Meeting the Moment

Why finalized methane regulations will be key to Canada's climate competitiveness

November 2025

Amanda Bryant

PEMBINA Institute

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The Pembina Institute
#802, 322 – 11 Avenue SW
Calgary, AB T2R 0C5
403-269-3344

www.pembina.org

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These acknowledgements are part of the start of a journey of several generations. We share them in the spirit of truth, justice and reconciliation, and to contribute to a more equitable and inclusive future for all.

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Executive summary

Governments around the world are increasingly recognizing that urgent action is needed to reduce emissions of "super pollutants" like methane. Methane is a potent greenhouse gas and the main component of natural gas. There are cost-effective and proven solutions to prevent methane emissions from oil and gas systems. Implementing those solutions enhances energy security, improves efficiency, prevents lost revenues and royalties, and creates good jobs – not to mention mitigates the near-term impacts of climate change and improves air quality and health. As such, continued leadership on methane is essential to Canada's climate competitiveness.

Canada, along with many other jurisdictions, has pledged to reduce global methane emissions by 30% by 2030 from 2020 levels. While pledges are important tools to calibrate ambition, they must be paired with policies to deliver needed emissions reductions. At the core of effective policy are regulations. Canada has proposed strengthening its oil and gas methane regulations to reduce emissions from energy production 75% by 2030 from 2012 levels.

This report explains different policy approaches and compares Canada's draft amendments to the regulations of other leading jurisdictions, including three oil and gas producing provinces, key U.S. states, and the European Union. We argue that Canada's proposed regulatory amendments are appropriately ambitious, both for reducing emissions and for keeping pace with leading jurisdictions. **Canada must immediately finalize its draft amendments to the federal oil and gas methane regulations.**

More can be done, however, to set the country up to thrive in a climate-competitive global marketplace.

We recommend that Canada, as well as the oil- and gas-producing provinces:

- Regularly review best practices and new methane mitigation technologies as regulations are progressively strengthened
- Base leak inspection requirements on risk but ensure comprehensive coverage of sources
- Prohibit routine venting and flaring outright, allowing only for emergency situations and other exceptional circumstances
- Pair performance standards with strong measurement, reporting, and verification requirements.
- Require site-level measurement, transparent reporting, and independent verification to ensure accurate and comprehensive methane emissions accounting

In addition, we recommend that Canada's federal and provincial governments should:

- Continue progressively strengthening oil and gas methane regulations.

- Address key regulatory gaps such as emissions from compressor engines, routine flaring, emissions from low- and non-producing wells; and inaccurate emissions reporting.
- Consider effective policies from leading jurisdictions, such as import standards, satellite data integration, measurement-informed inventories, and comprehensive methane pricing.

1. Introduction

Governments worldwide are increasingly recognizing the vital importance and benefits of rapidly reducing methane emissions.[1] Canada, alongside 158 other nations, has joined the Global Methane Pledge to reduce global methane emissions by 30% by 2030 from 2020 levels.[2] While international pledges are important tools to calibrate ambition, they must be paired with domestic policies to deliver needed emissions reductions.

Methane is a potent greenhouse gas and the main component of natural gas. There are proven, cost-effective solutions to prevent methane emissions from oil and gas systems.[3] This is why methane mitigation is often referred to as the "low-hanging fruit" of climate and energy policy.[4] On top of reducing the near-term impacts of climate change and improving air quality and public health for communities and workers, mitigating methane emissions has broad benefits for Canada's economic resiliency. It enhances energy security, improves operational efficiency, prevents lost revenues and royalties,[5] and creates good jobs.[6]

Canada has proposed amendments to strengthen its oil and gas methane regulations to achieve a 75% reduction in methane emissions from oil and gas production by 2030 from 2012 levels.[7] These regulations were expected to be finalized in late 2024 but were delayed for procedural reasons and due to Canada's most recent federal election.

The purpose of this report is to analyze and compare Canada's proposed federal regulations to those of other jurisdictions, including three provinces and other leading international jurisdictions. We also propose recommendations primarily targeted at the federal government, although they apply to the provinces as well.

