

Please find below a list of suggestions I wish to submit for consideration with regards a new Provincial and Federal Climate Change Strategy:

1. The education of all about the causes and impact of climate change is extremely important.
2. A paradigm shift in thinking is needed involving the realization that our current approach towards economic growth based on the use of fossil fuels and destruction of natural habitats is destroying and endangering life as we know it on this planet (people are dying due to the effects of climate change, the number of endangered and extinct species is increasing, the oceans are becoming acidified, methane is being released into the atmosphere from melting permafrost etc.).
3. The social and cultural effects of climate change need to be addressed; the effects especially on the most vulnerable people in our society, population increase, migration/immigration etc.
4. The psychological impact of climate change requires addressing - the fear of its consequences such as loss and harm to human life, damage to property.
5. The environmental impact of climate change needs to be addressed and infrastructure developed.
6. A focus has to be placed on the importance of providing and maintaining clean air, water, and soil for all life by developing green technologies; we are addicted to the products and use of fossil fuels and need to find alternatives.
7. The promotion of problem solving and critical thinking towards solving the issues we face with regards climate change is crucial: systemic issues within government, economic investment issues, ethical issues, lack of action etc.
8. Systemic issues within government that perpetuate the continued use and exploration of fossil fuels have to be addressed (80% of known fossil fuels need to remain in the ground in order to avoid catastrophic effects of climate change: please see United Nations IPCC memo).
9. There should be no further development of fossil fuel resources within NL, or the Gulf of St. Lawrence, in the Alberta Tar Sands or the Arctic.
10. A total ban on hydraulic fracturing is essential.
11. All subsidies that support and continue the expansion of the fossil fuel industry must stop and subsidies for the development of green economies provided instead.
12. We need to diversify our economy as our current reliance on the fossil fuel industry subjects us to market volatility.
13. By acting now we will reduce the cost of the impacts of climate change in the future.
14. Our institutions need to divest from the fossil fuel industry and stop benefitting from climate destruction.
15. We need to invest in the development and production green technologies and a green economy.

16. We need investment in communities who face the greatest impacts from climate change.
17. We should have a legal right to a healthy and safe environment.
18. We should have legal consequences for corporations and businesses who are contributing to or not doing enough to mitigate and adapt to the effects of climate change (much like tobacco companies)
19. Social services are required to assist vulnerable people within our communities from the effects of climate change.
20. Action needs to be taken on the current and projected effects of climate change locally, regionally, nationally, and globally – reports that sit on shelves collecting dust do nothing – policies and regulations need to be developed and enforced.
21. Regulations should have a core focus on mitigating the effects of, and adapting to, climate change
22. The focus should be on funding local communities and local strengths and development rather than huge megaprojects such as Muskrat Falls.
23. Paid personnel/local coordinators need to be hired who can work with local communities, listen to their concerns and ideas, and coordinate, develop and implement actions plans that encourage self-sufficiency, generate green technologies, and mitigate the effects of climate change.
24. Demonstration projects as examples for others to adopt should be developed.
25. Policy changes are required that allow for net metering (enabling energy generated locally to be fed into the grid for others to use): e.g. change the regulations that currently prevent wind power and other renewables from tying into the grid in NL
26. Policy, funding and development of wind, solar, geothermal, water/wave energy resources is needed.
27. Policy, funding and development of infrastructure that can accommodate climate change impacts such as flooding, wind damage, landslides, loss of crops and trees etc. caused by severe storms and rising sea levels, is required.
28. Emergency shelters/buildings need to be established or built.
29. Policy, funding support and encouragement of local food production is needed.
30. Ensuring the harvesting of local food sources, such as fish, be sold and bought locally rather than shipped overseas for processing would help.
31. Providing policy and funding for diversification of food production such as the use of milk for making cheeses, yoghurts would be useful.
32. Encouraging the creation of community, rooftop and greenhouse gardens is needed.
33. The national building code needs to be changed to promote green economies.

34. The home heating renovation project that subsidized home insulation needs to be reinstated.
35. The individual purchase of solar, geothermal, wind, water power technologies for homes should be subsidized.
36. Affordable green modes of public transportation needs to be provided.
37. The purchase of electric vehicles needs to be subsidized.
38. The infrastructure (electric charging stations) for electric vehicles needs to be developed.
39. Car pooling for government workers should be encouraged.
40. Working from home to reduce transportation impacts should be encouraged.
41. Ensure unneeded heating, lighting and air conditioning in government buildings is turned off.
42. Extensive recycling programs require establishing.
43. Waste management requires improvement.
44. Sustainable industries such as fisheries, agriculture, and tourism/eco tourism need to be encouraged.
45. Where can funding for all this come from:
 - establishing a carbon tax on corporations, companies, and institutions not individuals
 - increase the national tax on those with higher incomes

SEPT 15 / 2016

DIRECTOR OF GOVERNMENT RELATIONS
MR. CHAD BLUNSON

DEAR MR. BLUNSON:

MY NAME IS [REDACTED] I FIRST
BECAME AWARE OF THE CLIMATE CHANGE
BRANCH OF YOUR DEPARTMENT, ON SEPT
08 / 2016.

I AM CONCERNED ABOUT THE FUTURE
OF MY GRAND-CHILDREN, WHAT KIND OF
WORLD, WILL BE LEFT TO THEM TO
MANAGE.

I HAVE SOME IDEA'S I WOULD
LIKE TO PASS ON TO YOUR OFFICIALS.
THEIR NEEDS TO BE A
NEW "CREDIT" FOR USERS OF PUBLIC
TRANSIT AND SO FORTH.

IF YOURSELF MR. BLUNSON, AND
PREMIER DWIGHT BALL, CAN APPROACH
THE FEDERAL GOVERNMENT, TOGETHER WITH
PROVINCIAL FUNDING, THIS WILL EASE AND
HELP MOTORISTS TO ADJUST TO AN
ALTERNATIVE ON THE "GREEN" PLAN.

THIS PLAN WOULD BE A 60/40
COST SHARED GREEN PLAN. 60% - FEDERAL
FUNDING. 40% PROVINCIAL FUNDING.

THE USERS OF BUSES WOULD BENEFIT
WITH INCREASED USER BASE, THE PEOPLE WHO
RIDE THE BUSES, PAY THEIR PASSAGE TO
THEIR DESTINATION, i.e. CONFEDERATION BUILDING
THE HOSPITALS, ETC, ETC.

A SMART PHONE App. COULD SCAN EACH PERSON WHEN THEY BOARD THE BUS, THE MORE YOU USE PUBLIC TRANSIT, THE MORE GREEN CREDITS YOU EARN.

THE MAXIMUM YOU CAN EARN WILL EQUATE TO A SUM OF \$1000.00 PAYABLE TO ONLY 1 PERSON IN A AVERAGE HOUSHOLD. i.e.

MR. SMITH WORKS 5 DAYS A WEEK AT THE HEALTH SCIENCES. MR SMITH WANT TO BE RESPONSIBLE ON THE GREEN INITIATION

PRESENTLY WHERE I LIVE WE HAVE ONLY TAXI SERVICE, HOWEVER THERE IS A GENTLEMAN WHO OWNS 2 BUSES, WHO MAY BE INTERESTED IF APPROACHED WITH A BUSINESS PLAN.

I THINK THIS IS WORTH EXPLORING. I SEE IN YOUR "CLIMATE CHANGE CONSULTATIONS" ON PAGE 6 THAT IN STUDIES FOR 2014, 34% OF "GREEN HOUSE EMISSIONS" IS FROM THE TRANSPORTATION SIDE.

IMAGINE THIS FOR ONE MOMENT → 2 BUSES WITH 40 PASSENGER EVERY DAY COMMUTING TO THEIR WORK PLACES. THAT'S 80 CARS A DAY PARKED LIMITING GHG EMISSIONS, (400 CARS A WEEK

Clarke, Elaine

From: [REDACTED] (via Google Docs) <[REDACTED]>
Sent: Tuesday, July 12, 2016 11:07 AM
To: Climate Change
Subject: Climate Change Consultations [REDACTED] - July 2016
Attachments: Climate Change Consultations [REDACTED] - July 2016 .pdf

[REDACTED] has attached the following document:



Climate Change Consultations [REDACTED] - July 2016



Comments on Climate Change

Fr: [REDACTED]

I recently attended the consultations on Climate Change in [REDACTED] held on July [REDACTED], but I did not register in advance. I would like to include my name in the list of citizens who participated in that consultation session.

[REDACTED] from [REDACTED] also traveled into the consultations with me and he too would like to be added to the list of participants. Both [REDACTED] and I are on the board of the [REDACTED] Fracking Awareness Group.

Comments on the Session:

You did a very good job delivering the presentation, however the consultations were very shallow when it comes to dealing with the the serious issue of Climate Change. The Government does not seem to want to seriously confront the issue and is merely scratching the surface.

