

From: Tynette Deveau
Subject: NS physicians warn of health risks related to fracking and uranium mining
Date: March 4, 2025 4:11:02 PM
Attachments: [Open letter to Premier Houston-NS physicians warn about health harms.pdf](#)
[CAPE NS submission Bill 6-Dr. Nancy Covington.pdf](#)

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Dear Mayors, Wardens, Councillors, and CAOs of Nova Scotia,

We are writing to you on behalf of the Nova Scotia committee of the Canadian Association of Physicians for the Environment ([CAPE](#)) with an urgent matter.

As Nova Scotia physicians and healthcare providers, we are deeply concerned that Premier Houston's government is taking steps to repeal legislation protecting Nova Scotians from the development of hydraulic fracturing (fracking) and uranium mining in the province. Attached is an open letter we sent to the Premier on February 19, outlining the health threats posed by these industries.

We know from medical research that fracking is strongly linked to increased rates of birth defects, childhood leukemia and asthma, increased hospitalizations for cardiovascular and respiratory diseases, and higher overall mortality rates and reduced life expectancy.

In northeastern British Columbia, where fracking is already well established, physicians are closing their practice and moving their families away, privately identifying it's because of the adverse health and community impacts of the local fracking industry. ([Health professionals urge B.C. to stop investing in the LNG industry](#))

Uranium mining poses grave health and environmental risks as well. Uranium mining (and exploration) releases radioactive materials into the air and water, and leads to elevated levels of radioactive toxic metals in the environment. This can cause long-term contamination of soils, well water and other water resources, and wildlife. (See attached submission by Dr. Covington for more information).

Studies show increased rates of lung cancer and other respiratory diseases for those living in nearby communities, as well as workers in the industry. Radon, the radioactive gas that is released when uranium is disturbed or mined, is the second leading cause of lung cancer in Canada, after smoking.

The decisions made in the coming days could have long-lasting consequences for the health of Nova Scotians and our environment. As local leaders, you have a crucial role to play in protecting the health and well-being of your communities. We urge you to speak out publicly against Bill 6, which would repeal the existing bans on these industries. Communicate your concerns directly to Premier Houston and your local MLAs.

We stand ready to provide any additional information or support you may need in addressing this urgent matter. Please do not hesitate to contact us for further discussion or clarification.

Sincerely,

Dr. Laurette Geldenhuys

Dr. Nancy Covington

On behalf of the Nova Scotia committee of the Canadian Association of Physicians for the Environment (CAPE)

* CAPE is a non-partisan, physician-led organization with over 36,000 supporters across the country. It plays a unique role at the intersection of health and the environment, bringing a credible, evidence-based perspective delivered by doctors, other health professionals, and researchers to support community and planetary health and enhance equity. CAPE Nova Scotia represents more than 100 physicians and other healthcare providers in the province.

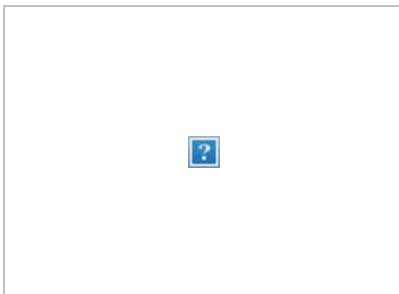
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Tynette Deveau

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I live and work in Kjipuktuk (Halifax), on Mi'kma'ki territory, which is covered by the treaties of peace and friendship, guaranteeing the rights of Mi'kmaq to fish, hunt, and trade in perpetuity. These treaties are part of the Canadian Constitution and remain binding today. We are all treaty people.



February 19, 2025

The Honorable Tim Houston,
Premier of Nova Scotia
7th Floor, One Government Place
1700 Granville Street
Halifax, NS B3J 1X5

premier@novascotia.ca

RE: Repealing the Uranium Exploration and Mining Prohibition Act and amendments to permit hydraulic fracturing of natural gas in Nova Scotia

Dear Premier Houston,

We are writing on behalf of the Nova Scotia committee of the Canadian Association of Physicians for the Environment (CAPE) to express our deep concerns regarding your plans to remove bans on hydraulic fracturing (fracking) for natural gas and uranium mining exploration and research. As physicians and healthcare providers, we feel it is our duty to bring to your attention the latest medical evidence of the health harms associated with these extractive industries.

