

**Nicole Blades**

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**From:** Tynette Deveaux <[REDACTED]@ca>  
**Sent:** June 12, 2025 4:21 PM  
**Subject:** NS physicians warn about uranium mining and exploration  
**Attachments:** Open letter to Premier Houston on dangers of uranium-June 11-2025.pdf; FACTSHEET-Uranium mining and health-CAPE NS.pdf; FACTSHEET-Safe Uranium Mining-CAPE NS.pdf

**CAUTION:** This email originated from an external sender.

Dear Municipal Leaders,

On behalf of Nova Scotia physicians representing the Canadian Association of Physicians for the Environment in the province, I'm sharing a [letter](#) we sent to Premier Tim Houston yesterday warning of the very serious health risks associated with uranium exploration and mining in the province. We also shared the letter with key cabinet members.

We have prepared two factsheets to assist policymakers—as well as members of the public—understand the issues:

[The health risks of uranium exploration and mining in Nova Scotia](#)

[“Safe uranium mining?” Nova Scotia physicians respond to industry claims](#)

We invite you to review this information and share it with your constituents. We would be pleased to speak with you and your council to answer any questions you may have.

Thank you,

Tynette

p.s. PDF copies of the letter and factsheets are also attached.

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Tynette Deveaux  
Regional Program Manager & Atlantic Coordinator |  
Gestionnaire des comités régionaux & coordonnatrice du Canada Atlantique  
[www.cape.ca](http://www.cape.ca) | 902-719-9083 (Kjipuktuk | Halifax)



*I live and work in Kijipuktuk (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.*



June 11, 2025

The Honorable Tim Houston  
Premier of Nova Scotia  
7th Floor, One Government Place  
1700 Granville Street  
Halifax, NS B3J 1X5  
[premier@novascotia.ca](mailto:premier@novascotia.ca)

**RE: The many human health risks of uranium exposure, exploration, and mining**

Dear Premier Houston,

As a follow-up to our February 19, 2025 letter, we are writing again on behalf of the Nova Scotia committee of the Canadian Association of Physicians for the Environment (CAPE) to implore you to urgently reinstate the Uranium Exploration and Mining Prohibition Act repealed by Bill 6 in March of this year.

**CAPE is a non-partisan, physician-led organization concerned with the health of Nova Scotians. There is clear evidence that uranium exploration, mining, processing, and the resulting waste create significant and long-lasting damage to human health.**

Since March, your government has issued requests for proposals to promote uranium exploration in three rural areas of Nova Scotia. This opens the province to serious health and environmental harms posed by uranium exploration and mining. These dangers were clearly documented four decades ago by the McCleave Commission of Inquiry on Uranium,<sup>1</sup> and reiterated in 2008 by expert witnesses who provided evidence for the 2009 legislation prohibiting uranium exploration and mining.<sup>2</sup>

The physics of uranium have not changed in the intervening years, nor have the health risks that are posed when it is disturbed.

The ban on uranium exploration and mining was not “lazy public policy.” Rather, it was wise, cost-saving, well-studied, and critically important public health policy. We are deeply concerned that it was overturned without proper consultation with healthcare experts. As physicians and healthcare providers, it is our duty to call your attention to the health dangers this decision has unleashed.

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<sup>1</sup> <https://novascotia.ca/natr/meb/pdf/ofr612.asp>

<sup>2</sup> [https://nslegislature.ca/sites/default/files/legc/bills/61st\\_1st/3rd\\_read/b039.htm](https://nslegislature.ca/sites/default/files/legc/bills/61st_1st/3rd_read/b039.htm)



Uranium is a heavy metal that poses health dangers because it is chemically toxic, and also because it is radioactive, its decay by-products even more so.

Uranium exploration, mining, and processing are associated with a wide range of adverse human health problems. These are most pronounced among workers in the industry who are directly exposed to uranium and its by-products, but they also affect the general population exposed through water- or airborne contaminants mobilized or released from these activities.