We were encouraged to see Canada's Budget 2025 commit to finalizing the amendments to the federal oil and gas methane regulations, but we are concerned that the federal government has not indicated its timeline for doing so.[8] The amendments have been through a years-long engagement process that has been highly responsive to stakeholder concerns and has ensured that the regulations are strong, yet technically feasible and flexible. The proposed amendments are exactly the sort of policy that Canada needs to meet this turbulent global moment[9] and enhance Canada's climate competitiveness. We therefore urge that the federal government finalize them without further delay.

The world badly needs continued leadership on methane, especially as the U.S. has retreated from its role as a global leader. Among its policy reversals:

- The U.S. Congress, in March 2025, passed a joint resolution to overturn the implementation rule of the U.S. Environmental Protection Agency (EPA) for the Waste Emissions Charge, which was a fee on excess methane emissions.[10]
- The Trump administration froze funds earmarked for plugging orphaned wells[11] — a program that had successfully increased rates of plugging.[12]
- The EPA plans to stop requiring the submission of emissions data under the Greenhouse Gas Reporting Program.[13]
- The EPA has delayed implementing the methane regulations for new and existing facilities (known as OOOOb and OOOOc)[14] and declared its intent to eliminate the regulations entirely (along with a host of other climate and environmental policies).[15]
- The EPA has moved to eliminate its own authority to regulate greenhouse gas emissions.[16]

Undoing federal regulations will be a complex, potentially years-long and legally risky undertaking.[17] More immediately consequential is the EPA's decision to cut staff[18] and reduce enforcement of methane regulations.[19]

While the current reversal of U.S. federal leadership on methane policy is disheartening, some states are continuing to show leadership. For example, even in the midst of extreme policy uncertainty at the federal level, in February 2025, Colorado updated its methane regulations to phase out emitting pneumatic devices.[20] New Mexico's strong regulations are expected to stay in force and ensure that federal deregulation does not undermine progress in the state.[21] Moreover, California has launched a new methane tracking satellite, which will enhance monitoring capacity even as the EPA scales back oversight and enforcement.[22]

International jurisdictions such as the European Union (EU) have also recently strengthened their regulations. In fact, the EU is moving beyond domestic emissions regulation by designing import standards that require global action. This sets an important precedent and means that exporting countries will need to implement rigorous oil and gas methane regulations in order to maintain international market access and diversify trading partners. Strengthened Canadian regulations will support a leaner, cleaner oil and gas industry that is prepared to compete in the future low-carbon energy economy.[23] That's why methane mitigation is vital to Canada's climate competitiveness.

2. The vital role of regulations

2.1 Ensuring solutions are deployed

Strong regulations are central to effective policy to address methane emissions from the oil and gas sector. That is because, while proven solutions are available, only leading companies voluntarily deploy them. Proven solutions include common-sense measures like finding and fixing leaks, replacing leak-prone equipment, and conserving gas that would otherwise be vented or flared.

These solutions are comparatively cost-effective, especially when compared with expensive decarbonization options like carbon capture, utilization and storage. An analysis by Dunsky found that Canada's oil and gas methane emissions could be reduce by 75% at a cost of $11/tonne of carbon dioxide equivalent.[24] By comparison, in 2025, the price of industrial carbon pollution in Canada is $95/tonne.[25] When you consider that preventing methane from leaking or venting keeps valuable natural gas in the pipe, many of the solutions end up saving companies more than they cost.[26]

Applying these proven, cost-effective solutions help future-proof the oil and gas industry. The EU recently introduced methane emissions measurement, monitoring, reporting and verification requirements for oil and gas imports. And the European Commission will be developing a methane intensity standard for energy imports to be implemented later this decade.

What is methane intensity?