Listed below are there three topics that were covered:

Topic 1 Growing the Green Economy

Topic 2 Adapting to Climate Change

Topic 3 Government Leadership

The three topics covered in the presentation failed to address the serious issue of Climate Change. The consultations came across to me as if Government was only worried about the "Green Economy" and "adapting to Climate Change". It was a failed effort in an attempt to make it appear that the Government is actively engaged on the file.

What was glaring in its absence was an outline as to how our Government will educate the general public in NL as to the significant implications of Climate Change. As a former teacher of elementary and junior high science, I would be very interested to know how the school curriculum is being adapted to educate our children (K -12) about Climate Change. It is essential that the Department of Education bring our children into the conversation on Climate Change. They will be the ones most impacted by the effects of Climate Change.

While I know that the Government has an awareness campaign called Turning the Tides that is designed to inform the public about Climate Change, I believe much bolder steps must be taken.

Additional Comments:

Government should bring in experts on Climate Change to speak to MHAs to inform them of the impacts of Climate Change, not just in our province but globally.

As a province, there should be looking at food security and promote growing our food right here in the province to cut down on transportation costs.

Rather than NALCOR, a crown corporation, spending an enormous amount of money promoting very risky oil and gas exploration (\$20,000,000 was spent on drilling exploratory wells in Parsons Pond in 2010), the money should be directed to exploring opportunities for alternative energy.

A net-metering program should be established

In the 70s, during the Energy Crisis, deterrents were put in place to discourage gasoline consumption. We should add a carbon tax on the sale of large vehicles such as 4X4 trucks that are being used by private citizens as passenger vehicles.

Energy consumption in Government buildings should be audited and a conservation program should be put in place

A ride-sharing program for citizens commuting to work and financial incentives should be provided to those people who participate. Example: Income tax deduction for those participating in a registered provincial ride-sharing co-operative.

Wind-energy should be considered for domestic power use

LED lights should be offered to consumers at a very low price through a rebate program

These are just some thoughts and no doubt there are many more that I am sure you have received while travelling the province during the consultation program.

Hopefully we will see our Provincial Government take bold action especially in education so that Newfoundland and Labradorians will better understand the full impact of Climate Change.

Thank you for making the presentation ... the consultations were a great start, but there is much more work to be done.

Sincerely,

[REDACTED]

Climate Change

From: [REDACTED] on behalf of [REDACTED]
Sent: Saturday, July 23, 2016 9:37 PM
To: Crane, Gerald
Cc: Climate Change; Blundon, Chad
Subject: Re: NL GHG emissions data

Hi folks,

I'm sorry I wasn't able to come to the public meeting on Wednesday to provide some input on the GHG emissions issues. I really wanted to be there, but unfortunately [REDACTED] and I'm in New York.

I went through the materials you sent me, and spent some time looking at the spreadsheet, and had a few thoughts. Probably nothing too original, and more questions than anything else, but I figured I'd send you an email, anyway.

Since the largest source of emissions by far is in energy, I assume that's where you're focusing in looking for ways to reduce emissions. I assume the "public electricity and heat production" is electricity generation, whereas the petroleum refining and the mining/oil/gas figure are process emissions, right? How much impact is Muskrat Falls (if it doesn't get shut down) expected to have on emissions from electricity generation?

What caused the major emissions jump in 2002? Did some new electricity source come on line that year, that you get simultaneous relatively-modest jumps in the emissions from electricity, mining, and refining all at once?

And what caused the jump in fugitive emissions in 2002, which seems to be the bulk of the overall jump in that year? Did they start tracking (or estimating) fugitive emissions differently in that year, that the figure rose so precipitously? But why did it decline after that? Are those emissions primarily from mining? Are they methane emissions? Presumably if fracking is allowed, they will go up substantially - at least if Canada requires the companies to provide enough data to seriously estimate fugitive emissions, which doesn't seem to be the case in the US. How do you calculate fugitive emissions? (Or are you getting those data from the federal government, and perhaps you don't know?)

So in light of the data, it would seem that the primary focus for emissions reductions would be mining and petroleum refining. Is the province working with those industries to figure out how they can reduce their emissions? Do you have information about which processes within the sector are actually generating the emissions, and thus what strategies might help reduce them? (I assume emissions from vehicles in the mining industry are classified as transport, not mining - is that correct? I'm more familiar with the classification of expenditures in the environmental accounts, where transport activities from trucks directly owned by a mining company would be classified as mining, whereas if they contract the transport to a transport company they'd be linked to the transportation sector. But the emissions data are classified according to point and mobile sources, not based on the classification of expenditures in the national accounts, right?)

On the transport side, does the province have the authority to introduce fiscal instruments that could create incentives to reduce emissions? Is a carbon tax an option at the provincial level? Not that anyone in NL is going to go for higher taxes, after the recent gas tax increase, but still it could be worth at least considering. What about revenue-neutral vehicle registration charges that are linked to GHG emissions, so it is much more expensive to register a more polluting vehicle and much less expensive to register hybrids and other

ULEVs? What is the off-road diesel category? Is that ATVs? Would it be legally or politically feasible to consider much higher registration charges on vehicles used for recreation as opposed to ones actually needed for work? Of course that would be hard to distinguish, whether specific vehicles were used for recreation or economic activity.

I know the LU/LUCF data aren't included in the total, but what was that high figure for 1999 about? The huge positive on forest land, instead of modest negatives all the other years seems very strange.

So that's it for my comments! As I said, mostly questions. But I'd be interested in answers, if you have time to send them. And if there is any follow-up public input on this process, I'd certainly be interested in participating.

I hope the public meeting was useful and interesting!

Cordially,

[Redacted]

[Redacted], PhD
Consultant on Environmental Economics and Climate Change

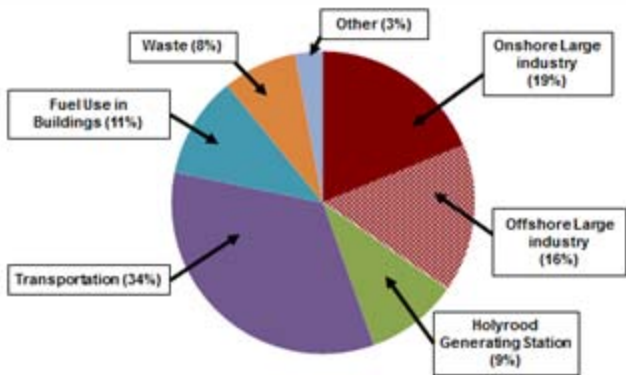
Email: [Redacted]
Phone: [Redacted]
In [Redacted]: [Redacted]
From within Canada: [Redacted]
URL: [Redacted]
Skype: [Redacted]

On Tue, Jun 21, 2016 at 7:06 AM, Crane, Gerald <geraldcrane@gov.nl.ca> wrote:

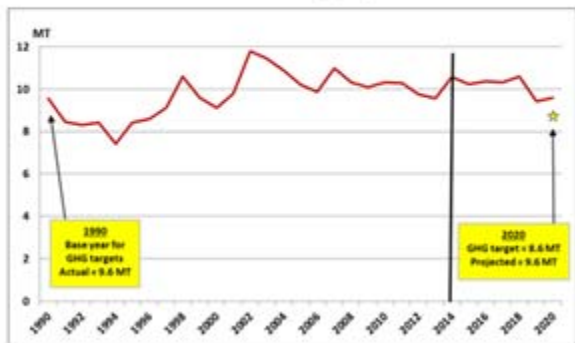
Please see the published NL data as collected annually by Environment and Climate Change Canada. Note that data for land use, land use change and forestry are not included in provincial data (as they are more ecosystem area based than provincial specific) but we include it for information. http://www.exec.gov.nl.ca/exec/ccee/greenhouse-gas-data/ghg_nl.pdf

Please also note that we publish two charts in various places. These are included here. The first chart adjusts the provincial data to accommodate for how we think about policy interventions, and the second is our published projections to 2020.

GHG Emissions by Sector
Newfoundland and Labrador, 2014



Newfoundland and Labrador's GHG Emissions
1990-2014 actual; 2015-2020 projected



From: Climate Change
Sent: Tuesday, June 21, 2016 8:01 AM
To: Crane, Gerald
Subject: FW: NL GHG emissions data

Hi Gerald,

Please see below and provide a copy of response to climatechange@gov.nl.ca

Thank you.

From: [REDACTED] [REDACTED]] On Behalf Of [REDACTED]
Sent: Monday, June 20, 2016 3:47 PM
To: Climate Change
Subject: NL GHG emissions data

Dear Sir or Madam,

I have just registered for the St. John's public session on the province's climate change strategy on July 20. In order to think sensibly about possible strategies for reducing GHG emissions in the province, I'd like to begin with data on current emissions by source. Can you provide me with such data? Or should I be looking for provincial data in Canada's submissions to the UNFCCC on national emissions?