Peer-reviewed studies from around the world confirm that mining and contaminated groundwater, which mining can exacerbate, are the primary sources of uranium contamination exposure.<sup>3</sup>

Uranium exposure can cause kidney failure, diminished bone growth, organ and genetic damage, infertility, birth defects, and increased infant mortality. Because it is radioactive, it is also linked to lung cancer, along with several other kinds of cancer.<sup>4</sup> Radiation disproportionately harms children and females, and uranium exposure is particularly dangerous during pregnancy.

Please refer to CAPE's accompanying fact sheet on health risks of uranium for more detailed information from peer-reviewed scientific and independent medical/expert sources.

Proponents of uranium mining claim – falsely – that we need to mine uranium for medical isotopes used in diagnostic tests. These days, medical isotopes are produced in research reactors that don't require uranium, and are most safely made in devices called cyclotrons.

The proponents fail to mention that the tailings and waste from uranium mines, estimated to remain radioactive for 100,000 years, need to be contained and cared for in perpetuity.

There are only two uranium mines in operation in Canada. Both are in Saskatchewan. Proponents of uranium mining in Nova Scotia claim that Saskatchewan shows us it can be done "safely and environmentally responsibly."<sup>5</sup> These claims are not supported by Health Canada or Environment and Climate Change Canada.

The Saskatchewan context is not like Nova Scotia's. Saskatchewan is nearly 12 times the size of Nova Scotia, with a population density of just two people per square kilometre (km<sup>2</sup>).<sup>6</sup> The Saskatchewan mines are located more than 600 km from any towns or cities.<sup>7</sup> Nova Scotia, by

<sup>3</sup> <https://www.sciencedirect.com/science/article/pii/S0160412020320626>

<sup>4</sup> <https://link.springer.com/article/10.1007/s10552-010-9669-4>

<sup>5</sup> <https://tmans.ca/images/End%20the%20Uranium%20Ban%20Report%202025.pdf>

<sup>6</sup> <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=9810000101>

<sup>7</sup> <https://www.cnsccs.gc.ca/eng/uranium/mines-and-mills/#OperatingUraniumMinesandMills>



contrast, is the second most densely populated province in Canada, with 18.4 persons per km<sup>2</sup>. Uranium mines in Nova Scotia would be situated much closer to towns and within rural communities.

Furthermore, Nova Scotia's average annual precipitation is more than three times that in northern Saskatchewan.<sup>8</sup> This is especially important to know as uranium is highly soluble in water, making exploration and mining riskier in areas with high precipitation.

Nova Scotia's Department of Natural Resources (DNR) has published detailed maps<sup>9</sup> showing uranium deposits and an interactive map<sup>10</sup> of uranium risks to well water in the province. In 2020, DNR published an extensive review of private well contaminants, including uranium.<sup>11</sup> They noted that about 42% of Nova Scotians depend on private wells, and that up to 6.5% of them (25,100 people) already have dangerous levels of uranium in their well water, the ingestion of which can cause kidney disease,<sup>12</sup> and other serious health issues.

In 2018, DNR scientists reported on 40 years of activities related to uranium in well water in the province.<sup>13</sup> Crucially, DNR scientists observed that the way we use land can introduce changes to groundwater flow and chemistry, which can mobilize uranium stored in the aquifer. Drilling or mining increases exposure of water to potential contamination.<sup>14</sup> Uranium exploration can also be very disruptive and contribute to these risks.

The U.S. state of Virginia, which like Nova Scotia has known deposits of uranium, banned its exploration and mining in 1982, because of the health and environmental risks associated with these activities. Virginia's uranium ban withstood a challenge in the U.S. Supreme Court in 2019. Uranium exploration and mining are not permitted in British Columbia and Quebec, and in many other countries.<sup>15</sup>

As physicians and healthcare professionals whose priority is human health, we ask you and your government to look to these examples, and to the medical and scientific research on uranium contamination.