Methane intensity is a metric that considers emissions relative to production. There are different ways of calculating it, but it can refer to the percentage of methane emitted relative to gas or energy produced.[27] The best practice established by the international oil and gas industry is a methane intensity of 0.2% .[28] While the European Commission has not yet set its methane intensity standard, it is considering 0.2%.[29] The methane intensity of Canada's national oil and gas supply chain is estimated to be 2.1%.[30] However, there is considerable variability across regions and production types, with heavy oil production being much more intensive than gas or offshore oil production.[31]

The EU's standards for energy imports are a sign of things to come. In tomorrow's global energy economy, having low-carbon-intensity energy products – and credibly proving it – will be a prerequisite for doing business. Mitigating methane emissions and improving measurement and reporting capabilities will position companies to maintain market access in the new energy economy.[32]

Understanding this requires foresight. Likewise, implementing mitigation strategies requires knowledge, leadership, and some up-front spending. For these reasons, only the most well-resourced and forward-thinking companies are likely to pursue methane abatement on their own. Regulations are required to ensure that all of industry rises to the moment and deploys the solutions we know work.

2.2 Supporting other forms of policy

Regulations are also critical because the effectiveness of other kinds of policy depends on them. For instance, while funding innovation can help eliminate technology gaps, regulations are needed to ensure that solutions are deployed at scale. Otherwise, public funds support the development of solutions that wind up sitting on the shelf.

Likewise, pricing methane emissions can be a powerful market incentive to reduce emissions. However, it must be paired with reporting requirements that ensure methane emissions are accurately quantified. Without accurate methane accounting, a system that monetizes exceedances and reductions lacks integrity. The adage, "you can't manage what you can't measure," is often applied to methane emissions; by extension, "you can't price what you can't measure."

Policy approaches such as funding innovation and pricing emissions can be fruitful, but they must be complementary to regulation. **We therefore recommend that Canada's federal and provincial governments progressively strengthen their oil and gas methane regulations to at least keep pace with other leading jurisdictions.**

3. Types of regulation

Methane regulations come in several forms. We describe them here before comparing policies from leading jurisdictions in the next section.

3.1 Equipment-based regulations

Equipment-based regulations consist of rules for different types of equipment found at oil and gas sites. Common emissions sources have been identified, along with appropriate standards or mitigation measures for each. **As regulations are progressively strengthened across jurisdictions, governments should consider best practices and best available technologies to mitigate methane from emitting equipment.** Some examples follow.

3.1.1 Pneumatic devices

Pneumatic devices are gas-driven instruments that open and close valves. Historically, these devices have emitted methane by design. Studies have shown that they are a major source of emissions.[33] Past regulations required operators to switch to "low-bleed," or low-emitting, pneumatics. However, an array of "zero-bleed," or non-emitting, solutions are now available. Best practice is therefore to phase out emitting pneumatics.

3.1.2 Compressor seals

Compressor engines are used to drive gas through pipes. There are two main types of engines – centrifugal and reciprocating – each with different kinds of seals on moving parts. These seals are designed to vent. Methane emissions from compressor seals are regulated by setting venting limits, imposing fleet averages, and requiring devices to control emissions.

3.1.3 Storage tanks

Storage tanks are a significant source of methane emissions.[34] These emissions are regulated by setting vent limits and requiring that venting be "controlled" with conservation or destruction equipment. Nevertheless, controlled tanks remain a substantial emissions source due to intentional venting and unintentional leaks from hatches, valves, seals, and piping.[35] Regulations requiring alarms on hatches and design improvements will therefore be increasingly important, as will tighter restrictions on venting.

3.1.4 Flares and combustors

Methane that is a by-product of oil and gas production is often regarded as waste gas and destroyed by burning. Destruction equipment, such as flares and enclosed combustors, are often required to destroy the methane with a certain efficiency, typically 98%. However, studies suggest that flares can underperform due to wind and other field conditions.[36] Destruction equipment can also become unlit, causing methane to be vented.[37] Some regulations require fail-safe devices to prevent this, such as flame failure detection systems and auto-igniters.

3.2 Work practice standards

Instead of setting standards for equipment, work practice standards set mandatory operational practices for operators. For instance, they make certain actions required, prohibited, or subject to decision trees.

3.2.1 Leak detection and repair

A decade ago, measurement studies began to show that methane emissions are underestimated and underreported, partly due to a poor understanding of leak frequency and magnitude.[38] These studies revealed a need for rules mandating operators to find and fix leaks. Leak detection and repair (LDAR) programs (also known as fugitive emissions management programs, or FEMPs) were developed.

