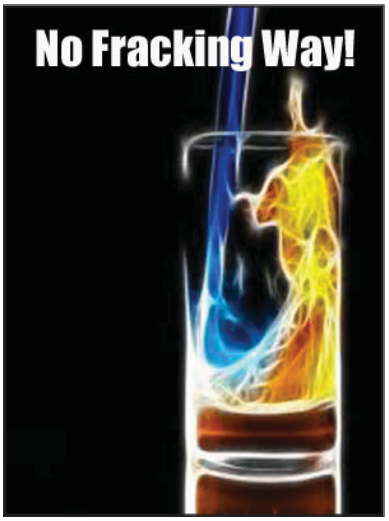
No Fracking Way!

Hydraulic fracturing poses serious risks to water and health

Hydraulic fracturing – more commonly known as fracking – is a process where sand, water and chemicals are blasted into rock formations such as dense (less porous) sands and shale or coal beds. This "injection" process creates cracks in the rock formations and allows the gas to flow up the well. Along with the use of a newer drilling technique known as "horizontal wells," fracking has allowed energy corporations to exploit previously hard to reach unconventional supplies of gas.

Where is this happening in Canada?

Fracking projects are at various stages of exploration and drilling in British Columbia and Alberta in the Montney Shale and the Horn River Shale. There is also significant exploration underway in Saskatchewan. These three provinces have promised to lower environmental standards and lower the royalties energy companies have to pay to encourage fracking companies to start projects. Massive shale explorations and developments are also being planned in Quebec, Nova Scotia and New Brunswick where drilling is already underway in communities such as Penobsquis and Elgin. Exploration is underway in Ontario and Manitoba.



What's wrong with fracking?

As energy corporations in the United States and Canada expand their unconventional natural gas operations, questions are being raised about the health and environmental risks posed by fracking. Here are some of the concerns:

Fracking contaminates groundwater

Fracking threatens water quality through groundwater contamination from the injections of toxic fluids near aquifers, or through the handling and spilling of contaminated waste fluids.

Fluid waste contains toxic and radioactive substances. Known as "wastewater flowback," it is often stored in large pits. Sometimes it is treated at municipal water treatments facilities and discharged into waterways, putting drinking water supplies at risk.
Not all the water used in a fracking process is recovered. Once injected, some of the toxic fluid remains trapped underground allowing hazardous materials and carcinogens to leech into and contaminate groundwater. Even if toxic chemicals are not used in the injection itself, the process can disturb aquifers by creating pathways for fluids or gases from other geological layers to flow into groundwater sources. The water may collect arsenic, hydrocarbons and radioactivity from the shale deposit itself.

Fracking projects can lower groundwater levels and reduce water pressure in nearby aquifers. This allows methane gas (a component of natural gas) to accumulate in gas bubbles that surface in shallow bodies of water or in household pipes. Methane gas is colourless and odorless and can cause explosions. There are documented cases where homeowners living near a fracked well can literally light their water on fire because of methane gas bubbles in their pipes.

In Pennsylvania, Cabot Oil and Gas has been ordered to provide a fresh water supply to more than a dozen homes where water has been contaminated near fracked wells.

Fracking threatens drinking water

There are hundreds of reports of drinking water contamination associated with fracking in the United States. According to a US Environmental Protection Agency study, 20 to 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.

Landowners in Rosebud, Alberta have documented stories of being able to light tap water on fire, developing skin burns and rashes from taking showers, and pets refusing to drink water as a result of well water contamination after Calgary based energy company EnCana began fracking operations in the area.

Chemical analyses of flowback from fracking wells in Pennsylvania revealed high concentrations (levels exceeding water quality standards) of volatile organic compounds such as benzene, semi-volatile compounds such as naphthalene, and radioactive substances such as radium. In Canada, many of the chemicals associated with fracking fluid, as well as methane, are not listed in the federal drinking water guidelines used by municipalities. Their presence in drinking water will therefore not be measured, tested and reported.

Fracking depletes water resources

Large amounts of water are required for fracking, particularly when the project is based in shale rock. This water can come from municipal sources, surface or groundwater, and often needs to be trucked in from elsewhere.

Approximately 2 to 9 million gallons of water are required for a single fracking job. Much of the water becomes so contaminated it cannot return to the watershed. In some areas like Albuquerque, New Mexico, groundwater depletion because of fracking has been so extreme it has caused the land to collapse.

Fracking poses serious health risks

A four billion gallon fracking project requires 80 tons (200,000 gallons) of chemicals. These chemicals are brought through communities where they are stored and present potential spill risks.

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

Dr. Theo Colborn with the Endocrine Disruption Exchange Inc., has been collecting data on fracking chemicals used by the industry over the past five years. Ninety-four per cent of the fracking chemicals in her database are associated with skin, eye and respiratory problems, 93 per cent with harm to the gastrointestinal system, and 83 per cent with affecting the brain and nervous system. Colborn's research includes analyses of chemicals found in waste pits and used during the drilling process.

Exposure to chemicals can occur in a variety of ways. Fracking fluids can spill, posing health hazards to workers or others who come in contact with the chemicals. An emergency room nurse in Colorado was exposed to a fracking fluid called ZetaFlow while treating a gasfield worker whose clothes had been splashed with the chemicals. She immediately lost her sense of smell and developed a headache, and within a couple of days her liver, heart and lungs began to shutdown. While she eventually recovered, the healing process was long.

Air emissions from fracking waste water stored in open pits have also raised serious concerns about affects on local air quality. The projects also cause high levels of greenhouse gas emissions as water and chemicals are trucked to and from the fracking site. A report prepared for Natural Resources Canada warns that the development of shale gas from the Horn River Basin, which has a higher carbon dioxide content than other shale in Canada, will contribute "significantly" to both B.C. and Canadian emissions. Fracking poses serious health risks and is not a climate solution.

We need the facts about fracks

The truth is not a lot is known about the long term dangers and effects of fracking. The federal government and provincial governments have yet to establish regulations and safety standards that would protect people and drinking water sources.

While natural gas is often referred to as a transition step away from more energy-intensive oil, fracking for "unconventional" gas – gas that is difficult to get to – is not a climate solution. Any energy resource that sacrifices water protection and threatens people's health and environmental safety in such significant ways should be halted.

Take Action!

Get involved by finding out if fracking is happening in your community. Talk to your local, provincial and federal representatives and express your concerns with this controversial extraction process. Write to Environment Minister Peter Kent today and ask what the federal government is doing to stop fracking projects given the growing number of documented cases of water contamination, health and environmental concerns linked to them.

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