk of negative impacts from an arctic oil spill. The same dynamic conditions that challenge spill responders have also added to the stresses on arctic species and habitats. A catastrophic event like a major oil spill could permanently tip the balance." p. 27

http://assets.panda.org/downloads/nuka_oil_spill_response_report_final_jan_08.pdf

However, given pressures world-wide, we can't lock it up, so we must manage well to protect it!

Geo-strategists suggest that energy-hungry nations and global private sector interests have figured out the value of collaboration. Illustrative of this is the positioning that has occurred in Asia:

By the late 1990s, China, too, was engaged in a vigorous form of diplomacy.... It simultaneously strove to establish a constellation of friendly states in the region through lavish offerings of aid and diplomatic favours. The Chinese even spearheaded the formation of a regional political body – the Shanghai Cooperation Organization – to advance its geopolitical interests in the area....

These are characteristics of the types of relationships now being forged around the world between major energy consumers and potential suppliers. In every

case, these relationships, in turn, entail fresh calibrations of the power relationships among major energy-consuming nations. Already edgy and competitive, they hint at future scenarios of conflict among the so-called Great Powers of a far more dangerous sort. While still at an early stage, such often pugnacious maneuvering for energy resources is bound to have profound consequences for international peace and security; if nothing else, it will redraw the atlas of international politics in a way that has not been seen since the onset of the Cold War some sixty years ago.

(Michael T. Klare, *Rising Powers: Shrinking Planet*, 2008, Henry Holt and Company, LLC, p. 21)

This is a disturbing shift in international geopolitical alignment that will have consequences on a global scale. The good news is that the same energy can be applied to collaboration for the careful adaptation of the Arctic region so that development can occur in ways that respect the sensitivity of the northern ecosystem.

Nation states with a direct interest in the Arctic (United States, Canada, Russia, Finland, Denmark, Sweden, Iceland, Norway, Greenland) can reach agreement on the creation of a new order of cooperation for the Arctic region, and this can occur on two levels.

The first and easiest, given that this may very well be a further step in what has already started with the international bodies, the Arctic Council (see <http://www.arctic-council.org/>) and the Northern Forum (see <http://www.northernforum.org/>), is the establishment of an international council of Arctic nations with a mandate to achieve the following:

- Collaboration on research necessary to understand the extent to which change is occurring throughout the north. In effect this would be continuation of the massive effort in place through the International Polar Year (March 2007 - March 2009).
- Dissemination of that research among contributing states.

- Establishment of an Arctic Policy Institute affiliated with the University of the Arctic that would look at research findings, and, through adaptive management planning and integrated resource management “lenses” bring advanced advice to governments to ensure that the trends (and the unforeseen dramatic changes which will most likely be encountered over the next century) and their implications for governments’ actions are given careful and well-deliberated consideration.
- As with the Canadian Polar Commission, the international council of Arctic nations and the Arctic Policy Institute could be given mandate through sovereign states’ legislation to ensure a degree of independence that wards against the immediate political priorities of 5 year mandated governments to influence these bodies by pressing for short term goals.

The second, and far more controversial, is the establishment of an Arctic Union with plenipotentiary authority to “manage” change throughout the Arctic region. Created by international agreement among circumpolar nation-states, this body would have delegated powers to address the challenges associated with anthropogenic impacts on Arctic regions in the context of climate change. Great debate would inevitably occur over powers granted and on the geographic application of this body.

There is one example “out there” of where international cooperation of a similar kind has been effective. The Antarctic is “controlled” by collaboration among nations with varying interests in that polar region. The Antarctic Treaty System, first established in 1959 now signed by 46 countries, and contains the following objectives and purposes:

- Use of Antarctica to be for peaceful purposes only.
- Cooperation among treaty countries on scientific investigation.
- Free exchange of information and personnel (linked to the United Nations).
- Rises above disputes over sovereignty claims.
- Prohibits nuclear testing and radioactive materials disposal.
- Covers all of the region south of 60 degrees.

- Allows for free access for all treaty-state observers, and requires advance notice of all activities and the introduction of military personnel for peaceful purposes (eg search and rescue or scientific support).
- Jurisdiction over observers and scientists rests with their own states.
- Provides for frequent consultative meetings.
- Discouragement of all states (treaty or non-treaty) where they are pursuing objectives other than those established in the treaty.
- Dispute resolution through the International Court of Justice.

An Arctic Treaty System would be dissimilar to that of the Antarctic in that its primary purpose would be the management of change, the bringing of good data and intelligence to decision-making over the direction and pace of change throughout the Arctic. The body established would need to have considerable “teeth” to accomplish its objectives, and the support of nation-states to police and uphold the decisions made by the treaty body. For instance where transportation is concerned, it would need to have surveillance capacity to monitor traffic and the policing capacity to deter parties not in compliance with common rules set by that treaty body for transportation through the Arctic.

There would also be the need for an international consultation body that would bring aboriginal bodies (governments) with traditional interests in the Arctic in to discussion on the implications of decisions. This would be of particular importance to Canada where there are formal treaties in place with aboriginal peoples such as the Inuit (1993) and the Inuvialuit (1985) who have rights captured in Constitutionally-protected land claims regarding the management and control of development offshore in the Canadian Arctic.

In conclusion, climate change necessitates new thinking on a global basis to control the pace and direction of development throughout the Arctic. Nation states cannot afford to wait for a catastrophe to occur before engaging on the establishment of institutions that can ward against potential irreparable damage that could occur in this vast and highly sensitive eco-region of the planet.