THE COUNCIL OF CANADIANS LE CONSEIL DES CANADIENS

ACTING FOR SOCIAL JUSTICE / AGIR POUR LA JUSTICE SOCIALE

To: contact@nlhfrp.ca

Dear Dr. Gosine and fracking review panelists,

Thank you for the opportunity to provide comments for the hydraulic fracturing review in Newfoundland and Labrador, and for facilitating public debate on this controversial topic to assist communities in gaining a voice with government on this issue.

Who we are

We write to you from the Council of Canadians, Canada's leading social action organization with over 100,000 grassroots supporters and 60 local chapters from coast to coast. Through our campaigns, we advocate for clean water, green energy, fair trade, public health care and a vibrant democracy. We educate and empower people to hold our governments and corporations accountable.

We are supported by individual donations from ordinary Canadians and do not accept funding from corporations or government.

We have been very clear in calling for a ban on fracking in Newfoundland and Labrador and across Canada, given our many concerns including the massive volumes of water required and the lack of safe methods to dispose of fracking wastewater. It also has huge climate impacts, and there is widespread community opposition to fracking in the province.

Concerns regarding the panel

The review panel is an avenue to have our concerns heard and we respect that this panel was selected by the NL Minister of Natural Resources to provide recommendations to his government regarding the future of hydraulic fracturing on the West Coast of Newfoundland, based on science and community feedback or social licence.

That said, we are concerned that the panel does not have any representation from a diversity perspective. There is no female, Indigenous or West Coast representative, nor is there representation from the health, environmental or impacted industry (fisheries, tourism) sectors.

Concerns have been raised about the industry backgrounds of the majority of panelists. In fact, many panelists have made statements publically of a pro-fracking nature and therefore we want to be on the record reflecting these concerns.

On previous hydraulic fracturing review panels, there have been concerns with this same issue as well as with papers written by panel members. There is a high level of expectation from the public about how this panel proceeds, and we appreciate that you are all giving time to this to ensure we achieve what is best for local residents and beyond, for this generation and the next seven generations.

Moratoria in the Atlantic

There has been a wave of moratoria in the Atlantic. Both New Brunswick and Nova Scotia recently introduced legislation implementing a moratorium on fracking. In Nova Scotia, the government adopted the recommendations from the independent review panel which studied fracking and held community meetings to gather input. Communities have been fervently opposed to fracking in both Nova Scotia and New Brunswick. Leading up to the September 2014 election in New Brunswick, residents and community groups made shale gas the key election issue including organizing the Voice of the People tour. They succeeded in voting in the Liberal party which committed to placing a moratorium on fracking.

Opposition to fracking in Newfoundland and Labrador is rapidly increasing. Our submission will outline the concerns communities are expressing on fracking and reasons why Newfoundland and Labrador should join New Brunswick and Nova Scotia in putting a stop to fracking.

Potential impacts on water (ground- and surface water)

Fracking uses unsustainable amounts of water. A fracking project requires anywhere from 10 million to 200 million litres of water. Since details of water usage from the 2003-2004 fracks that Vulcan Minerals drilled in the Flat Bay area are unavailable, we are not able to substantiate how much water was used. An example from Nova Scotia instead (that happened in 2007-2009) shows that Nova Scotia Environment permitted the withdrawal of up to 1,334,000 litres of fresh water per day from the Kennetcook River for fracking. While the permitted amount was not fully used, the fact that such a high volume was approved is unacceptable.

The number of Drinking Water Advisories (DWA) in Newfoundland and Labrador as of January 2015 was high for the province's small population. There are 233 DWAs in Newfoundland and Labrador, a province with a population of 527,000 people. The number of people affected by each DWA ranges from 0 to 15,077. The oldest advisories date as far back as 1989. While the reasons provided included "lack of a disinfection system (off or non-existent), no free chlorine residual detected in water distribution system, water distribution system undergoing maintenance, and the chlorination system off due to taste," permitting fracking in the province could further threaten drinking water supplies.

