

Capping Potential Blowouts

Making Canada's oil and gas greenhouse gas emissions cap effective

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In December 2023, making good on a Liberal election commitment, the federal government proposed a regulatory framework to cap oil and gas sector greenhouse gas (GHG) emissions in Canada (Environment and Climate Change Canada [ECCC], 2023). This policy brief argues that the cap is needed and cautions that to make it effective, three avenues of critical weakening must be addressed.

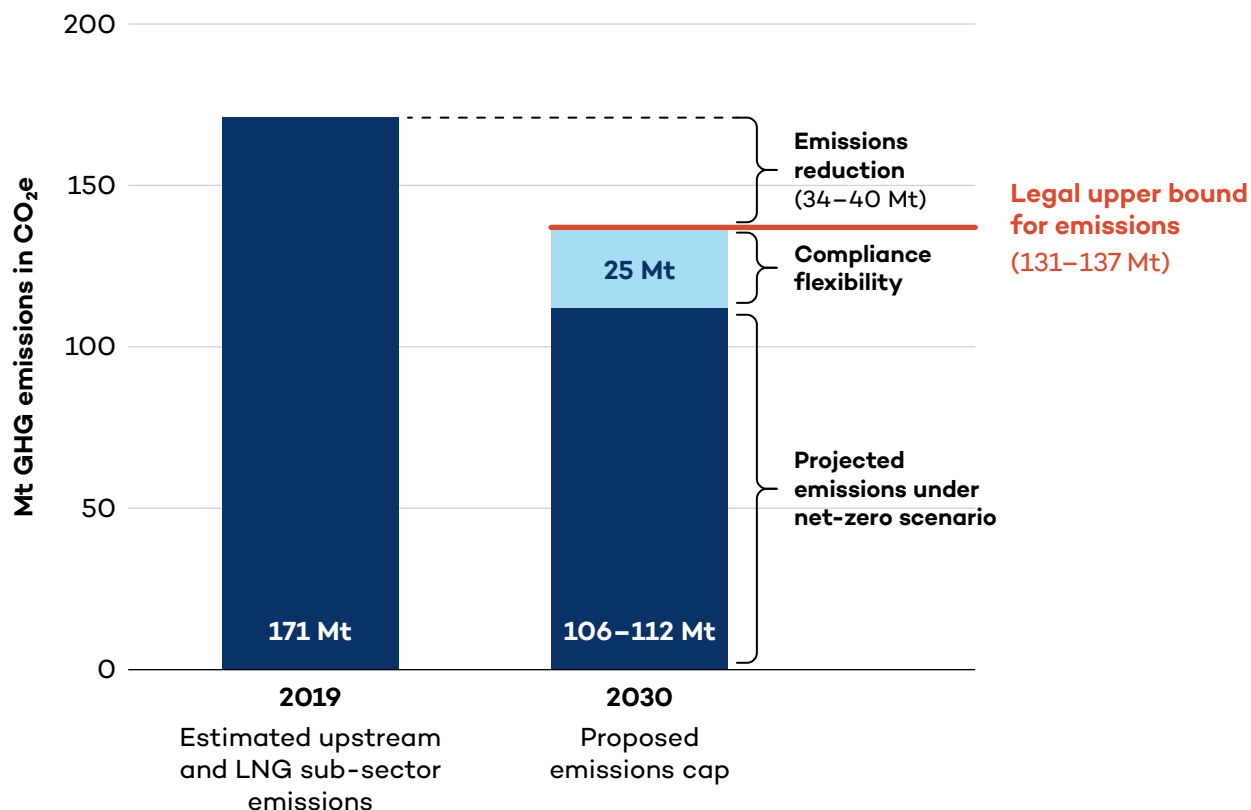
The Proposed Cap

The proposed cap would limit the amount of GHG emissions from Canada's oil and gas sectors and would be applied through regulations under the Canadian Environmental Protection Act. The proposed limit (the "emissions cap") is based on the level of production projected for Canadian oil and gas under the Canada Energy Regulator's net-zero scenario—in which countries worldwide meet their announced net-zero targets—and emissions intensity reductions at levels deemed technically achievable (Canada Energy Regulator, 2023).

