

May 13, 2013

Keynote address at Ontario Climate Consortium's Inaugural Climate Change Research Symposium (speech notes)

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- Thank you for inviting me.
- I have long admired the leadership of Gordon McBean — for his work — for well over two decades in bringing the challenges of climate change to the forefront of Canadian public policy.
- Congratulations to everyone here on establishing the Ontario Climate Consortium. Your effort to bring under one umbrella different perspectives on climate change — from academia and NGOs to on-the-ground efforts to focus on climate solutions here in Ontario — is timely and I think a model for other jurisdictions struggling with the best way to address climate impacts.

Global change research

- I wanted to begin by mentioning the efforts of another consortium — the U.S. Global Change Research program that brings together 13 U.S. federal agencies to release a consensus assessment of climate trends and likely impacts.
- This process brings together the usual partners one would expect in addressing climate issues — the U.S. Environmental Protection Agency, NASA, the National Science Foundation, and Interior that includes Fish and Wildlife — but it also brings together some unusual partners — Commerce, Defense, Agriculture, Energy, Health, Transport, U.S. AID, and the State Department, to examine the effects of climate change.
- The first point is that this diverse range of agency interests reflects the breadth or cross-sectoral interests of climate change— exactly the same impetus that goes into the Consortium.
- The breadth of players also underscores the increasingly obvious fact that climate change long ago ceased being some kind of specialized environmental issue. It is now affecting how we think about economy-wide and sector-specific risks — about national security, human health, agriculture, trade, infrastructure and transport — the list goes on.
- This thinking is hardly new to Canada. The 2008 report *From Impacts to Adaptation* sets out in detail the probable impacts of climate change by region and by some key sectors, including forestry, fisheries, mining, transport and the public health sector.
- We are also pleased that that report is being updated, and my congratulations to Don Leman for his past work, with so many others, on it.

- The second reason I mention the Global Change Research program is that its third draft National Climate Assessment report, was released earlier this year.
- The findings are preliminary.
- But what I found striking is that it sets out modeling scenarios well beyond the 1.5 degrees Celsius to 2 degrees Celsius range increase. It now contains scenarios of 4.5 to 5 and an outer margin of 6 degrees Celsius.
- Not long ago experts ran models of 0.5 degrees to 1.5 degrees Celsius as the upper bound range of increase.
- To me, the modeling parameters means we need to rethink urgently our worst-case scenarios. Climate change is happening far more quickly than most predicted even a decade ago.
- The third U.S. National Climate Assessment will be an important report, coming just before the next IPCC assessment report in 2014.
- We all know that there will be a line-up of vocal opponents to the U.S. report, and to the IPCC, when it is released.

Science, economics, governance attacks

- I think we have all seen this movie before in the environmental agenda. First, attack science as being incomplete or biased. Then raise the economic issue — basically competitiveness — because it is too costly. Then argue that global accords are cumbersome and the UN is broken
- As an aside, this is familiar to me on a much more modest level.
- When I released my final report as commissioner for the environment a few months ago, some dismissed me as an 'environmental extremist', because I said the federal government should exercise its legal and regulatory mandate and identify which of the hundreds of chemicals used in hydraulic fracking should be classified as toxic substances. 'environmental extremist', — because I said the federal government should exercise its legal and regulatory mandate and identify which of the hundreds of chemicals used in hydraulic fracking should be classified as toxic substances.
- Some of these chemicals are classified as toxic under federal CEPA regulations include benzene, acids, solvents, so I suggested Ottawa needed to do a better job understanding whether those chemicals pose a risk to human health or the environment.
- On a much bigger scale, we saw this right at the outset — when Rachel Carlson released *Silent Spring* — blistering attacks from the U.S. chemical industry.
- If one of the themes of this talk is climate in a turbulent time, then surely one of the areas of turbulence is the attacks on science that climate change has built upon from the past and magnified.

The second area is economics

- While attacks on climate science will continue, the main focus in Canada, Europe, and the U.S. is on the relative costs of greenhouse gas mitigation.
- This is hardly new.

- People — Pearce, Norgaard, Repetto and many, many others — were looking at mitigation cost curves two decades ago.
- Nicolas Stern's work moved the economic aspects of climate change to the forefront with his work six years ago.
- Predictably Stern was attacked as overstating the economic costs of climate change — including the costs of inaction on GDP.
- So when I saw the headline — “Stern at Davos” meeting admits he got it wrong — I read it immediately.
- And what Stern said at the last World Economic Forum was that he was wrong in assuming an average global temperature rise of 2 degrees Celsius, since that will likely be passed before the end of this decade.
- We needed to start getting a handle on the economic costs of a 3- or 4- or even 5-degree increase.
- Work by Thomas Homer-Dixon and others have shown that the cost increases of these temperature ranges is not a doubling, but there is a real risk of unforeseen non-linear and spiraling impacts and costs.
- Which is why for me the other big message out the Davos World Economic Forum meeting was that of Christine Lagarde, the head of the International Monetary Fund — probably the single most conservative economic institution in the world — at the world's single most conservative gathering of economic interests — who called climate change the single most urgent economic challenge of the twenty-first century.

