



DON'T FRACK OUR FUTURE

THERE'S NOTHING NATURAL ABOUT FRACKED GAS



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From the eastern slopes of the Rocky Mountains in northern B.C. and Alberta you can see a vast swathe of boreal forest, pockmarked with tens of thousands of fracking wells, seismic lines, access roads and wastewater ponds. These alien hieroglyphs etched into the landscape stretch to the horizon and beyond. Underneath lies the Montney shale formation, the epicentre of the fracking industry in Canada.

Hydraulic fracturing, commonly known as fracking, uses pressurized water, sand and a cocktail of chemicals to shatter shale rock deep below the Earth's surface and release oil or gas stored inside. These wells are drilled every few hundred metres, using an enormous amount of water from local rivers and lakes, with the leftovers dumped in toxic pits.

Over 200,000 fracking wells have been drilled across Canada, mostly into shale gas deposits in northeastern B.C. and central Alberta. Along the U.S. border, Saskatchewan and Manitoba also hold a portion of the Bakken shale formation that is fueling a shale oil frenzy in North Dakota. On the east coast, Quebec, New Brunswick and Nova Scotia are home to shale gas and oil deposits. All three have moratoriums — albeit fragile ones.¹

These moratoriums are a response to strong public concern about the

impacts of fracking — as numerous as they are dangerous. Chief among them are worries about water, both quantity and quality. This industry sucks water out of local ecosystems and turns it into toxic fracking fluid to be left underground or stored in wastewater ponds, posing severe health risks to nearby communities.

Perhaps most alarming is the industry's staggering impact on the global climate. Fracked gas is methane, an extremely potent greenhouse gas. Leaks from fracking operations are mostly behind a

massive spike in levels of this gas in the atmosphere and scientists say we need to get this industry under control.²

There are too many impacts to detail in this report. Seismic lines and access roads fragment the habitat of threatened boreal caribou, leaving them more vulnerable to wolves. Flaring of excess gas releases harmful chemicals into the air. Ranchers and hunters report poisoned livestock and wild game. Fracking even causes earthquakes.

What's clear is this industry is operating almost entirely in the dark. An astonishing lack of research and data means we don't know the full extent of the damage fracking is doing. At the same time, regulators are more than happy to allow their friends in the industry to skirt the rules.

With liquefied natural gas (LNG) proposals on both coasts requiring tens of thousands of new fracking wells, we urgently need to shed some light on the threat of fracked gas. At the very time we need to be phasing out this fossil fuel, our governments plan to spark an explosion of new drilling. Thankfully, everyday citizens like you and I won't stand for it. Read on to discover how to help.

This industry sucks water out of local ecosystems and turns it into toxic fracking fluid to be left underground

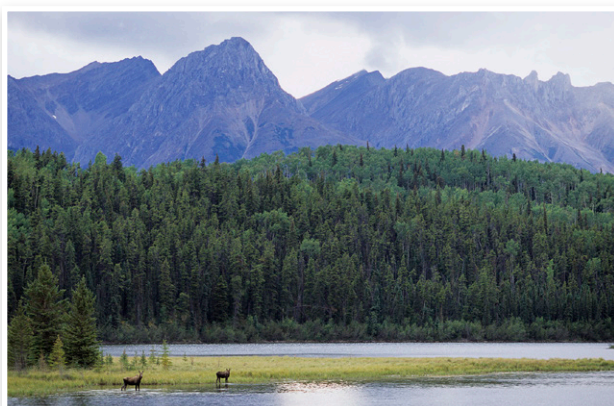


Photo top: shale gas northeast B.C. near Horn River (Garth Lenz).
Photos above: Muskwa-Kechika wilderness, B.C., gray wolf (John E. Marriott).



