September 3, 2025

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Re: Comments on Order Declaring that the Provisions of the Regulations Respecting Reduction in the Release of Methane and Certain Volatile Organic Compounds (Upstream Oil and Gas Sector) Do Not Apply in Alberta, 2025

Dear Ms. Demerse,

I. Introduction

The David Suzuki Foundation, Environmental Defense Fund and Pembina Institute urge Environment and Climate Change Canada ("ECCC") to strengthen the Equivalency Agreement ("EA") with Alberta as follows:

(1) To enhance transparency and opportunities for public engagement in the development of methane regulations for the oil and gas sector and the negotiation and review of EAs;

(2) To incorporate the results of site and source level direct measurements taken by operators, regulators or independent third parties such as academics and non-governmental organizations ("NGOs") into ECCC's initial and ongoing analysis of the adequacy of the Alberta Methane Emission Reduction Regulation ("MERR") to achieve equivalent methane reductions as the federal rules; and

(3) To provide greater transparency regarding the inputs into ECCC's modeling and the assumptions ECCC used to compare methane reductions under the MERR to ECCC's Regulations Respecting Reduction in the Release of Methane and Certain Volatile Organic Compounds (Upstream Oil and Gas Sector) (hereinafter "Federal Methane Regulations").

Immediate and deep reductions of methane from Canada's oil and gas sector are critically necessary to address the climate crisis[1] and ensure Canada meets its climate commitments and greenhouse gas ("GHG") reduction goals. Canada's federal government committed to reducing

[1] See IPCC Sixth Assessment Report, Working Group III: Mitigation of Climate Change, Summary for Policymakers Headline Statement C.3 ("All global modelled pathways that limit warming to 1.5 °C (with no or limited overshoot), and those that limit warming to 2 °C, involve rapid and deep and in most cases immediate GHG emission reductions in all sectors. Modelled mitigation strategies … include … reducing non-CO_2 emissions."), https://www.ipcc.ch/report/ar6/wg3/; ICJ Advisory Opinion, OBLIGATIONS OF STATES IN RESPECT OF CLIMATE CHANGE, 23 July 2025, https://www.icj-cij.org/sites/default/files/case-related/187/187-20250723-adv-01-00-en.pdf.

methane emissions from the oil and gas sector by 40-45% by 2025[2] and by 75% by 2030 from a 2012 baseline.[3] ECCC's federal methane regulations play a pivotal role in reaching these targets. Initial modeling conducted by ECCC in 2018 of its current regulations estimated they would result in approximately 282 megatonnes of carbon dioxide equivalent ("CO_2e") reductions, $13.4 billion in avoided climate damages and $1.6 billion in gas savings that could be used or sold between 2018 and 2035.[4] More recently, ECCC noted that these regulations "will not be sufficient to meet Canada's new methane commitment" of reducing 2012 methane emissions by 75% by 2030[5] thus signaling the need for ECCC to strengthen its regulations. Provinces wishing to apply their regulations in lieu of the federal regulations through negotiation of an EA will also likely need to strengthen their regulations once ECCC does so.

Under Canadian law, ECCC may rely on provincial methane regulations to ensure that it meets the federal government's 2025 and 2030 emissions reductions targets. The Canadian Environmental Protection Act ("CEPA") allows ECCC to suspend application of its methane reduction regulations based on a determination that application of provincial regulations will achieve equivalent emissions reductions as application of the federal rules.[6] Additionally, the province must have laws in place that contain provisions similar to sections 17 and 20 of CEPA, providing for the investigation of alleged offences.[7]

On June 27, 2025 ECCC proposed an order declaring that the ECCC methane regulations do not apply in the province of Alberta for 2025-2029 based on a draft EA. The Regulatory Impact Analysis Statement ("RIAS") for the proposed EA explains that the order and EA are based on a determination that Alberta has in place the laws (i.e., the Environmental Protection and Enhancement Act) that contain similar provisions to sections 17 to 20 of CEPA providing for the right of investigation of alleged offences[8] and that the MERR will achieve equivalent outcomes in reducing methane emissions compared to the federal regulations.[9] Per the draft EA, provincial requirements that limit venting at upstream oil and gas facilities, including venting from pneumatic pumps and controllers and that limit emissions from compressors, glycol dehydrators and fugitive emissions, will attain the necessary reductions in methane emissions.[10]

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[2] Canada Gazette, Part II, Vol. 152, No. 1: Regulations Respecting Reduction in the Release of Methane and Certain Volatile Organic Compounds for the (Upstream Oil and Gas Sector) (April 26, 2018) (hereinafter "Federal Methane Regulations").

[3] Government of Canada, Reducing Methane Emissions, https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/reducing-methane-emissions.html

[4] Federal Methane Regulations, *supra* note 2.

