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Association canadienne des médecins pour l'environnement

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Canadian Association of Physicians for the Environment

Natural Gas, Fracking and Health

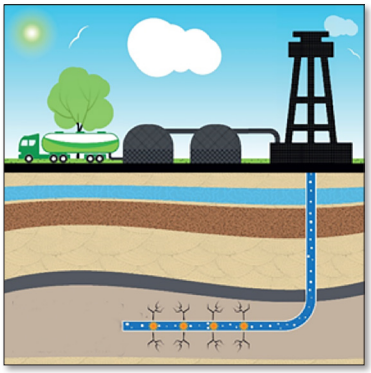
CAPE BC COMMITTEE | FACT SHEET | **JANUARY 2024**

What are "natural" gas, methane, and fracking?

Natural gas is a mixture of flammable gases mostly composed of methane. Despite being branded as "natural," *natural gas is a fossil fuel* like coal, oil, and gasoline.

Methane is a hydrocarbon and potent greenhouse gas. When burned, it fills the air with harmful pollutants.

Fracking, or hydraulic fracturing, is the industrial process used to extract methane from the ground. The technique involves drilling a bore hole several kilometres down into rock and then drilling horizontally for several more kilometres. Large amounts of water, sand and chemicals are injected under high pressure into the well causing "fracturing" of the rock and releasing trapped methane gas. The gas flows back up the pipe, where it is collected, processed, stored and transported by pipeline to its destination.



How Fracking Affects the Environment and Climate Change

BC'S EXPANDING FOSSIL FUEL INDUSTRY

Until now, gas produced in Northeast BC has been mainly for domestic use. However, a massive expansion of this industry is underway, with companies planning to transport the gas by pipelines to liquefied natural gas (LNG) storage facilities along the coast. There it will be converted to liquid form by cooling to ~ minus 160 degrees Celsius and loaded onto tankers for export. This could result in thousands of new fracking wells in lands that are home to many Indigenous communities.

METHANE IS DRIVING ONE THIRD OF GLOBAL WARMING

Methane is 84 times more powerful than carbon dioxide over 20 years in warming the atmosphere. Fossil gas production results in leakage of methane — so-called "fugitive emissions" from the point of extraction through fracking, and all along the supply chain. Because of these leaks, scientists have concluded that natural gas may rival coal in driving atmospheric warming. The results of global heating are evident in the extreme wildfires, heat waves and flooding BC is experiencing, which have severe impacts on human health. There is now international scientific consensus that methane has caused one third of all the global warming behind climate change, and reducing methane emissions is the fastest way to slow this down.

FRACKING CONSUMES MILLIONS OF LITRES OF CLEAN WATER

Each fracked gas well can use tens of millions of litres of clean water that is then permanently contaminated. Fracking wastewater is either stored underground or gets pumped into "ponds" where the chemicals, many of which have known harms to human health, can evaporate into the air and leak into water systems. In parts of the U.S., some communities have run out of water due to withdrawals for fracking. BC is also becoming hotter and drier due to climate change. The Northeast (Peace River) region has been at Level-5 (the highest level) drought since November 2022, and large parts of the province were at drought levels 4 and 5 in 2023. The BC Oil and Gas Commission has suspended water permits for many oil and gas companies due to repeated, severe drought conditions in Northeast BC.

EARTHQUAKES

Earthquakes associated with fracking operations have been noted for several decades. They are caused both by injecting fracking fluid down well shafts initially to release methane, and injection of wastewater underground for disposal purposes.

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How Fracking and Natural Gas in BC Harm Our Health

AIR POLLUTION HARMS RESPIRATORY HEALTH

Diesel trucks transporting materials to and from fracking sites, compression station engines used to process gas, evaporation of industrial chemicals from open fracking wastewater ponds, and intentional burning of methane gas and other petrochemicals through flaring, are all sources of air pollution related to fracking. Polluting chemicals include benzene, toluene, formaldehyde, NO_x, hydrogen sulfide, PM2.5, and PM10, all of which have known human health harms. Studies demonstrate increases in asthma inhaler prescriptions, visits to emergency departments, and hospital admissions among asthmatics living close to fracking operations.

OTHER HEALTH HARMS IN LOCAL COMMUNITIES

Impaired fetal growth, birth defects, childhood leukemia, heart disease, and all-cause mortality are some of the other harmful outcomes reported in a growing number of studies. Noise, vibration and light pollution, and high volumes of truck traffic and dust associated with fracking operations, also impair sleep and quality of life in quiet rural and agricultural communities.

DISPROPORTIONATE HEALTH HARMS TO INDIGENOUS COMMUNITIES

Indigenous communities, which are often reliant on the land for food, traditional medicines, and cultural identity, are disproportionately harmed by fracking. High levels of fracking-implicated chemicals have been found in the household air, water, and urine of pregnant women in Northeastern BC, compared to an unexposed reference population. Some of these levels are even higher among Indigenous women. In BC's Northwest, members of the Wet'suwet'en First Nation are risking their lives and safety to protect the Wedzin Kwa River from pollution related to a fracked gas pipeline being built across their traditional territory without the free, prior and informed consent of hereditary tribal chiefs. The chiefs consider this river to be sacred and part of their cultural identity, and have relied on it for food and clean drinking water for millenia.

HEALTH HARMS OF COOKING WITH GAS STOVES

Cooking with methane causes indoor air pollution and is linked to a 40% higher rate of asthma among children. Gas stoves also emit methane, benzene and other harmful chemicals when on or off. A recent US study found the release of methane from gas stoves was equivalent to annual greenhouse gas emissions from driving 500,000 cars. Acknowledging the importance of food in cultural identity, some chefs have championed the use of induction woks for creating traditional dishes while avoiding the health harms of gas cooking.

RNG: GAS INDUSTRY GREENWASHING

Faced with the growing consensus that methane rivals coal as a contributor to short-term atmospheric warming, the gas industry has begun to market "renewable" natural gas (RNG). Though this gas is produced from organic waste, it is chemically identical to fracked methane gas with the same atmospheric warming and harmful effects when used for heating and cooking as fossil-fuel-derived methane. Gas companies themselves acknowledge that the renewable component of the gas they sell will never make up more than 11% of the total composition of their so-called RNG.

FRACKED GAS IS A DEAD END FOR OUR FUTURE

Fracked methane gas is not a transition fuel. It causes harm to human health and the environment and is a major driver of global warming, resulting in worsening floods, wildfires, and droughts. Many jurisdictions have banned fracking due to health and environmental concerns. Some of these are New York state, Scotland, Wales, New Brunswick, Quebec, Maryland, Northern Ireland, France and Germany.

CAPE's BC Committee is therefore calling for:

- A moratorium on new fracking and phase out of existing production
- Stronger regulations and monitoring to reduce air and water pollution from current operations, with a government body independent from industry ensuring strict compliance and enforcement
- Ending methane hookups in all new buildings for heating, hot water, and cooking, and government policy and support to retrofit existing buildings
- Support for fracked gas-dependent communities to move away from resource extraction
- Creating an economy that works for everyone and respects planetary boundaries

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