ACME Nouveau-Brunswick
Association canadienne des médecins pour l'environnement
CAPE New Brunswick
Canadian Association of Physicians for the Environment

The Health Risks of Gas Plants

A Guide for New Brunswick Physicians

October 31, 2025

Gas plants generate electricity by burning methane gas, better known as natural gas. The pollution from gas plants—released into the nearby air and water—can cause serious adverse effects. Air pollution effects are particularly well-studied.

The main air pollutants released by gas plants are:

- nitrogen oxides (NO_X)
- sulfur dioxide (SO_2)
- particulate matter
- carbon monoxide (CO)
- volatile organic compounds (VOCs)

These, along with other pollutants formed by these, such as fine particulate matter ($PM_{2.5}$) and ground-level ozone (O_3), can:

- worsen respiratory diseases (e.g., acute respiratory illness, chronic obstructive pulmonary disorder (COPD), asthma)[1]
- worsen cardiovascular diseases
- increase cancer risk
- worsen mental health
- lead to other adverse health outcomes and even premature death.[2, 3]

When it comes to air pollution, children, older adults and individuals with pre-existing cardiovascular and respiratory disease are particularly vulnerable.[4]

Gas plants are also major sources of climate pollution, which is causing hotter summers and stronger storms, contributing to devastating droughts and wildfires. Gas plants accelerate climate change by burning methane (or "natural" gas, CH_4) along with carbon dioxide (CO_2).

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[1] Association between Residential Proximity to Fuel-Fired Power Plants and Hospitalization Rate for Respiratory Diseases - PMC
[2] Too Hot? How to NOT Trigger Your Asthma | American Lung Association
[3] Health and Environmental Effects of Particulate Matter (PM) | US EPA
[4] Health Impacts of Air Pollution in Canada: Estimates of morbidity and premature mortality outcomes – 2021 Report

Methane is of particular concern because it is a highly potent climate pollutant that can trap up to 84 to 87 times the heat of carbon dioxide over a 20-year period.[5] While not as prevalent as carbon dioxide, methane is a major greenhouse gas contributing to climate change, which in the words of the World Health Organization, presents a "fundamental threat to human health."[6]

The Hidden Health Costs

Various studies have estimated the financial costs associated with health harms from gas-fired plants.
A 2025 study of proposed gas plans in Wisconsin found that health and economic impacts from key pollutants ($PM_{2.5}$, NO_x, VOCs and SO_2) would lead to increases in premature mortality, heart attacks, total asthma onset events and emergency room visits. These and related economic impacts were estimated to add between $119 million and $192 million in annual health costs.[7]

On a broader scale, A US-wide study estimated that avoiding the gas plants proposed as of late 2021 could prevent $23 billion to $74 billion in health care costs over their assumed 20-year lifespans.[8]

Another Gas Plant in New Brunswick?

Instead of looking to modern and affordable low-pollution options, NB Power is making deals with a Missouri-based company (ProEnergy) to build a 500-megawatt, 10-turbine gas plant in Centre Village, in the Tantramar area. The agreement would lock New Brunswick ratepayers into a power purchase agreement for decades, even if the plant is no longer needed to generate electricity for the province. The company would be able to sell surplus electricity to other jurisdictions.

Image (ProEnergy): The Brotman Generating Station in Rosharon, Texas. The components and layout are similar to the Tantramar gas plant proposal.

[5] Methane and climate change – Methane Tracker 2021 – Analysis - IEA
[6] World Health Organization (2023) – Climate change
[7] PSE Healthy Energy (2025). *Health, Equity, and Economic Impacts of Proposed Gas Power Plants in Wisconsin: Oak Creek and Paris Projects*.
[8] The Hidden Health Costs of Gas-Fired Power Plants - RMI (2025)

Thanks to public pressure, the so-called Tantramar gas plant will be undergoing a review by the New Brunswick Energy & Utilities Board, something NB Power had argued was unnecessary. If approved, the gas plant could begin operations in 2028.[9] New Brunswick already has a 280-megawatts gas plant, the Bayside Power Station in Saint John, which is undergoing tens of millions of dollars in repairs.[10]

Health risks associated with the Tantramar gas plant

The proposed plant poses significant risks for people's health and the environment. Residents in the area rely on well water, and contaminated water runoff could pollute the surrounding wetlands and watershed, making their water unfit to drink.

ProEnergy is considering two options for disposing of the contaminated effluent discharge it will produce to operate the gas turbines: "The first scenario is the discharge to the proposed site ditch adjacent to the access road, and eventual discharge into a wetland 300 m west of the generating station. The secondary scenario is conveying effluent to the provincial ditch located along Route 940."[11] These scenarios are cause for legitimate concern.

