



# Gas brings a risky future for Canada

Canada has introduced climate legislation for a greenhouse gas emissions reduction target of 40-45% below 2005 levels by 2030, and its Clean Electricity Regulations mean a fully decarbonised power system by 2035. Delivering on these policies requires a cut in both fossil fuel production and consumption.

Despite this, the country is pushing ahead with new gas extraction and LNG export terminals. This strategy comes with risks even beyond those associated with the climate, including future gas demand, energy price uncertainty and the high potential for stranded investment assets.

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# About

This report examines Canada's current and future reliance on and investment in gas, analysing the risks associated with this strategy.

# Highlights

69%

Increase in British Columbia's annual electricity consumption (43 TWh) due to the proposed LNG export terminals

146 bcm

EU gas demand is expected to be cut in half between now and 2030, from 330 bcm to 184 bcm

2x

Research suggests that the methane intensity of British Columbia's gas is 0.4%, double the 0.2% limits being set by the US and EU

*“Despite the friendly nickname, ‘natural’ gas is a fossil fuel and non-renewable resource that significantly contributes to climate change. Including fossil fuels like ‘natural’ gas under a Canadian sustainable finance taxonomy would confuse green investing and damage the label’s credibility internationally. Incorrectly labelling ‘natural’ gas as sustainable would invalidate the entire taxonomy effort, and get in the way of the real climate transition.”*

**Julie Segal**

**Senior Program Manager, Climate Finance, Environmental Defence Canada**

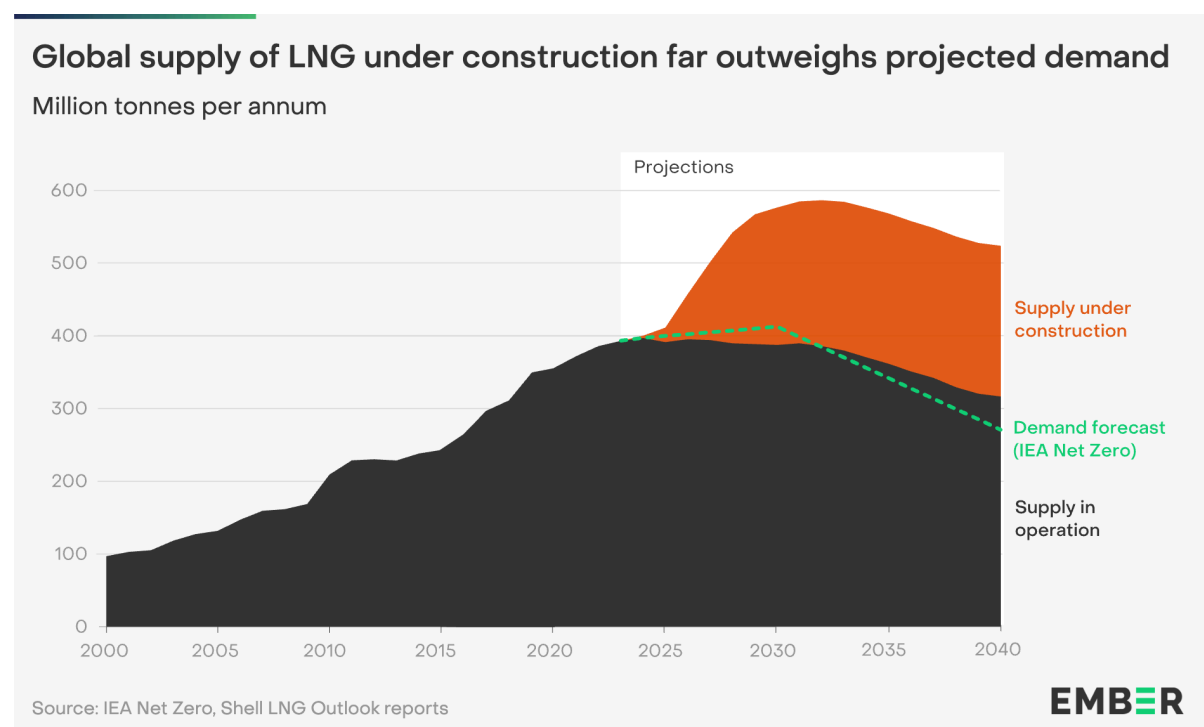
*“Canada’s current LNG strategy is a threat to its credibility as a climate leader, and its gas dependency exposes households and industry to surges in energy costs. It is time for Canada to move away from wasting money on expensive and vulnerable gas projects and instead solidify its reputation as a progressive player in the clean energy transition.”*