[5] Canada Gazette, Part I, Volume 157, Number 50: Regulations Amending the Regulations Respecting Reduction in the Release of Methane and Certain Volatile Organic Compounds (Upstream Oil and Gas Sector) (Dec. 16, 2023) (hereinafter "Amendments to Federal Methane Regulations").

[6] Canada Environmental Protection Act, 1999, §10(3).

[7] *Id*.

[8] Canada Gazette, Pt. 1, V. 158, No. 27: Order Declaring that the Provisions of the Regulations Respecting Reduction in the Release of Methane and Certain Volatile Organic Compounds (Upstream Oil and Gas Sector) Do Not Apply in Alberta, 2025, Regulatory Impact Analysis Statement (hereinafter "RIAS"), https://gazette.gc.ca/rp-pr/p1/2025/2025-07-05/html/reg1-eng.html.

[9] *Id*. at 4.

[10] Draft AGREEMENT ON THE EQUIVALENCY OF FEDERAL AND ALBERTA REGULATIONS RESPECTING THE RELEASE OF METHANE FROM THE OIL AND GAS SECTOR IN ALBERTA, 2025

ECCC estimates application of the MERR will result in cumulative methane reductions of 38.68 megatonnes ("Mt") of CH4 (in CO2e) compared to cumulative reductions of 37.77 Mt from application of the federal regulations over the five-year period of the EA beginning on January 1, 2025.[11]

ECCC's reliance on EAs to obtain critically necessary methane reductions from the oil and gas sector underscores the importance of getting such agreements right. ECCC must ensure that application of the provincial regulations will result in equivalent methane reductions as application of its rules. Unfortunately, the well-documented problems of underestimation in methane emissions by operator reporting[12] and poor compliance rates with existing regulations[13] pose challenges to this determination and threaten the achievement of Canada's GHG reduction targets. While ECCC's National Inventory Report ("NIR") makes corrections to reported emissions based on aerial measurements,[14] it is unclear that such necessary corrections are happening with the regulatory modelling. In addition, industry reporting itself has not undergone any meaningful improvements in response to these known underestimations.

We have concerns with the adequacy of past provincial efforts to curb methane emissions from oil and gas facilities. Measurement campaigns undertaken by independent third parties have identified considerably higher emissions than operator reports or official inventories indicate. A recent measurement study found that Alberta's 2021 methane emissions from its upstream oil and gas sector were 1.5 times the amount estimated in the official federal inventory. Various measurement campaigns have identified higher than reported emissions from uncontrolled tanks,[15] cold heavy oil production ("CHOPs") facilities,[16] unlit flares,[17] separators,[18] surface casing vent flows ("SCVF") and gas migration from active and non-producing wells.[19]

BETWEEN THE GOVERNMENT OF CANADA AND THE GOVERNMENT OF ALBERTA (hereinafter "Draft EA") at 2.2.b.

[11] *RIAS, supra* note 8 at Table 1.

[12] MacKay *et al*., A Comprehensive Integration and Synthesis of Methane Emissions from Canada's Oil and Gas Value Chain, 58 Environmental Science & Technology, Issue 32 (August 1, 2024).

[13] Office of the Auditor General of Canada, Emission Reductions Through Greenhouse Gas Regulations-Environment and Climate Change Canada, 19 (2023) (hereinafter "Auditor General Report").

[14] Chan, E., Vogel, F., Smyth, S. *et al.* Hybrid bottom-up and top-down framework resolves discrepancies in Canada's oil and gas methane inventories. *Commun Earth Environ* **5**, 566 (2024). https://doi.org/10.1038/s43247-024-01728-6.

[15] Conrad B M, Tyner D R, Li H Z, Xie D and Johnson M R, 2023b Measurement-Based Methane Inventory for Upstream Oil and Gas Production in Alberta, Canada Reveals Higher Emissions and Starkly Different Sources than Official Estimates Commun. Earth Environ. 4 (hereinafter "Conrad et al.").

[16] *Id*; Johnson, M. R.; Tyner, D. R.; Conley, S.; Schwietzke, S.; Zavala-Araiza, D. Comparisons of Airborne Measurements and Inventory Estimates of Methane Emissions in the Alberta Upstream Oil and Gas Sector. *Environmental Science and Technology* **2017**, *51* (21), 13008–13017, https://doi.org/10.1021/acs.est.7b03525l; Han, T.; Liggio, J.; Narayan, J.; Liu, Y.; Hayden, K. L.; Mittermeier, R.; Darlington, A.; Wheeler, M.; Cober, S. G.; Zhang, Y.; Xie, C.; Yang, Y.; Huang, Y.; Wolde, M.; Smyth, S.; Barrigar, O.; Li, S. Quantification of Methane Emissions from Cold Heavy Oil Production with Sand Extraction in Alberta and Saskatchewan , Canada. *Environmental Science and Technology* **2024**. https://doi.org/10.1021/acs.est.4c02333.