Water is central to the very existence of people, plants and animals, and all of it must be protected for the common good from generation to generation.

Waste management and management of "additives"

Fracking wastewater is a key threat to drinking water, the environment and public health. Current methods of disposing of fracking wastewater include sending the wastewater to treatment plants before discharging them into waterways or injecting the wastewater back into the ground.

A typical fracked well requires the use of between 55,000 and 220,000 litres of chemicals, but the specific combination and quantities of chemicals used are considered proprietary trade secrets. While some companies are voluntarily reporting some of the chemicals they use, they are not legally required to disclose the full list. The lack of information about fracking chemicals makes it extremely difficult to know what chemicals are in fracking wastewater and what potential health risks they pose.

The National Wildlife Federation points out that there are 13 different types of chemical additives that are needed in the hydraulic fracturing process including acids, clay stabilizers, gelling agents, corrosion inhibitors, biocides, friction reducers, and surfactants. The Endocrine Disruption Exchange has warned that these chemicals have a range of negative health and environmental impacts.

Under the Chemicals Management Plan (CMP), Environment Canada reviewed 265 chemicals used in the fracking process in both Quebec and the U.S. Approximately half of the fracking chemicals did not meet the CMP criteria for further investigation, meaning these chemicals have not been assessed for potential risks to the public. The list of chemicals was obtained through an Access to Information request (http://canadians.org/sites/default/files/ATI-fracking-chemicals-1013.pdf).

A recent study published by the Proceedings of the National Academy of Sciences showed that drinking water in Pennsylvania homes was contaminated by fracking. (http://www.pnas.org/content/early/2015/05/01/1420279112)

Chemicals used in the fracking process pose a threat to our water sources, ecosystems and public health because there are currently no safe methods to dispose of fracking wastewater. Governments continue to approve fracking despite the lack of information on the type and amount of chemicals or an assessment of the impacts of water sources and public health.

Additionally, municipal wastewater plants are not equipped to deal with fracking wastewater. When the wastewater flowback is discharged into waterways, it is a threat to drinking water supplies given that many of the chemicals are undisclosed. While immediate effects may not always be detected, Professor of Engineering Tony Ingraffea from Cornell University notes that the effects of fracking are cumulative. So although communities may not see immediate impacts on their drinking water, communities will see the effects of fracking in 10 or more years.

Seismicity and Geological Risks

The B.C. Oil and Gas Commission (BCOGC) has linked the injection of fracking wastewater into the ground with earthquakes in northeastern B.C. (https://www.bcogc.ca/node/8046/download). The BCOGC's report *Investigation of Observed Seismicity in the Horn River Basin* provides an overview of 38 seismic events recorded by Natural Resources Canada (NRCan) ranging from 2.2 to 3.8 M on the Richter scale from April 2009 to July 2011. There were no seismic events recorded from 1985 to April 2009. The report found that, "The seismicity observed and reported by NRCan in the Horn River Basin between April 2009 and December 2011 was induced by fault movement resulting from injection of fluids during hydraulic fracturing."

The U.S. Geological Survey also warned that in "some locations the increase in seismicity coincides with the injection of wastewater in deep disposal wells. Much of this wastewater is a byproduct of oil and gas production and is routinely disposed of by injection into wells specifically designed for this purpose" (http://www.usgs.gov/blogs/features/usgs_top_story/man-made-earthquakes/). Other places where the injection of wastewater has triggered seismic activity include Youngstown (Ohio), Oklahoma, and Blackpool in the UK. The process of fracking itself has also recently been linked to earthquakes in Ohio. (http://www.seismosoc.org/society/press_releases/BSSA_105-1_Skoumal_et_al_Press_Release.pdf)

Air Emissions

Despite industry representatives and some governments promoting natural gas as a "clean, green fuel," studies show that fracked natural gas can produce as much greenhouse gas emissions as coal. The lifecycle greenhouse gas emissions – that is the combined emissions associated with extraction, combustion, and methane and CO_2 releases – means that fracked gas can be as polluting as coal.