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<sup>8</sup> <https://www150.statcan.gc.ca/n1/pub/38-20-0001/2021001/l03-eng.htm>

<sup>9</sup> [https://www.researchgate.net/publication/338867646\\_A\\_Uranium\\_in\\_Well\\_Water\\_Risk\\_Map\\_for\\_Nova\\_Scotia\\_Based\\_on\\_Observed\\_Uranium\\_Concentrations\\_in\\_Bedrock\\_Aquifers](https://www.researchgate.net/publication/338867646_A_Uranium_in_Well_Water_Risk_Map_for_Nova_Scotia_Based_on_Observed_Uranium_Concentrations_in_Bedrock_Aquifers)

<sup>10</sup> [https://fletcher.novascotia.ca/DNRViewer/index.html?viewer=Uranium\\_Risk](https://fletcher.novascotia.ca/DNRViewer/index.html?viewer=Uranium_Risk)

<sup>11</sup> [https://novascotia.ca/natr/meb/data/pubs/20ofr04/ofr\\_me\\_2020-004.pdf](https://novascotia.ca/natr/meb/data/pubs/20ofr04/ofr_me_2020-004.pdf)

<sup>12</sup> <https://ehp.niehs.nih.gov/doi/abs/10.1289/ehp.02110337>

<sup>13</sup> [https://novascotia.ca/natr/meb/data/pubs/18ofr06/ofr\\_me\\_2018-006.pdf](https://novascotia.ca/natr/meb/data/pubs/18ofr06/ofr_me_2018-006.pdf)

<sup>14</sup> <https://pmc.ncbi.nlm.nih.gov/articles/PMC3653646/>

<sup>15</sup> <https://www.wise-uranium.org/uregmor.html>



When you campaigned for re-election in the fall of 2024, you did so on a platform of making the province more “livable,” promising to improve healthcare. Mining uranium is not improving healthcare; it is imperiling it. Uranium exploration and mining will have immediate and long-term negative impacts on the health of Nova Scotians, disproportionately affecting those living in rural areas where the activities are being carried out. Women and young children, including the unborn, face the greatest health risk among the nearby populations.

Uranium mining will add yet more strain on the province’s overburdened healthcare system, particularly as it grapples with an influx of rare cancers and diseases associated with uranium contamination. We can reasonably foresee that this will significantly add to health care costs, and just as importantly, make it harder to attract and retain physicians and nurses to work in the province; healthcare providers will understandably be concerned about the effects of uranium contamination on their own health and the health of their families.

Along with our duty to act in the best interests of our patients, we recognize that as Nova Scotians, we are all treaty people, bound by the Treaties of Peace and Friendship. We are in solidarity with the Assembly of Nova Scotia Mi’kmaw Chiefs, who wrote to you on March 4, saying, “It is unacceptable that the government is fast-tracking the extraction of natural resources that will permanently devalue and damage our unceded lands and adversely impact the exercise of our section 35 rights.”<sup>16</sup>

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 an 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 are requesting an opportunity to meet with you as soon as possible to further discuss the dangerous health implications of uranium exploration and mining in Nova Scotia.

Sincerely,

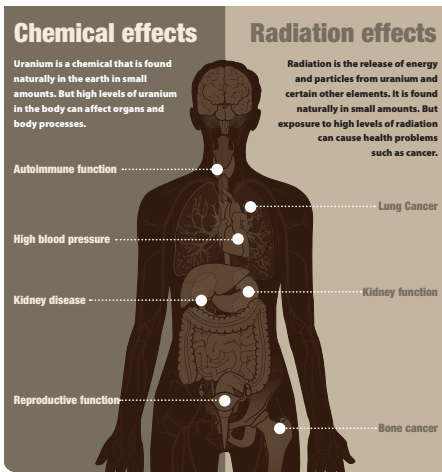
Laurette Geldenhuys, MBBCH FFPATH MMED FRCPC MAEd  
on behalf of CAPE Nova Scotia, ns@cape.ca

