Document Submission to the Senate of Canada Standing Committee on Energy, the Environment and Natural Resources’ Study on the effects of transitioning to a low carbon economy

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Fort St. John for LNG is a grassroots movement formed to protect our economy, job market, and our quality of life. We, along with the rest of Northeast BC, are deeply committed to doing our share to achieve a low carbon future for Canada.

**Our Community**
The Northeast region of BC’s economy is based on natural resources and is a significant contributor to the BC economy. Capital investment in the natural resource industry grew to $29.2 billion at the end of 2013 while natural gas production alone contributed over $20 billion in land sales and royalty revenues to the Province since 2003. Other significant industries include logging, wood products manufacturing and agriculture.

There are significant power-generating projects in the planning or construction stages that are considered to be ‘green energy’ projects. These include the $7.9 billion BC Hydro Site C project and a number of wind energy sites. In fact, 19 of the 20 most effective wind energy sites in BC are located in the Northeast region.

The Northeast region of BC is geographically large with a relatively small population. Living and working in the Northeast involves a lot of travel – necessary travel, with fewer “green” options than available in larger, more densely populated regions of the province. Our region also experiences colder temperatures for a longer period of time in a year.

The carbon tax on transportation and heating fuel in rural and remote communities has little effect on our use of those fuels and simply adds to the cost of living in the north while adding to the challenge of recruiting and retaining a skilled workforce. The North East BC Resource Municipality Coalition and the people of NEBC urge the Provincial and Federal Government to carefully consider the impact of any increase or expansion to the carbon tax on families and businesses living and working in the Northeast region.

Over the past several years, the City of Fort St. John has made it a priority to conserve water and energy, and ultimately reduce both costs and greenhouse gas emissions (GHG) from its corporate operations and at the community level. Although most of our homes are old, we have built the ideal northern dwelling place, a passive house that at the time of completion was only the third certified single family passive house built in Canada. We also won national recognition for our Micro Hydro Project from the Canadian Association of Municipal Administrators. The project consists of a 100kW turbine, a generator, and associated controls, located in an 8.6 m x 6.6 m building, plus 800 m of 300 mm diameter penstock that was installed parallel to the existing discharge pipe down the hillside. This is the first 100 kilowatt net metering installation in BC. The generator will create approximately 780 megawatt-hours annually; enough power to supply approximately 70 homes.

Our Oil and Gas Industry

The industries of the Northeast region face numerous challenges in an ever changing, uncertain global marketplace. None of these challenges is greater or more essential than strengthening our competitiveness. The impact of any climate policy actions on the competitiveness of trade-exposed sectors should be considered with a clear goal to maintain or improve competitiveness with respect to major trading partners as well as competing countries. Potential consequences should be fully understood for both the environment and the economy.

The Oil and Gas industry is an active participant in reducing Canada’s carbon and greenhouse gas emissions; however, there is a need to be cautious on carbon pricing. Adding a carbon tax to venting emissions would absolutely hurt the Northeast region, if not completely shut down natural gas development in the Northern Rockies Regional Municipality.

Northeast BC is seeing tremendous gains in the energy sector as both government and industry address public concerns associated with the development of natural gas resources. While natural gas emits a small amount of greenhouse gases relative to other fossil fuels, when used to transition from coal-fired electrical generation to clean natural gas generation, it has the potential to reduce the world’s dependence on coal and associated greenhouse gas emissions.

Canada’s oil and gas industry is a world leader in innovation, safety, and environmental protection that employs Canadians from coast to coast. The industry is fully committed to a low carbon future. Below are a few examples on how the industry has adopted to reducing carbon and greenhouse gas emissions:

Enbridge: Developing alternative energy alongside responsible management of traditional energy

- “In 2017 Enbridge and Spectra Energy merged, creating a leader in North American’s energy sector. As North American’s premier integrated energy infrastructure company, our focus is on extending and diversifying growth and investment opportunities aimed at achieving a low-carbon future by building new systems for renewables and power as well as decarbonizing existing oil and gas systems that will still fuel a significant portion of global energy demand. This
means leveraging all of the company’s assets – whether it’s pipelines, wind turbines or natural gas-fired generators – to support the transition to a lower carbon economy, while also keeping pace with the world’s growing energy needs. A transition to a low-carbon economy will take time, and companies like Enbridge have a critical role to play in balancing our commitment to environmental stewardship with the need to meet our energy and economic needs. Our long-term success as a company depends on our ability to do this. It means doubling the generation capacity of our renewables program that’s already worth $5-billion, including three wind farms in Quebec and a growing presence in the European offshore wind market. In Canada, we are the largest generator of solar energy and second largest wind power generator. Demonstrating effective management of traditional energy sources while developing new and emerging technologies will help Enbridge lead in a carbon constrained energy economy. To us, a lower carbon future includes a balanced, sustainable energy system of renewables, natural gas and oil."