FRACKING SUCKS

Day after day, a sprawling network of pipes and an army of water trucks draw from local rivers and lakes to feed the fracking industry’s insatiable thirst. For example in 2017, fracking operations in northeastern B.C. used at least 550,000 tanker trucks worth of water. Frackers have built close to one hundred illegal dams to divert and collect water, many on private land so nobody knows how much they use.³

This enormous amount of freshwater is rendered toxic and radioactive when it’s mixed with a chemical cocktail and pumped underground. Any that comes back up fills wastewater ponds that dot the landscape, where it risks spilling or leaching into nearby ecosystems when the plastic lining holding this hazardous waste is damaged. Eventually, the toxic water is removed from the water cycle and disposed of in deep injection wells.⁴ Nobody knows the effects of

taking vast quantities of freshwater out of local ecosystems, turning it into hazardous waste and then burying it underground. But elders from Indigenous communities near fracking operations raise “deep concern” about the practice.⁵ One First Nation reports it received applications for a total of seven billion litres of water in just two days. A study into the cumulative effects of this massive pressure on the watershed is desperately needed. Locals in fracking country raise concerns about poisoned groundwater. There’s a potential for toxic water to move from deep underground into shallow aquifers along old wells and fault lines, depending on the depth of the well and whether it is adequately sealed. Dumping hazardous wastewater underground also carries the risk it will find its way to the surface, but there’s no requirement for groundwater monitoring near these disposal sites.



Photos: shale gas near Hudsons Hope, B.C. (Garth Lenz), Boulder Creek, B.C. (Jeremy Sean Williams).

HIDDEN HEALTH CRISIS

Little research has been done into the health impacts of fracking, despite over a decade of communities speaking up about the risks. But preliminary studies and anecdotal evidence are cause for serious concern. It’s one of the key reasons the Canadian Association of Physicians for the Environment has called for an immediate moratorium on fracking operations. Doctors in fracking country report surprising rates of rare diseases such as glioblastoma, a type of brain cancer, and lung scarring known as idiopathic pulmonary fibrosis.⁶ Nosebleeds and headaches are more common complaints, both symptoms of exposure to volatile organic compounds. Indigenous communities are particularly at risk. Many report they no longer drink from local streams or eat traditional foods because they fear it’s contaminated. One study found alarming levels of benzene, a known carcinogen, in the urine of pregnant women who live near fracking sites in northeastern B.C.⁷ One byproduct of

this chemical was 3.5 times higher in those women than the general population and six times higher for Indigenous participants. Research has also linked proximity to fracking wells to low birth weights.⁸ Even with all of these deadly impacts, almost no monitoring or research has been done on their effects in fracking country. According to one toxicologist, “we are profoundly ignorant about what is going on.”⁹



Photos: landowner and farmer Jim Stratsky near Encana operations and pad located in Farmington, B.C. (Garth Lenz).