[17] Conrad et al., supra note 15.

[18] *Id*.

[19] Bowman, L. V.; El Hachem, K.; Kang, M. Methane Emissions from Abandoned Oil and Gas Wells in Alberta and Saskatchewan, Canada: The Role of Surface Casing Vent Flows. *Environmental Science and Technology* **2023**. https://doi.org/10.1021/acs.est.3c06946; Seymour, S. P.; Xie, D.; Kang, M. Highly Uncertain Methane Leakage from

Transparency in the underlying modelling and negotiation of the EA is especially needed for multiple reasons. The EA negotiation and review process occurs primarily behind closed doors and important data used in ECCC's equivalency modeling is not made publicly available. Numerous sources, discussed below, call into question the adequacy of Alberta's existing methane regulations in achieving the necessary reductions to demonstrate ongoing equivalency with the Federal Methane Regulations. Recently the Alberta Energy Regulator weakened the existing regulatory regime encoded in Directive 060 by eliminating the industry-wide limit on solution gas flaring.[20] While methane emissions from flaring are lower than other sources, they nevertheless account for some fugitive emissions and are potentially underestimated due to the presence of unlit and underperforming flares.[21] Solution gas flaring in the province is also growing significantly from year to year,[22] meaning the volume of uncombusted methane emissions is also likely to grow. The weakening of regulations that were already unlikely to achieve equivalent methane emissions reductions as application of the Federal Methane Rule requires significantly greater transparency into the data relied upon by ECCC to review the adequacy of the EA over time.

We suggest revisions to the EA that will ensure the public has access to important information used by Alberta and ECCC to assess the efficacy of the MERR in achieving equivalent outcomes. Our suggested additions to the EA are in **bold** and suggested deletions are in ~~strikethrough~~. We also suggest pathways to expand opportunities for public engagement on the development and review of the EA. Lastly, we request greater transparency and more granular information regarding ECCC's equivalency modeling.

II. Direct Measurements Demonstrate that Methane Emissions from Alberta's Upstream Oil and Gas Sector are Significantly Higher than Official Inventories

Measurement studies throw into question the degree of efficacy of Alberta's historic regulation of methane emissions from the oil and gas sector, indicating that actual emissions significantly exceed reported emissions. The discrepancy between reported emissions and measured emissions underscores the need for greater transparency with respect to ECCC's annual evaluation of the adequacy of Alberta's MERR to achieve equivalent emissions reductions as the federal regulations. We provide a non-exhaustive list of some of those measurement studies and measurement-based inventories below:

- **Conrad et al. (2023)** prepared a measurement-based inventory of 2021 emissions. Per this study, methane emissions in the province equaled 1,337 kilotonnes (kt).[23] This is 1.5 times higher than the official federal inventory estimate. Per Conrad et

Oil and Gas Wells in Canada Despite Measurement and Reporting. *Energy & Fuels* **2024**, *38* (14), 13078–13088. https://doi.org/10.1021/acs.energyfuels.4c00908.

[20] Alberta Energy Regulator Bulletin 2025-21.

[21] Conrad et al., supra note 15.

[22] Stephenson, A. Alberta Oil and Gas Sector Exceeded Flaring Limit in 2023, Data Shows. *BNN Bloomberg*. June 24, 2024. https://www.bnnbloomberg.ca/alberta-oil-and-gas-sector-exceeded-flaring-limit-in-2023-data-shows-1.2088673; Stephenson, A. Alberta Industry Blew Past Gas Flaring Ceiling in 2024 as Province Eliminates Limit. *CBC News*. June 24, 2025. https://www.cbc.ca/news/canada/edmonton/alberta-flaring-1.7569189.

[23] Conrad et al., supra note 15.

al., venting is responsible for nearly two-thirds of the provincial emissions with the primary sources being uncontrolled tanks (25% of the measured inventory), pneumatic pumps and pneumatic instruments (21%), CHOPS-related venting, and unlit flares or vent stacks.[24]

- **MacKay et al**. found that Alberta was responsible for 68% of oil and gas emissions in Canada. This study synthesized nearly a decade of direct measurement campaigns across Canada and included "thousands of multiscale methane measurements along the oil and gas value chain (production to end use) to better constrain estimates of methane emissions in Canada's energy sector..."[25] MacKay et al., found measured emissions from Canada's oil and gas sector in the were 1.7 times higher than reported for 2021. [26]
- **Bowman et al.,[27] and Seymour et al**.[28] document higher than reported methane emissions from SCVF and gas migration, with the latter finding over 100 cases in which a third-party measurement provided detected SCVF, yet the site operator did not report those emissions.
- **Klotz et al**.,[29] A recent study found that emissions from non-producing wells – which can include their SCVF/GM emissions – is ~7 times higher than currently estimated by the federal government.
- **Johnson et al., (2023**)[30] and **Conrad et al., (2023)[31]** identified methane slip in compressor exhaust as a significant source of methane emissions in Alberta.
- **MacKay et al.,** (2021),[32] **Johnson et al.,** (2017),[33] **Han et al.,** (2024)[34] have identified significantly higher methane emissions from CHOPs than operator reports show.