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<sup>16</sup> [https://www.facebook.com/story.php?story\\_fbid=960202099620709&id=100068927840682](https://www.facebook.com/story.php?story_fbid=960202099620709&id=100068927840682)



c.c. Honourable Tory Rushton, Minister of Natural Resources  
Honourable Tim Halman, Minister of the Environment and Climate Change  
Honourable Michelle Thompson, Minister of Health and Wellness  
Honourable Trevor Boudreau, Minister of Energy  
Karen Gatien, Deputy Minister of Natural Resources, Deputy Minister of Energy  
Honourable Kent Smith, Minister of Fisheries and Aquaculture  
Honourable Greg Morrow, Minister of Agriculture  
Honourable Becky Druhan, Attorney General and Minister responsible for the Office of Equity and Anti-Racism  
Honourable Twila Grosse, Minister of African Nova Scotian Affairs  
Honourable Dave Ritcey, Minister of Communities, Culture, Tourism and Heritage  
Honourable Nolan Young, Minister of Labour, Skills, and Immigration  
Honourable Leah Martin, Minister responsible for L'nu Affairs  
Claudia Chender, Leader of the Opposition  
Derek Mombourquette, Leader of the Liberal Party  
Janice Zinck, Executive Director of Geoscience and Mines  
Kim Doane, Executive Director of Energy Resource Development



# The Health Risks of Uranium Exploration and Mining in Nova Scotia

*Your Health: Uranium and Radiation on the Navajo Nation, EPA*

JUNE 10, 2025

URANIUM IS UNLIKE other minerals mined in Nova Scotia. It is a heavy metal that is both chemically toxic and radioactive, decaying over time to produce other materials that are even more toxic and radioactive. This includes the carcinogenic, but colourless, tasteless and odourless gas radon, emitted by uranium deposits. Radon gas can travel hundreds of kilometres in the air, emitting radioactive particles as it moves.

Radon can also collect in homes, and in Nova Scotia, it is responsible for more than 100 deaths a year.<sup>1</sup> According to Health Canada, radon is the number one cause of lung cancer in non-smokers.<sup>2</sup> For this reason, the Nova Scotia government has developed a [radon-risk map](#),<sup>3</sup> and radon detectors can be borrowed from provincial libraries. Canada's standards for acceptable radon gas limits in homes is (200 Bq/m<sup>3</sup>),<sup>4</sup> which is twice the limit recommended by the World Health Organization 100 Bq/m<sup>3</sup>,<sup>5</sup> and even more lax than that of the United States (150 Bq/m<sup>3</sup>).<sup>6</sup>

The radon decay chain continues to produce new radioactive products that can enter water, crops, trees, soil, animals, and humans.<sup>7</sup> People are exposed by drinking contaminated water, inhaling airborne uranium particles, and ingesting contaminated food, and increased levels of radiation in the environment.

Even exploration of uranium deposits can release harmful radon gas into the environment and mobilize uranium that is highly soluble, contaminating well water.

Suggesting, as industry proponents do,<sup>8</sup> that mining the uranium that underlies so much of Nova Scotia would reduce these risks, is inconsistent with the evidence. In fact, mining would unearth not only uranium but also many of its extremely toxic, radioactive by-products.<sup>9</sup>

The best way to protect Nova Scotians from uranium and radon exposure is for the provincial government to focus on, and even expand and strengthen, its existing programs of public awareness, testing, and mitigation measures.<sup>10 11</sup>

The safest place for uranium is underground in undisturbed, stable deposits.<sup>12</sup>

## The Health Risks

Physicians increasingly oppose uranium mining because of its potential to cause a wide range of adverse health effects from uranium exposure.<sup>13 14</sup> These health effects include:<sup>15</sup>

- Kidney failure<sup>16</sup>
- DNA damage
- Infertility
- Damage to the brain, lungs, liver, kidneys and bones
- Damage to the immune system
- Cancers, most commonly lung cancer, but also leukaemia and tumours of the lung, breast, thyroid, bone, digestive organs, and skin, which are linked with radiation exposure<sup>17</sup>
- Premature aging and decreased life expectancy<sup>18</sup>

## Higher risks for children and females

The health effects of radiation from radioactive materials—particularly cancer—need to be studied over long periods. Studies of nuclear bomb survivors show that gender and age matter greatly when it comes to survival rates.<sup>19</sup> Those exposed as small children were most likely to suffer cancer later in life, with girls twice as susceptible as boys. Adult women exposed to the radiation suffered 50% more cancer than adult males.