These programs require operators to inspect facilities using leak detection devices, such as special infrared cameras, a specified number of times per year. Leading nations are converging on a risk-based approach, which ensures that sites with especially leak-prone equipment or a high potential for large emission releases are inspected quarterly. At the same time, it is still important to periodically survey lower-risk sites because even small leaks can add up. It is also critical to survey abandoned wells to ensure that they have been properly remediated and that seals are not leaking as infrastructure ages indefinitely.[39] **Leak inspection requirements that are based on risk but that still ensure comprehensive coverage are critical.**

3.2.2 Restrictions on venting and flaring

Waste gas is often vented to the atmosphere or flared. Sometimes this is necessary to relieve dangerous pressure build-ups. However, it is often done during routine, everyday operations when safety is not at risk. These practices are called “routine” venting and flaring. Flaring the gas is better in some respects than venting because it converts much of the methane to carbon dioxide, and carbon dioxide is a less potent climate warmer. However, carbon dioxide remains in the atmosphere for hundreds of years, while methane remains for just over a decade. Open

flaring is also an air quality and health problem because it releases black carbon and volatile organic compounds, among other pollutants.[40] This can cause respiratory illness, adverse pregnancy outcomes, and leukemia.[41] Because venting and flaring are wasteful and harmful, regulations sometimes include decision trees that require operators to first consider conserving gas if feasible. **Leading jurisdictions are banning routine venting and flaring outright, with allowances for emergency situations and other exceptional circumstances, and other jurisdictions should follow suite.**

3.3 Performance-based regulations

An alternative to prescriptive regulations involves establishing outcomes that operators must meet, while allowing them to determine how they will meet them. This is a more flexible approach.

Performance standards can take various forms, such as overall emissions limits, intensity limits, and venting or flaring limits. They can be applied to industry as a whole or individual companies or facilities.

One drawback to industry-wide standards is that it can be difficult to ensure companies do their part to meet them, and they can be difficult to enforce. When it is everyone's responsibility to collectively meet the standard, it is no one company's responsibility. For instance, in 2023 and 2024, Alberta's oil and gas industry exceeded the legal limit on solution gas flaring (i.e., flaring gas from oil production).[42] The Alberta Energy Regulator had previously determined that solution gas flaring was approaching the legal limit and was expected to increase.[43] Despite this foreknowledge, neither the regulator nor the industry was able to prevent the exceedance. Standards that apply to individual companies or facilities can therefore be more practical.

Whether performance standards apply collectively or individually, verifying that companies comply with them is essential. For that reason, **performance standards must be paired with strong measurement, monitoring, reporting, and verification requirements**.

3.4 Measurement, reporting, and verification

Measurement, reporting, and verification (MRV) requirements are a pivotal aspect of methane policy.[44]

Measurement involves using sensors to determine methane concentrations and emission rates. There are a variety of technologies to accomplish this, including handheld, drone-mounted, vehicle-mounted, aerial, and satellite technologies. Because these technologies have different strengths and weaknesses, integrating various types of measurement data can help create a comprehensive inventory.[45]

Reporting is the process through which operators submit emissions data to regulators and governments. This is typically a regulatory requirement, but there are also voluntary reporting frameworks, such as the Oil and Gas Methane Partnership (OGMP) 2.0.[46]

Verification refers to procedural checks to ensure that the reported data is accurate. This can take different forms, from desk audits to third-party inspections at facilities.

Robust MRV requirements are needed because methane emissions have historically been underestimated and underreported by a factor of 1.5–2 times or more.[47] Official inventories are based on industry self-reporting. This reporting relies on emissions factors, which are formulas for estimating emissions from different types of equipment. However, emissions factors are often inaccurate. This is partly because they do not adequately account for equipment failures. Equipment failures result in an extreme distribution of methane leaks, meaning methane emissions can be dominated by large, rare, and unpredictable emissions events.[48] Self-reporting based primarily on outdated emissions factors is, in our view, no longer acceptable given the greater accuracy and comprehensiveness of measurement-informed approaches.

