



Background

B.C.'s methane emissions regulations

B.C. is developing regulations to reduce fugitive methane emissions from the oil and gas sector. These are intended to meet or exceed the 40 to 45 per cent emissions reduction goal by 2025 and contribute to meeting B.C.'s climate target.

Comments on the Draft B.C. Methane Regulations: <https://davidsuzuki.org/science-learning-centre-article/comments-on-the-draft-b-c-methane-regulations/>

Recent science suggests B.C.'s methane emissions are at least two times higher than estimates presented by government and industry, making the need for effective regulations even greater.¹

Peer-reviewed research from across Canada and the U.S., including a synthesis of 35 U.S. peer-reviewed studies, supports the finding that oil and gas methane emissions are consistently underreported.

Peer-reviewed research from many North American oil and gas producing–areas show that leaks and improper emissions are a critical source of avoidable methane pollution.² **Programs**

requiring frequent leak detection and repair inspections are the only way to effectively address these problems, and are key aspects of rules in place in leading jurisdictions across North America.

B.C.'s proposed leak detection and repair rules fall far short of programs in place elsewhere. Only seven per cent of B.C. oil and gas sites would undergo frequent (three times per year), thorough inspections. At 35 per cent of sites, operators only need to “screen” the site for leaks without instruments. Methane is invisible and odourless, so these “screenings” don't address this harmful pollution in any meaningful way.

¹ Atherton, E., Risk, D., Fougère, C., Lavoie, M., Marshall, A., Werring, J., Williams, J. P., and Minions, C. (2017) “Mobile measurement of methane emissions from natural gas developments in northeastern British Columbia.” Canada, Atmos. Chem. Phys., 17, 12405-12420 <https://www.atmos-chem-phys.net/17/12405/2017/>

² Alvarez, R. A., Zavala-Araiza, D., Lyon, D. R., Allen, D. T., Barkley, Z. R., Brandt, A. R., ... Hamburg, S. P. (2018). “Assessment of methane emissions from the U.S. oil and gas supply chain.” Science, 361(6398), 186–188. <https://doi.org/10.1126/science.aar7204>



Methane is more than 80 times more potent than carbon dioxide as a greenhouse gas over 20 years and is responsible for one-quarter of the already observed changes to Earth's climate. Reducing methane emissions provides our best chance of addressing climate change quickly.

Several U.S. studies suggest that when used to generate electricity, **natural gas GHG emission intensity could be closer to coal** when all emissions are accounted for, particularly the unreported methane pollution leaked and vented during natural gas operations.³

Cutting fugitive methane emissions is one of the cheapest things B.C. can do to tackle climate change. The International Energy Agency has found that up to **half of global oil and gas methane emissions can be eliminated at no net cost.**⁴

B.C. is pushing for liquid natural gas export that could greatly expand gas fracking. For LNG to meet lower life cycle emissions than the fossil fuels it might replace, the fugitive methane problem must be addressed.

Best practices for methane regulations are demonstrated in jurisdictions such as Colorado and California, present in Canada's national regulatory framework and proposed in Mexico's.⁵

Effective fugitive methane regulations:

- Require frequent (three or four times per year) leak detection and repair
- Offer incentives for operators to implement continuous monitoring
- Reduce and eliminate intentional methane venting
- Prioritize gas capture and utilization over destruction (i.e., flaring)
- Require inherently non-emitting equipment where possible
- Require collection and recovery of gas so it can be used instead of dumped into the air
- Require regular replacement of parts known to vent excessively when worn, such as compressor seals

³ Alvarez, R. A., S., Pacala, J., Winebrake, W., Chameides, S., Hamburg (2012). "Methane leakage from natural gas infrastructure." Proceedings of the National Academy of Sciences of the United States of America, 109 (17) 6435-6440; DOI: 10.1073/pnas.1202407109 <http://www.pnas.org/content/109/17/6435>;

Alvarez, R. A., Zavala-Araiza, D., Lyon, D. R., Allen, D. T., Barkley, Z. R., Brandt, A. R., ... Hamburg, S. P. (2018). "Assessment of methane emissions from the U.S. oil and gas supply chain." Science, 361(6398), 186–188. <https://doi.org/10.1126/science.aar7204>

Note: The 2018 study found a leakage rate of 2.3 per cent across the supply chain for U.S. natural gas production. The 2012 study reports that with a leakage rate around three per cent, the warming effects of electrical generation with natural gas approach those of electrical generation with coal.

⁴ <https://www.iea.org/newsroom/news/2017/october/commentary-the-environmental-case-for-natural-gas.html>

⁵ <https://davidssuzuki.org/science-learning-centre-article/regulatory-best-practices-for-vented-and-leaked-methane-emissions-from-upstream-oil-and-gas-operations/>