I hope you can provide me with those data, and look forward to hearing from you.

Cordially,

[REDACTED]

[REDACTED]

Consultant on Environmental Economics and Climate Change

Email: [REDACTED]
Phone: [REDACTED]
In [REDACTED] : [REDACTED]
From within Canada: [REDACTED]
URL: [REDACTED]
Skype: [REDACTED]

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Clarke, Elaine

From: [REDACTED] <[REDACTED]>
Sent: Thursday, June 16, 2016 1:00 PM
To: Climate Change
Subject: My climate change strategy ideas

Hi there,

I cannot participate in any of the upcoming sessions so I want to submit my ideas this way.

Individuals can reduce GHG's by using their motor vehicles less. This can be achieved by using a bicycle instead of motor vehicles. However, most municipalities in NL are NOT bicycle friendly.

For example, I live in Gander, which is a relatively flat town that lends itself well to transport via bicycle. As a cyclist I feel nervous/unsafe at times on the roads. To further complicate things, I work at [REDACTED], which requires me to cross the TCH to get to work! There is no dedicated pedestrian/cycle over/underpass. It was recently announced that some roadwork will take place in this area to improve the flow of motor vehicles entering/exiting the highway and this may further impact the ability to bicycle to James Paton Memorial Regional Health Centre.

Also, the many new roads that have been constructed in Gander since I moved here in 2008 have no dedicated bike lanes. In order for me to cycle to the grocery store or Walmart I have to navigate very high traffic areas and quite frankly it deters me from doing it.

In summary:

- Drivers need more education about sharing the road w/cyclists;
- More signage for drivers to be aware of cyclists (this may also help promote cycling)
- Municipalities should be required to make roadways bicycle friendly or have bike routes.
- Investigate/promote municipal bike sharing programs?
- Make NL a cycling culture!

Other ideas:

- DO NOT ALLOW any more DRIVE THRU's!! Even now, we have a 3rd Tim Hortons about to open in Gander w/ a drive thru. Honestly, do we need that?
- Promote car pooling in smaller urban areas. People think of it as a 'big city' concept.

Thanks!

[REDACTED]
Gander

“How to reduce greenhouse gases emissions in Newfoundland and Labrador and perhaps save money, while doing so”

by [REDACTED]. Ph. D.

Issue 1. Reducing vehicle idling - easy to address, with multiple benefits and very low cost:

Rationale: Vehicle idling is an example of a frivolous behaviour, easily avoided, with no upsides and only a numerous and serious downsides. Reducing vehicle idling would therefore reduce greenhouse emissions, save money, and, by lowering the toxic air pollution in urban areas: improve health of the population and reduce the health care costs.

Prolonged idling to warm the engine is not necessary in modern cars, and not only wastes fuel, but also increases engine wear. Natural Resources Canada estimates that: *“Idling longer than 10 seconds uses more fuel and produces more CO2 compared to restarting the engine.”* - <http://www.nrcan.gc.ca/energy/efficiency/communities-infrastructure/transportation/idling/4459>

At the same time, the downsides of idling are severe and many – unnecessary emissions of greenhouse gases, lowering overall car fuel efficiency, increasing the demand and, therefore, prices consumers pay for gas. Last but not least, idling produces unnecessary toxic air pollution in the already polluted urban areas, often in the very places where it can do the most damage: in crowded locations and/or in places with people most vulnerable to such pollution (children and the sick): near schools, hospitals, crowded shopping malls and fast-food establishments. More cancer and more respiratory diseases from idling not only affect the sick and their families, but also imposes considerable health care and social support costs onto entire society.

In this province, the idling is a particularly acute problem:

- near schools, hospitals, and shopping malls, where drivers wait for extended periods of time to pickup family members (*I know this first-hand, living across the street from a junior high school*)
- school buses and taxis.
- drive-through restaurants, banks etc.
- in front of homes (via the use of remote starters)

Actions:

1. make idling while not in traffic (including using remote starters) for over, say, 30 sec. a ticketable offence;
2. educate the public on the facts of idling and on ticketing penalties: in particular: make it a part of driver licence tests – both for private and commercial (school buses, taxis) licenses. Information and fact sheets on idling are already available at NRCAN <http://www.nrcan.gc.ca/energy/efficiency/communities-infrastructure/transportation/idling/4459>

3. Install non-idling signage at all locations where idling is extensive and/or in places where many people can be exposed to the idling emission: schools and daycare centres, hospitals, retirement homes and stores.
4. strictly enforce the no-idling zones (ticketing!) in the locations listed in p. 3).
5. contact the companies operating school buses and taxis about the practice (in front of my son's school, I see regularly school buses idling for 30-45mins). I see also taxis and ambulances idling for very long time in front of the Health Sciences Centre, full of people particularly vulnerable to car emissions.
6. make acquiring the new permits for drive-through commercial establishments (fast-food, banks) more difficult.
7. Consider a polluter fee on car remote-starters, or at least attach the information sheet on idling with them.

Issue 2. Lower GHG emissions from buildings

Rationale: Energy efficiency is still the most cost-effective “source” of energy, which at the same time offers the largest per unit energy reductions in greenhouse gas emissions.

Actions:

1. make the energy efficiency standards part of the permit requirements/building code for all new houses and all new commercial building.
2. the standard does not have to be LEED – the province may consider using it as a starting point to develop its own, better fitting our climate and our building tradition than the standards developed in the US.
3. reinstate the household energy-retrofitting programs for the older homes, and make it worthwhile – it would not only help to reduce our emissions, but also stimulate the local economy by creating local energy-retrofitting jobs
4. for vulnerable people (seniors living in older houses; low-income families) provide financial support, or no-interest credits to help them with the up-front capital costs of energy retrofitting. This would be particularly important if any form of carbon pricing affecting households is introduced (see Issue 3).

Issue 3. Introduce effective and revenue-neutral carbon pricing:

a) carbon taxes as applied to the general population

Rationale: Done correctly, carbon pricing can be the most cost-effective way to reduce emissions, as it employs the market efficiencies to achieve reductions of emissions at the lowest financial cost. Furthermore, it would correct the fatal weakness of the neoclassical theory of economy in which destruction of the environment is done for free, because the economic theory and government practice consider damage to the environment an “externality”, i.e., assigns such damage the cost of 0, and therefore allows the polluter not to pay for their pollution, but instead transfer these costs onto others, by dumping the waste product of their operations into the environment for free.

Of the two main ways to put the price on carbon, cap-and-trade and carbon tax, I prefer the latter, as it is more transparent, can be applied across the board, instead to the selected sectors, and provides less opportunities for gaming the system with the use of political connections and is more fair as the new entries into economy are not at disadvantaged by the competition from the existing players that have their emissions “grandfathered”.

The main problem for introducing the carbon tax is the perception of it to be a “*tax grab*”. To counter this perception – **the carbon tax has to be “revenue-neutral “ and be seen as such:** every single dollar collected from the carbon tax should be returned to the people of this province, and in the way that the average person would notice.

Therefore, I propose that all the money collected from the population of NL should be returned in a transparent way to the citizens of this province by dividing the total carbon tax take from the population by the number of household and returning the equal amount to each household. This way the households that use more than their fair share of the resources (larger houses, bigger vehicles) will pay more in the tax than they get in refund, while those who use less – will see their carbon tax negative - they would get more from the refund than they have paid in.

There may be some households that are more vulnerable than others - if for no fault of their own have to use more energy than average (people living in isolated communities; families with many children, older people who cannot easily downsize their house). They should be helped using a small additional fund, preferably paid for from a part of the carbon tax for corporations. The fund should be used to:

- Support the vulnerable groups financially to address the causes of their vulnerability: by helping them reduce their energy usage by helping them with the up-front costs of home energy retrofit, or by helping them to move to a smaller house to reduce heating, or to a larger centre to reduce the commuting
- if such reduction in energy use is not possible or not practical - increase the annual refund for the low income people in such situation.

Revenue-neutral nature of the tax: for the carbon tax to be accepted – its revenue-neutral nature has to be seen - so the people of the province will not reject it as a just another tax grab. To make the revenue-neutral nature of the carbon tax seen - I am strongly in favour of the refund in the form of a separate check/bank deposit format, the way the HST or child tax benefit rebate are delivered. This solution I consider superior to the alternative (used for instance in BC) in which the money from

carbon tax is used to lower the income tax rates, because lowering income taxes:

- is less transparent - when looking at our slightly lower income tax rates we would not associate it immediately with the extra money we have to pay each time we get to the pump
- disadvantages the poor – since they don't pay much income taxes, they would benefit little from lowering the tax rates, hence the money they have spent on carbon tax would not be fully returned precisely to this part of the population that may be disproportionately affected.