- Source?

Encana: Vent Gas Capture for Engine Fuel Use program

- “Encana was recently awarded a $2.4 million grant from the Climate Change and Emissions Management (CCEMC) Corporation of Alberta for a "Vent Gas Capture for Engine Fuel Use" program. The successful funding application was spearheaded through Encana’s Environmental Innovation Fund (EIF), which will also contribute up to another $3 million to fully fund the program.

The program involves the installation of SlipStream® vent gas capture units at 52 natural gas compressors in our operations in Southern Alberta. The vent gas capture technology was developed by REM Technology Inc., a division of Spartan Controls, based in Calgary. Each SlipStream® unit captures fuel gas (primarily methane) that is vented as part of normal operations. The unit then redirects this gas into the compressor engine's air intake to help fuel the engine. This innovative technology is expected to recover approximately 180 million standard cubic feet of sales gas per year once the program has been fully rolled-out in 2013. Source: emailed statement

This project improves our operational efficiency while at the same time significantly reducing our greenhouse gas (GHG) footprint. The program is expected to reduce our GHG emissions by more than 67,000 tonnes of carbon dioxide equivalent annually and generate an additional $1,000,000 per year worth of carbon offsets.”

**Talisman:** reducing GHG Emissions by using waste heat from gas turbine compressors to heat liquids used to in gas processing, allowing Talisman to reduce its fuel gas consumption.

- “One way our members are reducing emissions through operational excellence is by the use of Waste Heat Recovery Units (WHRU). An example is Talisman’s Bigstone Plant Waste Heat Recovery Unit, which was designed to transfer waste heat produced by gas turbine compressors and use it to heat liquids required to process gas. By transferring and re-using the waste heat, Talisman is able to reduce its fuel gas consumption thereby reducing GHG emissions.”


**Nexen:** “turning a heavy oil waste product into a synthetic gas to help fuel its steam assisted gravity drainage operation (SAGD) at Long Lake.”

- “With SAGD, steam is injected into an upper horizontal well which heats and loosens the bitumen so it can drain into a lower well and be pumped to the surface. The bitumen is then diluted and sent to a refinery for upgrading into lighter oil products.

  But at Long Lake, the bitumen is upgraded to a premium synthetic crude oil onsite with a proprietary OrCrude™ unit, a gasifier and a hydrocracker.

  As part of the gasification process, asphaltene residue from the bitumen (that’s usually waste) is converted into a synthetic gas to run the SAGD and the upgrading operations, significantly reducing the amount of natural gas that’s required.

  In fact, compared to most other traditional SAGD operators, Long Lake uses one quarter the amount of natural gas per barrel of oil produced.

  While there’s no reduction in emissions using synthetic gas, the project is one step ahead when it comes to carbon capture technologies that are being discussed. Long Lake’s unique gasification process will allow it to capture a pure-stream of CO₂, which in turn will make it much simpler to sequester the carbon dioxide underground. The plant at Long Lake was designed to ensure emissions are below regulatory limits and very little surface water is used in the operations.

  Construction of Long Lake started in 2004 and it started producing synthetic oil in January 2009. Nexen chose the Long Lake site because it had already been used for industrial activity, therefore greatly reducing the land disturbance.

  Further, Nexen collaborated with Alberta Pacific Forest Industries (APFI) to clear and harvest the trees in the area so the two companies in different industries could share their environmental footprint.”


**Shell:** Carbon capture and storage (CSS) projects
“Part of Shell’s solution involves carbon capture and storage and that’s why we built and operate Quest at the Scotford upgrader. The upgrader turns thick heavy oil from the oil sands called bitumen into synthetic crude that can then be refined into everyday products like gasoline and jet fuel. Shell uses hydrogen to upgrade the bitumen to a lighter oil but making hydrogen creates carbon dioxide or CO2. Quest captures the CO2 from the upgrader’s hydrogen manufacturing plants with a product called Amine that absorbs CO2. The CO2 is then separated from the Amine and pressurized to turn the CO2 gas into a liquid that can be transported by pipeline 65 kilometers north through well sites. At the wells the liquid CO2 is injected more than two kilometres underground into a layer of rock filled with interconnected pores. The CO2 becomes trapped within the pores and locked in under many layers of solid watertight rock. Constant monitoring both above and below ground makes sure the CO2 stays safely and permanently in place. Quest is on track to capture and store over one million tonnes of CO2 every year. That’s equivalent to the emissions from about two hundred and fifty thousand cars.”