**Sarah Brown**

**Europe Programme Director, Ember**

## Demand for Canadian LNG is uncertain

The IEA expects global gas demand to [peak by the end of the decade](#) in its current policies scenario (STEPS) and to already be falling by 2030 in its Net Zero Scenario (NZE). For LNG specifically, consumption is anticipated to fall from 2030 onwards. The IEA also stated in its NZE that there is no place for new oil and gas fields if we are to keep global warming below 1.5C.



There is an anticipated [global gas supply glut](#) by 2025/6 when the first of Canada's new LNG export terminals will be operational. At least 200 billion cubic metres (bcm) of new global capacity is expected to come online from 2025. And this figure only includes projects that are already under construction and does not account for an additional 50 bcm that the IEA expects from those with a positive final investment decision. Even with its recent [suspension of approvals for LNG exports](#), the US will have 232 bcm per annum (bcm pa) of export capacity by 2028 - around double its current capacity (126 bcm pa). Qatar intends to almost

double its production capacity from 105 bcm pa to 193 bcm pa by 2027. And evidence is mounting that LNG infrastructure capacity is growing in excess of actual future gas demand.

[Countries with net zero targets now account for over 90% of the global economy](#), and continued gas consumption is not compatible with their clean energy commitments. Governments are recognising that an impending flood of LNG is far less beneficial than faster deployment of renewable energy. In Malaysia, the government has warned of the [risks associated with failure to accelerate its clean energy transition](#) due to the fact that it would result in increased gas import dependency. And both Bangladesh and Pakistan have already learnt lessons from the supply risks that come with dependence on imported LNG.

The EU as a bloc is currently the largest LNG import market in the world, receiving 134 bcm in 2023. However, according to The European Union Agency for the Cooperation of Energy Regulators (ACER), [demand for LNG in the EU will most likely peak in 2024](#). And overall demand for gas is falling across Europe due to the implementation of [rapid decarbonisation](#) strategies. It dropped by over 50 bcm (14%) in 2022 and a further 30 bcm (8%) in 2023.

The greatest fall was seen in the power sector and this decline will only accelerate, as the REPowerEU legislation will cut EU gas demand by 146 bcm (-50%) by 2030. Recent analysis shows that [Italy does not require its planned LNG import facilities](#), and in Central and Eastern Europe import capacity will [exceed historical imports of Russian pipeline gas](#) by 2025.

In Asia, Ember's latest [Global Electricity Review](#) reveals that China and India are not switching from coal to gas. A very small percentage (3%) of their electricity is generated using gas, and it is not currently rising. A shift towards nuclear and renewables is expected to reduce demand from Japan and Korea. Globally, the share of gas in the electricity mix fell from 24% in 2019 to 22% in 2023.

There are questions around whether or not Canada's LNG can compete in the global market. According to a senior vice president from ST Energy, speaking at a recent Canada Gas conference, a US Gulf Coast offshore project has costs of \$700 per tonne compared to LNG Canada at \$3,400 per tonne and Woodfibre LNG at \$2,400 per tonne. In March 2023, [Repsol decided not to develop its planned LNG terminal](#) on Canada's east coast as it determined it would not be profitable. Additionally, cost overruns at LNG pipelines and export terminals that are currently under construction have the potential to further undermine their economic viability and competitiveness.

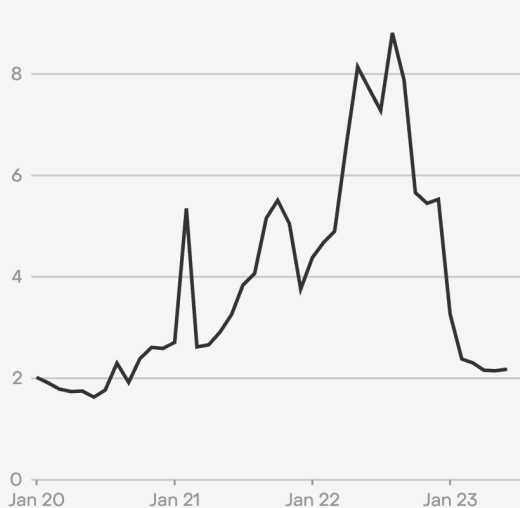
The risks that new LNG infrastructure in Canada will become stranded assets are tangible and increasing.

