Methodology for Canada Wasted Gas Ticker November 2025

Summary:

Canada's wasted-gas estimate is built entirely from federal and provincial government sources, combining methane emissions reported in Canada's National Inventory Report (NIR) with flared-gas volumes published by Alberta, Saskatchewan, and British Columbia. We convert the NIR-reported methane emissions into lost gas volumes using province-specific methane content assumptions, then add those losses to the reported flared volumes of gas. We then use averages of recent AECO-C Hub price data to determine the value of the wasted gas.

Methods

Annual Inventory: Methane Emissions

Canada's National Inventory Report (NIR) was used to estimate annual methane emissions from Canadian oil and gas operations. Annual emissions totals are estimated separately for 2021, 2022, and 2023 (the most recent inventory year available) as calculated in the 2024 NIR. Total emissions are summed from the following source categories in the NIR:

1. Energy – Stationary Combustion Sources – Petroleum Refining Industries
2. Energy – Stationary Combustion Sources – Oil and Gas Extraction
3. Energy – Fugitive Sources – Oil and Natural Gas – Oil
4. Energy – Fugitive Sources – Oil and Natural Gas – Natural Gas
5. Energy – Fugitive Sources – Oil and Natural Gas – Venting

Flaring is not included in this total to avoid double-counting with the separately calculated flared gas total (below).

Year	CH4 Emissions Total (kt)
2021	2,135
2022	1,956
2023	1,856

Annual Inventory: Flared Gas

Flaring data for 2021, 2022, and 2023 is gathered from publicly available industry-reported flaring volumes. Flaring data is collected from the provinces of Alberta, Saskatchewan, and British Columbia, which are collectively responsible for an estimated 93% of flaring nationwide.

Year	Volume of Gas Sent to Flare (1000 m^3)
2021	1,955,278.4
2022	1,983,236.3
2023	2,195,924.0

Annual Wasted Gas:

To determine the methane content of upstream gas, a weighted average of province-specific estimates is applied. The 2024 NIR allocates methane emissions from oil and gas operations across provinces as follows:

Year	% of O&G CH4 emissions originating from AB	% of O&G CH4 emissions originating from SK	% of O&G CH4 emissions originating from BC	% of O&G CH4 emissions originating from all other provinces
2021	65.6	23.7	5.9	4.8
2022	65.2	24.4	5.2	5.2
2023	65.6	24.4	4.4	5.6

Natural gas from Alberta, Saskatchewan, and British Columbia is assumed to have a methane content of 85.7%, 79.5%, and 86.6%, respectively. These values are based on production and regional gas composition data (in the case of Alberta and Saskatchewan) and federal estimates (in the case of British Columbia). Natural gas from all other provinces is assumed to have 80% methane content. A weighted average methane content is calculated separately for each year.

Year	Estimated Methane Content of Upstream Gas (%)
2021	84.0
2022	83.9
2023	83.9

Assuming a methane density of 0.668 kg/m³, methane emissions are converted to 1000 cubic meters of wasted gas to yield the following totals for gas wasted through emissions:

Year	Gas Lost Through CH4 Emissions (1000 m³)
2021	3,804,890.22
2022	3,490,040.18
2023	3,311,612.77

For each year, gas wasted through emissions and gas wasted through flaring are summed to yield the following totals for wasted gas:

Year	Total Wasted Gas (1000 m³)
2021	5,760,168.62
2022	5,473,276.48
2023	5,507,536.77

Per-second counter

We estimate a live ticker of wasted gas beginning on October 11, 2021. We allocate wasted gas evenly across the year, scaling the 2021 total by 22.5% to reflect the time remaining in the year on the start date of the ticker. The full 2022 and 2023 totals are added to the adjusted 2021 total. As the most recent year of data available, the 2023 total is also used as an estimate for wasted gas in 2024 and 2025. As with 2021, the 2025 wasted gas total is scaled by the number of days remaining in this year.

The live ticker totals 22,790,738.881000 m³ as of November 18, 2025.

Dividing the 2023 total by 31,536,000 produces a per-second wasted gas rate of approximately 174.6 m³ per second. Using an assumed heat content of natural gas of 0.0353 MMBtu/m³ and a five-year average of the AECO-C natural gas price from 2020-2024 (CAD $2.80/mmbtu), we find that CAD $17.24 of gas is wasted per second from Canadian oil and gas operations.