In addition, the gas plant is expected to stress the area's already limited water resources, which is particularly concerning given the province has been experiencing severe drought conditions. ProEnergy intends to drill new wells to supply water needed to operate its 10 combustion turbines. The company acknowledged in its submission to the Impact Assessment Agency of Canada that it anticipates the project will impact ground and surface water during construction, operations, and decommissioning; they state these effects could include "a localized lowering of the water table," "increased stormwater runoff," and "elevated turbidity and suspended solids in the runoff."[12]

The estimated climate pollution from the proposed gas plant is substantial. According to ProEnergy, the plant would emit 910,000 tonnes of CO_2 equivalent annually,[13] comparable to the annual emissions for 200,000 cars.[14] While the Tantramar plant would primarily burn methane (in the form of natural gas), it plans to use light diesel oil as a backup fuel.

Fracking for natural gas is not safe

Today, natural gas is most often retrieved through hydraulic fracturing, or "fracking," a process that can severely damage groundwater. A single well can use millions of litres of water—anywhere between 5 million and 100 million litres per frack—which becomes contaminated after use.[15]

While fracking is not a new gas recovery technique, advances such as horizontal drilling have driven a massive surge in use since the mid-2000s. In the United States, fracking is especially prominent in states

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[9] Proponent of natural gas plant to Tantramar council: 'Fact-check me' | CBC News.
[10] Premature failure of used generating station forces N.B. Power into expensive overhaul | CBC News
[11] Centre Village Renewables Integration and Grid Security Synchronous Condensing/Generation Facility Project - Initial Project Description Summary, p.13. July 4, 2025
[12] Ibid, p. 32
[13] Centre Village Renewables Integration and Grid Security Synchronous Condensing/Generation Facility Project (PDF).
[14] Tantramar residents near proposed natural gas plant share health concerns | CBC News (August 15, 2025).
[15] Fracking | The Narwhal

such as Texas, Pennsylvania, and Colorado. In Canada, fracking occurs in Alberta, Saskatchewan, Manitoba, and British Columbia. Fracking is one of several forms of so-called 'unconventional' oil and gas development techniques, meaning it does not involve the use of traditional drilling methods. In addition to horizontal drilling, fracking is also characterized by the use of a high-pressure mix of water, sand, and chemicals to prop open cracks and allow for the retrieval of gas.

New Brunswick currently has a moratorium on fracking, but building new gas plants will create more demand for this dangerous fuel. The province is home to the Frederick Brook shale formation, and sits on an estimated 77.9 trillion cubic feet of technically recoverable natural gas.[16]

Community impacts of fracking

At every step along its production, natural gas poses threats to the health of people living nearby. Wastewater analysis indicates that some of the chemicals used in fracking are known carcinogens or endocrine-disrupting compounds.[17] Recent studies have found strong correlations between proximity to unconventional oil and gas development, including fracking, and:

- Increased rates of preterm births, infant mortality, low birth weight, and congenital defects;[18]
- Higher incidences of childhood asthma and leukemia[19, 20]
- Increased hospitalizations for cardiovascular diseases;[21] and
- Higher overall mortality rates and reduced life expectancy.[22]

Examples of community impacts from fracking

Pennsylvania — Childhood leukemia

A 2022 study examined potential associations between residential proximity to unconventional oil and gas development in Pennsylvania, and the risk of acute lymphoblastic leukemia, the most common form of childhood leukemia. Unconventional oil and gas development was found to be a risk factor for childhood acute lymphoblastic leukemia, increasing the odds of leukemia development by 1.98 to 2.80 times, depending on the time window under analysis.[23]

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[16] New Brunswick's Shale and Tight Resources, Government of Canada (2025).
[17] Hughes, E. (2017). New evidence of contaminants from fracking - PMC, *Canadian Medical Association Journal*, 189(31).
[18] Cairncross et al. (2022). Association Between Residential Proximity to Hydraulic Fracturing Sites and Adverse Birth Outcomes | Neonatology | JAMA Pediatrics, 176(6).
[19] Clark et al. (2022). Unconventional Oil and Gas Development Exposure and Risk of Childhood Acute Lymphoblastic Leukemia: A Case-Control Study in Pennsylvania, 2009-2017 - PubMed. *Environmental Health Perspectives*, 130(8).
[20] Willis et al/ (2020). Natural gas development, flaring practices and paediatric asthma hospitalizations in Texas - PMC, International Journal of Epidemiology, 49(6).
[21] Trickey et al. (2023). Hospitalisations for cardiovascular and respiratory disease among older adults living near unconventional natural gas development: a difference-in-differences analysis - The Lancet Planetary Health, *The Lancet Planetary Health*, 7(3).
[22] Li et al. (2022). Exposure to unconventional oil and gas development and all-cause mortality in Medicare beneficiaries | Nature Energy, 7.
[23] Clark et al. (2022). Unconventional Oil and Gas Development Exposure and Risk of Childhood Acute Lymphoblastic Leukemia: A Case-Control Study in Pennsylvania, 2009-2017 - PubMed, 130(8).

