

Submission to NB Select Committee on Climate Change

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Intro – who am I?

- Immigrant to Canada in 1983 – like NBers going west for work, I crossed the Atlantic from the UK to build a career as a wildlife ecologist in Canada.
- This, after conservation work, research and teaching in the Caribbean, Indian Ocean and East Africa.
- Worked for Environment Canada (Canadian Wildlife Service) in Ottawa and Saskatoon until moving to research chair at UNB in 1994.
 - and incidentally, convened a CWS workshop on impacts of climate change on wildlife in 1988!
- NB was attractive in offering the close proximity of a historic city to "genuine" wilderness – extensive forests and clean rushing rivers, with easy access to colonies of marine birds which were one of my early research interests.
- Now Emeritus professor at UNB. Involved in climate change research (effects on wildlife) off-and-on since 1988, but most research on relationships between bird populations and environmental change.
- We own a small woodlot near Stanley on which we have built a moderately energy-efficient house where we raise chickens and grow vegetables, and have helped start a new small business in downtown Stanley. Home is 1-storey, uses passive solar heating and in-floor radiant heating powered by heat pump using groundwater. Costs \$800-900 p.a. to heat 1350 sq ft.
- Speaking as a concerned and somewhat knowledgeable individual who chose to live in the spectacular well-kept secret that is New Brunswick. Not representing a group, but have been involved with the NB Environmental Network and other environmental NGOs, on this and other issues.

I want to make several general points; I am not a specialist in any particular area of interest to you, such as carbon pricing/taxing, but there are several broad points I want to make. Other presenters have made some of these but they need emphasis and will bear repetition.

The first is that there is a strong need, and ample justification, for **optimism** on the topic of climate change. This is not something we hear very often, but is critically important; we **need** to be optimistic because nothing stifles action so much as the lack of hope that anything can be done. It has been said that "*hope for a better future provides a meaningful present*" – if we have no hope for a better future, we are likely to be dissatisfied with our present lives. If we need people to act – and we do, right now – we must offer the reasonable prospect of genuine progress.

- The first reason to be optimistic is that we are here, in this room, to talk about solutions to the problem. That all of you, busy and accomplished people of different political persuasions, are willing to sit and listen to your fellow citizens, day after day, all over the province, is not

something I believed would happen in all the 30 years I have been worrying about the warming of our planet. So thank you and I will try not to make your eyes glaze over in the next 20 minutes!

- The second reason for optimism is the incredible commitment and expertise that other presenters to this Committee have brought to the process already. I have found the submissions by individuals and groups to be instructive, comprehensive, thoughtful, educational, and extraordinarily impressive. Someone has already said everything I want to say, but as a (former) teacher I know the value of repetition so I hope you will tolerate hearing points you have heard before. I hope that you have been equally impressed by the quality and expertise that New Brunswickers all over this province are bringing to bear on meeting the challenges of climate change. Government doesn't need to do everything by itself – it needs to provide the framework and environment to smooth the path for the people it serves. My fellow presenters have shown you that the knowledge and commitment are already here in the people of New Brunswick.
- The third reason for optimism is that we know pretty much what to do. As a researcher you probably expect me to say we need more research and in a sense we do but in terms of the big changes we need to make now, we know broadly what those are and need now get on with it. In particular, we need any public education program to focus on solutions, not problems; we all know I think how bad things might become; we need to turn our attention to what we need to do to head off the worst of those consequences.

My second general point is that meeting the challenges of climate change is not something for one department of government. Like "efficiency", it is a cross-cutting issue that affects **every** department in some way.

- Another speaker - I think it was Lee Reed – suggested that the Mandate Letter to **every** Minister should "include an emphasis on reducing GHG emissions in every decision and recommendation they make." I would argue further that future climate impacts should be considered in **all public funding decisions** with the goal of optimising reduction of GHG emissions and capacity to adapt. The Bathurst Sustainable Development submission made much the same point. I think this is what is meant by "Mainstreaming Adaptation" in the 2014-2020 Climate Action Plan, but it is not well developed there.

Some examples of the consequences of other policies for climate change adaptation and mitigation:

- **Forestry:** others have pointed out that forestry practices current in New Brunswick do not meet the goal of minimizing GHG emissions, in many ways:
 - Clear-cuts remove an entire carbon sink at one time, and over time store much less carbon than selective or shelterwood harvesting, even taking into account the carbon stored in harvested products (Puhlick 2015, PhD thesis, University of Maine). This is in addition to the negative effects on water retention and watershed protection that are well known to result. The AG has already highlighted the

continuing retrograde practice of clear-cutting in >80% of the NB harvest. Added to its sins is now the negative impact on carbon-storage capacity.

