

Briefing Note: A Call for a Moratorium on Hydraulic Fracturing Expansion in BC due to Human Health and Climate Harms

The Canadian Association of Physicians for the Environment (CAPE) and Canadian Association of Nurses for the Environment (CANE) are dedicated to taking a stand on environmental issues that threaten the health of Canadians and our planet. Our members care for patients in healthcare and community settings across British Columbia. Our commitment is above all to safeguard the health of the populations we serve.

Issue Summary

Hydraulic fracturing in the Peace region of northeast BC generates the vast majority of natural gas within our province. During the extraction and transportation processes, fracking and its infrastructure pollute the air, land and water in the Peace region, use vast quantities of freshwater, overtake BC's valuable farmland and harm the health of families, farmers and Indigenous peoples locally and downstream. Research and local reports from physicians link increased rates of cancer, lung disease and negative pregnancy outcomes to nearby fracking; doctors, professionals and their families are moving away from the region due to concerns about the health risks.

In addition to its health harms, the natural gas industry contributes substantially to global heating through leakage of methane—which has 86 times the warming potential of CO₂ over a 20-year period—across the supply chain. Canada has committed to achieving net-zero greenhouse gas emissions by 2050, while BC has committed to reducing its emissions by 40% by 2030, and promised to achieve net-zero by 2050. If BC continues to subsidize the LNG industry, it will be virtually impossible for us to meet our 2050 targets.

The 2021 Intergovernmental Panel on Climate Change Report¹ has made it devastatingly clear: If we do not rapidly reduce our emissions now, every child born today will face a world over 4°C warmer within their lifetime, causing severe heat waves, droughts, floods, wildfires, spread of infectious diseases and mass migration. We see these effects in real time in the recent deadly heat dome that killed 570 British Columbians, and year after year of massively disruptive wildfires.

Background

The health harms experienced by people who live in proximity of fracking operations are well documented, including increased incidence of asthma in adults and children, migraines and sinusitis.^{2,3} Dr. Ulrike Meyer, who lives and practices in Dawson Creek, reported significant increases in rare and fatal diseases such as glioblastoma and idiopathic pulmonary fibrosis in local patients.⁴

Research in BC has found high benzene metabolite levels in urine of pregnant women living close to fracking operations.⁵ Benzene is a known precursor to leukemia in their offspring.⁶ Moreover, studies elsewhere have shown increased Acute Lymphocytic Leukemia in children. Higher rates of heart attacks are observed in these regions⁷ as well as hospitalizations for kidney stones, urinary tract infections and several other diseases.⁸

Fracking has disproportionately negative effects on marginalized communities in Northern British Columbia, in particular Indigenous women. Amnesty International reports that young Indigenous women are frequently recruited to the sex trade in work camps and are all too often the victims of violence.⁹ Indigenous sovereignty over their unceded and ancestral territories, as well as their traditional practices, are likewise adversely affected by fracking and pipeline development, as seen with the Blueberry River¹⁰ and Wet'suwet'en Nations.¹¹

Fracking is also an ecological danger because it degrades the soil and leads to groundwater contamination. Research indicates it increases birth defects in horses, increases mortality in fish and calves, and decreases fertility in cows.¹²

Elsewhere in BC, natural gas appliances, powered by fracked natural gas, generate a significant amount of climate pollution.¹³ Furthermore, gas stoves pollute indoor air with nitrogen dioxide (NO₂), which has been linked to worsened asthma in children.¹⁴ In 2015, Health Canada indicated that most existing Canadian gas ranges do not meet its long-term NO₂ exposure standard.¹⁵

Scientists estimate that up to 25% of current global warming is due to methane.¹⁶ Given that climate change is the most critical health emergency of this century, we cannot allow fracking to continue.

Additional impacts linked to fracking and LNG:

- Each fracking procedure uses over 10 million L of water, often fresh water that cannot be reused.¹⁷
- Air sampling surveys find high concentrations of fine particulate air pollutants and volatile organic compounds nearby, especially carcinogenic benzene and formaldehyde. Exposure to emissions from natural gas flares and diesel exhaust from the 4,000-6,000 truck trips per well pad also pose respiratory health risks for those living near drilling operations.¹⁸
- In parts of BC's Montney region, a total of 439 earthquakes up to 4.6 magnitude were associated with fracking between 2013 and 2019.¹⁹
- Hormone disruptors and carcinogens are found in produced water from fracking.²⁰
- Radon, a known cause of lung cancer, is brought to the surface by fracking.²¹
- Noise and light pollution from trucks and flaring harm mental and physical health of local residents.^{22,23}

Key Policy Changes

BC needs to take action now to protect the health of its residents. Investments in fracking and LNG have no place in a clean BC or a warming climate.