There is also a proposed cushion of 25 million tonnes (Mt) of emissions allowed on top of that, or about 23% extra, that could be emitted and offset or forgiven by various means, some of which are described below. Together with the emissions cap, this cushion forms the "legal upper bound" of emissions under the proposed regulation (see Figure 1).



Figure 1. The proposed emissions cap



Source: ECCC, 2023.

Note: LNG = liquefied natural gas

The government initially plans to issue allowances, at no additional cost to facilities, to emit tonnes of carbon dioxide equivalent (CO₂e) GHGs up to the level of the emissions cap. Allowances would be tradable between firms that are beating their targets (and so have a surplus) and those that are not. The cap's overall targets are set in terms of achievement by 2030, with future reduction pathways between 2030 and 2050 being decided at a later date.

The federal government set out the proposed regulatory framework in a consultation document in December 2023 (ECCC, 2023) and has committed to releasing the draft regulations in 2024.

Canada Needs an Ambitious Oil and Gas GHG Emissions Cap

Oil and gas amounted to 31% of Canada's GHG emissions in 2022, and—in contrast to most sectors of Canada's economy—its emissions are growing relative to 2005 levels. If they continue to grow, Canada has no chance of meeting its Paris Agreement goals.



In other words, the market and the suite of existing climate policies, when left to themselves, are not working; they will not come close to reducing enough emissions. Modelling from the Canadian Climate Institute shows oil and gas by 2030 at 6% *above* 2021 emission levels under existing climate policies, with the increases driven primarily by oil (Sawyer & Griffen, 2022). By contrast, to be on track with Canada's Emissions Reduction Plan, oil and gas would need to *reduce* 2030 emissions by 30% from 2021 levels.

Even in boom times, the existing policies are not incentivizing emission-reducing investment. A Pembina Institute analysis in mid-2023 reported no new investments in oil sands emissions reductions since 2021 despite record profits; instead, in the first half of 2023, fully 75% of profits were returned to shareholders in the form of dividends and share buybacks (MacDougall, 2023).

It has been common for the oil patch in Canada to point to carbon capture, use, and storage (CCUS) as the key to reducing upstream emissions, arguing that they simply need more government support to incentivize investment (Tuttle, 2024). However, recent analysis by Deloitte shows that even under an extremely optimistic set of assumptions about markets and prices, there will likely be no investment in CCUS because investment in production is more profitable (Deloitte Canada, 2024).

That is the crux of the problem. Profit margins for oil and gas are currently high enough, and output-based allowances under the Output-Based Pricing System (OBPS) are high enough, that the effective carbon price is insignificant; it is more profitable to invest in production than it is to invest in avoiding the carbon price through emissions reductions. That is to say, the carbon price alone is not incentivizing enough decarbonizing investment. Given the poor odds of a much more stringent oil-and-gas-specific carbon price—with price levels set high just for oil and gas, separate from all other Canadian industrial emitters—the alternative is regulatory control: a cap on emissions.