CAPE is a non-partisan, physician-led organization with over 36,000 supporters across the country. It plays a unique role at the intersection of health and the environment, bringing a credible, evidence-based perspective delivered by the trusted voices of doctors, other health professionals, and researchers to support community and planetary health and enhance equity. CAPE Nova Scotia represents more than 100 physicians and other healthcare providers across the province.

We understand the economic challenges facing Nova Scotia, including US tariffs and uncertainty around federal funding. We are also acutely aware of the high rates of poverty in our province and how this profoundly affects the communities we serve. However, we strongly believe that pursuing resource extraction activities that contribute to significant health and environmental harms is not the solution to these challenges.

The medical evidence on the health impacts of unconventional oil and gas development, including fracking, is clear and growing. Recent studies have found strong correlations between proximity to fracking sites and:

- Increased rates of preterm births, low birth weight, and congenital defects

- Higher incidences of childhood asthma and leukemia
- Increased hospitalizations for cardiovascular and respiratory diseases
- Higher overall mortality rates and reduced life expectancy

For example, a 2022 study in *Environmental Health Perspectives* found that children living near fracking sites had 2-3 times higher odds of developing acute lymphoblastic leukemia. Another study in *JAMA Pediatrics* showed significantly increased risks of spontaneous preterm birth and low birth weight for pregnancies within 10 km of fracking wells.

Many of the chemicals used in fracking are known carcinogens, endocrine disruptors, or have other toxic effects. Groundwater contamination from fracking chemicals can persist for decades, impacting drinking water supplies and soils, and, in turn, adversely affecting human health.

Uranium mining poses its own set of health hazards, related to radiation exposure from radioactive materials released into air and water, and elevated levels of toxic metals. Historical evidence from uranium mining regions shows dramatically increased rates of lung cancer and other respiratory diseases among miners and nearby residents. While modern safety practices have improved, workers and those living in nearby communities face increased health risks from radon gas, radioactive dust, and potential water contamination.

The long-term environmental impacts of uranium mining is equally concerning. It leaves a toxic legacy of radioactive waste with a half-life of tens of thousands of years. Eighty-five percent of the radioactivity in the uranium ore is left behind as tailings, including many radioactive poisons – such as radium, polonium, and radioactive lead-210 – that are far more toxic than uranium itself. These uranium mining and milling wastes will constitute an everlasting health hazard and will have to be monitored and managed in perpetuity at public expense. The Church Rock uranium tailings spill in New Mexico, which released 94 million gallons of such radioactive waste, remains largely unremediated more than 40 years later. A power outage at a uranium mine in Elliot Lake, Ontario, resulted in the spill of two million litres of contaminated water from a tailings site.

We are also deeply concerned about plans to expand fossil fuel extraction and consumption in the province, at a time when we urgently need to transition away from fossil fuels. Building pipelines and other new fossil fuel infrastructure would only exacerbate the root cause of the severe flooding, monster wildfires, and heatwaves we are experiencing in Nova Scotia. The medical journal *The Lancet* has identified climate change as the greatest global health threat of the 21st century. As healthcare providers, we are already seeing the health effects of climate change in our communities.

The health impacts of fracking, uranium mining—and more broadly, climate change—disproportionately affect Indigenous and African Nova Scotian communities and vulnerable populations, including children, pregnant women, the elderly, disabled people, and

people with pre-existing conditions or biological susceptibilities. Rural and low-income communities also often bear a heavy burden of environmental contamination and health effects. These factors position this as a matter of social, racial, economic and environmental justice. The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), the UN declaration on the right to a healthy environment, and Canada's *National Strategy Respecting Environmental Racism and Environmental Justice Act* should guide decision-making.