BRIDGE TO CLIMATE RUIN

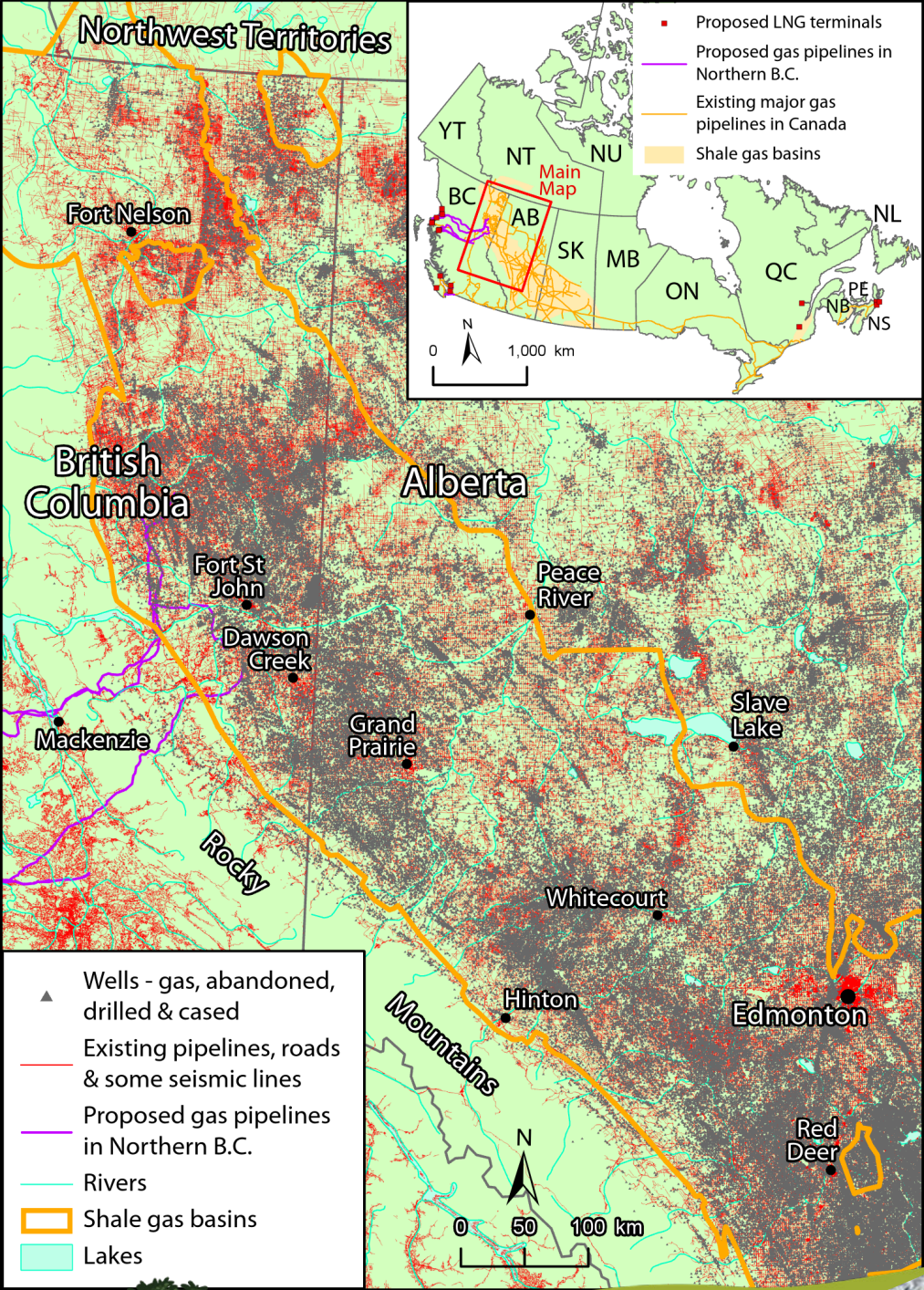
Natural gas has been marketed as a “bridge fuel,” a lower carbon alternative to coal that can reduce emissions while renewable energy like wind and solar matures. While it is true burning gas produces less pollution than coal, it has no place in the transition to a green economy. Methane leaks from fracking sites eliminate any climate benefits, since the gas traps 86 times more heat in the atmosphere than carbon dioxide over its lifetime. Even a small amount is a huge problem. A recent study showed 86 per cent of active fracking wells in the Montney region are spewing methane into the atmosphere at a far higher rate than industry and the B.C. government report.¹⁰ New methane regulations are supposed to reduce these leaks 45 per cent by 2025, but they’ve been delayed and B.C., Alberta and Saskatchewan are all trying to replace them with much weaker versions.^{11,12} Stopping gas leaks from fracking operations should be a win-win, but even the most common sense climate policy can’t make it past Canada’s army of fossil fuel lobbyists. Even if companies eliminate these

leaks, fracked gas would still not be a climate solution. That’s because despite the talk of replacing coal, new gas plants are instead now competing with renewable energy. Current wind and solar costs are \$42 and \$43 per megawatt hour over the lifetime of turbines and panels, while gas plants produce electricity for \$58/MWh.¹³ Although right now renewables can be unreliable, by the time we have enough renewable energy to support our society, flexible electrical grids and battery storage systems will be widely available — solving this problem. That’s good news because fracked gas can’t help the world meet the Paris Agreement goals on climate change. It can only ensure we blow past 1.5 to 2°C of global warming. Even if we replace all of the world’s projected coal fire generation with gas, we would still produce five times more carbon pollution than we’re able to if we want to stay within that limit.¹⁴ We need to phase out fracked gas alongside coal and oil, not use more of this fossil fuel.



Photo: flare at Encana pad in Farmington, B.C. (Garth Lenz).

EPICENTRE OF FRACKING IN CANADA



IN THE BELLY OF THE BEAST

Fracking is at the centre of a sprawling industrial project stretching from Vancouver Island to Cape Breton. LNG projects, B.C.'s Site C dam and the Alberta tar sands are all connected with this destructive practice. Without fracking, these projects fall apart.