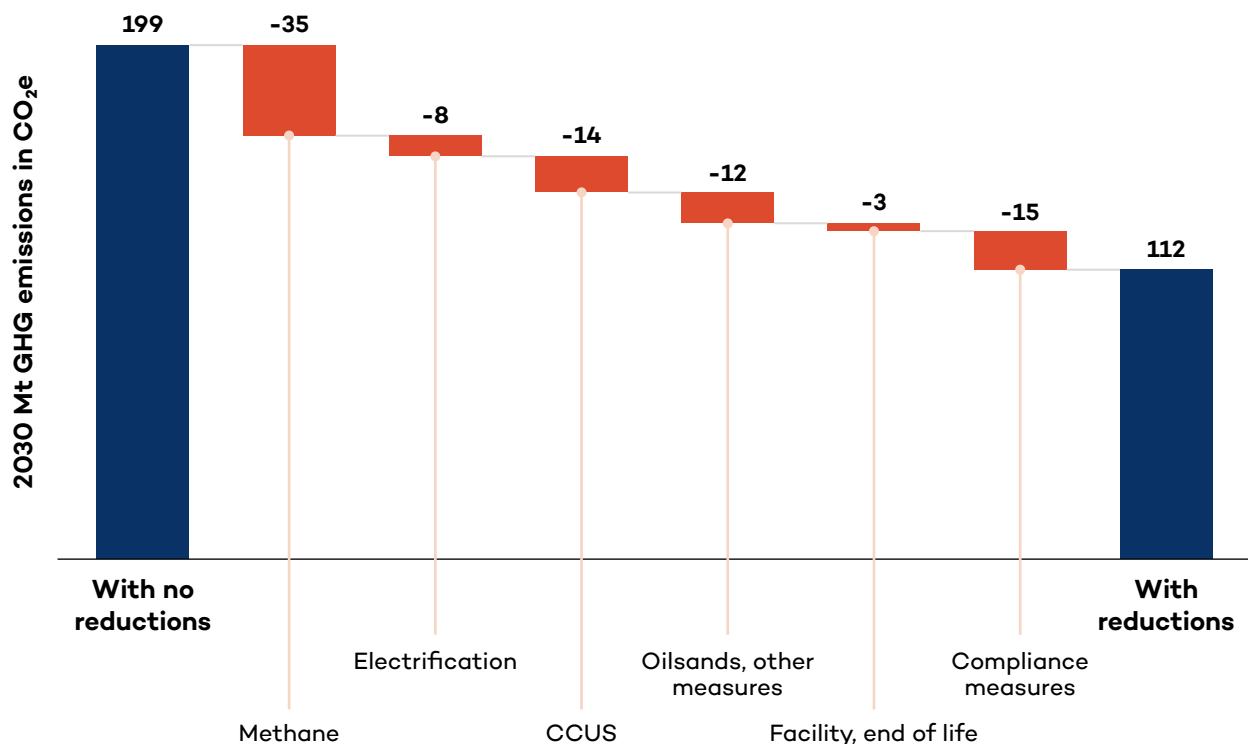
The Ambition of the Cap May Be Scuttled by “Flexibilities”

The planned cap is a welcome response to these realities. That said, it is not forcing particularly onerous emissions reductions on the oil and gas sectors, which would still be allowed to grow production from the 2019 baseline out to 2030 by 17% and 12%, respectively.¹ The proposed emissions cap is set just below 2019 emission levels, which at least demands that any growth be completely offset by emissions reductions. That's good, but even that would leave the sector 15%–22% over the federal Emissions Reduction Plan targets. Figure 2 illustrates analysis from McKenzie and Dries (2024), arguing that the cap can be achieved via a mix of means dominated by methane emissions reductions.

¹ Assuming all “technically achievable” emissions reductions—per ECCC analysis referenced in the consultation document—were enacted.



Figure 2. Potential emission reductions by 2030



Source: McKenzie & Dreis, 2024.

The proposal would significantly dilute that cap by adding a 25-Mt cushion: so-called compliance flexibility. That would represent an expansion of the cap's allowable emissions by almost a quarter, up to the legal upper bound (see Figures 1 and 2). For reference, that expansion is the equivalent of almost half of Canada's electricity sector emissions.

Ideally, these 25 Mt of emissions would be netted out by real emissions reductions, probably achieved somewhere outside the oil and gas sector, that could be purchased by oil and gas producers as offsets. The risk is that if those offsets do not reduce emissions elsewhere, compliance flexibility will only weaken the cap, enabling more GHG emissions.

All three major forms of compliance flexibility—the Decarbonization Fund, domestic offsets, and internationally transferred mitigation outcomes (ITMOs)—have the potential to weaken the cap in this way.



The Decarbonization Fund Would Weaken the Emissions Cap

The cap proposal floats the idea of a Decarbonization Fund into which firms could pay an additional (relative to the OBPS) CAD 50 per tonne of CO₂e instead of reducing emissions. The allowances purchased would be part of the 25 Mt of compliance flexibilities. The fund would be used to support decarbonization in the oil and gas sector.

Of course, decarbonization in the oil and gas sector is a good thing, other things being equal. But recall the nature of the 25-Mt cushion that pushes up the legal upper bound: it is not part of the cap as such, and any emissions that take place in that cushion should be netted out against emissions reductions, leaving the cap intact. For example, if offsets from outside the oil and gas sector (see below) were real emissions reductions, then this dynamic would hold. However, any emissions reductions that the fund supported would be very different; they would be claimed by firms as part of their compliance with the cap. That is to say, if the fund helped a firm reduce its emissions by a kilotonne, that kilotonne of reduction would count toward achieving the emissions cap. It could not also be counted as balancing off emissions that take place under the 25-Mt cushion; that would be double counting. That means that any purchases of allowances from the Decarbonization Fund would amount to a weakening of the cap, as opposed to just “flexibility” in achieving it. How much weakening is possible? Firms would only be allowed to purchase fund allowances for up to 10% of their total emissions. While that kind of restriction is good in principle, if all firms did that, the result would be a weakening of the cap by roughly half of the 25-Mt pool set aside for compliance flexibility.