We recognize the need for economic development and healthcare funding. However, the boom-and-bust cycle of fossil fuel resource extraction and uranium mining offers only short-term gains at the expense of long-term public health and environmental costs. Instead, we encourage focusing on sustainable industries like clean renewable energy projects, which create more jobs per dollar invested than fossil fuels, while protecting our air, water, and climate. Such projects will need to be undertaken with community consultation and support, and at a scale that does not harm the local environment.

Nova Scotia has some of the most ambitious climate targets in North America. Expanding fossil fuel infrastructure would be a major step backwards and incompatible with our climate goals. Moreover, repealing laws that protect against the development of fracking and uranium mining would undermine the province's commitment to improve health care for all Nova Scotians.

Therefore, we respectfully call on your government to:

1. Maintain and strengthen existing restrictions on fracking, uranium mining, and other high-risk resource extraction activities
2. Invest in community-supported clean renewable energy and green infrastructure as a path to sustainable economic growth
3. Require comprehensive health impact assessments for any proposed resource extraction projects
4. Prioritize protection of drinking water sources and ecologically sensitive areas
5. Respect UNDRIP; engage in meaningful consultation with Mi'kmaw communities and ensure there is free, prior, and informed consent for any activities impacting Mi'kmaw territory.
6. Engage in meaningful consultation with rural communities, and work collaboratively with them to find shared solutions.
7. Respect the UN Declaration on the human right to a clean, healthy and sustainable environment

We recognize the immense challenges you face as Premier during these difficult times. The pressures of US tariffs, healthcare funding gaps, and the need to ensure prosperity for all Nova Scotians are significant burdens to bear. However, we must be careful not to trade one crisis for another. The health of our communities and the natural environment that sustains us are



essential foundations for any lasting economic solution. By maintaining our commitment to environmental protection while pursuing sustainable economic development, Nova Scotia can lead the way on innovative solutions that preserve the health, environmental, and economic legacy we wish to leave for future generations.

Sincerely,

Laurette Geldenhuys, MBBCH FFPATH MMED FRCPC MAEd
on behalf of CAPE Nova Scotia

c.c. Claudia Chender, Leader of the Opposition
Derek Mombourquette, Leader of the Liberal Party



March 3, 2025

Submission by Dr. Nancy Covington to the Standing Committee on Public Bills concerning Bill 6: An Act Respecting Agriculture, Energy and Natural Resources

Good morning, honourable members of the Legislature. Thank you for the opportunity to speak with you today. I am Dr. Nancy Covington, a retired family physician, a grandmother, and a member of the Nova Scotia committee of the Canadian Association of Physicians for the Environment (CAPE NS).

I was involved in the work that led to Nova Scotia's 2009 ban on uranium mining and exploration. This ban grew out of the long-standing moratorium, and was the result of extensive research and public engagement. In the end, it garnered support from all political parties, the medical society, and many citizen groups.

Shortly after this, mining companies started exploring for uranium near Sept-Îles in Quebec. When petitions to halt the exploration were ignored, 23 doctors in the community publicly announced that they were prepared to resign en masse and leave town if the project moved forward. They stated that the threat to their water supply posed too much risk to their families and communities. With 23 doctors representing a third of the area's total physicians, their stance had significant weight. As a result, in 2013, Quebec imposed a moratorium on uranium mining, becoming the third province to take this step, following British Columbia and Nova Scotia.

It's disheartening that today, Nova Scotia's ban on uranium mining is being challenged. However, I welcome the opportunity to refresh our thinking on this critical issue.

Even the act of exploring for uranium with boreholes can release radon. Radon is a radioactive gas arising from uranium underground. Radon has a half life of 3.8 days. As it decays, it emits radioactive particles which, if inhaled or ingested, can damage our DNA and other cellular components, potentially leading to cancer. Radon and its eight decay products are all classified as carcinogens.