Fracking releases large amounts of natural gas (whether the fracking operation is for oil or natural gas), which consists of both CO_2 and methane, directly into the atmosphere. Fracking wells leak 40 to 60 per cent more methane than conventional natural gas wells. This happens when water is forced down into a fracking well in order to fracture the rock formations. Methane flows up the well and is released into the atmosphere before it can be captured. The leaked methane is called "fugitive methane" and has been detected using infrared video. It is identified as different from naturally occurring methane. Methane, in particular, is a very powerful greenhouse gas because it can trap 20 to 25 times more heat in the atmosphere than carbon dioxide.

Fracking for shale oil

Fracking in Newfoundland and Labrador would be for shale oil. Shale oil presents unique risks including increased volatility during transport. The train derailment in Lac Megantic, which left 47

people dead, involved shale oil from the Bakken. In its call for a moratorium on fracking, Unifor, Canada's largest energy union, highlighted the unique explosive properties of fracked oil from North Dakota.

Fracked shale oil from Newfoundland and Labrador could present public safety risks were it to be transported by water via the Gulf of St. Lawrence, and by land throughout the province and into other provinces.

Socio-Economic impacts

It is not uncommon for governments to propose environmentally risky projects in rural, low-income and poverty stricken communities. A recent study published in Applied Geography showed that unconventional wells were found more in communities with poor populations in Pennsylvania (http://www.sciencedirect.com/science/article/pii/S0143622815000776). Health, environmental and other impacts could exacerbate challenges facing already vulnerable populations.

Many pro-fracking arguments are based on job creation and income potential for the jurisdiction, but the reality is that beyond temporary construction and trucking jobs, few permanent, full-time jobs are created. Those few jobs created typically have poor working conditions and pose risks to workers' health. In a briefing titled *Health Implications of Fracking for Natural Gas in the Great Lakes-St. Lawrence River Basin*, Dr. Theo Colborne noted that some workers were required to sign contracts preventing them from ever revealing their hourly wage or health problems.

Job estimates often do not make clear where the workers will come from and how the local community will actually benefit. Industry fails to consider the negative impacts that fracking would have on existing employment in other industries, such as tourism and agriculture. For example, in Newfoundland the tourism industry raised concerns about the impacts fracking would have on its $1 billion industry. Gros Morne National Park in Newfoundland received international attention when UNESCO raised concerns about how fracking would affect the park, potentially jeopardizing its World Heritage Site status and the local tourism industry.

According to the Department of Fisheries and Oceans (DFO), commercial fishing activity in the Gulf of St. Lawrence is a major contributor to the economies of the surrounding provinces. The fishing industry includes a diversity of marine life including "shellfish (i.e. lobster, crab and shrimp), groundfish (i.e., cod, Greenland turbot and American Plaice), pelagic (i.e. herring mackerel, tuna) and other smaller marine fisheries (i.e. marine plants and seals)." DFO reported that from 2002 to 2007, "the total commercial landed values averaged about $550 million."

The Canadian Centre for Policy Alternatives' (CCPA) report *Enbridge Pipedreams and Nightmares* notes that Enbridge boasts that a fossil fuel project like the $5-billion Northern Gateway Pipeline would create 63,000 person-years of employment during its construction phase, and 1,146 full-time

jobs once completed. However, CCPA finds these estimates are overblown and that it would only create approximately 1,850 construction jobs per year for three years, and a handful of permanent new jobs once completed. The report points out that between 3 and 34 times the number of direct jobs would be created if the $5 billion were invested in green jobs and industries.

In fact, only 1% of jobs in Canada are in oil and gas extraction and support activities for mining and oil and gas extraction (226,020 jobs). The industries that produce the most jobs are trade (15%), health care and social assistance (12%), manufacturing (10%), professional, scientific and technical services (8%), construction (7%) and education services (7%).