It might be argued that even if the fund does weaken the cap, funding decarbonization is a worthy pursuit. Even ignoring the fact that this is a sector experiencing record profits and one that we should not be subsidizing, that argument has problems. There are many existing funds, with billions of dollars, to support the oil and gas sector's decarbonization.² If more is needed, governments should put more money into those funds instead of further fragmenting an already fragmented landscape of support and weakening the cap in the process.

If, despite those problems, the Decarbonization Fund were created, then the challenge would be to ensure that the revenues collected result in the most possible emissions reductions at the lowest cost—a sort of least-worst outcome. That is a complex challenge, the details of which are beyond this brief, but one avenue to explore might be reverse auctioning: asking oil and gas firms to compete to offer the fund projects for funding at the lowest cost per tonne and the most assured emissions reduction outcomes.

² Major sources include the Canada Infrastructure Bank, Canada Growth Fund, Low-Carbon Economy Fund, the Strategic Innovation Fund (including the Net Zero Accelerator), Clean Fuels Fund, and Canada Innovation Corporation.



Domestic Offsets Are Risky

Another portion of the 25-Mt cushion would be domestic offsets—purchases of emissions reductions that have taken place elsewhere in Canada, presumably outside the oil and gas sector. The backstop industrial carbon pricing regime that oil and gas firms are subject to—the OBPS—allows for specific types of offsets to be used to comply with the regime (ECCC, 2020b). Alberta's provincial regime also has specific offsets that are allowed. The proposed cap would allow firms to purchase any offsets approved under the OBPS, as well as any provincial offsets recognized by the OBPS (ECCC, 2020a). There is no limit within the 25-Mt cushion for the quantity of offsets that could be purchased, but the sum of offsets (both domestic and international) and Decarbonization Fund credits could not exceed the 25-Mt cushion.

In theory, offsets are a good idea. They allow firms to search for emissions reductions that might be much less costly than those they could achieve themselves. Since the atmosphere does not care where emissions reductions come from, the result is fewer GHGs and lower costs.

However, the experience of offsets does not instill confidence that they will always represent verifiable, additional, and permanent emissions reductions. One of the most rigorous processes of creating protocols for emissions reductions and validating actual emissions reduced against those protocols in specific projects was the Kyoto Protocol's Clean Development Mechanism (CDM). An EU-funded assessment of over 10,000 CDM projects found that only 7% of them had a high likelihood that their emissions reductions were additional—i.e., that they would not have happened anyway—and were not over-estimated (Cames et al., 2016). However, it mattered what types of protocols were being assessed—methane reduction projects had a high likelihood of being additional and accurate, for example, while projects replacing incandescent lightbulbs did not, given the regulatory moves in many countries to ban them as a source of lighting. The take-home message is that even the most rigorous regimes risk overestimating emissions reductions, given the uncertainty involved in assessing additionality, the information asymmetry between project developers and regulators, and significant differences across offset types.

For the moment, absent a detailed analysis of the integrity of Canada's existing and planned offset protocols, this is just a red flag. There are only three published protocols under the OBPS—for landfill methane recovery and destruction, GHG emissions reductions from refrigeration systems, and improved forest management on private land. Of those three, additionality is likely mostly an issue for the latter. Forestry-based offsets are plagued with questions about additionality about leakage—the simple shifting of emissions to other jurisdictions—and about permanence, which is especially pertinent given Canada's growing wildfire risks (Filewod & McCarney, 2023; Moore, 2024). There are protocols in development that might fall into the same “risky” categories: forest management on public land and enhanced soil organic carbon. To ensure that offset use actually leads to emissions reductions, the cap should err on the side of caution, allowing only the most robust offsets to be used (for example, avoiding the risks inherent in nature-based credits) (Swinfield et al., 2024).