We recommend:

1. **A moratorium on fracking expansion.** Because natural gas extraction harms the health of people living near fracking wells and intensifies the climate crisis, the BC government should stop all new fracking development.
2. **A just transition for workers.** Support should be provided to workers and Indigenous communities impacted by LNG production to transition to a clean-energy economy, including financial support for retraining, and a guarantee of good, zero-emissions jobs.
3. **Investments in zero-emissions buildings.** Natural gas hook-ups should be banned in all new buildings by 2023, with buildings in the north given until 2025 to comply. Investments should be made in retraining programs for workers to build affordable zero-emissions buildings, and retrofitting all existing buildings for zero emissions.
4. **Ending fossil fuel subsidies.** The provincial government should end all fossil fuel subsidies as defined by the World Trade Organization, including direct spending, tax breaks, transfer of risk, and public finance.

Conclusion

CAPE and CANE invite the Government of British Columbia to take a decisive stance on human health and climate pollution reductions by ensuring that the necessary steps are taken to end fracking within BC.

Contact

Dr. Larry Barzelai, MD, CCFP

barzelailp@gmail.com

Chair, BC Chapter of Canadian Association of Physicians for the Environment

Helen Boyd, RN, MA

cvnhe@telus.net

BC Representative, Canadian Association of Nurses for the Environment

-
- ¹ <https://www.ipcc.ch/report/ar6/wg1/>
 - ² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5424822/>
 - ³ <https://hub.jhu.edu/2016/08/25/fracking-health-migraine-sinus-fatigue/>
 - ⁴ <https://thenarwhal.ca/potential-health-impacts-of-fracking-in-b-c-worry-dawson-creek-physicians/>
 - ⁵ <https://pubmed.ncbi.nlm.nih.gov/31089244/>
 - ⁶ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4198238/>
 - ⁷ <https://www.sciencedaily.com/releases/2021/04/210427122434.htm>
 - ⁸ <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0131093>
 - ⁹ <https://www.amnesty.ca/sites/amnesty/files/Out%20of%20Sight%20Out%20of%20Mind%20ES%20FINAL%20EN%20CDA.pdf>
 - ¹⁰ <https://thenarwhal.ca/bc-blueberry-river-agreement/>
 - ¹¹ <https://unistoten.camp/>
 - ¹² <https://pubmed.ncbi.nlm.nih.gov/19106065/>
 - ¹³ <https://www.switchitupbc.ca/>
 - ¹⁴ <https://www.ncbi.nlm.nih.gov/pubmed/23337243>
 - ¹⁵ <https://www.canada.ca/en/health-canada/services/publications/healthy-living/residential-indoor-air-quality-guideline-nitrogen-dioxide.html#c4b>
 - ¹⁶ <https://www.edf.org/climate/methane-crucial-opportunity-climate-fight>
 - ¹⁷ <https://www.scientificamerican.com/article/water-use-rises-as-fracking-expands/>
 - ¹⁸ [http://espace.inrs.ca/id/eprint/6709/1/caron%20beaudoin%202018-Gestational%20exposure%20to%20volatile%20organic%20compounds%20\(VOCs\)%20in%20Northeastern%20British%20Columbia,%20Canada-%20A%20pilot%20study.pdf](http://espace.inrs.ca/id/eprint/6709/1/caron%20beaudoin%202018-Gestational%20exposure%20to%20volatile%20organic%20compounds%20(VOCs)%20in%20Northeastern%20British%20Columbia,%20Canada-%20A%20pilot%20study.pdf)
 - ¹⁹ <https://vancouver.sun.com/news/local-news/fracking-likely-to-create-stronger-more-common-earthquakes-in-b-c-study>
 - ²⁰ <https://ehjournal.biomedcentral.com/articles/10.1186/s12940-018-0368-z>
 - ²¹ <https://www.cancer.gov/about-cancer/causes-prevention/risk/substances/radon/radon-fact-sheet>
 - ²² <https://phys.org/news/2017-01-noise-pollution-fracking-human-health.html>
 - ²³ <https://pubmed.ncbi.nlm.nih.gov/33205210/>