

No Fracking Way: Our water, health and air at risk



by **Andrea Harden-Donahue**

Picture yourself lighting your tap water on fire. Sound ridiculous? It's not. "Burning water," caused by methane contamination, is one of the serious risks of a controversial drilling technique called "fracking." These risks are being put in the spotlight as fracking operations expand across Canada and the United States.

Hydraulic fracturing, also known as fracking, is a process used to extract natural gas trapped deep inside rock. Huge amounts of water and sand fused with toxic chemicals are blasted from a wellbore into rock formations such as shale, coal beds and "tight" sands. This injection process creates cracks that allow pockets of natural gas to flow up the well. While fracking technology dates back about 60 years, its recent pairing with horizontal drilling, along with diminishing conventional natural gas production, is ushering in an unconventional natural gas "boom."

Fracking boom spreading across Canada

Fracking is widespread in the U.S. While the production of shale gas is in its infancy in Canada, the industry has set its sights on a dramatic expansion and vast reserves have been identified. Fracking projects are furthest ahead in Western Canada, with drilling under way in the Horn River Basin shale in B.C. Coal bed methane fracking has been in Alberta for many years. There is massive shale exploration and development being planned in Québec and New Brunswick, where drilling is already under way in communities such as Penobsquis and Elgin. Exploration is also under way in Saskatchewan, Manitoba, Ontario, Nova Scotia and P.E.I.

Fracking greenwash: a false solution to the climate crisis

Natural gas is often referred to as

a necessary transition to renewable energy. While natural gas burns cleaner than oil and coal, new evidence suggests fracked gas may not be "clean" or "green." In a study, Robert Howarth, a professor at Cornell University, found that when the full greenhouse gas emissions of fracked gas are considered, it looks far less "green" and is not significantly better than coal in terms of its consequences for climate change. This is in large part because of the release of methane, a powerful greenhouse gas. Briefing notes prepared for Canada's Natural Resources Minister Christian Paradis, acquired by the Council of Canadians using a Freedom of Information Request, state clearly that shale gas development could contribute significantly to Canada's greenhouse gas emissions, particularly if the Horn River Basin shale in B.C. is developed. Fracking is a false climate solution. Not only are emissions a concern at a time of climate crisis, fracking also poses serious risks to people's health and to our water.

Fracking depletes water resources

Fracking operations require huge amounts of water. This water can come from municipal sources, surface or groundwater, and often needs to be trucked in from elsewhere. Between 2 and 9 million gallons of water are required for a single fracking job. Information requests filed for a Munk School of Global Affairs report, *Fracture*



Members of the Council of Canadians North Shore chapter participate in a rally outside of the Minister of Natural Resources' constituency office. The rally helped raise awareness about the health and environmental concerns associated with fracking.

Hillary Bain-Lindsay

Lines: Will Canada's Water Be Protected in the Rush to Develop Shale Gas?, reveal that water permits for the fracking industry would require 274,956 cubic metres total daily withdrawals in north-eastern B.C. The business and domestic water consumption of Greater Victoria, home to nearly 336,000 residents, is around 134,000 cubic metres daily.

Fracking poses serious health risks

The specific combination and quantities of chemicals used by fracking companies are considered proprietary trade secrets, meaning their contents are not shared publicly. This makes it difficult to fully understand the connections between fracking projects and potential health concerns.

Dr. Theo Colborn, with the Endocrine Disruption Exchange Inc., has been collecting data on the chemicals used by the industry in the U.S. over the past five years. Ninety-four per cent of the fracking chemicals in her database are associated with skin, eye and respiratory harm, 93 per cent with harm to the gastrointestinal system, and 83 per cent with brain and nervous system effects. Colborn's research includes analyses of chemicals found in waste pits and used during the drilling process. People can be exposed to these chemicals in a variety of ways. There are risks of spilling when the chemicals are transported through communities, workers can be exposed during drilling, and people can come in contact with contaminated water.

Public concerns about exposure are growing. In Dish, Texas, Mayor Calvin Tillman gave up office and left town after nearby fracked wells were suspected to be causing unexplained nosebleeds and other symptoms in local residents, including the Mayor's children. The story garnered national media attention.