## Gas dependence exposes Canada to energy insecurity and price surges

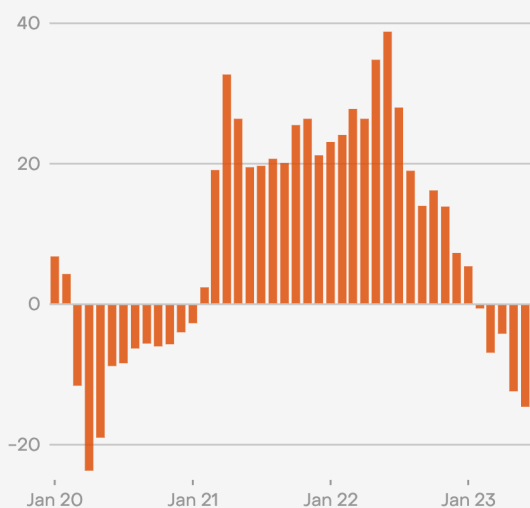
Case studies both in Europe and globally have demonstrated that reliance on fossil fuels, in particular gas, is risky and has a detrimental impact on energy security and economic stability. The recent global energy crisis brought huge price volatility, skyrocketing inflation and energy supply instability.

### Global gas crisis pushed up Canadian inflation

Gas prices (Henry Hub, USD/mmbtu)



Canada's energy inflation (%)



Source: US Energy Information Administration for spot gas prices, Statistics Canada for energy inflation rates

According to the [IEA's latest global gas market report](#), price volatility for Asian spot LNG reached an all-time high of 160% in 2022 and remained well above average (35%) in 2023 at 75%.

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In Alberta, gas generation accounts for nearly two-thirds of total electricity production. It also has the highest greenhouse gas emissions of any province due to increased oil and gas industry activity. It emitted 270 Mt CO<sub>2</sub>eq in 2022, 38% of Canada's total emissions. [Alberta's gas power generators have been accused of pushing up electricity prices](#) and, therefore, energy bills for households and industry.

Increasing domestic production of gas also does not enhance energy security or reduce exposure to price volatility, as prices are linked to global energy prices and much of the additional production is used for export purposes rather than domestic consumption. The US Energy Information Administration has determined that [higher LNG exports result in increased domestic gas prices](#).

Canada currently has [seven LNG export projects in various stages of development](#) with an annual production capacity of 50 million tonnes and a capital investment cost of \$109 billion. The first export facility, LNG Canada Phase I in Kitimat B.C, is scheduled to begin exporting shipments to Asia in 2025 - with the others expected to be operational between 2027 to 2032.

All of these facilities are located in British Columbia and, if all are built, they would [increase the province's annual electricity consumption by around 43 TWh](#). This is equivalent to more than eight [Site C dams](#) and over two-thirds (69%) of B.C.'s entire 2022 electricity demand. Importing just one Site C's (1.1 GW, 5.1 TWh) worth of electricity could cost around \$600 million annually. If fossil fuels are used to meet this increase in power consumption rather than renewables, then electricity prices will be higher - not only for these facilities but also for households and other industries.