On the Peace River in northeastern B.C., construction on the Site C dam is underway — a \$10.7 billion affront to treaty rights of the West Moberly and Prophet River First Nations — all to power a coming explosion in new fracking wells. BC Hydro is building a \$289 million transmission line from Site C to feed fracked gas infrastructure in the Peace Region.

Where will all this fracked gas go? Alberta's tar sands use nearly a third of the fracked gas produced in Canada to boil or steam bitumen out of the soil.¹⁵ They also use the byproducts of fracking — liquids called condensates — to dilute this bitumen so it will flow through pipelines. Fracking is an indispensable part of the most polluting industry in the country.

But there's a new extension of this fossil fuel megaproject coming down the pipe that could be even more damaging

for the climate. LNG proposals on both coasts would freeze and liquify fracked gas and pump it onto tankers the size of cruise ships for export to overseas markets. LNG Canada in Kitimat, B.C., the first plant under construction, would create 8.6 megatonnes of carbon pollution — more than every passenger vehicle in that province. That's because these facilities burn their own fracked gas for power to freeze the rest of it down to -162°C, turning the gas into liquid for shipping.

The LNG Canada project is only the beginning of fracked gas exports. There are 12 other LNG proposals on the west coast and five in Quebec and Nova Scotia.¹⁶ Many have stalled due to low global gas prices, but if this industry ever comes to fruition it will single-handedly tank any chance Canada has of combating climate change.



Photo: tar sands, Alberta (Garth Lenz).

THE MOTHER OF ALL RAW DEALS

One of the most disturbing aspects of Canada's fracked gas industry is the extent to which our leaders are willing to subsidize it. Federal and provincial governments use and forego billions of dollars worth of public revenue to keep gas producers afloat, despite Canada's promise to end fossil fuel subsidies by 2025.

These mammoth giveaways come in the form of tax breaks, incentives for drilling, electricity discounts, tariff exemptions and bargain basement royalty payments to the public. B.C. alone has over \$3.2 billion of outstanding drillings credits for the

natural gas industry, on top of the \$111 to \$142 million per year in tax breaks and subsidies it recently brought in for LNG Canada.¹⁷ One civil servant who resigned over the issue says the B.C. government gave out \$2 in rebates for every dollar gas companies paid in taxes — meaning they'll never contribute to public coffers. Alberta doesn't fare any better. In the 2017-18 fiscal year alone, it gave out nearly \$1.3 billion in reduced royalty programs to the fracking industry.¹⁸

