Environmental Defense Fund

How to meet Canada's methane reduction goals

> "We're not going to meet our climate goals if we don't take sensible steps to curb the potent greenhouse gas that's fueling more than a quarter of current global warming."

Ari Pottens
Senior Campaign Manager
Environmental Defense Fund

A potent greenhouse gas with huge climate potential

Methane is a potent greenhouse gas that is fueling the climate crisis. There's more methane in the atmosphere today than at any other point in modern history and this methane is causing 25% of current global warming.

The International Energy Agency estimates that 75% of methane emissions can be reduced with existing technologies, nearly half of which can be eliminated at no net cost. Recent research has also indicated that deploying our existing methane reduction tools could slow the speed of warming by 30%.

Canada's contribution

Canada's oil and gas companies report emitting more than 1.5 million tons of methane into the atmosphere each year. An abundance of scientific research suggests the actual number could be nearly twice that amount. Canada made a pledge to reduce at least 75% of this pollution by 2030, but to meet that goal, we need to make stronger rules for curbing emissions.

Don't just guess, measure

When researchers measure emissions from Canada's oil fields, the numbers consistently come back higher than what companies report to the government and what is reflected in official inventories.

To get an accurate understanding of Canada's methane footprint, the government must:

1) Require companies to report real emissions based on real measurements and not estimates.
2) Incorporate real methane data collected from aircraft, satellites and other tools into the official emissions inventory.
3) Follow through on its commitment to create a Centre of Excellence for methane measurement and monitoring.

Stronger standards, real enforcement

Environment and Climate Change Canada has rules in place for reducing methane emissions from oil and gas, but its impact has been watered down by weaker rules at the provincial levels and by a general lack of enforcement.

For example, regulators in Alberta report nearly 30% of operators are out of compliance with the region's pollution standards, yet there have been zero penalties for violating these standards. And Saskatchewan doesn't require companies to monitor inactive wells for pollution, yet one recent study found inactive sites are responsible for nearly half of the region's pollution.

ECCC released a framework for new rules to reduce methane by at least 75% by 2030. **It's essential that the final regulations match the ambition of the framework if Canada hopes to reach this target.**

Eliminate venting and flaring

Canada must also ban the process of venting gas into the atmosphere. Over half of the industry's methane emissions are from venting, and this wasteful practice creates severe safety, health and climate impacts. The practice of routinely burning away natural gas must also end. Studies indicate flares routinely fail to operate as intended and as a result create high levels of pollution. Operators should be required to capture as much gas as possible and flare only as a last resort. Flares that are necessary for safety reasons must be able to combust 98% of their gas and be equipped with auto igniters. Any operator who needlessly flares or vents their gas must be held accountable for this pollution and waste.

More inspections

Companies can't fix a leak if they don't know it's there, so frequent inspections must be required to ensure leaks or other equipment failures are identified and repaired. Aerial flyovers, drones, sensors, ground-based inspections — all of these methods can be deployed to find and fix pollution problems. Provinces should not be allowed to weaken the standards dictated by Environment and Climate Change Canada.

Replace high-emitting equipment

Gas-powered pneumatic pumps and controllers must be replaced with newer, zero-emitting electric technology as soon as reasonably possible at existing oil and gas sites. New facilities must be required to use the cleaner, low- or no-bleed devices. Likewise, a speedy transition from gas powered compressors to electric drive units is critical to reducing emissions.

Make polluters pay

Operators who violate these sensible pollution standards should be required to pay for the methane they emit and the gas they waste. The U.S. recently implemented a methane fee that creates a market incentive for operators to minimize pollution and creates a revenue source for regulatory enforcement. Canada should consider a similar program in order to meet its climate commitment.

Recent supportive research

FEBRUARY 2023

Methane venting at cold heavy oil production with sand (CHOPS) facilities is significantly under reported and led by high-emitting wells with low or negative value

NOVEMBER 2022

Sources and reliability of reported methane reductions from the oil and gas industry in Alberta, Canada

JUNE 2022

Active and inactive oil and gas sites contribute to methane emissions in western Saskatchewan, Canada

Methane and hydrogen sulfide emissions from abandoned, active, and marginally producing oil and gas wells in Ontario, Canada

MAY 2022

Methane inventories, but not regulatory submissions, show major variations in methane intensity for Canadian oil and gas producers

JULY 2021

Where the methane is — Insights from novel airborne LiDAR measurements combined with ground survey data

JUNE 2021

Methane emissions from above-ground natural gas distribution facilities in the urban environment: A fence line methodology and case study in Calgary, Alberta, Canada

APRIL 2021

Methane emissions from upstream oil and gas production in Canada are underestimated

DECEMBER 2020

Methane emissions from abandoned oil and gas wells in Canada and the United States

NOVEMBER 2020

Investigation of the spatial distribution of methane sources in the greater toronto area using mobile gas monitoring systems

Eight-year estimates of methane emissions from oil and gas operations in western Canada are nearly twice those reported in inventories

For more information, contact:
Ari Pottens, Senior Campaign Manager, Environmental Defense Fund, apottens@edf.org