Some jurisdictions have created an option to measure through alternative leak detection and repair (alt-LDAR or alt-FEMP) programs. Instead of relying on traditional monitoring techniques involving infrared cameras or other hand-held detectors, operators can use alternative technologies such as aircraft- or truck-mounted measurement devices — provided that they are proven to work at least as well as the standard methods. This compliance flexibility allows operators to take advantage of quickly evolving technologies and benefits they offer.

Yet permitting alternative measurement options to meet leak detection requirements is not enough. **Site-level measurement, transparent reporting, and independent verification should be required to ensure that methane emissions are comprehensively and accurately accounted for.** Leading jurisdictions are recognizing this and introducing strong MRV requirements.

4. Regulatory comparison

Canada, B.C., Colorado, New Mexico, California, and the EU have emerged as clear global leaders when it comes to regulating methane emissions from energy production.

In 2016, Canada and the U.S. issued the *Joint Statement on Climate, Energy, and Arctic Leadership*, in which both countries committed to reduce oil and gas methane emissions by 40–45% from 2012 levels by 2025.[49] In 2018, Canada published regulations to achieve this target.[50]

While Canada's federal government regulates methane emissions under the *Canadian Environmental Protection Act*, major producing provinces are allowed to develop their own regulations as long as they result in equivalent or greater emissions reductions.[51] In 2020, the federal government established agreements with B.C., Alberta, and Saskatchewan that recognized the equivalency of their provincial regulations with federal ones.[52] B.C., Alberta, and Saskatchewan have recently struck new agreements to extend the equivalency of their regulations.[53]

In 2021, Environment and Climate Change Canada committed to an emissions reduction target of 75% from 2012 levels by 2030. Proposed amendments to Canada's oil and gas methane regulations to achieve this target are strong and would bring the nation mostly in line with other leading jurisdictions. We are now awaiting the finalized amendments.

4.1 Main components of the proposed regulations

The proposed regulations have three main components. It is important to note that there may be differences between the draft regulations and the final regulations once published.

4.1.1 Fugitive Emission Detection and Repair Program

The Fugitive Emission Detection and Repair Program is a strengthened LDAR program. The draft amendments take a risk-based approach, which distinguishes between different categories of risk and lays out inspection requirements for each.[54] Depending on the risk category, facilities will need to conduct a comprehensive inspection quarterly or annually. Comprehensive inspections are inspections using handheld optical gas imaging cameras or gas sniffers (following EPA Method 21).[55] Monthly instrumented screenings are also mandated if operators are on site. These screenings need less sophisticated equipment and technical expertise but do require the use of a gas-detecting instrument with certain minimum detection capabilities.[56] Finally, the draft amendments require an auditor who is independent of the facility's owner and operator to inspect the facility annually.[57] (See Table 1 for a summary.)

Supplementing the comprehensive inspection requirements with requirements for instrumented screenings and third-party inspections makes Canada's draft LDAR regime commendably strong.

Table 1. Proposed risk-based LDAR requirements

Risk category	Definition	Comprehensive inspections	Instrumented screening	Third-party inspection
Type 1	Facilities with a compressor, storage tank, flare, or gas-liquid separator	Quarterly	Monthly (if operator is on site)	Annually
Type 2	All other facilities	Annually	Monthly (if operator is on site)	Annually

4.1.2 Restrictions on venting and flaring

The draft amendments also introduce important new restrictions on routine venting and flaring. Routine venting is generally prohibited, and instead waste gas must be conserved or destroyed.[58] However, there are exceptions for the following:

- maintenance events
- health and safety
- circumstances where stable combustion of the gas is not physically possible
- circumstances where using destruction equipment would disrupt public gas supply

Flaring is permitted only if an engineering study shows that it is not feasible to conserve and use the gas.[59]

4.1.3 Alternative compliance pathway

The federal government has also created an alternative compliance option for the venting prohibition and LDAR program. Under this approach, companies can meet the mandated performance standard by implementing continuous monitoring, which uses fixed sensors at facilities to detect emissions on an ongoing basis.

Continuous monitoring helps overcome the challenge posed by intermittent leaks. Because methane leaks are sporadic, it is easy for periodic LDAR inspections to miss them. The current drawback with continuous monitoring equipment is that they are not consistently accurate at quantifying emissions.[60] However, these technologies continue to evolve,[61] and we expect further improvements in their accuracy by the time the regulations come into effect in 2027.