To avoid the criticism that we introduce the carbon tax first and refund it only next year, I would suggest that in the first year of the program, the province “prepays” the refund expected for the 1st year, and from the next year on adjust the next year’s deposits up or down, if the previous year’s projection was off.

b) Carbon tax applied to the industry:

As indicated above the carbon pricing has to be applied across the economy – to both the population and to the industry/corporations. The latter is important, since most of the emissions in the province comes from industry. Most of it would be already included in the prices of supplies the corporations buy (paid at the gas pump, included in their heating bill, buying other products which price already includes the carbon tax), but a price has to be added on the activities that are not carbon taxed, for instance:

- **fugitive emissions** during industrial operations, like oil and gas extraction, transport and processing or cement production - should be subject to a carbon tax.
- **a cost for emission associated with changes in land-use:** if the organic carbon stored in soil is disturbed and released into atmosphere by disturbing the soil during building a subdivision or clear-cutting of the forest.

As for the refund of the carbon tax – I would see some refund, but not the total refund, as in case of general population. The reason for this is that the industry would already include the carbon tax they paid in the costs of their operations which in turn would reduce their taxation basis. Furthermore, I believe that a small portion of the industry-paid carbon tax should be used by the province to fund the program sheltering the vulnerable portions of society, as discussed above, and perhaps cover the costs of administration of the program. What is left after accounting for all these – should be paid back to the industry in the amount proportional either to each company's contribution to provincial GDP or to the corporate taxes they will pay. This would reward those in the industry whose contribution to the economy does come at the price of larger than average greenhouse emission costs per unit profit.

Issue 4. Transportation.

Rationale: Transportation is a substantial contributor to the province's GHG emissions, as well as responsible for the high costs of building, maintaining and policing the roads. Vehicle emissions also increase the health-care costs to the province, through increased rates of cancer and respiratory diseases and through injuries of road accidents. Reduction of single-occupant vehicle traffic would not only reduce the GHG emissions, but also reduce the traffic congestion, save on road maintenance and the need to build new roads, save on unproductive time loss by the population stuck in the traffic, reduce toxic air pollution and therefore save on the cost of health and social support for the sick. Therefore, the costs of the government action (like bus subsidies) should be measured against all direct

and indirect “collateral” costs of not doing so - i.e.the costs of all the problems mentioned in the previous sentence, which at the moment are considered and therefore – discounted.

Actions:

1. Carbon tax discussed in the previous section may bring the true societal costs of driving closer to its actual value.
2. The province should step in to help the municipalities with setting up an effective public transportation system, within and between municipalities, particularly in high-density areas, where such system is both most needed and most economically viable (e.g.north-east Avalon).
3. **Provide subsidies to bus tickets** (having lived next to a bus stop I have seen first-hand how the number of bus users dramatically jumped when after a strike bus fare was dropped for a short time to 25c). More users would make more bus lines viable and therefore shorten the travel times that are, in addition to the costs, the main obstacle to the bus transportation.
3. Help to set up **leave and go** programs that allow people commuting to downtown or MUN to leave their cars on the outskirts and drive the last part of their trip on fast buses. The recent proposal for such smart commuting from Kelsey Drive to MUN has failed for the lack of affordable parking area – the province could either gift crown land for such purpose or if not available – encourage the parking owners (e.g., the box stores) to open up their underutilized parking areas to such a use (this should be in their own interest as the users of this system could become their customers).
4. Promote **carpooling** among government employees and among the society at large.
5. Increase housing density and make the cities and towns more walking- and biking-friendly.
6. Provide financial incentives for **hybrid vehicles and electric cars**. Buy some electric vehicle for the government use to prove that they can function in our climate (if the fact that they work in Manitoba winters was not enough) and to help to jump-start the vehicle charging stations network.

Issue 5: Renewable energy generation

Rationale: The connection of the island of Newfoundland to Nova Scotia and the North American electrical grid (which will be completed soon) will open up new possibilities for the renewable energy production in our province. We have one of the best wind potentials in North America, and given the sparse population, the least of the potential conflicts about it, yet in the past the bottle neck for wind industry was the low demand for wind power during non-heating season. This would change with the connection to the NL-Nova Scotia link, as we should be able to sell the surplus energy to the Maritimes and Eastern seaboard of the US.

Actions:

1. Introduce net-metering to stimulate small-scale renewables,
2. Support the new wind power installations, particularly if they are community owned and operated (with additional benefit of stimulating the struggling rural NL economy)

Issue 6: Support environmental organizations and individuals who can provide expertise and human resources needed for the climate change programs.

Rationale: Over the last decade, such organizations have seen their already small support from the federal government sharply reduced, resulting in eroding their capacity and in some cases – threatening their very survival. The province should lobby the new federal government to restore such support and/or step in with our own support. This need not cost much and will be cost-effective, as such no-profit groups do not require much and, in turn may provide the expertise and original viewpoints that could help costly mistakes, at the fraction of the costs of doing all the work in planning and carrying our GHG-reductions programs by the government officials alone or by for-profit consulting firms.

Action:

1. Provide some core funding to the groups, organizations, or individuals working on issues relevant to GHG emissions and climate change in our province as a part of capacity building. We can not expect strong well informed voices from such groups if we force them to spend most of their time fundraising to keep the lights on.
2. Involve such organizations and individuals planning and preparing specific programs aimed at mitigating GHG emissions. Again, this should including providing some research money to the organizations or individual subject experts so they can afford the time and effort needed to properly research the issue, see what others are doing, and provide meaningful advice and often a different perspective. But not doing so we end up being penny-wise and pound foolish.

Global warming

The key to solving the problem of global warming is already well known: i.e. reducing GHG production as quickly as possible. The major sources of GHG production are also well documented. The cause of them is living beyond sustainable essentials, with 'essentials' being the keyword. Current commerce based on built-in redundancy and creating demand for non-essentials requires enormous unnecessary energy consumption in creating replacements for both materials and manufacturing. This applies as much to housing as to the computer which I am using to create this note. It applies equally to transportation. Replacing current hydrocarbon based power generation with wind, sun, hydro, tidal or wave generation will not work if consumerism continues rising on its current path. There are, therefore, both short term and long term changes required, some of which are quite achievable in the short term. I will address some of the latter readily available to governments focussing on personal transport and power generation. The alarming rate of species disappearance associated with global warming driven climate change is happening too fast for most species to change by learned experience and/or genetic selection, even if they are as mobile as birds, and is a sufficient driver for these actions on our part.

Personal transport (i.e. family vehicles):

Some crude data will help understanding the presentation – personal vehicle lifetime energy requirements are roughly as follows:

- a) Direct fuel consumption - 72% plus that used in the production of the fuel itself and for the delivery of the vehicle 8% = total 80%
- b) Manufacture of the vehicle - 6% plus material production 12% = total 18%
- c) Other = 2%.

Reducing any of these will help significantly. Your own data places transportation emissions at 34% of total provincial emissions which will become a higher proportion once the distortion created by Holyhood is out of the picture. A high part of these emissions is from private vehicles.

1. It is well known that fuel consumption/km increases rapidly beyond speeds higher than optimal for the vehicle and its engine design. In practise this is somewhere between 90 and 100km/hr. Accumulated data based on a 90km/hr optimum, places this at an increase of 15% at 110km/hr and 30% at 130km/hr. It is a simple matter to install **governors** in vehicles to restrict speed to below 120km/hr which permits passing acceleration. This is already mandatory in trucks in some places. Installing them in new vehicles would not be costly. It would also obviate the need for overpowered engines for the size and anticipated work of the vehicle. It is also clear that aggressive driving with rapid acceleration and braking increases fuel consumption.
2. The installation of **governors** would substantially reduce aggressive driving opportunity on the main highways as well as excessive speed. This in turn would reduce serious accident rates, most of which are driver caused. Most serious accidents result in 2 vehicles being written off. This results in the requirement to manufacture two replacement vehicles, costing more emissions not to mention the heavy costs related to such accidents. Some of these costs continue to the end of the lives involved. Enhanced policing tools and practises such as cameras and black boxes would also help.
3. Vehicle size is a major factor in fuel consumption rates and manufacturing emissions. It is obvious that it requires more energy to move more weight. This is not the only factor as larger

vehicles have to push much more air which is a significant part of fuel consumption increase at over 90kph. Larger engines also require much more cooling air which adds even more to resistance. Overly wide tires add to this as well.

