

*The Oil and Gas Emissions
Management Regulations
Annual Report
2023*

Ministry of Energy and Resources

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Letters of Transmittal



The Honourable Jim Reiter
Minister of Energy and
Resources

Office of the Lieutenant Governor of Saskatchewan

I respectfully submit the Annual Emissions Report for *The Oil and Gas Emissions Management Regulations*, pursuant to section 53.63 of *The Oil and Gas Conservation Act*, for the calendar year ending December 31, 2023.

A handwritten signature in blue ink, appearing to read "Jim Reiter".

The Honourable Jim Reiter
Minister of Energy and Resources



Blair Wagar
Deputy Minister of Energy
and Resources

The Honourable Jim Reiter
Minister of Energy and Resources

Dear Minister:

I have the honour of submitting the Annual Emissions Report of *The Oil and Gas Emissions Management Regulations*, for the calendar year ending December 31, 2023.

A handwritten signature in blue ink, appearing to read "Blair Wagar".

Blair Wagar
Deputy Minister of Energy and Resources

Ministry's Responsibilities

The Oil and Gas Emissions Management Regulations ([OGEMR](#)) Annual Report is the responsibility of the Ministry of Energy and Resources. This report provides background on Saskatchewan's upstream oil and gas emissions reduction program, fulfills legislated reporting requirements and highlights emissions reduction progress for the 2023 calendar year.

The Ministry upholds and enforces OGEMR to ensure that emissions reduction commitments outlined in *Prairie Resilience: A Made in Saskatchewan Climate Change Strategy* are met.

This report satisfies reporting requirements outlined in section 20(1) of OGEMR. OGEMR was created pursuant to section 53.61 of *The Oil and Gas Conservation Act*. The Minister of Energy and Resources is required, through section 53.63(3) of the Act, to submit any report prepared in accordance with this section to the Legislative Assembly of Saskatchewan.

Introduction

OGEMR came into effect in January 2019 to reduce greenhouse gas (GHG) emissions from the upstream oil and gas sector by 4.5 million (M) tonnes (t) of carbon dioxide equivalent (CO₂e) from 2015 levels by 2025. OGEMR is a part of several crucial initiatives:

- An equivalency agreement on methane emissions with the Government of Canada. OGEMR provides flexible, results-based regulations that allow industry to achieve greater emissions reduction at a significantly lower cost than the federal equivalent;
- The Ministry of Energy and Resource's *Methane Action Plan* ([MAP](#)); and
- The Government of Saskatchewan's *Prairie Resilience: A Made-in-Saskatchewan Climate Change Strategy* ([the Strategy](#)).

The 2023 calendar year is the fourth year of required emissions reductions under [OGEMR](#) and the fourth year of associated annual emissions reporting.

OGEMR Purpose

OGEMR was specifically designed to achieve a 40 to 45 per cent reduction in annual GHG emissions from venting and flaring activities in the upstream oil and gas industry from 2015 levels by 2025. To achieve this goal, a reduction of 4.5 Mt of CO₂e was targeted.

In late 2020 Saskatchewan and Canada established an equivalency agreement regarding the reduction of methane emissions from the oil and gas sector. Therefore, it was determined by Environment and Climate Change Canada (ECCC) that Saskatchewan would achieve equivalent outcomes to federal methane regulation and consequently the federal requirements would not apply in Saskatchewan. This agreement was established for a five-year timeframe and will expire December 31, 2024.

OGEMR Scope

OGEMR was designed to focus on the biggest emissions reduction opportunities. In the case of the Saskatchewan oil and gas sector, this was deemed to be gas that is produced in association with oil production, also known as associated gas. There is more natural gas produced in Saskatchewan from oil wells than from dedicated gas wells. In Saskatchewan, because the natural gas industry is so localized within the province, there are limited gas collection and processing opportunities resulting in some of the produced associated gas being vented and flared. Venting gas results in methane being released to atmosphere and flaring gas results in carbon dioxide, both are considered GHGs and contribute to the data supplied in this report. To allow the consideration of both GHGs, the data is rolled up into units of CO₂e.

In early 2024 and retroactive to January 1, 2023, OGEMR was amended to focus emissions reduction efforts on venting activities alone. Although reduction requirements in OGEMR pertain solely to vented gas for 2023 onward, amendments to OGEMR were designed to maintain the target set out in the Climate Change Strategy from both flaring and venting activities. Throughout this report, mentions of flared gas and flared gas emissions data are included where it relates to the province's Climate Change Strategy. Effective January 1, 2023, flared emissions are covered by the Ministry of Environment's Output Based Performance Standard.

To calculate emissions, OGEMR applies emissions factors to industry reported volumes of vented gas. Saskatchewan-specific emissions factors were developed using average associated gas compositions for different production types and geographic areas in Saskatchewan which consist of varying levels of methane and other hydrocarbon constituents. OGEMR calls these different areas "Production Classes". Emissions factors are summarized in Appendix A in *Table 1: Production Class Emissions Factors*.