Uranium exploration and mining threaten to increase radiation exposure, which could disproportionately endanger the health of women and children.<sup>20</sup> Uranium and radiation exposure are particularly risky during pregnancy, linked to many health issues, including:

- Birth defects, including those of the brain and spine<sup>21 22 23</sup>
- Low birth weight and premature births, with complications for mothers and babies<sup>24</sup>
- Increased infant mortality<sup>25</sup>

## Health risks in surrounding communities

Uranium mining can devastate surrounding communities through widespread contamination of water sources and wildlife, with Indigenous Peoples and rural populations bearing the heaviest burden. Radioactive and toxic pollutants from mines seep into groundwater and surface water, with studies showing fish in mining-affected waters containing heavy metal concentrations up to 43 times higher than normal levels.<sup>26</sup> The “caribou connection” represents one of the most serious threats to community health,<sup>27</sup> as airborne radionuclides concentrate in lichens eaten by caribou, which are then consumed by people—potentially increasing cancer risk to six cases per 1,000 individuals, far exceeding acceptable risk standards.<sup>28</sup>

Indigenous communities face dual threats as mining operations disrupt traditional hunting, fishing, and gathering activities while simultaneously contaminating the land and water they depend on for physical, cultural, and spiritual wellbeing.<sup>29</sup> Rural communities relying on local wells and water sources have little protection against the perpetual threat of contamination, as uranium tailings require monitoring “essentially forever” to prevent release of contaminants. These

environmental injustices are compounded by the historical exclusion of affected communities from mining development decisions, leaving them with generations of health consequences while receiving minimal economic benefits.

In situ recovery mining, also known as in situ leaching, involves injecting a chemical solution into underground uranium deposits to dissolve the mineral, which is then pumped to the surface. While this method leaves less waste rock and tailings than open pit or underground mining, it poses serious environmental risks. Chief among them is the potential for groundwater contamination and its associated health risks, particularly for nearby populations.<sup>30 31</sup>

## The long-term health costs

Before the government of Nova Scotia ended the legislated ban on uranium exploration and mining, it did not undertake any studies to examine the potential human health and environmental costs. The health costs—including increased healthcare burden and lost productivity—could far outweigh any economic gains.<sup>32</sup>

Uranium mining leaves toxic legacies of radioactive tailings and waste rock<sup>33</sup> and contaminated groundwater, which have to be dealt with and monitored in perpetuity, long after the mine closes. Future generations will be saddled with the inestimably high health and environmental costs of today’s uranium exploration and mining. ♦



*Scan for a digital edition of this document, which includes all citations*

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CAPE Nova Scotia  
Canadian Association  
of Physicians  
for the Environment

CAPE is a non-partisan, physician-led organization with over 36,000 supporters across the country. It brings an evidence-based approach to issues intersecting health, the environment, and justice. CAPE Nova Scotia represents more than 100 p physicians and other healthcare providers across the province.