U.S. organization Food & Water Watch (FWW) has also produced reports showing that the estimate of new jobs is overblown and misleading. In their report *Exposing the Oil and Gas Industry's False Jobs Promise for Shale Gas Development: How Methodological Flaws Grossly Exaggerate Jobs Projections*, FWW points out that the Public Policy Institute of New York State (PPINYS) boasted that developing 500 new shale gas wells every year in the five counties of Allegany, Broome, Chemung, Steuben and Tioga would create 62,620 new jobs in New York by 2018. But when FWW analyzed employment data from the Bureau of Labor Statistics in counties with shale gas development in Pennsylvania and compared them to bordering counties in New York without shale gas development, the organization found these claims to be baseless. In fact, FWW found that opening up the five counties in New York to fracking would create no more than two jobs per well in the state compared to PPINYS' claims of 125 jobs per well. Some of the jobs would be in construction, retail or the food industry rather than solely in the drilling industry.

Governments and industry representatives promote fracking as a way to boost job creation. However, these are neither ethical nor sustainable jobs.

Instead of focusing on possible new fracking jobs, our governments could commit to reducing emissions and encourage a whole different set of jobs including weatherproofing, renewable power projects, public transit, sustainable agriculture and much more.

Climate impacts

Many of the concerns raised above could also fall under the heading of climate impacts of fracking, but we felt it was important to raise it separately. Part of the argument in support of fracking is often that it is a clean, green, transition fuel. In this instance, it is clearly not a transition fuel as this form of fracking would be used to extract shale oil and not natural gas.

Scientific consensus is that climate change is real, humans are causing it, and that ¾ of all oil reserves must be left in the ground if the planet is to continue sustaining human life. It cannot be argued that this form of fracking is part of a transition to a more just, renewable energy vision. Indeed fracking

and other parts of the fossil fuel industry are preventing Canada from reducing its greenhouse gas emissions and doing its fair share to mitigate the global climate crisis.

Fracking experience in Newfoundland and Labrador (Flat Bay)

As mentioned above, there is little information available about the fracking that took place around 2003-2004 in the area of Flat Bay, NL. We have been informed that no application or permits were involved (other than the initial permit to drill an exploratory well), the government has little on record relating to the fracking, and local information has it that the wastewater was released into the environment without regard for environmental impacts whatsoever.

Clearly this practice must never again be repeated, however even in jurisdictions where regulations are in place, concerns in this submission only touch the surface of the long-term implications of fracking operations.

Fracking must be banned

Water is a living commons, to be shared, protected, carefully managed and enjoyed by all. Communities not only have a human right to water, but also a responsibility to protect those waters. The United Nations has recognized water and sanitation as a human right, which means that every government must now come up with a plan of action based on the "obligation to protect, respect, and fulfill" this right. Maude Barlow, National Chairperson of the Council of Canadians, points out that the obligation to protect means that a government is obliged to prevent third parties from interfering with the enjoyment of this human right. This would mean, for instance, protecting local communities from pollution and inequitable extraction of water by corporations or governments.

Policies and decision making on water use should be based on recognizing water as a commons, public trust and human right. Communities up and down the West Coast of Newfoundland and throughout the Atlantic have opposed fracking, and must be part of the decision-making process. We recommend increasing the number of public consultation meetings the panel holds to ensure as accessible a consultation process as possible.

We applaud this first step – the submission stage – for being very open and accessible, and trust panel members will include the public's comments in the final decision, whether they are peer-reviewed research documents, web-form letters or hand-written notes. People are very passionate about this issue, but their opinions are often based on science and the threat to clean drinking water, and no submission should be considered as less valuable because people care about their water, community and health.

Please do the right thing and recommend a ban on hydraulic fracturing in Newfoundland and Labrador.

Sincerely,

Angela Giles
Atlantic regional organizer

Emma Lui
National water campaigner