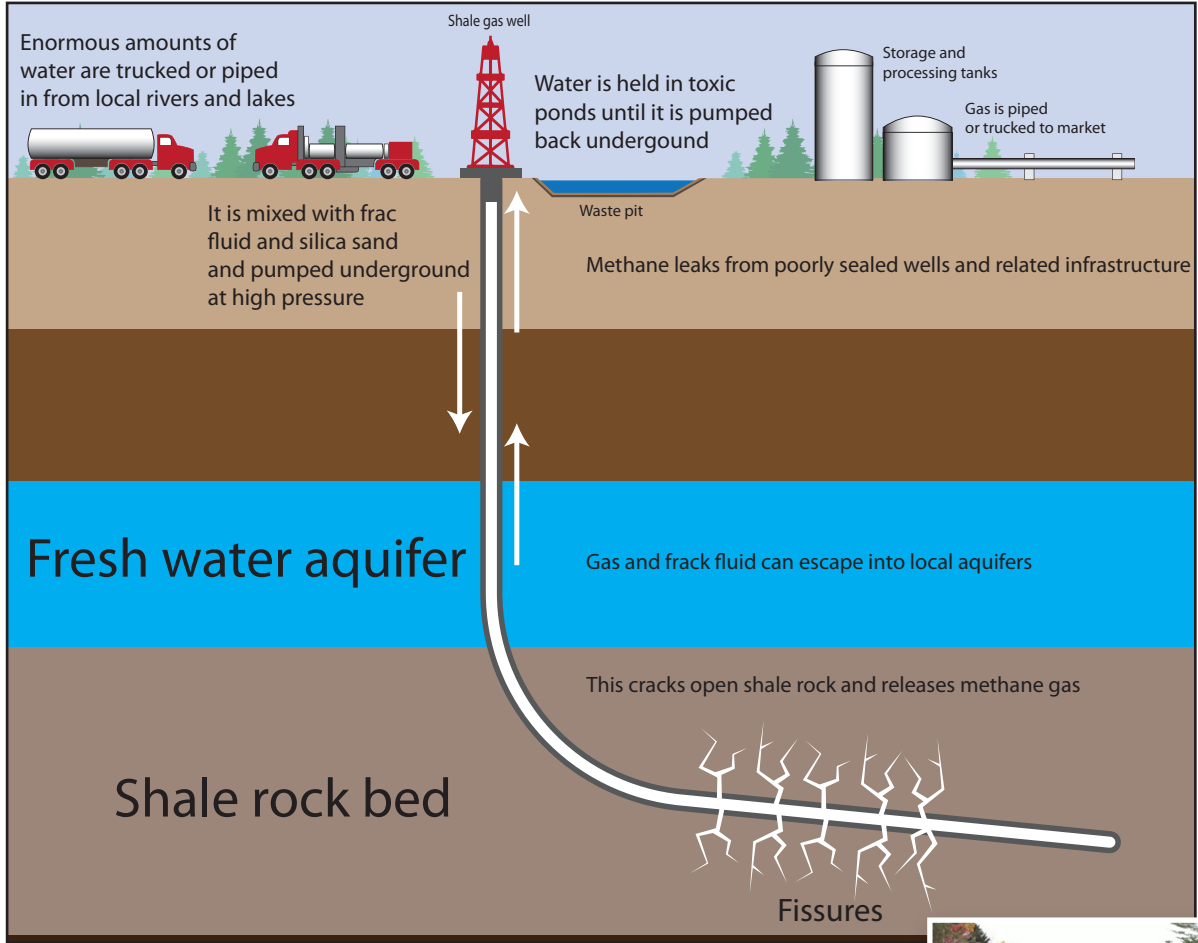
Taken together, these fracking subsidies will starve Canadians of tens of billions of dollars worth of revenues that could be used to build public transit and renewable energy projects. Instead, our leaders are rolling out the red carpet for an industry locking us into further destabilization of the climate, while we're forced to spend billions on wildfire fighting and flood relief.

Fracking's biggest subsidy of all comes when the party's over and the public is left to clean up the mess. Already, abandoned wells are leaving the public in B.C., Alberta and Saskatchewan on the hook for tens of billions in remediation costs.^{19 20 21} This problem can only get more costly as the world transitions off fossil fuels and more gas companies go bankrupt. Instead of subsidizing destructive fossil fuels governments should be directly investing in that transition.



Photos: Marsh Mountains near Prince Rupert, B.C. (Doug Milek), fracking operation, northern B.C. (Creative Commons).

FRACKING INFOGRAPHIC



RESISTANCE IS FERTILE

From coast-to-coast-to-coast, the fracking industry threatens local communities and ecosystems. But all across the country, a movement is rising up to stop it. From New Brunswick, where Elsipogtog First Nation mounted a successful fight to evict frackers from Mi'kmaq territory in 2013 to British Columbia where the Wet'suwet'en hereditary chiefs face RCMP occupation in the path of the Coastal GasLink pipeline for LNG Canada, a resurgent Indigenous grassroots is leading this struggle.

In most cases, the issues are local but the impact is global. Members of Hollow Water First Nation in Manitoba are camped at the site of a frack sand mine that would blanket their community with dangerous levels of silica dust. On the east coast, Mi'kmaq people stand to protect the Shubenacadie River from an underground storage project for fracked gas that would dump salt brine into the waterway.

Facing an onslaught of fracking in northeastern B.C., Indigenous communities are doing their best to blunt the impacts. Fort Nelson First Nation successfully fought to overturn permits that let frackers deplete Tsea Lake, key hunting and trapping grounds for the community.²² Doig River First Nation created K'ih Tsaa'dze Tribal Park, a 90,000 hectare protected area spanning the B.C.-Alberta border, to protect and restore ecological and cultural integrity in the region.²³ Industry has mostly stopped applying for development in the area. Align these actions with the surge of climate change resistance rising globally and it's clear this industry has no place in our future.