The decay chain continues with each new radioactive product, having the potential to attach itself by electrostatic charge to dust particles. These can get blown around, washed away into ponds or wells, or settle on vegetation and crops. Of interest, one of the elements in this decay chain is Polonium 210, which was the substance slipped into a teacup that killed Litvinenko by radiation poisoning in 2006. (Litvinenko was a double agent spy in the UK). Only 10 micrograms of Polonium was needed to kill him; his body was so radioactive it had to be buried in a lead coffin.

Uranium mining is typically done through open-pit or underground methods, and occasionally by leaching. In Saskatchewan, uranium concentrations are high—up to 20%—so the mining is often carried out by robots due to the extreme danger to workers. While no leaching has been done in Saskatchewan so far, it has been used in Wyoming, where it resulted in major contamination of an aquifer. More commonly, uranium is found in lower concentrations, which requires crushing the rock to extract the ore, leaving piles of radioactively contaminated rock exposed to the weather. Tailing ponds created to contain the waste do breach, as happened in Elliot Lake.

Milling of the ore is usually done on site to reduce transportation costs. The resulting yellowcake is transported to Blind River (top of Lake Huron) for refining, and then sent to a “Conversion Facility” in Port Hope (Cameco) where it is made into uranium hexafluoride and some pellets made for Bruce Power. Every step in the process risks more scatter of the radioactive laden dust particles.

Most mining has historically taken place in remote, sparsely populated areas such as northern Saskatchewan. One study showed that lichens close to uranium mining sites are sufficiently contaminated by radioactivity that caribou that eat the lichens become contaminated, thus entering the food chain. This study calculated the additional risks of cancer for people eating different amounts of this traditional meat. Other studies show fish in the area have heavy metal concentrations. Watersheds near mines in both Saskatchewan and Ontario remain contaminated.

Saskatchewan is 12 times as large as Nova Scotia with approximately the same size population. Most Saskatchewanians live in the south and mines are in the north. Nova Scotia is the second most densely populated province in Canada with 40% of people dependent on wells. This means that a uranium mine anywhere in Nova Scotia would affect most of us – as would uranium exploration.

After the mine is closed, the tailings site with radioactive remnants and other toxic heavy metals would require monitoring for an indefinite period of time. The responsibility and cost of this care would be the province's. Another long-term cost would be health care costs for delayed onset cancers.

Radon gas is the second leading cause of lung cancer after smoking and is why measuring radon in our basements is advised and remedial action recommended over a certain level.

Many of our buildings, including schools, have readings above this level, which is why an industry has developed in the province to help homeowners do remediation.

Uranium is used for either nuclear power or nuclear weapons. A minuscule amount ends up as radioisotopes for medical use. Most medical isotopes can be made in a cyclotron without using radioactive material. Large nuclear power plants like Bruce Power are not needed to make these tiny amounts.

The Canadian Nuclear Safety Commission regulates the mining industry. Of note, permissible levels of radon in Canada – that is, what the industry is allowed to release into the environment – are twice as high as many other countries and twice as high as what the World Health Organization recommends.

Permissible levels are derived from data from survivors of Hiroshima and Nagasaki. These levels are based on “Reference Man,” ignoring the fact that low level ionizing radiation causes disproportionate harm to women and children.

The bottom line is that even with newer mining techniques, uranium mining and exploration will negatively affect our health and the environment in much of Nova Scotia for a long time. This will further strain the health care system and increase costs.

Lastly, after uranium is used in a nuclear power plant, it’s transformed into waste that is much more radioactive than the original uranium. It’s so radioactive, in fact, that it has to be kept out of the biosphere for hundreds of thousands of years. Nobody in the world has figured out how. This toxic legacy will haunt future generations.

On behalf of the Canadian Association of Physicians for the Environment, I respectfully call upon the government to maintain Nova Scotia’s uranium mining ban.

For our health and for the environment, leave uranium in the ground.

Nancy Covington, MD, BSc Physics
on behalf of Canadian Association of Physicians for the Environment Nova Scotia
n.i.covington@icloud.com

Recommended resources

https://www.pembina.org/reports/ClearingAir_UraniumMining.pdf

<https://www.ippnwcanada.ca/medical-isotopes>

For more information, contact:

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