OGEMR was designed to regulate the companies that produce most of the associated gas in Saskatchewan. The more associated gas a company produces the greater potential they have to contribute emissions through venting activities. To determine if a company is subject to the regulations, OGEMR uses associated gas production to calculate each company's potential emissions. Companies with potential emissions greater than 50,000 t CO₂e on an annual basis are subject to requirements in OGEMR.

Annually, OGEMR typically regulates 30 to 40 companies who contribute the vast majority of annual emissions from venting. A company's potential emissions determine the maximum emissions they could have if all their produced gas were vented to the atmosphere; however, OGEMR allows only a portion of each company's produced gas to be vented by setting company level annual emissions limits. These limits decrease over time to ensure Saskatchewan's 2025 reduction targets are met. Most of the associated gas produced in Saskatchewan is conserved, if collection infrastructure is available, or used for a beneficial purpose on site as a type of fuel source as summarized in Appendix B in *Table 2: Saskatchewan Annual Associated Gas Utilization*.

Different areas in Saskatchewan present different challenges for emissions reduction such as low gas rates and limited access to gas collection infrastructure. Taking these challenges into account, OGEMR was designed to allow regulated companies the flexibility to determine where to implement emissions reduction projects to comply with their annual emissions limits. To reduce emissions, companies can convert vented gas to flare gas, tie-in vented gas to conservation infrastructure or use vented gas for a beneficial purpose on site such as generating electricity. This flexibility also translates to giving companies recognition for emissions reduction efforts that they have already undertaken.

Progress on OGEMR Activities

Provincial Emissions

Overall, in 2023 provincial emissions from venting and flaring at upstream oil facilities were 3.6 Mt CO₂e, which is a 7.3 Mt or 67 per cent reduction from 2015 levels and a 0.2 Mt or 6 per cent reduction from 2022 levels. The emissions from venting alone at upstream oil facilities were 2.2 Mt CO₂e, which is a 6.4 Mt or 75 per cent reduction from 2015 levels and a 0.2 Mt CO₂e or 8 per cent reduction from 2022 levels. The 2023 provincial emissions data is summarized in *Table 3: 2023 Production Class Emissions from Flaring and Venting at Upstream Oil Facilities* and in *Table 4: Annual Provincial Emissions from Flaring and Venting at Upstream Oil Facilities*.

Multiple activities contributed to provincial emissions reduction in 2023. Primarily, reductions came from installing enclosed combustion equipment at oil wells and facilities that were routinely venting gas as well as using vented gas on site as fuel for a beneficial purpose.

In Saskatchewan, the combined potential emissions¹ from gas produced in association with oil in 2023 were 36,957,102 (37.0 Mt) t CO₂e. OGEMR set emissions limits on regulated companies, restricting venting emissions to a maximum of 4,604,170 (4.6 Mt) t CO₂e. The combined emissions² from venting activities at upstream oil facilities in 2023 were 2,169,733 (2.2 Mt) t CO₂e.

Company Level Emissions

In 2023 a total of 37 oil and gas companies had potential emissions greater than 50,000 t CO₂e and were therefore required to meet their 2023 company level emissions limit. All 37 companies had previously submitted an Emissions Reduction Plan for approval by the Ministry of Energy and Resources, which detailed their path to achieve emissions reduction targets out to 2025. The 37 companies that were subject to OGEMR represented 95 per cent of venting emissions from upstream oil facilities in 2023.

The company-level combined potential emissions, and combined emissions, for the 37 companies OGEMR applied to in 2023 can be seen in *Table 5: 2023 Company Level Annual Emissions*.

¹ Combined potential emissions means the maximum emissions that could occur if all the associated gas produced in Saskatchewan were vented to atmosphere.

² Combined emissions mean what was actually emitted to atmosphere from venting activities.

Conclusion

Overall, Saskatchewan producers have taken early and continuous action to implement emissions reduction measures that exceed the current requirements of OGEMR. Although venting and flaring emissions in 2023 were below the 2025 target outlined in the Strategy, the Ministry of Energy and Resources and the oil and gas industry will need to continue to take steps to decrease the industry's carbon footprint as development continues. The 2023 results continue to demonstrate Saskatchewan's regulatory leadership and the innovation of the upstream oil and gas sector. Emission reductions have been achieved and will likely be exceeded in 2025.