- The herbicide spraying subsequently applied to most clear-cuts then removes regenerating hardwoods with their additional carbon-storage capacity. This, in addition to replacing numerous jobs for woods workers with employment for the few who run the aerial spraying. Neither clear-cutting nor herbicide-spraying meet the goal of enhancing carbon-storage capacity, much less matching that of the natural cover of Acadian mixed wood forest. Under "**Biological Sequestering of Carbon**" in the provincial Action Plan is this aspirational phrase: "*encouraging development of land-use management plans and practices that enhance carbon storage*". Commercial forestry is the single largest land-use activity in this province, yet it violates this principle with the encouragement and approval of government.
- Allowing harvesting on steep slopes, and increasing harvest from stream buffers, are just plain bad forestry! They both increase siltation of watercourses, and increase erosion from overland flow of water, thereby reducing the adaptation capacity of the landscape. Again, carbon storage capacity is depleted, not enhanced, by this forestry activity.
- My next example of the relevance of climate change across departmental silos is Energy Efficiency. Removing Efficiency NB from a stand-alone agency to a department within NB Power might have saved some costs, but it lowers the profile of the need to improve energy efficiency across all sectors and suggests it is just an NB power initiative.
 - The opportunity to reduce energy demand – and therefore lower the needed supply – needs to be grasped wholesale across all government and other activities. The role of government, apart from leading by example (such as the highly commendable Electric Vehicle (EV) initiative by NB Power), would be to provide a rebate or subsidy framework to help communities and householders to enhance both the efficiency of their buildings and operations, and especially to make investments in installing renewable energy systems.
 - It is a surprise to many that "Net Metering" (selling locally-produced power back to the grid) is possible in NB; the topic is somewhat buried in NB Power's website, and is certainly not promoted there. Widespread adoption of locally-produced power feeding into the grid will be necessary to implement the Smart Grid approach that NB Power is currently working on.
 - Costs of solar and wind generation for households and other buildings have reduced so much in recent years that many citizens would probably require relatively small subsidies or rebates to be able to fund such investment. What was prohibitively expensive eleven years ago (when we built our own passive-solar home) is now feasible for many, but the province is still poorly supplied with qualified contractors to install such systems.

- A widely distributed energy production system would have multiple positive impacts: it will provide many new jobs for installers and contractors; it will reduce the energy demand on NB Power; and it will greatly improve energy security for households and communities, enhancing the province's capacity to adapt to increasingly severe weather events.
- Wetlands Policy and Water Classification also have important contributions to make to increasing adaptation capacity of landscapes. Wetlands are both (potential) carbon sinks, and natural mitigators of effects of extreme rainfall; the provincial Wetlands Policy, if enforced, could make a significant contribution to climate adaptation. Coastal wetlands can also help in buffering against erosion.

Therefore, existing and proposed policies and decisions related to the landscape – including water and wetland policies, land-use and forest policy – should be directed towards enhancing those systems' natural capacity to mitigate impacts of climate change.

- Transitioning to a low-carbon economy: It makes *no sense* for government to pursue investment in the old carbon economy (e.g., hydraulic fracturing and the Energy East pipeline) at the same time as trying to transition to the low-carbon economy that will be necessary for civilisation to survive. A truly innovative approach to distributed, renewable energy sources could create far more jobs than building and maintaining a pipeline that simply facilitates the export of more dirty oil around the world. I made the same point to the Commission on Hydraulic Fracturing; the first step in transition to a low-carbon economy is to stop investing in the high-carbon economy, and divert those investments to accelerating adoption of renewable energy alternatives.

Responses to (some) questions in the Discussion Guide

What are the best ways to ensure that energy efficiency and other GHG reduction strategies will provide the highest economic benefits for the province? What approaches would benefit both the environment and the economy?

*Enable communities and individual householders to retrofit buildings to improve insulation and provide local sources of power (solar, wind, micro-hydro) - **promote** net-metering – subsidies/rebates to make affordable, e.g. through PACE. Close coal- and oil-fueled power stations. Provide EV refuelling points throughout province. This will provide lots of work for electricians and other installers and contractors.*

NOTE: *The question implies that GHG reduction is bad for the economy. Yet according to the 2014-2020 Climate Action Plan, between 2005 and 2012 GHG emissions were **reduced by 17%** while the economy (GDP? It doesn't say) **increased by 19%**. So in those years, GHG emission reduction did not harm the economy!*

2. What specific steps are required to help direct the provincial economy toward a low-carbon future? What specific elements of the low-carbon economy should New Brunswick pursue as a priority?

*See above! **Do Not invest any further** in fossil-fuel economy. Divert those potential investments to supporting a widely-distributed renewable-energy system.*

3. Given that a reliable energy system is essential for a functioning society and given that burning fossil fuels is a major source of GHG emissions, what is the appropriate mix of renewable and non-renewable energy resources that the province should pursue now and in the future?

Minimise use of (dependence on) fossil fuels and promote widespread community- and household-based generation of renewable energy.

4. How can GHG emission reductions be achieved while improving the competitiveness of New Brunswick industries?

Invest in the energy technologies of the future, not the past; there are great opportunities for new businesses in manufacture and installation of renewable-energy equipment.

5. What are the most effective methods to influence the behaviours of individuals, households, governments and business to reduce energy waste and advance investment in low-carbon opportunities?

Provide rebates and/or subsidies to promote retrofitting and installation of local distributed renewable energy sources.

Implement strict building regulations to ensure that new construction is as energy-efficient as possible, and designed to optimise (for example) passive solar heating benefits.

We need to move beyond "facilitation" and "encouragement" (words used commonly in the current Action Plan) to "ensuring", "supporting" and "implementation".

6. For what priority areas should New Brunswick seek federal funding in the areas of mitigation and adaptation?

7. What are the proper roles for individuals, businesses, communities, non-governmental organizations and governments in climate change mitigation and adaptation?

Government provides leadership by adopting energy-efficient and climate-resistant practices throughout its operations, and incentives to help businesses, communities and individuals follow suit.

8. How do governments ensure that efforts to build resilience remain ambitious and sustained?

Let NGOs do what they do so well, listen to them, fund them adequately. Support them with appropriate regulatory frameworks. Involvement of the public is essential to ensuring resilience is sustained.

9. What climate information, science and tools are needed to support decision-making, and what improvements can be made in the way information is collected and disseminated, and services are provided?

10. What are the most effective instruments and approaches, including policies, programs, standards, regulations, laws and others to implement strong, complementary adaptation actions within New Brunswick?