4.2 How Canada's regulations stack up

Table 2 compares key aspects of Canada's proposed federal regulations with those of several provinces and international jurisdictions, including the U.S. and three of its leading states. We wished to highlight in the table the strong methane policies previously introduced by the U.S. EPA, but as acknowledged earlier, these policies are now under threat.

To facilitate comparison, the table provides a general overview, with finer details omitted. For instance, LDAR inspection requirements for lower-risk facilities, definitions of risk, minimum detection limits for leak detection equipment, and requirements for non-instrumented inspections (i.e., audio-visual-olfactory screenings) have been left out. For such details, consult the regulations themselves.[62]

Table 2. Jurisdictional comparison of methane regulations. (Best practices highlighted in green.)

Jurisdiction	Existing pneumatic devices	Compressor seals	Tanks	Routine flaring	Routine venting	Leak detection and repair	Measurement, reporting, & verification
Canada (proposed)	No venting by 2030	No venting by 2030	No venting by 2030	Allowed if engineering study shows using the gas is not feasible	Prohibited (with exceptions)	Quarterly at high-risk facilities, monthly screenings if operator on site, third-party inspections annually	Continuous monitoring required for alternative compliance pathway
B.C.	No venting by 2035	Max. vent rate + fleet average; eliminate venting by 2035	Fixed leak monitors required	Prohibited (with exceptions)	Prohibited from some sources	Quarterly at high-risk facilities	Alt-LDAR
Alberta	Low-emitting as of 2023	Max. vent rate + fleet average	Covered by general vent gas limits	Subject to decision tree	Limited	Tri-annually at high-risk facilities	Alt-LDAR
Saskatchewan	Phase-out of emitting devices; elimination by end of 2028	Covered by general vent gas limit	Covered by general vent gas limit	Prohibited at gas wells, as well as oil wells within 500 m of populated areas	Limited	Tri-annually at high-risk facilities	Alt-LDAR
U.S. (under threat)	No venting by 2029 (with exceptions)	Monitoring requirements + max. vent rate	Tanks with potential to emit CH4 or VOCs must reduce methane by at least 95%	Prohibited at new oil wells	Prohibited at new oil wells; some sources must be minimized	Quarterly at high-risk facilities	Alt-LDAR; remote monitoring can trigger duty to inspect

Jurisdiction	Existing pneumatic devices	Compressor seals	Tanks	Routine flaring	Routine venting	Leak detection and repair	Measurement, reporting, & verification
Colorado	Phase-out of emitting devices; elimination by March 2029	Reduce emissions from some seals by at least 95%	Control emissions from tanks with potential to emit VOCs	Prohibited (with exceptions)	Prohibited (with exceptions)	Monthly at high-risk facilities	Measurement-based emissions factors
New Mexico	Phase-out of emitting devices, with at least 80% non-emitting by 2030	Control emissions from some seals	Control emissions from tanks with potential to emit VOCs	Prohibited (with exceptions)	Prohibited (with exceptions)	Monthly at high-risk facilities	Alt-LDAR
California	Low-emitting as of 2019	Max. vent rate + replace parts or control emissions from some seals	Control emissions from tanks with potential to emit methane	Allowed if consistent with an approved minimization plan	Limited at some sources	Quarterly testing of all components	Must measure at compressor seals & pneumatic controllers; remote monitoring can trigger duty to inspect & repair
EU	No venting by 2026	No venting by 2026	No venting by 2026	Prohibited (with exceptions)	Prohibited (with exceptions)	Tri-annually at high-risk facilities	Site-level measurement required, in line with OGMP 2.0

The table reveals that Canada's proposed regulatory amendments are generally strong compared to the provinces and other leading jurisdictions. Both Canada and B.C. have introduced some best practices. The strengths of Canada's regulations include robust LDAR requirements and a stringent approach to routine venting that is aligned with other leading jurisdictions. B.C. has taken a strict position on routine flaring.

