# Comments on BC Oil and Gas Commission's Methane Regulatory Review of the efficiency and effectiveness of the methane reduction requirements prescribed in British Columbia's Drilling and Production Regulation.

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**Submitted by: Clean Air Task Force, David Suzuki Foundation, Environmental Defense Fund, Pembina Institute**

We are thankful for the opportunity to provide commentary to the BC Oil and Gas Commission's Methane Regulatory Review of the efficiency and effectiveness of the methane reduction requirements prescribed in British Columbia's Drilling and Production Regulation.

We appreciate the ongoing effort to engage with stakeholders on the efficacy of B.C.'s methane regulations in reducing methane emissions to meet the outcome of a 45 per cent decrease by 2025 relative to 2014 levels.

**Uncertainty in methane data shows that B.C.'s regulations are unlikely to meet target**

Numerous studies in Canada and the U.S. have shown that methane emissions are higher than the current inventory estimates. In Canada, a landmark study using a multimodal measurement study conducted by the B.C. Methane Emissions Research Collaborative shows that the distribution of emissions among sources is different from current understanding. The B.C. MERC top-down study shows that storage tanks, compressors and unlit flares account for more than half of all methane emissions in the sector, emissions from tanks being significantly higher than current estimates. Unlit flares and unburned methane from compressors are sources not effectively managed by current provincial or federal regulations in Canada. In the United States, recent synthesis studies show that field measurements of methane emissions at different spatial scales are ~1.5 to two times greater compared to official GHG inventory estimates. Unintentional emissions from liquid storage tanks and other equipment leaks were found to be the largest contributors to the divergence. The same study has developed a new inventory-based model for methane emissions for the production segment. These recent studies show a strong risk that B.C.'s regulations will fall short of targets, given the unaddressed, and/or underestimated sources and inaccurate inventory estimates.

**How to improve current regulations**

Given the uncertainty in methane data, a transparent analysis should be conducted to examine the impact of new data and methodology updates on the effectiveness of current methane regulations.

However, other jurisdictions are already proposing more stringent methane regulations based on newly available data and the need to meet methane targets. Rules being advanced by the U.S. EPA and the New Mexico Environment Department require companies to monitor their biggest well sites every three months, ban methane venting and require upgrades to equipment such as storage tanks, compressors and pneumatic pumps. The Colorado Air Quality Control Commission recently adopted strengthened leak detection and repair requirements, including inspection requirements even at the smallest oil and gas facilities, in order to meet the state's greenhouse gas reduction targets.

As you explore next steps on reviewing B.C.'s methane regulations and whether the province will meet the 2025 target, we urge you to consider the following improvements based on best practices:

Inventory/measurement

- Update inventory using either new emission and activity factors from the MERC top-down study or correction factors for specific sources based on U.S. studies.[1]

[1] https://www.nature.com/articles/s41467-021-25017-4

- Evaluate effectiveness of regulations to meet B.C.'s methane reduction target and equivalency with Canada's methane regulations using the updated inventory. Include sensitivity analysis to ensure that even in worst-case emissions scenarios, the regulations will meet the target.
- Improve measurement requirements for tank vent emissions based on recommendations from the Clearstone tank and compressor study conducted by B.C. MERC.[2]

Minimum necessary improvements

- Require continuous auto-ignition technology on all flares and require such flares to meet at least a 98 per cent destruction rate efficiency.
- Require record-keeping and reporting to ensure that flares are operating properly.
- Include tank hatches or openings among the types equipment that would have to be monitored for leaks.
- Data from Alberta show that vent rates from reciprocating compressors are about 0.35 m3/hr/throw, much lower than the vent limit of 0.83 m3/hr/throw in B.C.'s regulations. B.C.'s vent limits for reciprocating compressors should be reduced to match those in Alberta if they are to achieve reductions.[3]
- Conduct comprehensive surveys at all well pads, including unconventional pads. The MERC top-down study shows that well pads are responsible for 30 per cent of oil and gas methane emissions in B.C. At a minimum, an initial comprehensive survey should be done to better understand these sites.

Suggested improvement to bridge gap to meeting the methane target

- Consider how to shift to a combination of ground-based LDAR inspections and frequent advanced screening, such as aerial monitoring, at all well production facilities to effectively find and fix recurring sources of methane emissions, including emissions that are not detectable from the ground.
- Require operators to monitor and repair leaks from all compressor stations at least once every three months.
- Prohibit venting of associated gas from oil wells.
- Prohibit routine flaring of associated gas, except in emergency circumstances, and require owners and operators to route the gas to a sales line or otherwise put it to beneficial use.
- Add tank batteries (groups of tanks that are adjacent and receive fluids from the same source) to the definition of facilities that must reduce methane emissions.

**Turning commitments into action**

Canada has made a series of international and domestic climate change commitments, notably setting a target to cut greenhouse gas emissions by 40 to 45 per cent from 2005 levels by 2030 and a commitment to reach net zero emissions by 2050. B.C. has legislated targets of 40 per cent below 2007 levels by 2030, 60 per cent by 2040 and 80 per cent by 2050. B.C.'s update to CleanBC, *Roadmap to 2030*, is intended to position the province to update these targets to align with net zero by 2050. The

[2] https://www.bcogris.ca/sites/default/files/er-meth-2020-01-compressor-and-tank-methane-inventory-report-final-milestone-4.pdf
[3] https://www.ptac.org/wp-content/uploads/2019/12/AER-Studies-for-Compressor-Seal-Venting-and-CHOPs-Gas-Production.pdf

sectoral target for the oil and gas sector is a 33 to 38 per cent reduction over 2007 emissions by 2030. Sector emissions grew by eight per cent between 2007 and 2018 and will face further upward pressure as LNG Canada comes on stream. Without addressing deficiencies in current regulations, achieving these commitments will be impossible. Several emerging precedents for addressing methane emissions throughout the supply chain, especially in the upstream sector, are attracting attention from LNG buyers eager to demonstrate their own GHG reduction credentials to governments, customers and civil society. Canada's profile as a major producer, consumer and exporter of energy presents opportunities for global leadership in methane reduction, especially with other producer countries that have signed the Global Methane Pledge. It is also an opportunity for B.C. to lead the way domestically.

We look forward to continuing to engage with the BC Oil and Gas Commission on this matter.

Signed,

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