Appendix A - Calculation Overview

Table 1: Production Class Emissions Factors

Production Class	Flared Gas Emissions Factor	Vented Gas Emissions Factor	*Combusted Gas Emissions Factor
	EF _f (tonnes CO ₂ e/10 ³ m ³)	EF _v (tonnes CO ₂ e/10 ³ m ³)	EF _f (tonnes CO ₂ e/10 ³ m ³)
Lloydminster Heavy and Non-Heavy	2.53	15.94	1.83
Kindersley Heavy	2.68	15.65	2.00
Kindersley Non-Heavy	2.91	14.45	2.30
Swift Current Heavy and Non-Heavy	2.71	14.21	2.11
Estevan Heavy and Non-Heavy	3.23	9.84	2.88

*Combusted Gas Emissions Factors are applied to volumes of gas that are combusted in an enclosed combustor or incinerator to recognize the increased combustion efficiency

Appendix B - 2023 Emissions Data

Table 2: Saskatchewan Annual Associated Gas Utilization

Year	Produced Associated Gas (10 ³ m ³)	Flared (%)	Vented (%)	Conserved/Fuel Use (%)
2015	3,649,873	21.0%	16.2%	62.8%
2016	3,446,650	18.3%	13.8%	67.9%
2017	3,631,742	17.0%	14.7%	68.3%
2018	3,697,443	15.6%	13.8%	70.6%
2019	3,659,504	14.7%	12.7%	72.6%
2020	3,231,679	16.7%	7.8%	75.5%
2021	2,923,658	19.3%	6.5%	74.2%
2022	2,853,264	18.0%	5.8%	76.2%
2023	2,910,469	17.2%	5.2%	77.6%

Table 3: 2023 Production Class Emissions from Flaring and Venting at Upstream Oil Facilities*

Production Class	Flared Emissions (tonnes CO ₂ e)	Vented Emissions (tonnes CO ₂ e)	Total Emissions (tonnes CO ₂ e)
Lloydminster Heavy and Non-Heavy	251,619	828,957	1,080,576
Kindersley Heavy	52,239	108,188	160,427
Kindersley Non-Heavy	259,860	921,581	1,181,441
Swift Current Heavy and Non-Heavy	122,564	71,557	194,122
Estevan Heavy and Non-Heavy	766,630	239,450	1,006,081
Total	1,452,912	2,169,733	3,622,646

*Production class and provincial emissions totals include all flaring and venting emissions including companies not regulated by OGEMR

Table 4: Annual Provincial Emissions from Flaring and Venting at Upstream Oil Facilities*

Year	Flared Emissions (tonnes CO ₂ e)	Vented Emissions (tonnes CO ₂ e)	Total Emissions (tonnes CO ₂ e)
2015	2,351,414	8,521,717	10,873,131
2016	1,908,692	6,781,460	8,690,151
2017	1,858,593	7,538,394	9,396,986
2018	1,763,475	7,330,210	9,093,685
2019	1,637,222	6,697,650	8,334,872
2020	1,602,603	3,641,254	5,243,858
2021	1,665,998	2,738,447	4,404,444
2022	1,491,428	2,369,719	3,861,148
2023	1,452,912	2,169,733	3,622,646

*Annual emissions totals include all flaring and venting emissions including companies not regulated by OGEMR

Table 5: 2023 Company Level Annual Emissions

Regulated Company	Combined (Vented) Emissions (tonnes CO₂e)	Potential Emissions (tonnes CO₂e)
2094495 ALBERTA CORP.	399	57,719
ALDON OILS LTD.	277	128,478
ANOVA RESOURCES INC.	118	94,487
BAYTEX ENERGY LTD.	177,665	2,614,746
BURGESS CREEK EXPLORATION INC.	892	83,554
CANADIAN NATURAL RESOURCES LIMITED	185,642	1,382,633
CARDINAL ENERGY LTD.	19	133,117
CENOVUS ENERGY INC.	332,131	4,534,954
CRESCENT POINT ENERGY CORP.	99,852	5,622,301
FALLON ENERGY INC.	8,622	122,296
GEAR ENERGY LTD.	41,769	281,045
GRIFFON PARTNERS OPERATION CORP.	2,962	507,693
HUMMINGBIRD ENERGY INC.	524	92,116
INTREPID PETROLEUM LTD.	25,501	87,160
IPC CANADA LTD.	54,485	309,678
ISH ENERGY LTD.	38,746	1,145,386
LONGHORN OIL & GAS LTD.	3,000	123,969
LONGSHORE RESOURCES LTD.	325	86,514
LYCOS ENERGY INC.	19,562	142,549
MARLIN RESOURCES LTD.	23,205	107,005
MIDALE PETROLEUMS LTD.	713	222,421
NOVUS ENERGY INC.	87,707	900,953
PRAIRIE THUNDER RESOURCES LTD.	14,580	127,648
PROSPERA ENERGY INC.	6,196	180,587
RIFE RESOURCES LTD.	26,707	280,652
ROK RESOURCES INC.	4,052	527,960
SATURN OIL & GAS INC.	285,562	1,536,336
STRATHCONA RESOURCES LTD.	62,971	1,051,464
SURGE ENERGY INC.	15,906	856,481
TEINE ENERGY LTD.	184,173	4,133,512
TRILAND ENERGY INC.	0	101,849
TUNDRA OIL & GAS LIMITED	14,696	1,336,789
VERMILION ENERGY INC.	34,628	1,785,421
VILLANOVA ENERGY INC.	0	54,355
WEST LAKE ENERGY CORP.	10,763	94,943
WHITECAP RESOURCES INC.	298,427	5,008,802
WOODLAND DEVELOPMENT CORP.	3,744	299,278