“Shell’s Quest Project is the first commercial-scale carbon capture and storage project for an oil sands operation. Shell’s Quest Project, the first commercial-scale carbon capture and storage (CCS) project for an oil sands operation, will be starting up in 2015. The project will take more than one million tonnes of CO2 per year from the Scotford Upgrader and transport via a 65-kilometre pipeline to an injection location north of the Scotford Complex. Here, the CO2 will be stored permanently more than two kilometres underground beneath many thick layers of impermeable geological formations.

The Quest project is owned by the Athabasca Oil Sands Project (AOSP), a joint venture among Shell Canada (60 per cent), Chevron Canada Limited (20 per cent) and Marathon Oil Canada Corporation (20 per cent). The Government of Alberta has committed $745 million from its $2 billion CCS fund while the Government of Canada provided $120 million from its $650 million CCS fund. Quest would be the first application of CCS technology for an oil sands upgrading operation. Not only will it allow the AOSP to significantly reduce the carbon footprint of its oil sands operation in Alberta, but it will contribute to the global knowledge that will help to get other CCS projects up and running more quickly. Shell views CCS as one of the key pathways to reducing CO2 emissions along with others such as energy efficiency and developing alternative energies. The appeal of CCS stems from the technical feasibility of implementing large-scale projects, thereby starting to address the emissions of the existing base of large CO2 emitters while developing the framework and infrastructure to support broader deployment of CCS technology and maturing parallel pathways.

Finding ways to manage greenhouse gas (GHG) emissions is one of the most important challenges facing society. CCS is the only technology available today to significantly mitigate greenhouse gas emissions from large-scale fossil fuel usage. According to the International Energy Agency CCS could account for
about one-fifth of the total mitigation effort needed by 2050 if enough projects are started now."

Source: http://www.capp.ca/responsible-development/air-and-climate/carbon-capture-and-storage/shell-quest-for-less-co2

Canada's Oil Sands Innovation Alliance

“Through Canada's Oil Sands Innovation Alliance (COSIA), there are a number of initiatives underway, examples of which include:

- **Vacuum Insulated Tubing**: Insulated tubing in wells reduces heat loss in steam assisted gravity drainage (SAGD) operations, requiring less steam, and therefore making wells more efficient.
- **Gas-Turbine Once Through Steam Generator**: A fit-for-purpose co-generation technology that produces electricity at the same time as producing steam that has the potential to reduce operators’ reliance on electricity from the Alberta power grid, which may result in a net reduction in carbon intensity per-barrel of product."


Canada's Low Carbon Future and Its Impact on Canadian Industry

The Coalition of Concerned Manufacturers and Business is a grassroots, non-partisan industry group dedicated to the preservation of manufacturing in Ontario. They believe regulations like carbon taxes and cap-and-trade hinder Ontario businesses and force them to operate in an uncompetitive environment.

I share the same sentiments as CCMBO. The Oil and Gas industry can adopt and conform to technology that will reduce carbon and greenhouse gas emissions. The industry, however, will suffer from government-imposed Carbon and GHG emission Taxation.

The industry will be uncompetitive domestically and world-wide due to the added costs to production and Canadian consumers will have to endure higher costs of living. Northern residents would be hardest hit in terms of higher transportation and heating cost. Our agriculture sector will also be hit hard, especially those that rely on natural gas to dry crops.

Carbon taxation combined with adopting alternative energy sources - other than cheaper hydro-carbons - would also result in higher electricity prices as experienced by the province of Ontario. This would result in the manufacturing industry moving out of
Canada, along with thousands of jobs. The GM plant in Ontario closing down and moving its operation along with 600 jobs to Mexico is a prime example.

And what’s more, no carbon emissions are reduced as a result, as emissions will just be displaced to other jurisdictions – a phenomenon known as carbon leakage. And, jobs lost in Canada are just created elsewhere in the world.

Prolonged Federal and Provincial environmental agency approval are also hurting proposed oil and gas projects. While it only takes a year for the EPA south of our border to approve an LNG plant project, the CEAA took more than 3 years to conditionally approve the Pacific North West LNG. Because of the additional conditions set by the Province of BC and even the judicial sector, PNW LNG simply decided to pull out. Those who follow the industry know that low world LNG prices were not a factor in the pull-out. The United States has at least 6 LNG plants being constructed in anticipation of the equalization of LNG supply and demand in 2021, a projection made by Petronas in November 2016.