Fracking contaminates groundwater and drinking water

Fracking can contaminate groundwater and drinking water in a number of ways. The process of fracturing the rocks can widen existing cracks, including vertical cracks that can become a pathway for fluids or gases from fracking and from other geological layers to flow into groundwater sources. Improperly constructed wells also pose contamination risks.

There are hundreds, if not thousands, of reports of drinking water sources contaminated with methane near fracking projects in the U.S. Landowners in Rosebud, Alberta, the focus of CBC documentary *Burning Water*, have documented stories of being able to light tap water on fire,

developing skin burns and rashes from showers, and pets refusing to drink water as a result of water contamination after Encana began fracking operations in the area.

If methane can move through rocks to contaminate local wells, it is likely that toxic fracking water can as well. According to a U.S. Environmental Protection Agency study, 20-40 per cent of injected fluids can remain trapped in the rock formations for decades. This means the extent of water contamination is difficult to measure and may not reveal itself until decades later.

The rest of the fracking water, known as "wastewater flowback," goes back up the well and is often stored in large pits. Improperly contained wastewater poses serious risks of water contamination. Air emissions from stored wastewater have also raised health concerns in the U.S. Sometimes this water is treated at municipal water treatment facilities. The water is then discharged into waterways, putting drinking water supplies at risk. In Canada many of

the chemicals associated with fracking fluid are not listed in the federal drinking water guidelines used by municipalities. Their presence in drinking water will therefore not be measured, tested or reported.

No fracking way!

Any energy resource that sacrifices water protection and threatens people's health and environmental safety in such significant ways should be stopped. Opposition is already spreading across Canada. The Québec government was recently forced to put a temporary hold on new fracking projects.

The Council of Canadians opposes fracking in Canada. We will be producing more education materials on the risks of fracking, launching an interactive online map of the industry, and stepping up our support for local opposition campaigns in the coming months.

Together we will say, "No fracking way!"

Andrea Harden-Donahue is the Energy and Climate Justice Campaigner for the Council of Canadians.

Building community action against fracking

Thom Oommen is with the Inverness County chapter in Nova Scotia. The chapter has an active campaign against fracking. PetroWorth, an oil and gas company, has secured fracking exploration and development rights to 383,000 acres near Lake Ainslie in Cape Breton. We spoke with Oommen recently about the chapter's local campaign.

How did you find out about the fracking project in Inverness?

We saw a statement on PetroWorth's website stating that hydraulic fracturing will make onshore eastern Canada the new frontier for oil and gas exploration. We found out that PetroWorth, which has had an agreement with the province for ages, was going to start seismic testing in our area. We gathered information and came to the conclusion that fracking is a risky deal for Inverness County, so we decided we

wanted to take action on this. We have worked hard to provide information to our community on the risks of fracking, have participated in a government process, and have increased pressure at the municipal and provincial levels for a ban on fracking.

What are some highlights of your campaign against fracking in Inverness?

We are a small rural area. Pulling out 150 people to a PetroWorth open house, and consistent attendance at meetings, are highlights. We are hosting screenings of *Gasland*, an influential documentary on the risks of fracking, across the province. We keep getting more and more requests as the province keeps opening up new areas for oil and gas exploration. We also gave a great presentation to our municipal council proposing a resolution against fracking. Our resolution passed, which made us

very happy. Our MLA formally submitted a petition with 1,000 signatures to the provincial legislature calling for a provincial ban on fracking.

Any advice to others across the country who oppose fracking?

The key is to get out in front, before the development happens. Don't wait until companies are in production – be proactive, not reactive. In Nova Scotia, we only had one well fracked near Windsor, so we can still stop this.

In your experience, what message resonated with people in your community and galvanized their opposition to fracking?

The message about the risks fracking poses to water resonates in our community. Fracking poses a risk to Lake Ainslie, the largest freshwater lake in Nova Scotia, and to our groundwater. People here have a direct link to water. We live off our wells, kids drink the water, we swim in the lake, we fish there. We can't risk that.