If offsets are to be part of the cap's compliance flexibility, the proposed Offsets Fund could make sense. It would presumably involve the government purchasing offsets that could then be offered at a single blended price to covered firms, reducing their compliance costs by acting as an intermediary. The fund could then discriminate about which offsets it would purchase following the recommendations proposed above to maintain the integrity of the cap. Moreover, by generating significant demand for high-quality offsets in Canada's carbon offsets market, an offsets fund would support generators of those offsets with higher prices, potentially increasing supply. It should be noted, however, that while an offsets fund would reduce compliance costs for firms, this mechanism would increase administrative costs for the government agency required to administer the fund.

ITMOS Are the Riskiest of All

What Are ITMOS, and How Would They Work?

ITMOs are another type of offset proposed for use in the cap's 25-Mt cushion. They would be international rather than domestic and are a feature of the Paris Agreement's Article 6, under which the parties can voluntarily cooperate on reducing emissions.

Article 6.4 creates a project-based mechanism: parties can invest in emissions-reducing projects in other countries and receive credit toward their national targets ("nationally determined contributions").

Article 6.2, which creates ITMOs, describes a country-to-country arrangement where one party transfers its emissions reductions to another party for credit against its nationally determined contribution. There have not been many Article 6.2 deals, but they involve investment in the activity that reduces emissions, like Switzerland's investment in low-carbon rice cultivation in Ghana (DGB Group, 2023).

Presumably, if ITMOs were allowed as a compliance mechanism under the cap, it would involve the Canadian government striking a deal with some other party under which the federal government would pay them to transfer the accounting credit for their emissions reductions under the Paris Agreement's reporting mechanisms. The government would then sell those credits to oil and gas firms, probably through the cap's suggested Offsets Fund.

Why Should ITMOs Not Be Used for Compliance Under the Oil and Gas Cap?

There are at least two major problems with this idea: the risk that ITMOs would not be real emissions reductions and the LNG-ITMO risk.



ITMOs Probably Would Not Represent Real Emissions Reductions

The detailed rules in Article 6.2 (for ITMOs) have yet to be agreed upon. Article 6.4 will have very strict rules, including agreed methodologies to arrive at the numbers, rules to ensure that emissions reductions would not have just happened anyway (the problem of additionality), rules to ensure that emissions reductions cannot just be reversed in future (the problem of permanence), and a governance structure to ensure that those rules are followed. This is not so for Article 6.2. In fact, a strong bloc of countries, including the United States, aims to ensure that the negotiations on Article 6.2 do not produce such rules or governance, arguing instead for “flexibility.” And under the United Nations Framework Convention on Climate Change (UNFCCC) rules, a single country can block consensus.

The bottom line? Even under the very strict accounting rules of the predecessor to Article 6—the Kyoto Protocol’s CDM—a European Union assessment concluded that 85% of the projects surveyed probably did not achieve real emissions reductions (“low likelihood”) (Cames et al., 2016). Under the Paris Agreement’s much laxer Article 6.2—if rules are ever concluded—ITMOs would be even less likely to achieve real emissions reductions, meaning they would instead represent a weakening of the cap.

The LNG–ITMO Risk

There has been intense advocacy for Canada to get ITMOs for our LNG exports on the grounds that those exports replace coal-fired energy and thus reduce emissions in the countries to which we sell our LNG (Brunnen, 2023; Coleman & Jordaan, 2016; Farley, 2024; First Nations LNG Alliance, 2023; Gessaroli, 2023; Office of the Premier, British Columbia, 2023; Public Policy Forum, 2024). An orchestrated chorus has called for this to happen, including the Government of Alberta’s Emissions Reduction and Energy Development Plan, think-tank opinion pieces, and industry-funded studies of the prospect in peer-reviewed journals (Alberta, 2024; Kotagodahetti et al., 2022; Nie et al., 2020). If ITMOs are allowed as compliance flexibility measures under the cap, there will be extreme political pressure for the federal government to support the oil and gas sectors by concluding ITMOs for LNG exports. There are at least four reasons why would that be a bad idea.