Veresen, Inc., a company in Alberta has chosen to build an LNG plant in Oregon, rather than in Canada.

Federal policy to review upstream portion of oil and gas projects are also needlessly hurting the industry in terms of costly delays. TransCanada has recently decided to review or even stop its participation in the energy East Pipeline project because of this. To review the upstream portion of the project when that upstream is being reviewed independently is just a needless and costly delay.

I also find it unfair that the Energy East Pipeline, designed bring domestic oil to the rest of Canada, is being slowly reviewed on its environmental impact when the trains and trucks carrying imported oil are being given a free environmental pass. A pipeline would not emit as much carbon as the trucks and trains, nor would a pipeline create a disaster as great as the Lac-Mégantic rail disaster.

“The Tar Sands Campaign”

I am also concerned that the Canadian Government is silent on what, in my opinion, is an economic sabotage attempt on Canada. In the guise of environmental concern to bring a low-carbon future, foreign money is financing an effort to land-lock Canadian Oil. Researcher Vivian Krause (@FairQuestions) has researched and written extensively on how foreign money flows into Canada to finance several Canadian groups dedicated to this cause.

The following is a passage from the website of environmentalist strategist group CorpEthics, which confirms the existence of an international movement to prevent the transport of Canadian oil:
“In 2008 two major U.S. foundations asked CorpEthics to recruit the groups, develop the strategy, create a coordinated campaign, and act as a re-granting agency for the North American Tar Sands Campaign. The tar sands of Alberta posed a serious threat to the climate in that they were the third largest oil reserve in the world, and would require the destruction of a native boreal forest the size of Florida. CorpEthics coordinated the campaign in Canada and the U.S. until 2014 when the two national campaigns were separated due to their complexity and strategic focus.

From the very beginning, the campaign strategy was to land-lock the tar sands so their crude could not reach the international market where it could fetch a high price per barrel. This meant national and grassroots organizing to block all proposed pipelines. This strategy is successful to this day. All the proposed pipelines in Canada have effectively been blocked, as have those proposed in the U.S. The Keystone XL Campaign became the most well-known of all the pipeline campaigns achieving a remarkable victory when President Obama not only rejected it, but also publicly stated that "some oil has to stay in the ground if we are to avoid the dangers of climate change."

The Tar Sands Campaign jump started the climate movement in the U.S. as major political figures, celebrities, and a diverse array of NGOs came together to pressure the Administration to reject this pipeline. It also played a role in helping to unseat the Conservative Party in Alberta and nationally.

Referencing the rejection of the Keystone XL, the new premier of Alberta committed to cap emissions from the tar sands (which effectively limits production), put an increasing price on carbon, end dependence on coal-fired power plants, and shift to renewables. The new Liberal Party Prime Minister’s first major action was to commit Canada a 1.5 degree Celsius target.”

Source: https://corpethics.org/the-tar-sands-campaign/

**Conclusion**

There are no better words to express my thoughts to close this testimony other than the CEAA letter written by Steven Simons, Founder of Beyond Action Strategy:

When it comes to resource development and the environment Canada seems to be going the wrong way. We wring our hands worrying over GHGs and global contributions to potential climate change when in fact we
need to stop worrying about what we are doing and focus our expertise on helping other nations achieve what we have.

Canada has a proud tradition of peacekeeping, human rights and world aid. Similarly, we should be putting our hard-fought and hard-won resource expertise and advancements towards aiding nations that need us. The fact that Canada produces only 1.6% of the world’s GHGs means that we will only stand to make marginal or nearly immeasurable differences, when put in the context of global GHG influence. Focusing intense efforts at home will achieve only minimal results.

If Canadian projects are going to be assessed for GHG contributions, they need to be assessed in contrast with other world contributors. Intense cuts to GHGs by Canadian projects offer marginal gains in the global context - likely barely measurable.

Canada should in fact be increasing our resource industry investment and development in order to continue to innovate leading practices.

Members of Canada’s resource community are experts at what they do, and they have elevated Canada to leader status when it comes to advancements surrounding the industry. This is something our country and politicians should be proud of and in fact promote.

Our advanced expertise outweighs any marginal GHG output when that output is measured against what Canadian expertise can do applied to a developing nation.

Real environmental gains abroad, as opposed to marginal gains here, can be made by switching our focus to both developing Canadian resources as well as exporting our knowledge leadership and high standards.

Thank you.