## ENDNOTES

- 1 [Make sense of radon - Government of Nova Scotia, Canada](#)
- 2 [Radon: Is it in your home? Information for Health Professionals - Canada.ca](#)
- 3 [Potential for Radon in Indoor Air](#)
- 4 [Guide for radon measurements in homes - Canada.ca](#)
- 5 [More countries act against exposure to radon and associated cancer risks. WHO](#)
- 6 [What is EPA's Action Level for Radon and What Does it Mean?](#)
- 7 [Uranium mining and health - PMC](#)
- 8 [Take the 'no' out of Nova Scotia: End the uranium ban](#), Mining Association of Nova Scotia (MANS), January 2021
- 9 Dr. Gordon Edwards, president and co-founder of Canadian Coalition for Nuclear Responsibility
- 10 [Uranium in Nova Scotia's Drinking Water](#), Nova Scotia Environment and Climate Change
- 11 [Radon and Human Health](#), Nova Scotia Environment and Climate Change
- 12 [Uranium Radiation Properties](#)
- 13 [Uranium mining and health - PMC](#)
- 14 [Exposure pathways and health effects associated with chemical and radiological toxicity of natural uranium: a review - PubMed](#)
- 15 [Emerging health risks and underlying toxicological mechanisms of uranium contamination: Lessons from the past two decades - ScienceDirect](#)
- 16 [Uranium mining and health - PMC](#)
- 17 [Guidelines for Canadian Drinking Water Quality: Guideline Technical Document – Radiological Parameters - Canada.ca](#)
- 18 [Chapter IV. Radiation Protection after the Chernobyl Catastrophe - Nesterenko - 2009 - Annals of the New York Academy of Sciences](#)
- 19 [OlsonChaperUNODApub.pdf](#)
- 20 [Gender and Ionizing Radiation: Towards a New Research Agenda Addressing Disproportionate Harm → UNIDIR](#)
- 21 [Chapter III. Consequences of the Chernobyl Catastrophe for the Environment - Yablokov - 2009](#)
- 22 [Prenatal uranium exposure and risk for fetal neural tube defects: A case-control study in women living in a rural area of northern China - ScienceDirect](#)
- 23 [Radioactive releases from the nuclear power sector and implications for child health | BMJ Paediatrics Open](#)
- 24 [Association of adverse birth outcomes with prenatal uranium exposure: A population-based cohort study - ScienceDirect](#)
- 25 [Radioactive releases from the nuclear power sector and implications for child health | BMJ Paediatrics Open](#)
- 26 [Uranium Mining: Fact Sheet by Pembina Institute](#)
- 27 [Wollaston Lake: The Uranium Mining Industry and the Perceptions of Health Risks](#)
- 28 [Uranium Mining: Fact Sheet by Pembina Institute](#)
- 29 [Wollaston Lake: The Uranium Mining Industry and the Perceptions of Health Risks](#)
- 30 [Contamination Risks Associated with In situ-Recovery Mining for Uranium – Debating Science](#)
- 31 [An evaluation of health risk to the public as a consequence of in situ uranium mining in Wyoming, USA - PubMed](#)
- 32 [Bill 6 submission-Dr. Laurette Geldenhuys. CAPE NS and Bill 6 submission-Dr. Nancy Covington, CAPE NS](#)
- 33 [Radioactive Waste from Uranium Mining and Milling, EPA](#)



# “Safe Uranium Mining?” Nova Scotia Physicians Respond to Industry Claims

JUNE 10, 2025

## Does the uranium ban make us less safe?

Proponents of uranium mining, such as the Mining Association of Nova Scotia (MANS), would have us believe we need more uranium exploration to understand the location of uranium deposits in Nova Scotia,<sup>1</sup> precisely because uranium and the carcinogenic radioactive gas it emits, radon, are so dangerous—present as they are in some drinking water and in some homes in Nova Scotia.<sup>2</sup>

In fact, the government of Nova Scotia knows a great deal about the uranium deposits in the province, and has published numerous reports and maps in recent years detailing both uranium and radon risks. Large multinational companies did extensive exploration for uranium in Nova Scotia in the 1970s and 1980s.<sup>3</sup> The recent requests for proposals issued by Nova Scotia's Department of Natural Resources (DNR) for uranium exploration in East Dalhousie, Millet Brook, and Louisville,<sup>4</sup> and numerous DNR reports, show there is already a great deal known about uranium deposits in the province.

The ban on uranium exploration and mining was not a ban on research and data collection, as MANS would have us believe. Rather, it was a crucially important ban on activities that would disturb uranium deposits, which could very well increase the already dangerous levels of uranium in drilled wells in Nova Scotia.

## Can uranium exploration and mining be done safely?

Mineral exploration and mining activities that disturb the land can change groundwater flow and cause fissures that mobilize uranium and release large amounts of radon.<sup>5</sup> Radon gas can travel hundreds of kilometres in the air, emitting radioactive particles as it moves. When ingested or inhaled, these can damage DNA and human cells, potentially leading to cancer.<sup>6</sup> The decay chain continues to produce new radioactive products that can enter water, crops, trees, soil, animals, and humans.<sup>7</sup>

It is not possible to take uranium out of the ground without bringing to the surface other radioactive materials, including radium, a “notorious killer.”<sup>8</sup> Uranium mines have tended to be in remote, sparsely populated areas, often on Indigenous lands. As with other extractive industries, this has led to “sacrifice zones,” with a lack of proper health monitoring of nearby populations. As a result, often the remote populations impacted by uranium mining have not been properly studied.<sup>9 10</sup>