Alberta — Adverse birth outcomes

A 2022 study looking at reproductive-aged individuals in Alberta found that living in proximity to a high density of fracking sites was associated with adverse birth outcomes. The risks of spontaneous preterm birth, and of fetuses that were small for their gestational age, were significantly increased in cases where individuals lived within 10 km of 100 or more wells.[24]

The case of the Tennant family in West Virginia

Various public reports on the direct impacts of fracking development on nearby communities have come to light. A 2022 article by Pittsburgh's Public Source examines the impacts of fracking on four West Virginia families.

One family, the Tennants, lived near key pieces of fracking operations, including compressor stations and a giant open-air tank storing toxic liquids left over from shale gas extraction. The Tennants' 11-year-old daughter Piper, experienced episodes of shortness of breath, bright red rashes, chest pain, muscle spasms, dizziness, nausea, and fatigue. Ultimately, they were forced to abandon their home.

An analysis by the West Virginia Department of Environmental Protection found that area emissions included a wide range of volatile organic compounds (VOCs), known to cause dizziness, headaches, tremors, anxiety, confusion, nerve damage, muscle fatigue, cancer, and even death.[25]

Cleaner energy is healthier energy

There is a clear health case for various forms of renewable energy, such as wind, solar, and tidal energy, along with energy storage technology.

Over the long term, renewable energy sources cut down on the planet-warming emissions that drive extreme heat, extreme weather, and related impacts such as biodiversity loss, the spread of invasive diseases, and food and geopolitical insecurity.

In the near term, because renewable energy is largely emissions-free, it helps prevent the negative health impacts caused by fossil fuel pollution. Without nitrogen oxides, sulfur dioxides, and particulate matter from burning fossil fuels, we can avoid cases of asthma, breathing difficulties, heart disease, cancer, neurological disorders, brain damage, and premature death.[26]

A 2015 US study found that, while the health benefits of renewable energy can vary substantially based on the installation type and location of renewable energy projects, all of the energy pathways examined yielded millions of dollars in quantifiable benefits to public health — ranging from 5.7 million to $210 million annually.[27]

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[24] Cairncross et al. (2022). Association Between Residential Proximity to Hydraulic Fracturing Sites and Adverse Birth Outcomes | Neonatology | JAMA Pediatrics, 176(6)
[25] Hollowed out: How Pittsburgh-based EQT's expansion in West Virginia set four families reeling, while state regulators trusted the company to answer their complaints, Pittsburgh's Public Source (2024).
[26] Benefits of Renewable Energy Use | Union of Concerned Scientists (2025), 7.
[27] Buonocore et al. (2015). Health and climate benefits of different energy-efficiency and renewable energy choices | Nature Climate Change, 6.

New Brunswick making inroads on clean energy

The switch to renewables, storage, and energy efficiency is underway, around the world and in Canada. Along with reducing air and water pollution, renewable energy sources greatly reduce the level of pollution in communities.

New Brunswick is already engaging in a number of important initiatives. In May 2025, NB Power announced the signing of four wind Power Purchase Agreements, totalling over 450 megawatts of new wind energy. Each project involves a partnership between First Nations communities and developers. The projects are expected to be operational by 2027 and 2028.[28] These wind procurements build on recent (2023) efforts by NB Power to secure additional clean energy proposals, covering technologies such as wind, solar, tidal, and battery storage.[29]

According to NB Power's energy roadmap, the company intends to add an additional 1,400 megawatts of wind power capacity.[30, 31] New Brunswick is also rolling out storage capacity to help manage the renewable energy transition — to store energy when the wind doesn't blow or the sun doesn't shine. Battery storage enables effective grid management without relying on fossil fuel or nuclear baseload technologies. In 2024, New Brunswick's largest battery energy storage system came online as part of the Burchill Wind Project, operated by Saint John Energy, a community owned utility.[32]

About CAPE

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 has provincial chapters across Canada, including New Brunswick.

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[28] NB Power moves forward with low-cost renewable energy projects, Énergie NB Power (2025).
[29] Ibid.
[30] Powering our Economy and the World with Clean Energy, NB Power
[31] New Brunswick: Clean electricity snapshot - Canada.ca, Government of Canada (2025).
[32] Cutting the ribbon on the largest battery energy storage system in New Brunswick, Cision (2024).