On the other hand, despite a history of leadership in regulating oil and gas methane emissions, Alberta has clearly fallen behind other jurisdictions. This is particularly evident when it comes to the province's requirements for pneumatic instruments and devices, which do not yet require the phase-out of emitting pneumatics. Moreover, the province recently weakened its regulations by eliminating the solution gas flaring limit that industry exceeded in 2023 and 2024.[63]

While Canada's proposed regulations are robust, the table also reveals that they are not significantly stronger than other leading jurisdictions. On the contrary, according to our comparisons, New Mexico, Colorado and the EU have introduced more best practices. This demonstrates that Canada cannot be accused of acting too quickly on methane in a way that is punishing, impractical, or infeasible, particularly given the flexibility built into the proposed regulations through the alternative compliance pathway.

4.3 Regulatory gaps

Canada's proposed methane regulations close existing regulatory gaps and lay the groundwork for additional policy successes. For instance, the general prohibition of routine venting put forth by Canada applies to problematic and often underregulated sources like tanks, separators, and surface casing vent flows. The requirement that provinces implement these regulations or design equivalent ones will be especially impactful in heavy oil producing regions such as Saskatchewan, which has among the highest methane intensities in North America[64] due to emissions-intensive heavy oil production.

Moreover, while current regulations prohibit high-emitting pneumatics, Canada's draft regulations require zero-emitting pneumatics. This is an important step forward because pneumatics remain a large emissions source despite the progress that has been made.[65] Alberta is the only major oil- and gas-producing province that has not mandated a phase-out of emitting pneumatics, which should be a key consideration for future regulatory development in the province.

Although the pending regulations improve on the existing regulations, regulatory gaps remain. **We recommend that future regulations address the following gaps.**

4.3.1 Compressor engine slip

One of the most notable gaps in the regulations relates to uncombusted methane emissions (or methane "slip") from compressor engines – the engines that drive natural gas through pipes. The primary reason for this is that comprehensive technological and policy solutions are still under development. That said, certain engine sizes can be retrofitted and should be required where applicable.

4.3.2 Routine flaring

Canada's proposed regulations limit routine flaring to situations where an engineering study shows that it is not feasible to use the gas. However, as we have seen, other jurisdictions (such as the EU) have put in place stronger regulations, including outright bans on routine flaring. Some oil and gas companies have voluntarily committed to ending routine flaring at their operations,[66] indicating that it is feasible for companies to eliminate this wasteful practice. Banning all routine flaring is a next natural step for Canadian regulation. It is especially needed because other policy tools, such as Alberta's former solution gas flaring limit, were not successful in reducing flaring.[67]

4.3.3 Low- and non-producing wells

Low- and non-producing wells can be significant sources of methane emissions.[68] The draft regulations make progress in tackling these sources by requiring annual leak monitoring at non-producing wells. However, additional regulatory measures are needed to:

- adequately measure methane emissions from low- and non-producing wells
- encourage the plugging and remediation of low-producing, low-value wells with high emissions and other environmental impacts
- ensure adequate governance of liabilities so that wells are not left indefinitely inactive or orphaned before they can be properly plugged, and polluters are responsible for the associated financial costs

4.3.4 Methane emissions reporting

As we noted earlier, research has consistently shown that oil and gas methane emissions are underestimated and underreported, in part due to the use of inaccurate emissions factors. Canada's national emissions inventory has been improved to better account for measurement data.[69] However, the proposed methane regulations do not improve industry reporting, and we regard this as a missed opportunity.[70] Better reporting systems that require direct measurement are needed.

5. Other policies

Some jurisdictions within and outside of Canada have developed interesting and innovative policy approaches, which could show what more is possible. **If these novel policies work well during implementation, they should be more widely adopted or better and more consistently implemented**.

5.1 Setting standards for imports

In June 2024, the EU adopted game-changing regulations for energy sector methane emissions, including provisions that extend domestic standards to imports.[71] These provisions apply to both new import contracts and the renewal of existing ones.[72] Since the EU is one of the world's largest importers of fossil fuels, these new rules will significantly impact the global energy market.