The other example of turbulence is obviously the global economic melt-down down from 2008, uncertainty of the Euro-Zone and the sluggish recovery in the U.S.

- This creates an additional burden on finding solutions to climate change. The general argument is that we need to get the economic fundamentals back on track and then turn to climate change.
- And you can see everywhere a lagging commitment to climate policies because of the economic downturn and uncertainty.
- I think this sequence is wrong, and there is a need to integrate climate issues right into the sequencing of market reforms — from enhanced transparency, which was lacking in the European Emissions Trading Schemes, to carbon finance more broadly.
- When looking at how the climate debate has been approached, it has generally been divided into either mitigation or adaptation.
- In Canada and elsewhere, the economics of climate change have been on mitigation.

The relative costs and associated competitiveness

- More specially, around the relative costs and associated competitiveness effects of different mitigation instruments, from carbon pricing to emissions trading, and offsets to the federal regulatory approach of Ottawa.
- The simple political argument seems to be that regulations have lower relative costs than carbon pricing. For those of you following this, my colleague Dave Sawyer, the head of IISD's climate work, last week released a report that estimates the federal government's sector by sector regulatory approach will cost \$35 billion by 2030.

- One reason why the economics of climate change have tended to focus on mitigation rather than adaptation is because of the general view that private costs will cover mitigation, while the public purse will support adaptation.
- This is obviously an oversimplification.
- But I think in the public's mind, the impacts of climate change revolve around single episodes like extreme drought in the U.S.; or here in Ontario last summer: heat waves and forest fires; the costs of rebuilding roads in New Brunswick; or Newfoundland following extreme weather events in 2010 and 2011.
- These costs are seen to be part of public support.
- I think that assumption is largely wrong because it leaves the image that climate adaptation is essentially reactive and therefore excludes the need for preventive measures — namely around resilience through climate proofing.
- The third area worth noting is turbulence in the international arena. Quite simply — is the UN capable of responding to climate change?
- One of the big outcomes of the UNFCCC process was the agreement around Fast Start climate finance. Industrialized countries pledged \$100 billion a year to various climate projects.
- By UN standards, this is a really big deal.
- Compare this with the Global Environment Facility — the main financing instrument at the international level over the past 20 years — with a three-year budget of around \$2 billion in total.
- But when you compare that amount to current climate finance, it pales. The estimate total spending on climate projects — both mitigation and adaptation — was \$360 billion in 2011.
- But the real challenge is to make climate resilience part of planned spending in the key economic sectors I mentioned at the beginning

Infrastructure spending

- Take one example— that of infrastructure.
- Forecasts suggest that between \$3-and-\$5 trillion will be spent on all categories of infrastructure between now and 2030.
- The cost of climate proofing those infrastructure projects is — according to estimates forwarded by Simon Zadek, a senior fellow at IISD and presented to the 2013 Davos meeting — is about \$700 billion per year.
- So there is a need for roughly double the total amount of all climate-related spending in all areas just to climate-proof planned infrastructure.
- These are big numbers, but below the probable costs planners are facing now.
- I was in Winnipeg last week. There, water levels in Manitoba are going through dramatic swings from year to year — from extreme drought, to extreme flooding, to extreme drought.
- While the aggregate water levels appear flat, these swings make long-term planning around 100-year asset investments like hydro-electric power increasingly uncertain.

- The biggest challenge now is around getting more precise information from models useful at the local and regional levels, so that engineers, town planners, farmers, public health authorities and others can get more granular and detailed forecast information to begin making decisions today about and longer-term planning.

Commissioner of the Environment and Sustainable Development

- In 2010, as the federal commissioner, we looked at how the federal government was doing in assessing — as they were required — both their own climate vulnerabilities within their own departmental mandates as well as providing a public service to Canadians around adaptation.
- The first area wasn't promising. There were some good examples, but what I recall as astonishing was to be told by Agriculture Canada that they didn't do long-term climate vulnerability assessments of their own farmer support programs, and didn't have a sense as to when single-year anomalies in things like average rainfall data, repeated to become multi-year patterns.
- Which sums up for me where we are right now with climate adaptation in many countries: it is understandable to be caught by surprise by single episodes.
- It is not excusable to be caught by surprise by trends.
- When we looked at what federal departments were doing in helping Canadians, it was a different story.
- We saw good work being done at the pilot project level, by such departments as Aboriginal Affairs and Northern Development and Fisheries and Oceans in working with local communities — with villages, town planners and managers, First Nations elders, health officers in Northern Canada — to identify climate vulnerabilities within specific communities and then identifying climate resilience steps. We also saw Ottawa helping coastal communities — for instance in Shediac, New Brunswick, update emergency evacuation routes for low lying coastal communities.
- While our report concluded that Ottawa was doing a good job with these climate projects, they were too few and far between, and the demand for support from the federal government would absolutely far outstrip the supply.
- To Ottawa's credit, it did announce a multi-year federal climate adaptation policy in early 2011 of around \$120 million. This was welcome since no federal approach existed.

