

Methane pollution from B.C. oil and gas sector much higher than government estimates, research reveals

Media Backgrounder — April 26, 2017

Research conducted by the David Suzuki Foundation in partnership with St. Francis Xavier University estimates methane pollution from the oil and gas industry in British Columbia is now at least 2.5 times higher than stated by the B.C. government.¹

Over a 20-year period, methane is 84 times more potent than carbon dioxide as a climate pollutant.²

Eighty per cent of gas in B.C. is extracted through hydraulic fracturing (fracking). The government has proposed exporting this gas through liquefied natural gas (LNG) terminals. Fracking involves injecting water and chemical fluids into the earth to break apart rock formations to release gas and oil.

Research background

In 2015 and 2016, researchers from St. Francis Xavier and the David Suzuki Foundation completed the most thorough ground-based measurement of methane emissions ever conducted in Canada. Scientists travelled more than 8,000 kilometres using vehicle-mounted gas-detection instruments (a sniffer truck), covering more than 1,600 well pads and facilities. Results will be available in the peer-reviewed scientific journal *Atmospheric Chemistry and Physics*

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¹ B.C. reports 78,000 tonnes of fugitive methane; measured methane from Montney (~55 per cent of total production) is more than 111,800 tonnes; conservative scaling up shows at least 2.6 times higher emissions from upstream fugitive emissions alone.

² *ThinkProgress* summary: <https://thinkprogress.org/how-the-epa-and-new-york-times-are-getting-methane-all-wrong-eba3397ce9e5>; 2014 IPCC report, Box 3.2, Table 1: http://www.ipcc.ch/pdf/assessment-report/ar5/syr/SYR_AR5_FINAL_full.pdf

Discussions and are undergoing final review. The research documents the first ground-based study of fugitive emissions³ in the Canadian energy sector.

David Suzuki Foundation researchers went back in the field in 2016 to obtain direct well site and facility measurements of methane pollution. These results corroborate the findings of the joint St. Francis Xavier and David Suzuki Foundation vehicle-based surveys from 2015, while also identifying abandoned leaking wells that have not been decommissioned and properly reclaimed.

Summary of results

Methane pollution from B.C. oil and gas operations is now estimated to be at least 2.5 times higher than estimated by the provincial government. Actual emissions may be much higher. This larger and, until now, unmeasured quantity of methane pollution was calculated using in-field scientific measurements in northeastern B.C.'s Montney Basin. Federal and provincial governments currently estimate the amount of methane pollution from LNG/fracking based on self-reporting by industry, best guesses for leaks based on existing oil and gas infrastructure, and limited point-source measurements.

Based on measurements by the St. Francis Xavier and David Suzuki Foundation teams, operations in the Montney region **leak and intentionally release more than 111,800 tonnes of methane into the air annually**. Approximately half of all well and processing sites in this region are releasing methane into the air. The Montney gas formation represents more than half (55 per cent) of total gas production in B.C.

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³ For the purposes of this study, fugitive emissions include both intentionally vented and leaked methane from upstream oil and gas operations.

Why is this important?

Based on this latest science, previously unreported methane pollution now expands B.C.'s carbon footprint and makes the oil and gas sector ***the largest source of climate pollution in B.C., surpassing commercial transportation.***⁴ This new information challenges claims that B.C. LNG/fracked gas is “clean” or is a useful “transition” fossil fuel.

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More than 80 per cent of gas production and more than 90 per cent of new wells in B.C. are fracked. For Canada as a whole, fracking makes up 51 per cent of gas production, with the figure expected to grow to 80 per cent by 2035, according to Natural Resources Canada.

Eliminating methane is a critical aspect of an effective climate plan:

- Over a 20-year period, methane is 84 times more potent as a climate pollutant than carbon dioxide. Its potency and short lifespan mean reducing methane emissions will have a major impact with quick results.
- Releasing 111,800 tonnes of methane is equivalent to burning more than 4.5 million tonnes of coal or putting more than two million cars on the road.⁵
- Leading scientists estimate that methane is responsible for 25 per cent of already observed changes to Earth's climate.
- Cutting methane emissions from the oil and gas sector is one of the cheapest and most effective ways to address climate change.⁶

⁴ Estimated using this breakdown from the B.C. provincial greenhouse gas inventory:

<http://www2.gov.bc.ca/gov/content/environment/climate-change/data/provincial-inventory>

⁵ Using the EPA equivalencies calculator and a 20-year time frame for methane-CO2 equivalence:

<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

⁶ Environmental Defense Fund and Pembina Institute, 2015: <https://www.pembina.org/reports/edf-icf-methane-opportunities.pdf> and Government of Canada: <http://news.gc.ca/web/article-en.do?nid=1039319>

- The federal government has committed to reduce methane emissions by 40 to 45 per cent from 2012 levels by 2025.

Recommendations — federal

Given these findings, the David Suzuki Foundation recommends that the federal government:

1. Take action to ensure industry is accountable to reduce and eliminate its pollution: Commit to eliminate methane pollution from the oil and gas sector by 2030.
2. Don't delay given the true scale of the problem: Re-commit to the original plan of enacting new regulations in 2018, with full implementation by 2020.
3. Establish proper industry oversight and monitoring: Enact national regulations requiring quarterly leak detection and repair, capping or capture of existing emissions and transparent reporting.
4. Report pollution accurately: Update climate pollution inventories to account for higher methane pollution emissions than previously estimated.
5. Promote the use of existing full methane capture technologies and avoid use of flaring.

Recommendations — provincial

Given these findings, the David Suzuki Foundation recommends that B.C.'s next government establish accountability and proper oversight of oil and gas operations and enact solutions to eliminate methane pollution from B.C.'s oil and gas sector:

1. Commit to eliminate methane pollution from the oil and gas sector by 2030.
2. Apply the carbon tax to oil and gas sector methane emissions as a key tool to end methane pollution.
3. Enact provincial regulations requiring quarterly leak detection and repair, capping or capture of existing emissions and transparent reporting.
4. Increase enforcement capacity to ensure new and existing regulations are met.
5. Update climate pollution inventories to account for higher methane pollution emissions than previously estimated.
6. Promote the use of existing full methane capture technologies and avoid use of flaring.