The first major provision applies stringent MRV requirements to imports.[73] These requirements build on OGMP 2.0, the voluntary international reporting framework that encourages participants to integrate direct site-level measurement into their emissions reporting.[74] This entails a shift away from estimation based primarily on emissions factors and requires independent verification.[75] It is an important step to address the underestimating and underreporting of oil and gas methane emissions. The EU will also publish the MRV data in a publicly accessible methane transparency database.[76]

Possibly the most consequential element of the new regulations is that they enable the European Commission to establish a methane intensity limit that imports must comply with by August 2030 — and to penalize noncompliant importers.[77] According to an analysis by the Clean Air Task Force, a 0.2% methane intensity standard on European imports could reduce more than 30% of global methane emissions from the oil and gas sector.[78]

5.2 Putting satellites to work

Satellites are a critical tool for monitoring and quantifying methane emissions. They provide global coverage, independent oversight, and (often) publicly accessible data. They are also able to identify large emissions events that regulators and operators are not aware of.[79]

There are now many satellites that track methane emissions and publish the data publicly, including Carbon Mapper and TROPOMI.[80]

Governments should develop policies that enable the use of satellite data to notify operators of large leaks, trigger obligations to repair leaks, inform official inventories, and enforce regulations.

The U.S. EPA's Super Emitter Program is a good example of this. However, since it is part of the regulations for new and existing facilities, it is now under threat. The program allows certified third parties using approved remote-sensing technologies such as satellites to report "super emitters."[81] The EPA defines a super emitter as an event with a methane emission rate of 100 kg/hr or more.[82] According to the rule, if the report is determined to be credible, the EPA is supposed to notify the relevant operator. The operator must then perform a root cause analysis within five days and report the results to the EPA within 15 days.[83]

While policies of this kind are needed to ensure valuable satellite data is used productively, they do not fully replace the need for LDAR and other forms of MRV. Satellites provide a partial picture because they frequently lack the resolution to accurately attribute emissions to equipment and components and to capture small leaks, and they sometimes struggle to identify emissions in higher-latitude, cloudier climates like in Canada.[84] This means that they must be treated as complementary to other measurement and monitoring technologies.

5.3 Mandating measurement-informed inventories

Colorado is moving toward measurement-informed methane inventories to support greenhouse gas emissions intensity limits for oil and gas producers.[85] Recognizing that accurate emissions reporting is essential — especially given the persistent underestimation of methane emissions — the state is creating measurement-based default emissions factors. Operators will have the option to choose between using the state's factors or creating their own factors based on direct measurement.[86] Since operators are likely to believe they outperform the average, we expect many will prefer to use their own emissions factors. This approach is therefore likely to result in significant measurement activity.

5.4 Pricing methane emissions

Several jurisdictions have begun pricing methane emissions. In Canada, methane emissions from certain sources are now included in some industrial carbon pricing systems. For instance, B.C.'s output-based pricing system covers "useful" venting emissions, which includes venting from pneumatic devices and pumps.[87] However, including methane emissions in carbon pricing systems is piecemeal and must remain so in the absence of systematic measurement requirements. Again, you can't price what you can't measure.

On a larger scale, the U.S. EPA had introduced a Waste Emissions Charge (WEC), which was to apply to heavy emitters that exceeded specified emissions thresholds.[88] The charge was set to start at US$900 per tonne of methane for excess emissions reported for 2024 and rise from there.[89] Given that what is priced must first be measured, the U.S. EPA updated its Greenhouse Gas Reporting Program to fill reporting gaps and integrate more empirical data.[90] However, as stated above, the U.S. Congress repealed the WEC. Similar ideas could nevertheless be piloted elsewhere.

6. Conclusion

Maintaining Canada's leadership in reducing oil and gas methane emissions offers significant benefits at this critical time for the nation. Key among them is enhancing Canada's climate competitiveness by ensuring that our oil and gas sector has market access to jurisdictions looking for low-methane energy imports and credible emissions data.

To reap these benefits, Canada needs to:

- finalize and implement the methane regulations originally proposed in 2023
- review the effectiveness of the regulations, progressively strengthening them and closing gaps
- work with the provinces to develop new, evidence-based equivalency agreements

At a time when Canada's policymakers are seeking climate policies that enhance economic resilience, strengthened oil and gas methane regulations undoubtedly meet the moment. Canadian communities, companies and workers have everything to gain.

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