## Will there be strict regulations to protect our health?

In Nova Scotia, underground mineral deposits belong to the province, not landowners. Anyone with an exploration licence can access private land to explore for minerals, including uranium. If a landowner

refuses access, the Mineral Resources Act gives the Minister of Natural Resources the authority to overrule the property owner, and grant the exploration licence-holder access.<sup>11</sup> If exploration leads to a mine proposal, and the landowner refuses to sell to the mining company, the Minister can order the land expropriated, as happened in 2013.<sup>12</sup>

Anyone who has taken out a mineral exploration licence in Nova Scotia can simply register with DNR to undertake extremely disruptive exploration activities using powerful machines. This includes drilling, test pits, trenching, and even the excavation of up to 100 tonnes of ore-bearing materials. When the exploration is for uranium, this means unearthing massive amounts of chemically toxic and radioactive material, without any environmental or health impact assessment.

DNR is solely responsible for mineral exploration. There are few regulations for this, and DNR is conflicted as a regulator because of its role working with industry to promote uranium exploration.

The federal government's impact assessment and regulatory framework for uranium mining is required only if a mine is planned. So far, no uranium mines have been proposed in Nova Scotia, but mining is the obvious goal of uranium exploration.

The Nova Scotia Registry of Claims ("NovaROC") map shows that there has been a flurry of new exploration licences granted since the province said it was lifting the ban on uranium exploration and mining. The door has been opened for widespread uranium exploration in Nova Scotia.

It's important to remember that while some of the risks to human health and the environment can be reduced through strict regulation and technologies, they cannot be eliminated.<sup>13</sup>

### **It's going okay in Saskatchewan, isn't it?**

There are only two uranium mines in operation in Canada.<sup>14</sup> Both are in Saskatchewan. The Mining Association of Nova Scotia claims that Saskatchewan shows us uranium mining can be done "safely and environmentally responsibly."<sup>15</sup> Its claim is not supported by medical or scientific evidence.

There are many reasons why it's unwise to compare Nova Scotia to Saskatchewan when it comes to mining uranium. Saskatchewan is nearly 12 times the size of Nova Scotia, with a population density of

just two people per square kilometre (km<sup>2</sup>).<sup>16</sup> The Saskatchewan mines are located more than 600 km from any towns or cities.<sup>17</sup> Nova Scotia, by contrast, is the second most densely populated province in Canada, with 18.4 persons per km<sup>2</sup>. Uranium mines in Nova Scotia would be situated much closer to towns and rural communities.

Furthermore, Nova Scotia's average annual precipitation is more than three times that of northern Saskatchewan.<sup>18</sup> This is especially important to know as uranium is highly soluble in water, making exploration and mining riskier in areas with high precipitation.

Physicians have anecdotal evidence of health problems in Indigenous communities that appear to relate to uranium exposure in northern Saskatchewan. Yet there has never been an independent health study undertaken in the region to monitor for health problems associated with uranium, including cancer and kidney disease.<sup>19</sup>

### **What is Canada's Nuclear Safety Commission (CNSC)?**

Canada's Nuclear Safety Commission (CNSC) reports to Natural Resources Canada, which promotes uranium mining. It does not report to Health Canada or Environment and Climate Change Canada, both of which are far better placed to study and protect human and environmental health.<sup>20</sup> The Canadian Environmental Law Association has criticized the CNSC for its implicit conflict of interest and the lack of transparency and consultation in its regulatory oversight.<sup>21 22</sup> Medical professionals have noted that CNSC health standards are set by physicists and those involved in the industry, "based on financial and technological convenience," and not by healthcare professionals and researchers committed to public health and safety.<sup>23</sup>

The Canadian Nuclear Safety Commission claims that there are no "significant impacts to the health" of people who live around uranium mines and mills.<sup>24</sup> CNSC provides no sources for this claim. In contrast, a detailed report from the U.S. National Research Council finds that "Uranium mining and processing are associated with a wide range of potential adverse human health risks," which can also extend to the "general population."<sup>25</sup>