4. Canadians buy far too many pickups with useless short boxes as family vehicles rather than cars. This could be discouraged by exacting a **higher scale of taxes** for non-commercial use of oversize vehicles, possibly based on vehicle weight per passenger.
5. The amount of energy required to construct a vehicle is very high as noted above. Recyclers are the unsung heroes of GHG reduction. Their replacement parts are affordable enough to justify purchasing parts that can extend the life of the vehicle by two years. Often this is completely unaffordable if you are using new parts. I have recently done this for my 2002 vehicle. Also, our son recently purchased a part for his 2000 vehicle for about \$30.00. The manufacturer's replacement part would have been over \$200.00. Extending the life of vehicles this long in this fashion could result in a 10 – 15% reduction in manufacturing energy for replacement vehicles and more from not having to make new parts. Recyclers belonging to the National Recyclers Organization are expected to adhere to policies requiring that all fluids are being drained and recycled with proof of this, the recycling of re-useable parts, the recycling of batteries and even the mercury in hood light switches as well as the recycling of metals e.g. crushed bodies, to retain their membership. **Tax relief** and other incentives for recyclers and the purchasers of parts could encourage extending vehicle life. (This should be tied to membership in the National Organisation, only three recyclers in this province are members at this time which reduces control of recycling fluids etc. as noted above).
6. An obvious saving is convenient public transport. Simply installing strategically placed park and ride facilities outside major centres would not only help GHG issues but also reduce traffic congestion and municipal road costs.
7. Unnecessary engine idling is a serious component of GHG production. There is the careless side of this and then the ridiculous side caused by drive through fast food outlets (which are almost all mainland chain franchises). Portugal Cove-St. Philips is taking action on the first part by producing signs for commercial outlets and by providing no idling stickers to all children at the local school. The second part requires rethinking legislation/permitting.

To recap – the focus is on personal transport. The recommendations are:

1. Require speed governors on all new vehicles set at 120kph
2. Increase tax rates on oversized personal vehicles based on weight of the vehicle per passenger
3. Enhance police ability to discourage bad driving
4. Provide tax relief to recyclers belonging to the National Association and to their customers
5. Enhance public transport through creating Park and Ride facilities at key points
6. Encourage idling reduction through handing out stickers to schoolchildren
7. Eliminate drive through restaurants

Power generation:

Muskrat Falls will be completed in due course. The new undersea transmission line to the mainland could be completed before then which could present new opportunities. The bulk of power generated will be exported to the mainland as is presented in the justification for this endeavour. Depending on contractual commitments to Emera it may be possible to start generating income by earlier use of the transmission line and its buffering capacity by generating add on wind, and tidal wave power which use off the shelf technology. The drive to displace hydrocarbon based generation

of power in North America at federal levels has intensified and will increase as more and more climatic disasters occur (this should also include natural gas generation which is a major carbon dioxide and methane producer given its fracking source). Labrador has a much greater potential for hydro generation than the Churchill River alone. The Province should take advantage of this in its own bid to reduce its dependence on oil.

1. Explore the possibility of using the buffering capacity of the undersea line to enable early installation of wind and tidal generation for provincial use as well as export
2. Assuming that the above is possible, create the climate for investment in the above as a means to reduce dependence on Holyrood and to generate employment and cash flow
3. Prioritize the opportunities for wind and tidal sites taking environmental issues into account as is being done in the Minas Basin trials.
4. Ban fracking altogether given its dreadful greenhouse gas record
5. Given the federal commitment to reduce/eliminate hydrocarbon based generation, encourage their actual financial partnership in Muskrat Falls (they already get substantial tax benefits from its construction).
6. Push the federal government into persuading Quebec to make transmission of power from Labrador financially viable for NL (the federal government has financial leverage it could use to this end in Quebec). The Belle Isle Straits tunnel and associated road construction would provide considerable financial benefit to Quebec and provide further leverage.
7. If #6 works, the Gull Island project should move ahead with federal and possibly Quebec partnerships
8. This Province has significant presence in the federal government and should use this to its advantage in this fashion during the current mandate, especially given the P.M.'s personal commitment to the environment.

To recap recommendations on power generation:

1. Evaluate potential for early wind and tidal power using the sub-sea transmission buffer
2. Whether or not #1 is possible, develop a plan for enhancing investment in the above
3. Locate sites with least environmental impact for wind and tidal power and regulation to this end
4. Ban fracking
5. Encourage federal investment in Muskrat Falls
6. Work with the federal government to create an acceptable climate for transmission through Quebec especially since other provinces already want a national energy grid
7. Put Gull Island on the table federally
8. Use our current federal leverage (the federal environment minister should be on side).

Submitted by:

[REDACTED]

[REDACTED]

Submission to: Climate Change Consultation, Newfoundland and Labrador

From: [REDACTED] (email: [REDACTED])

September 15, 2016

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Thank you for the opportunity to contribute to this consultation process. I am going to focus on emissions from transportation, both because, at 34% of the total, it is one of the largest contributors to emissions in the province and because it is an area where I have some experience, as an advocate for and practitioner of active transportation.

First, you note in your discussion document that reducing emissions from personal transportation will be challenging given the rural nature of much of the province. This is true to some degree. However, half of the province's population is concentrated on the Avalon Peninsula. Statistics Canada data shows that the population density for the St. John's Census Metropolitan Area (the North East Avalon) is relatively high in the national context. Only Montreal and some cities in Ontario and British Columbia are higher.¹ It would make sense, therefore, to focus on reducing emissions from private motor vehicles in this area, where very large numbers commute in single-occupancy private vehicles.

Here are some suggestions:

1. Commit to working with municipalities and the federal government to build the infrastructure needed to increase the share of personal journeys by bicycle, including e-bicycles, and other forms of human-powered transportation.

Study after study shows that good cycling infrastructure - particularly separated bicycle (or shared-use) paths - significantly increases the number of journeys made by bicycle.² Many people in the St. John's area want to cycle more, but feel unsafe doing so under current conditions. For example bicycle trails were named as a top priority in the City of St. John's Recreation and Parks Master Plan 2008 - 2018: "*The demand for bicycle trails was stated throughout the stakeholder consultations and 78% of residents surveyed agreed that more bicycle trails were needed, the highest for any outdoor facility. It was identified as the outdoor facility 'most' needed*" (Section 5.6).

¹ See: <http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/hlt-fst/pd-pl/Table-Tableau.cfm?LANG=Eng&T=205&SR=1&S=10&O=D&RPP=50>

² Among others, see this review of relevant studies: <http://www.sciencedirect.com/science/article/pii/S0091743509004344>

In addition, callers to a recent CBC *Crosstalk* show on the issue³ and posts in online forums indicate that even experienced cyclists are increasingly hesitant to bike on roads in the St. John's area due to the perceived danger caused by drivers here.

While some people find our topography challenging, promotion of electric-assist bikes alongside conventional bikes would make cycling attainable to many of those people. As for the idea that our weather is too bad and our roads too narrow or hilly, many cities with similar challenges have made huge strides in cycling infrastructure: Belfast and Edinburgh offer two examples.

As an initial step, a separated multi-use path (i.e., one open to bicycles, electric-assist bicycles, pedestrians and other human-powered modes of transportation such as skateboards) could be constructed to connect key hubs: extend and connect the existing pathway that runs along part of Prince Phillip Drive and Columbus Drive to a corridor running along Military and Lemarchant Roads as well as to Logy Bay Road and out to the Clovelly/Stavanger Drive areas and to Portugal Cove St. Phillips via Old Broad Cove/ Thorburn Roads and Portugal Cove/ Allandale Roads. Doing so would connect key areas of the city, including Memorial University and the Confederation Building, both to other urban destinations and to some key shopping and commuter hubs. Additionally, all existing municipal trails should be extended to cyclists as well as pedestrians.

Additional benefits of increased cycling infrastructure include: safer roads for all users; potentially significant savings to healthcare costs in a province with the nation's highest obesity rates and attendant illnesses; and infrastructure savings as bikes exact considerably less wear-and-tear on the roads. There is also considerable evidence that enhanced cycling and pedestrian access benefits local business as people are more apt to shop locally when they use these modes of transportation and have greater disposable income for spending in local restaurants and the like.⁴

2. Implement a program akin to the UK's Cyclescheme.

This program encourages commuters to switch to cycling for at least some of their journeys by offsetting the cost of bicycle and accessory purchases. Given our topography and some people's impression that cycling here is "too hard," it would be important that this program include electric-assist bicycles.⁵

³ <http://www.cbc.ca/news/canada/newfoundland-labrador/programs/crosstalk/can-cyclists-and-drivers-share-the-roads-safely-1.3639999>

⁴ For a summary of major studies, see: <http://www.citylab.com/cityfixer/2015/03/the-complete-business-case-for-converting-street-parking-into-bike-lanes/387595/> For a major UK government study on the cost-benefit ratio of investing in cycling infrastructure, see: <https://www.gov.uk/government/uploads/.../vfm-assessment-of-cycling-grants.pdf>

⁵ See: <https://www.cyclescheme.co.uk/>

3. Crack down on idling

According to Natural Resources Canada (NRC) if Canadian drivers reduced their idling time by three minutes a day for a year, it would eliminate 1.4 million tonnes of CO₂ emissions - the equivalent of taking 320,000 cars off of the road for that year.⁶ Emissions from idling are also implicated in numerous health problems, including asthma, cancer, and heart disease. Idling-related pollution is particularly harmful to children. Idling damages vehicle engines, reducing vehicle life and thereby indirectly increasing emissions as people replace their vehicles more frequently

Impressionistic evidence suggests that idling is epidemic in this province. Anti-idling laws should be implemented and enforced, whether at the provincial or municipal level.