National adaptation strategy

- But clearly what is needed is a national climate adaptation approach, not just a federal one, to ensure efforts of different jurisdictions at least inform one another, avoid unnecessary duplication, and find ways of better cooperation.
- What we need to do with adaptation is avoid the piecemeal approach that now exists in Canada around climate mitigation, with no clear national approach that can simply add up CO₂ emission reductions from different provinces and Ottawa, based on carbon taxes in B.C.; around coal-fired sources in Manitoba; intensity targets in Alberta; and the sector by sector regulatory approach in Ottawa.

Policy coherence

- One area I've become quite interested in is that of policy coherence — making sure that expenditures in one area do not offset objectives in another area.
- Two years ago, we reported that Ottawa allocated more than \$9 billion between now and 2002 on various climate mitigation programs.
- Three months ago, as Commissioner, we reported that the federal government spends roughly \$800 million per year on various subsidies — grants and tax breaks directed at the fossil fuel sector.
- So the obvious risk is that efforts to mitigate are being partially weakened by federal efforts that promote market distortions through subsidies that lead to increased greenhouse gas emissions.
- But I think there are interesting lessons from the fossil fuel subsidy story that is of direct relevance to finding ways of attracting private sector financing in climate adaptation.

Tax breaks

- When you look at federal subsidies to the fossil fuel production the two biggest instruments are tax breaks to company investments. The first is the Accelerated Capital Cost Appreciation tax break that was successful in drawing investments into the Alberta oil sands in the 1980s and 1990s by changing how asset depreciation was counted; and the second are flow-through shares in Canada's mining sector to acknowledge and lower the risk to investors looking to invest over decades — by definition a time period of uncertainty — in new mining projects.
- I think the lessons from those kind of tax policies now need to be looked at closely to find ways of attracting private sector monies into climate-proofing and climate resilience actions not only in Canada but worldwide.
- We simply can't hope that public donor actions like FastTrack will be enough over a long period, especially given the challenges, such as that which European donors are facing today because of economic instability in the Eurozone.

IISD — colleague Melissa Harris here

- I joined IISD just a month ago, and am impressed by the work my colleagues are doing to identify climate-related vulnerabilities in Central and South America and the Caribbean, Africa and Asia. Their work brings forward practical climate adaptation steps based on both bottom-up community perceptions of climate risk, as well as top-down quantitative model based climate assessments.
- One example is IISD's work with UNDP and others, in assessing the impacts of climate change on coffee growers in Uganda and Peru. It looks beyond single crop production to the value chain within farm markets to find points of resilience.
- In Dominican Republic, again after using climate models and community interviews about perceived risks, my colleagues have been mapping resilience for seven water reservoirs and related upper watersheds. They are beginning to start shifting crops — namely from maize to sorghum — based on projected water availability

- A third example is looking at food security indicators that integrate climate vulnerability data in Honduras, Nicaragua and Guatemala, to work on community-specific climate vulnerability indicators, to look at crop types; water scenarios; and impacts on livelihoods already highly vulnerable by poverty; income inequality; and governance fragility.
- Here in Ontario, my colleagues have been working with Carleton University and other partners to identify climate vulnerabilities in eastern Ontario, and explore new adaptive management steps — using GIS tools — to identify options at the landscape planning level.

These examples underscore the truism that on-the-ground climate adaptation work is largely local

- It demands bringing global, highly aggregated models down to a scale that city managers, engineers, architects, community leaders, public health officials and others can understand and use.
- Which is why the creation of the Ontario Climate Consortium is exactly what we need to make these links between global and local, in an inter-disciplinary way.
- I know that inter-disciplinary work in academia is hard — indeed it is generally frowned upon. There are few incentives within academia for this kind of work, but I hope this is changing.
- But I think, frankly, if the Pentagon and EPSA can get their act together in a political setting as dysfunctional as Washington, we can do it right here in Ontario.
- So let me conclude by congratulating you again for this meeting and the creation of the consortium. IISD is keen to work with you — we all need to pull together to address climate adaptation.