## Is Nova Scotia's uranium a valuable untapped resource?

Uranium concentration in northern Saskatchewan deposits is very high, while the concentration in Nova Scotia is very low, according to the 1995 McCleave Report.<sup>26</sup> This means very large amounts of uranium-bearing ore would have to be unearthed in Nova Scotia to recover minuscule amounts of uranium, producing a great deal of radioactive waste or mine tailings that require care and maintenance in perpetuity. When uranium is extracted from the ore body, 85% of the radioactivity remains in the waste or tailings.<sup>27</sup> These waste sites have to be monitored and maintained “virtually forever,”<sup>28</sup> as uranium tailings remain radioactive for 100,000 years.<sup>29</sup> This is the case regardless of the method of mining involved – open pit, underground, or in situ leaching.

## Is in situ leaching better for the environment?

In situ leaching is a process of injecting solvents into the earth to dissolve the uranium.<sup>30</sup> The solution is then pumped to the surface, where the uranium is extracted. In situ leaching leaves less waste rock and tailings than open pit or underground mining, but is very dangerous because there is a high risk that the chemical solvents will spread underground and contaminate groundwater.

## Doesn't uranium save lives?

Proponents of uranium mining and nuclear energy make many claims that are either misleading or just false. One is that uranium has to be mined because it “saves lives,” given that it is used in smoke detectors. The tiny amount needed for smoke detectors is retrieved from existing nuclear waste,<sup>31</sup> which is, unfortunately, very abundant.

## Do we need uranium mining for medical isotopes?

When the Nova Scotia government announced that it had added uranium to its list of “critical minerals” and was lifting the decades-long ban on uranium exploration and mining, it claimed the heavy metal was needed for medical applications.<sup>32</sup> The government was repeating an industry argument that we need to

mine uranium for medical isotopes used in diagnostic tests. This claim is misleading; medical isotopes are produced in research reactors that don't require uranium, and are most safely made in devices called cyclotrons.<sup>33</sup>

## Won't it help us address climate change?

Contrary to industry claims, nuclear power is not going to be a significant contributor to addressing climate change.<sup>34</sup> Wind, solar, and batteries are much less expensive and faster to develop than nuclear power facilities, which take many years and immense amounts of money to build.<sup>35</sup> Commercial small modular nuclear reactors (SMRs) are still in the early stages of development,<sup>36</sup> and their technology is as of yet unproven.<sup>37</sup>

The push for nuclear power comes from the nuclear industry—which also involves military applications—trying to renew and revive itself, as detailed in the 2024 academic book, *Dirty Secrets of Nuclear Power in an Era of Climate Change*.<sup>38</sup> The International Energy Agency forecasts minimal future growth in nuclear energy, compared with massive growth in far safer renewable solar and wind energy.<sup>39</sup>

## Is there a shortage of uranium?

No, there is no shortage of uranium in Canada, and no need for a new source in a province as small and densely populated as Nova Scotia.<sup>40</sup> ♦



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CAPE Nova Scotia  
Canadian Association  
of Physicians  
for the Environment

CAPE is a non-partisan, physician-led organization with over 36,000 supporters across the country. It brings an evidence-based approach to issues intersecting health, the environment, and justice. CAPE Nova Scotia represents more than 100 physicians and other healthcare providers across the province.

## ENDNOTES

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- 2 [Potential for Radon in Indoor Air, Nova Scotia](#)
- 3 [A Background Summary for the Uranium Inquiry, Nova Scotia](#)
- 4 [Uranium exploration: request for proposals, Nova Scotia](#)
- 5 Dr. Gordon Edwards, president and co-founder Canadian Coalition for Nuclear Responsibility
- 6 [Bill 6 submission-Dr. Nancy Covington, CAPE NS](#)
- 7 [Uranium mining and health - PMC](#)
- 8 Dr. Gordon Edwards
- 9 Dr. Dale Dewar, physician who has worked in northern Saskatchewan serving a population of Cree, Metis and Dene peoples, member CAPE and International Committee of the Society of Rural Physicians of Canada, former Executive Director of Physicians for Global Survival.
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- 17 [Uranium mines and mills](#)
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