## Increased gas production threatens Canada's credibility

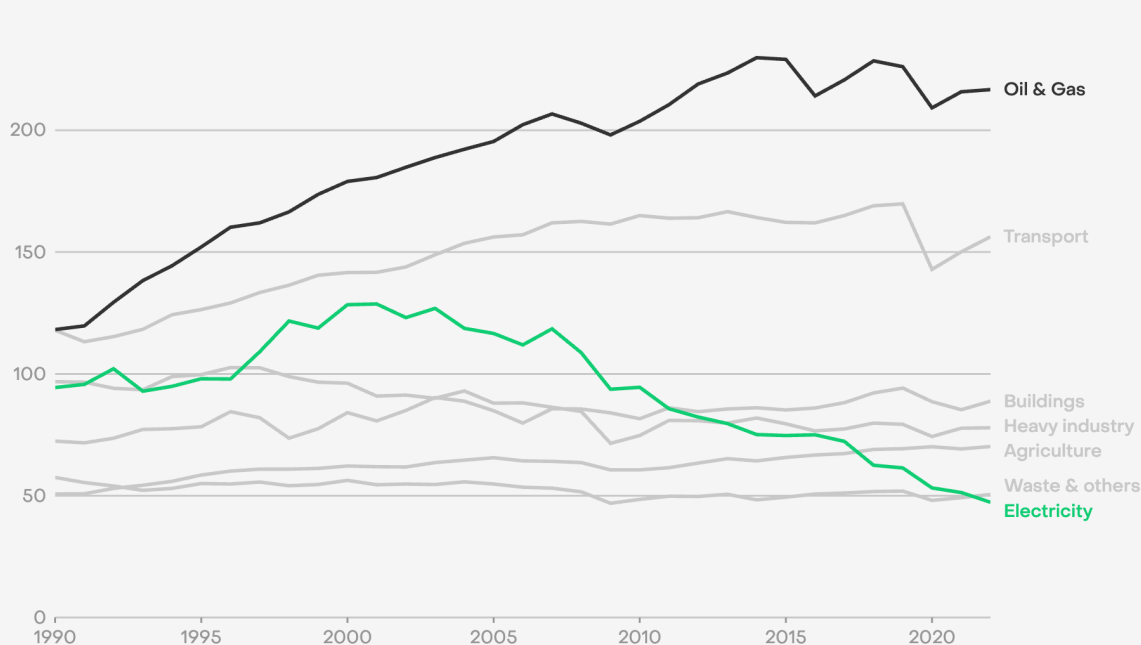
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Around 80% of Canada's greenhouse gas emissions are currently energy-related, with the oil and gas sector accounting for 31%. Canada's greenhouse gas emissions increased from

1990 to 2022 by 16.5% (+100 Mt CO<sub>2</sub>eq). This was predominantly driven by oil and gas emissions increasing by a substantial 83% (+99 Mt CO<sub>2</sub>eq) over the same period. Emissions from the power sector were cut in half (-47 Mt CO<sub>2</sub>eq) due to the decline in coal-fired generation.

### As oil and gas emissions surged 83% since 1990, electricity emissions halved

Greenhouse gas emissions by economic sector (megatonnes of CO<sub>2</sub> equivalent)



Source: Government of Canada

Increased LNG production is not aligned with either global or Canadian climate goals. The impact of increased greenhouse gas emissions is one of the reasons why the Biden administration has [suspended approvals for LNG exports from the US](#). The Canadian federal government is considering labelling gas as a 'climate transition' investment under its new taxonomy, and industry experts have expressed concern that this could seriously undermine its domestic and international credibility.

Canada's planned new LNG terminals will predominantly be supplied by fracked gas from British Columbia, which is particularly damaging to the climate due to fugitive methane emissions. In 2023, methane accounted for around two-thirds of total global gas and LNG greenhouse gas emissions. As part of its [Inflation Reduction Act](#) (IRA), the US has set a



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methane intensity limit of 0.2% for its facilities. Research from the Energy and Emissions Lab at Carleton University suggests that the [methane intensity of B.C.'s gas is 0.4%](#). While this is lower than the extremely high methane intensities of [Saskatchewan \(2.6%\)](#) and [Alberta \(1.8%\)](#), it is still double the limits being set by the EU and US.

The [Global Methane Pledge](#), launched at COP26, has over 155 country signatories and aims to reduce emissions by at least 30% by 2030 (from 2020 levels). The [EU Methane Regulation](#) will introduce monitoring, reporting, verification (MRV) and mitigation obligations for EU producers and those that export coal, oil and gas to the EU. The legislation will also set maximum methane intensity limits on producers supplying the EU, and it is anticipated that this will be the same as the US's IRA at 0.2%.

Canada also has its own regulations to reduce methane emissions in the upstream oil and gas sector by 40-45% by 2025 and 75% by 2030. Most of the gas produced and consumed in Canada comes from fracking at the Montney Formation of British Columbia (~50%) and Alberta.

There will be substantial costs associated with emissions mitigation. Canada's Minister for Energy and Natural Resources has told the domestic LNG industry that it should not expect the government to hand out [inefficient fossil fuel subsidies](#) and instead called for fossil fuel subsidies to be phased out. This could quickly render gas infrastructure and power plants economically non-viable.

These inherent risks associated with gas could all result in costly stranded assets and a waste of both public and private funds that could instead be invested in cleaner, cheaper and faster-to-deliver energy solutions such as increased wind and solar deployment.

# Acknowledgements

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