A second means of reducing idling would be to institute an outright ban on drive-through windows at coffee and fast-food outlets. This would have the added benefit of reducing traffic congestion.

4. Increase the direct cost of parking

Despite the widespread whining, parking is currently cheap (at the point of consumption) and abundant in the St. John's area. This encourages people to drive when they could take an alternative transportation option and results in people cruising around looking for a cheap or free parking spot. Parking lots are a heat sink in summer. They create an uninviting vista for cyclists and pedestrians, thereby discouraging people from walking and biking to key destinations. Parking infrastructure also represents a significant cost in embedded emissions and exacerbates some of the effects of climate change, such as flooding, as most pavement is non-permeable. Parking infrastructure often destroys green spaces that further work to mitigate the effects of carbon emissions. The hidden subsidy to drivers of "free" parking is also borne by those who don't drive, thereby rewarding private motor vehicle use and indirectly punishing those who opt for other modes of transportation. Revenue generated from increased parking fees could be put to enhanced public transportation and active transportation infrastructure.

5. Reward people for choosing lower-emission options; penalize those who opt for inefficiencies.

Good cycling infrastructure would reward cyclists by allowing them to get around the city more efficiently than drivers. As a cyclist, my own experience is that when I have the ability to bypass traffic lights (as in the separated lane running along the Parkway and Columbus drive), cycling is often a quicker option than driving.

⁶ <http://www.nrcan.gc.ca/energy/efficiency/communities-infrastructure/transportation/cars-light-trucks/idling/4415>

Investments in public transit, particularly in the suburbs and exurbs, could make it an attractive option, rather than the inconvenience it is at present. The “common sense” complaints about the cost of subsidizing public transportation tend to ignore the massive public subsidies to private vehicles entailed in road and parking construction and infrastructure.

Finally, the province might consider a “luxury tax” of sorts on the purchase of “gas guzzlers” where these are not demonstrably needed for people’s work: pickup trucks, oversized SUVs and the like. In addition to an unnecessarily large carbon footprint, these heavier vehicles exact more wear-and-tear on our roads, resulting in greater costs to the public and greater emissions in maintenance and repair.

Online Submission #1

1.) What should the Government of Newfoundland and Labrador do to support economic growth while lowering GHG emissions?

I think there are a couple of things Newfoundland can do. For one our population is growing and our residential communities are growing. We need to plan these more accordingly. If we are having issues with a growing energy demand and we are unable to supply those, it would make sense if we were able to build more net zero homes that could sell energy into the market. If regulations prevent this we should take the necessary steps to amend them so we can build more sustainably and at the same time reduce our electricity demand which could benefit the province in the long run. There are also regulations that prevent people from putting small windmills on their homes, this should also be amended so that people can be more innovative. This would also benefit the people, especially the poorer populations if there is some kind of program to help fund it as it could help relieve the tax situations on them.

We should also look into more wind energy as this is our province's greatest aspect of an energy source. We could also look into wave energy as a source if its economically viable (this could help communities that rely on diesel since they are remote).

For the job aspect, we need to encourage more innovation and entrepreneurship and also the farming industry. Newfoundland has so much potential to grow but with the income some people make and little funding they do not have much choice but to go out west for jobs.

There are many opportunities for growth here but not everyone realises it or can take the risk. With the required help funding programs and teaching these skills to people could be very beneficial.

Another idea, to improve economy, environment and even health care would be to allow for more private industry to control medical facilities, such as cardiac centres, outsources ultrasound places. This could provide more job opportunities that the provincial system already cannot handle.

Where there are problems there is opportunity for growth, we just need the help to get there.

2.) What steps do you think need to be taken, and by whom, to better prepare for climate change?

One of the greatest challenges our province has in adapting to climate change is not everyone knows and not everyone cares. People expect their government to be consistent, to provide assistance and to educate them. For example a new recycling program was introduced to St. John's and it was a flop. Why? People wanted to change and to become green but there were many restrictions and still are. Often times recycling is not picked up because it may contain pieces that are not taken at our depot.

Residents are often frustrated. Not only that, people like to take their recyclables to a depot because they can earn money for it. It's an expense to those who have to buy extra bags every week especially when they cannot afford them, or do not have room for the extra recycling. People need time to adapt to integrate new systems. They need a new mindset and the only way we can do that is by educating and providing assistance and incentives. We also may need to be more lenient because regardless

people will put the wrong products in there... this happens all across Canada, instead of not taking it we need to accomodate it (I mean the dump is right next to the depot!).

We need to get rid of the stigma people in our province have with climate change and turn it into a positive aspect that can stimulate innovation, economy and help the people at the same time.

We should provide opportunities for our province to grow and also aid in this mindset. If we provide charging stations along the province and more incentives for electric cars, or plug in hybrid cars this could be beneficial fir the province. Our people are afraid of electric cars because they often do so much travelign and going to the cabin etc. Our lifestyles need to be integrated into any climate change solutions, or adapted in a way that we are educated and prepared.

3.) How should Government demonstrate leadership on climate change in its own operations and help steer the private sector toward taking action?

I think the government should be more strict on regulations in a way that perpetrates those who are polluting (i.e. like illegal dumping), but provides incentives to those who are willing to improve it. Our government needs to show leadership as well in recogozning that they are doing what they can for the province (especially by letting us provide feedback and keeping us informed and be transparent – this may mean educating us on exactly why a decision had to happen so that we understand). We need to be involved in the decisions and provide input and there needs to be more outreach on this.

The government can also demonstrate leadership by providing aid to our population. We need to accomodate the needs of the people first (remember the failures of kyoto protocal and that new protocal as per paris look at focusing on the needs first)

We can do this by considering the poorest population and relieving them of those taxes so that there is more incentive for them to comply (for example in the recycling.). Another example is how dirty our province has gotten. We have city workers who clean up but not nearly a good job. We cant always prevent people in our province form littering because some of them just do not care. We could have government run volunteer clean ups that do clean ups on a regular basis and provide education. Education to the younger generations is the most crucial.

4.) Is there anything else you would like to add on the development of a climate change strategy for Newfoundland and Labrador?

I think I have it covered. Perhaps increase taxes on fuel oil etc and more incentive on clean energy uses (on top of the amending regulation to provide more innovation which could inevitably solve out energy crisis)

Online Submission #2

1.) What should the Government of Newfoundland and Labrador do to support economic growth while lowering GHG emissions?

Reconsider oil and gas developments. If thinking seriously about climate change, should we be continuing to search for/exploit oil resources? I think oil should stay in the ground, and other alternative sources should be explored if we are serious about climate change.

2.) What steps do you think need to be taken, and by whom, to better prepare for climate change?

There are a lot of research reports, information, and tools available to municipalities around climate change. When thinking about adaptation, I think communities need more capacity to adapt to climate change, that they should be adapting strategically, and also that there is still a big piece around education (it doesn't seem like there is a strong sense of urgency around climate change by the general public)

3.) How should Government demonstrate leadership on climate change in its own operations and help steer the private sector toward taking action?

By being a leader on climate change. The province has an opportunity to 'walk the talk'. In government purchasing, procurement, etc. there should be a priority given to the more environmentally-conscious options (the current process of choosing the lowest cost option does not allow for this). We should be purchasing local where possible, should have high environmental standards on buildings (materials/building supplies used), energy efficiency), rethink waste (ensuring all government buildings recycle and that recycling isn't gone to the waste, reduce waste in cafeterias - less packaging on foods - i.e. salads have huge plastic disposable containers...could cardboard be used like the Coleman's Salad bar), heat loss/waste (government offices use heat/air conditioning/lights when not needed) this is a huge waste and also expense. Need to do an energy audit and address all wastage - this should also be done for education and medical facilities.

Online Submission #3

1.) What should the Government of Newfoundland and Labrador do to support economic growth while lowering GHG emissions?

Green its' own operations! It is a shame that there are no waste diversion options in government offices, only that led by individuals. If not province-wide, then certainly in municipalities where there are already mechanisms in place to collect recyclables.

2.) What steps do you think need to be taken, and by whom, to better prepare for climate change?

More stringent planning regulations that prevent new development in areas prone to erosion and sea level rise, at a minimum. Remove the 'politics' out of decision making and use evidence instead.

3.) How should Government demonstrate leadership on climate change in its own operations and help steer the private sector toward taking action?

Start composting organic waste at a minimum. Be more firm on building practices instead of having nice-to-do policies. Make public statements on what the climate change commitments are - we will not be able to retain younger, more environmentally responsible workers without some values on environmental stewardship.

4.) Is there anything else you would like to add on the development of a climate change strategy for Newfoundland and Labrador?