But first, for context, note that an LNG–ITMO deal would be totally different than what Article 6 negotiators envisioned. The Swiss–Ghana deal described above is the model: Switzerland acts like a development agency, funding emission-reducing activities in Ghana. A Canadian LNG–ITMO, by contrast, would be a contract to buy the rights to emission reduction credits that come from using our gas exports.

Reason 1: Article 6.2’s lax rules create particularly high risks for LNG export deals because the logic of our LNG exports actually reducing emissions elsewhere is dodgy.

First and most importantly, how do we prove that the facilities that burn our gas would have burned coal if not for Canadian exports? Maybe they would have bought gas from some other country. Maybe the facility has always been designed to burn gas, never coal. Second, our



upstream fossil gas emissions are much higher than reported figures (Greenford, 2023). Third, when we consider the energy needed to super-chill gas to liquid, maintain it in storage at those temperatures, and reconstitute it at the other end, LNG has a much higher GHG intensity than just fossil gas. Some estimate that it is actually worse than coal, depending on the vessels used to transport it (Howarth, 2024). At a minimum, we know it is no panacea compared to the coal it is supposedly replacing. Third, without strict rules, there would likely be a willing suspension of rigour by both parties, and none of these problems would be addressed. The result would be credits that do not represent actual reductions in emissions: a weakening of the cap.

Reason 2: It is a step down a slippery slope.

Canada asking other countries for credit for how they use our exports is a novelty. That is not how UNFCCC accounting works. Under UNFCCC rules, countries are responsible only for the emissions that take place on their soil and are credited only for the emissions reductions that take place on their soil. Korea, for example, does not get credit for the emissions reductions that take place when a Canadian driver buys a Korean electric vehicle and stops burning gasoline. Canada may not like where the LNG-ITMO principle takes us—for example, would we want to get credit (blame) for the emissions that take place when U.S. consumers burn our exported oil in cars?

Reason 3: It risks being a massive subsidy to Canadian oil and gas.

If Canada buys ITMOs from our LNG customers and then gives those credits to LNG exporters, that is a subsidy funded by the Canadian taxpayer. If Canada sells those credits to LNG exporters at less than they paid for them, that also is a subsidy. Both of those outcomes are distinct possibilities and would violate Canada's commitment to phasing out fossil fuel subsidies.

Reason 4: Reputational damage.

An Article 6.2 deal to credit LNG exporters for foreign emissions reductions would be pioneering, but not in a good way. While other countries fund low-carbon development in poor countries with their Article 6.2 deals, Canada would be sending money to our LNG customers to support our fossil gas producers. Such a deal would attract plenty of attention in the climate negotiations and the global media, to the detriment of our reputation as a climate leader.

How much could ITMOs weaken the cap? The proposed legal limit for the use of all offsets, including ITMOs, is the full amount of the 25 Mt of compliance flexibility, or around 20% of firms' emissions.³ As noted above, this is equivalent to just under half of all the emissions from Canada's electricity sector. If LNG-ITMOs were allowed, they alone could easily fill up the entire 25-Mt cushion.

³ Under the proposed rules. Note that the use of the Decarbonization Fund would shrink the available space for the use of offsets such as ITMOs.



Conclusions

Canada's proposed GHG emissions cap for the oil and gas sector is needed: existing policies are not incentivizing investment in decarbonization, and the sector's emissions are growing at rates that will preclude Canada from meeting its Paris Agreement climate targets.

However, there are at least three proposed flexibilities in the emissions cap that risk weakening it, all to be used under the 25-Mt cushion: the Decarbonization Fund, domestic offsets, and the use of ITMOs. The Decarbonization Fund would represent a straight weakening of the cap since any emissions reductions it achieved would already be counted under the cap. The use of ITMOs has a high risk of arriving at the same result because the offsets it represents may not represent real emissions reductions. The use of domestic offsets is also risky in that way, at least for certain project types, though less so. The 25 Mt of emissions that these proposals would cover therefore represent a potential weakening of the cap—allowed emissions that are not offset by any reductions—by almost 25%.

Given that the proposed cap already imposes tight limits on emissions from the sector, especially relative to what is expected of the rest of the Canadian economy, and given the sector's outsized contribution to Canadian GHG emissions, these avenues for weakening should be reined in. The Decarbonization Fund should not be created, ITMOS should not be allowed as offsets, and only the highest-quality domestic offsets should be allowed.

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