Photos: western toad (Jacob Dulisse), pileated woodpecker family (Gordon Court), Elsipogtog First Nations protest in Mi'kmaq territory, N.B. (APT/N/Ossie Michelin).

WE CAN DO BETTER

Can we really ban fracking? Many homes in Canada use fracked gas for heating or cooking. The good news is there are better options ready to take over. There's no reason for us to continue this destructive practice.

Electric heat pumps are widely available and cost about as much as gas heating once they are installed.²⁴ They work like a refrigerator in reverse — drawing heat from the outdoors and using it to warm the building.²⁵ They even work in subzero temperatures, though they require more power in extreme cold. The same technology can be used for hot water with far more efficiency than electric boilers. Heat pumps also provide air conditioning, which most Canadians lack but will become more necessary as summer temperatures rise due to climate change.

Cities across the country have declared a climate emergency and vowed to double down on emission reductions. One example is Vancouver, which will require all new heating and hot water systems to run on heat pump technology by 2025, phasing out fracked gas from buildings.²⁶ Not only will this accomplish nearly half of the city's more ambitious goal, it proves fracking is obsolete.

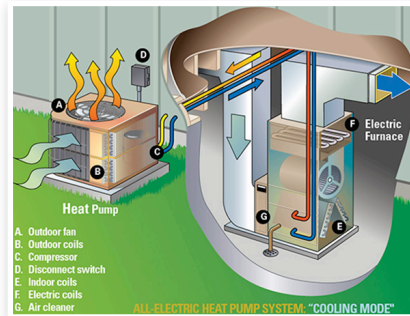
For the few uses of fracked gas that

are hard to electrify, biogas from organic waste is a solution. When plants break down without access to oxygen, they create the exact same gas frackers are after. When we capture this methane and burn it for fuel instead of fracked gas, it has a double climate benefit of keeping it out of the atmosphere and displacing fossil fuel.

Biogas can come from landfills, compost, sewage, and farm or forestry waste. B.C., Ontario and Quebec are already using it, and utilities have promised it will make up 10 per cent of the gas used in Canada by 2030.²⁷ If we electrify our homes, workplaces and public buildings, we will have more than enough biogas to supply the few chefs who still use gas stovetops.

Fracked gas is also used to generate electricity, mostly in Alberta and Saskatchewan. As Canada moves forward to phase out coal-fired electricity, there's a huge risk these provinces will choose to replace it with even more fracked gas.

Thankfully, Canada has all the wind, solar, hydro, tidal and geothermal resources we need to power our lives entirely on renewable energy.²⁸ Clean energy is the future. We just need the political will to stop fracking and rapidly implement these solutions instead.



Photos: [high efficiency heat pumps](#) (Creative Commons), [Trail Road landfill gas-to-energy plant in south Ottawa](#) (Energy Ottawa), [delivering fracking petitions at B.C. Legislature buildings](#) (WC files).

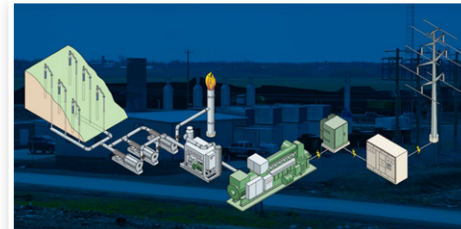


Photo: [diagram of landfill gas-to-energy plant in Ottawa, which generates enough electricity to power 6,000 homes each year](#) (Hydro Ottawa).

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TAKE ACTION

Please write the prime minister and the premier of your province. Urge them to:

- ▶ Ban the destructive process of fracking as soon as possible.
- ▶ Stop liquefied natural gas projects that make it even harder to meet our climate targets.
- ▶ Invest in electrifying our homes, businesses and public buildings.
- ▶ Require fracking companies to clean up the thousands of abandoned gas wells they've left behind.

And sign up for regular progress reports on the campaign here: WildernessCommittee.org/Fracking



Photo: [grizzly bear near Rocky Mountains, B.C.](#) (John E. Marriott).

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