Make more shorter-term, achievable public commitments that are going to make a difference. Spending all the time on promotion is nice to do but not illustrative of a government with vision and leadership on making a difference.

Online Submission #4

1.) What should the Government of Newfoundland and Labrador do to support economic growth while lowering GHG emissions?

There should be large incentives for individuals to make their homes more energy efficient, purchase electric vehicles, start their own green businesses.

There should be incentives to stay and work here in Newfoundland and the push for immigration here should be expanded even more. The more people that are here, the more large-scale public transportation systems will actually be feasible. Despite the sadness associated with resettlement, outport communities with very small populations simply aren't sustainable. People should be encouraged to move to the urban centres for both environmental and economic reasons. Wind, solar, and tidal projects should be funded and put in place immediately. Education should be available so that current trades people can upgrade their skills in order to fill these new important positions. Glass recycling should have been in place for many many years. A glass recycling facility would create jobs on it's own, plus the recycled glass products could be used to produce other products locally. Speaking of local, the campaign to shop local should be more heavily enforced. There should be more benefits to shopping local. Again, incentivize it. It's true that the people of the province need to contribute to this issue, but the problem is they WON'T unless they are given a reason too. Apparently, the very existence of human life and keeping our province above water is not enough. Despite this, the people alone cannot do near enough. There needs to be very strong government action, that not everyone will agree with. People and businesses need to be held accountable for their emissions and other environmental impacts. Large, high-emission corporations need an incentive to reduce their waste and GHGs. As shown on the climate change NL website, transportation is the second highest emitter for us, hence my previous suggestion to further incentivize electric cars. However, electric cars aren't much good if the electricity used comes from Holyrood. We need to switch our entire energy landscape to renewable as soon as possible. The public transportation industry needs to be improve dramatically. In St. John's and also other communities like CBS, walking and biking simply isn't safe - due to the infrastructure, not to mention our extremely high level of drunk, distracted, and impaired drivers, plus moose. Climate Change needs to be more heavily discussed in our local media. Newfoundland is going to be hard hit. We are. We face relocation more so than most other places in Canada. The public needs to know that explicitly. They need to be aware that their actions matter and they need to feel encouraged to fight for the necessary changes. Us, the public, need to pressure the government more strongly. Climate change is the single most important issue. If we all get wiped out by a mega-storm, the gas tax really isn't going to matter, is it? I'd like to point out, that I am a 20 year old engineering student going to MUN. I have been passionate about this issue since I was very young. I am afraid for the future. I am afraid that I won't be able to live here with my family. I fear the destruction and war that will result due to storms and resource mismanagement. I question whether this is world that a child deserves to be brought into. I'm ashamed that my province has not taken adequate action to protect it's citizens from disaster. Time is running out. In some ways, it already has. And the fact that the world has watched for the past 50 years and has not made a dramatic effort to combat it makes me sick. We are too concerned about profit and comfort and convenience. People, particularly those in power, need to stop thinking about themselves and actually think about the people and places they supposedly represent. Newfoundland can employ many many people cleanly and sustainably. We can house and transport people sustainably. We can grow our own food. We can recycle and compost our waste (we need a composting facility also, by the way). And all of these things could have been in place years and years ago. I know we are in a tough spot financially, but if we want to survive we have to do this now. If we make these changes now,

it will pay off. Renewable energies, green businesses, infrastructure upgrades, green buildings, recycling plants, farming - jobs, jobs, jobs, jobs. Just do it. We can't afford not to.

2.) What steps do you think need to be taken, and by whom, to better prepare for climate change?

I feel as though basically no steps have been taken as of now. And it's very troubling. We, as an island in the North Atlantic, have a very dangerous, very uncertain future. Communities are going to be washed away. Entire regions underwater for good. Central, hotter. A lot of our old infrastructure will not be able to take in slightly more intense weather, let alone the large storms that are bound to occur. Peoples homes are going to flood and there won't be enough money or resources to fix them all. Forests will burn and we won't have enough fire fighters. Communities will have dirty water and there won't be any extra clean water to supply to them. Fish are going to die due to increased acidity, destruction of habitats and invasive species. People are going to get sicker due to the increase in certain diseases. Heat causes people to become more agitated - crime will increase. And what is being done about any of this?? From my perspective, not very much. Maybe more is happening than I am aware of, but if it is, it should be talked about! It should be in the media. It should be discussed. But I still have my doubts. Realistically, we need sea walls. It is too late to stop the ocean from rising. It has, it is, and it will. If the government wants to save communities, it needs to get on the go. We don't just need plans - we need to actually execute them. "Planning" is what the world has been doing for far too many years. It's go time.

3.) How should Government demonstrate leadership on climate change in its own operations and help steer the private sector toward taking action?

Be bold. Be dramatic. Put laws in place. Make industries in NL pay for their pollution. Just do it. Subsidize green technologies - solar and wind power for houses and businesses, electric vehicles. Show that we don't always have to be last on board and make up for what we are behind on - feed-in tariffs for example - needs to start now. If we start being serious about our adaptation measures, for example sea walls, it may help show the rest of Canada and the world how serious we are about climate change and how real and indisputable the impacts are going to be. It may help spawn additional action elsewhere. In a way, adaptation is even more important for us than mitigation, because it is true that our impact is much less. However, we all know both are required. And I don't think we have to do one or other first - jump in head first. Let's do both. When it comes to leadership, NL really does have the ability to head renewable energies. Our resources are excellent. We are starting to get on board with this, but the process has been too slow. We need to make these energy companies want to invest in us. This leads back to the green economy.

4.) Is there anything else you would like to add on the development of a climate change strategy for Newfoundland and Labrador?

I'd like to express the fact that recent prior climate or environment strategies have not appeared very successful. They've never been highly promoted in the media anyway, but especially not their effectiveness, successes and failures (or if any of it was really attempted at all). This "strategy" should not be another crowd-appeasing document to try to hide the fact that we aren't doing anything. It shouldn't be about "appearing" to care. The goals made should have strict deadlines - they should NOT be able to be pushed off another 5, 10 years. I want this strategy to be published as soon as it's complete, and I want frequent public updates and progress reports. All of which should be covered by

the media. We are showing "viral videos" of dancing dogs on the news but not information about how our entire province is in jeopardy due to the developed world's selfishness and greed? It doesn't make any sense. This is why people don't care or don't know. We need to make them care. Everybody. It's a very difficult thing to do, however. Which is why a lot of your actions as government are going to have to go against the majority. You do not need to please the people when it comes to climate change. You need to save them. It's for our own good. And if you care more about being reelected and making your big money than you do about the future of this province and this planet, then get out of office right now. I certainly don't want you there. However, I don't want to come across as all negative. The fact that I am able to type this is great. The fact that you've been engaging the public and are pursuing this at all is probably better than some other places. I just always strive for more. We all have to right now. I love where I live, and I fear losing it. I hope that the results of these discussions show that I'm not the only one.

Online Submission #5

1.) **What should the Government of Newfoundland and Labrador do to support economic growth while lowering GHG emissions?**

Encourage development of wind power, tidal power, solar panel fields through incentives to developers. incentives for installation of electric vehicle charging stations for homeowners and gas stations. If charging stations were readily available, people would by the cars.

Allow excess power back into the grid from solar panel owners.
Promote development of geothermal power in remote regions to offset diesel.

2.) **What steps do you think need to be taken, and by whom, to better prepare for climate change?**

Update building codes to reflect latest thinking/best practice on climate change with regards to insulation, construction materials, etc.

3.) **How should Government demonstrate leadership on climate change in its own operations and help steer the private sector toward taking action?**

Utilization of electric vehicles, carpooling, use of mass transit, walk to work.
Equip buildings with latest in climate control technology, solar panels
Phase out Holyrood power plant

Online Submission #6

1.) What should the Government of Newfoundland and Labrador do to support economic growth while lowering GHG emissions?

- Promote the importance of NL's natural environment and wild spaces to the tourism industry and support growth of this industry.
- Implement provincial strategies that encourage household and business use of renewable energy sources and facilitate sales of excess energy into the NL power grid.
- Implement cutting edge sustainable resource planning/development based on the best available research and management practices.
- Implement strategies/ facilitate actions that will lead to enhanced food security for the people of NL and greater local food production and availability.
- Complete the Muskrat Falls project in the most efficient way possible without putting undue financial stress on Newfoundlanders and Labradorians.

2.) What steps do you think need to be taken, and by whom, to better prepare for climate change?

- Plan infrastructure to accommodate for potential sea level rise and extreme weather events.
- Continue update flood zone mapping around the province and make this information available to the public.
- Understand the potential effects of climate change on plant and animal species at risk and important pollinator species.

3.) How should Government demonstrate leadership on climate change in its own operations and help steer the private sector toward taking action?

- Develop and implement a provincial wetlands policy in order to avoid and reduce damage to wetland ecosystems that naturally have carbon storage (sequestration) capacity.
- Consider selling carbon credits on the global market in exchange for a commitment to maintain intact Boreal forest and wetlands ecosystems.
- Make a commitment to the Canadian Boreal Forest Conservation Framework and develop sustainable development plans similar to Quebec's Plan Nord and Ontario's Far North Plan.
- Implement carbon emission reduction policies in provincial government operations.

4.) Is there anything else you would like to add on the development of a climate change strategy for Newfoundland and Labrador?

We are very lucky in NL to have amazing natural resources and this makes NL unique compared to many highly urbanized places in the world. We have an opportunity to maintain this uniqueness and implement true sustainable development planning that considers not only economic benefits but also social and environmental benefits as well.

Maintaining our intact ecosystems is the best thing we can do to mitigate against the potential impacts of global climate change. Doing so will also allow the people of NL to maintain their cultural connection to the land and water while allowing us to expand revenue generated from eco/cultural tourism. It may also provide opportunities to generate revenue from a carbon credit system sold on world markets.

Online Submission #7

1.) **What should the Government of Newfoundland and Labrador do to support economic growth while lowering GHG emissions?**

Provide finding and growth initiatives for farmers and local manufactures.

Fine people and businesses who are removing after treatment devices from transportation vehicles.

Continue with the moratorium on fracking in Newfoundland and Labrador, nothing good will come from this type of fossil fuel extraction.

Expand our recycling to include glass containers. There would need to be facilities and employees brought in for this expansion; thus job creation.

2.) **What steps do you think need to be taken, and by whom, to better prepare for climate change?**

We need to promote our local farmers and manufacturers better. Bringing in big box stores that are able to sell items at a really cheap price hurts our local business owners and sends the profits outside of our province.

Perhaps big businesses (Walmarts, Loblaws, etc) should pay a carbon tax for the transportation of all of the items they are bringing into the province. We need to try and move away from transporting so much food and consumer goods onto the Island.

Perhaps we could introduce a "disposables" tax, if an individual or business is purchasing a one time use product, they should be responsible for the costs and environmental impact of it's disposal. The implication of such a tax may cause people to rethink disposables.

3.) **How should Government demonstrate leadership on climate change in its own operations and help steer the private sector toward taking action?**

We need to lead by example. Lets promote car sharing, living close to work and green transportation. Let's promote wind, wave and solar energies and help these industries grow.

Online Submission #8

1.) What should the Government of Newfoundland and Labrador do to support economic growth while lowering GHG emissions?

- Re-introduce the energy home retrofit program to make homes more energy efficient - this will provide economic growth in the construction / contracting sector; expand this to include homes that don't use electricity as their primary heat source
- Support organizations like Iron and Earth who are helping unemployed oil patch workers retrain in sustainable energy technology
- Implement net metering as soon as possible so that people can produce their own power
- Foster the development of electric vehicle infrastructure and the use of electric vehicles. This coincides with necessary power consumption from Muskrat Falls to pay for the project by shifting gasoline purchases to power purchases
- Increase support for small, ecologically responsible, diversified and organic farms in the province to reduce the GHGs from industrial agriculture and from the transportation of imported foods
- Create a Green Legacy Fund that puts oil and gas revenue towards green technologies and programs

2.) What steps do you think need to be taken, and by whom, to better prepare for climate change?

- Improve the building code. Include higher mandatory R-values, tighter envelopes, and more efficient heating systems
- Help coastal communities to implement the necessary adaptations (particularly rising sea levels)

3.) How should Government demonstrate leadership on climate change in its own operations and help steer the private sector toward taking action?

- Purchase a fleet of electric vehicles to move the idea to the mainstream
- Stop subsidizing the oil and gas industry and put money towards a sustainable economic future
- Put a legislated ban on hydraulic fracturing to send a signal that this province is putting their ideas towards renewable energy solutions
- Support locally owned, small energy projects for communities, such as small wind, solar, hydro
- Implement a green procurement policy ensuring all new government purchases meet exacting environmental standards
- Support and celebrate a cultural and societal transition away from fossil fuels, including taking symbolic actions that demonstrate that this government is serious about climate change (examples: setting up a wind turbine in a public location; developing vegetable gardens at the House of Assembly; putting green roofs on government buildings; offsetting all government travel; publicly supporting the environmental not for profit sector in the province; etc)

4.) Is there anything else you would like to add on the development of a climate change strategy for Newfoundland and Labrador?

All governmental policies should be viewed with a climate change lens. It is the most critical issue of our time and therefore cannot be seen as separate from other departmental policies. NL is still too focused on developing the oil and gas sector which is in direct contradiction to rational climate action. We need to move full steam ahead away from oil and gas, and get serious and creative about fostering our green

economy. Small is beautiful. We need to have rural based solutions that keep people in their communities such as small energy projects that are locally owned.

Online Submission #9

1.) What should the Government of Newfoundland and Labrador do to support economic growth while lowering GHG emissions?

The Provincial Government needs to send a strong signal that it is committed to reducing greenhouse gas and advancing a green economy. To the latter point, the NL Government should announce its support for net metering. Once introduced, the public should be encouraged to participate in net metering projects and to generate their own electricity through renewable energy sources. Further, introducing a carbon tax would incentivize individuals and organizations to reduce their fossil fuel consumption, reward environmentally conscious business, and allow for revenue generation. Any revenue collected should go to support any enterprise, be it a small business, municipality, or individual household, who is willing to invest in green energy technology. Finally, the province should be looking at ways to enhance building efficiencies, either through retrofits or new construction.

2.) What steps do you think need to be taken, and by whom, to better prepare for climate change?

It is important that the Government of NL announce via legislation that they not only recognize the seriousness of climate change but that they are taking action to move the province to a clean energy future. We need a green stimulus plan that includes concrete actions and deadlines for accomplishing these objectives. All infrastructure spending, especially when it comes to new buildings, should prioritize the greenest energy efficiency option. The private sector needs to know that the province is committed to strong green standards and they should be expected to follow strict environmental guidelines. Further, as our urban areas have grown, we've seen an increase in the personal use of automobiles. The provincial government should take the lead and work to develop better public transit systems in our more metropolitan areas, and encourage the use of carpooling or car sharing services.

3.) How should Government demonstrate leadership on climate change in its own operations and help steer the private sector toward taking action?

Nothing speaks louder than legislation and action. We need to send a clear message that we are committed to reducing our greenhouse gas emissions via a carbon tax, new green energy standards, and investments in smart green technology. British Columbia, Alberta, Quebec, Ontario, and Manitoba all have carbon prices - it's time Newfoundland and Labrador followed suit.

4.) Is there anything else you would like to add on the development of a climate change strategy for Newfoundland and Labrador?

Climate change is the foremost global issue impacting humankind that demands we all must play our part and commit to a green energy future. We can no longer afford to ignore the growing problem of climate change and the consequences it will have on our future well-being. As a province we have relied too heavily on fossil fuels and are now paying the price through job loss and economic downturn. We know that the oil and gas industries are no longer job creators, and are not a sustainable source of revenue. However, it has been proven in several regions that money invested in clean energy creates twice as many jobs per dollar invested compared to oil and gas. Investing in renewable energy will not only help our province's well-being but will also be an economic boon.

Online Submission #10

1.) What should the Government of Newfoundland and Labrador do to support clean economic growth?

Government should provide incentives for consumers to make "green" choices. All other jurisdictions I have lived in have offered things like discounts on water saving toilets, discounts on energy efficient light bulbs, etc. to drive consumer purchases toward green choices.

Since most GHG emissions in NL are from transportation, government could provide incentives for consumers to purchase electric vehicles by supporting the installation of charging stations. Norway, Ontario, and Quebec are examples to follow. Also, due to dangerous conditions, walking and bicycling, which would normally be excellent alternative modes of transportation (and increase population health), cannot be used in NL. Roads have inadequate shoulders and are in poor condition. When new subdivisions are built, it is usually impossible to enter/exit them without a car/truck because the access roads and ramps create a physical barrier.

Better insulated buildings are identified above. A provincial building code requiring new builds and renovations to install more insulation would achieve this. The only reason for homeowners/builders not to install better insulation is because of the upfront costs. In the long term, better insulation results in cost savings.

Net metering would allow people to make use of off-grid renewable small scale electricity generation. This would provide a huge boost to the green economy

The province should adopt carbon pricing. Revenues should be used as they are in British Columbia.

2.) What steps do you think need to be taken to better adapt to climate change?

I don't think Town Managers have the expertise to properly evaluate whether municipal projects adequately address climate change. The example of Bay Bulls (above) is great but there are lots of other communities where decisions have been made without climate change considerations in mind. The province has tools to help. Are they being communicated to everyone and can consideration of climate change be made mandatory in the decision-making process?

There are likely lots of tools and resources available for help individuals, businesses, and communities include climate change in their planning and decision-making. Are they adequately advertised/communicated?