As our comments below discussion, the significantly higher methane emission estimates identified by multiple measurement campaigns call into question the degree of efficacy of Alberta's current regulations as well as ECCC's determination that continued application of the provincial regulations will achieve equivalent emission reductions as the federal methane regulations.

III. Comments on Equivalency Agreement

[24] Conrad et al., supra note 15.
[25] MacKay et al., supra note 12.
[26] MacKay et al., supra note 12 at 14207.
[26] *Id*.
[27] Bowman et al., supra note 19.
[28] Seymour, supra note 19.
[29] Klotz, L. A.; Woolley, L.; Lamarche, B.; Boutot, J.; Kang, M. Sevenfold Underestimation of Methane Emissions from Non-Producing Oil and Gas Wells in Canada. *Environ. Sci. Technol.* **2025**, *59* (18), 9008–9016. https://doi.org/10.1021/acs.est.4c05602.
[30] Johnson, M. R.; Tyner, D. R.; Conrad, B. M. Origins of Oil and Gas Sector Methane Emissions: On-Site Investigations of Aerial Measured Sources. *Environmental Science and Technology* **2023**. https://doi.org/10.1021/acs.est.2c07318.
[31] Conrad et al., supra note 15.
[32] MacKay et al., supra note 12.
[33] Johnson et al., supra note 16.
[34] Han et al., supra note 16.

The section below contains specific comments and suggested revisions on the draft EA.

A. Section 3.2(1) of the EA

We have several suggested revisions to Section 3.2(1). This section requires Alberta either provide to ECCC or publish on a publicly accessible website annually information that ECCC will use to "monitor emission reductions resulting from the application of the MERR."[35] First, we urge ECCC to revise Section 3.2(1) to require, not merely allow, Alberta make publicly available the information required by this section. Second, we suggest revisions to Section 3.2.(1)(d) to expand the list of sources that must be included in reporting on annual emission volumes. Third, measurements should be included in the list of data shared between ECCC and Alberta and reviewed by ECCC annually. Fourth, we underscore the need for transparency with respect to compliance rates.

1. *Transparency is Necessary to Help Reveal and Reconcile Discrepancies in Reported and Measured Emissions*.

Section 3.2(1) of the Draft EA requires Alberta either publish or make available to ECCC the following information that ECCC will rely on to monitor emissions reductions resulting from application of the provincial regulations:

- the number of existing facilities and wells that are subject to the MERR, disaggregated by well type and facility classifications, with the average number of dehydrators and compressors at each facility type; Section 3.2.a.
- the number of new facility permits and well permits issued, disaggregated by well type and facility classification; Section 3.2.b.
- the number of closures of facilities and wells, disaggregated by well type and facility classification; Section 3.2.c.
- annual emission volumes from compressors, pneumatic instruments, pneumatic pumps, fugitive emissions, and routine events, reported by facility and source category; Section 3.2.d.
- information respecting an assessment of the implementation and effectiveness of the MERR in reducing methane emissions (in CO2e), including the methodology (by source), analysis undertaken and results of calculations of emission reductions; Section 3.2.d.e
- a summary of compliance verification activities and enforcement or sanctions measures relating to the MERR applied to facilities and wells, segregated by well type and facility classification, including the number and type of inspections and verifications other than inspections, the number and type of non-compliance events and the orders, penalties or convictions; and Section 3.2.f.
- a summary of the annual reports submitted under the MERR including the number of duty holders who submitted annual reports. Section 3.2.g.

The information that is subject to this information-sharing provision is of significant public interest as it contains information demonstrating the efficacy of, and compliance with,

[35] Section 5.3 of draft EA.

Alberta's regulations and directives. As noted above, various studies demonstrate the discrepancy between reported and measured emissions, thus underscoring the importance of transparency with respect to emissions estimates, emission reduction estimates, and any other information regarding the efficacy of MERR in reducing methane emissions in Alberta. In addition, Directive 060 imposes vent limits as one of the mechanisms to reduce methane emissions. Operators are not required to measure vented emissions for purposes of demonstrating compliance with such limits but rather may rely on estimation methods such as emissions factors. Given the substantial evidence of operator underreporting when using estimation methods, operator compliance with vent limits is dubious, at best. Ensuring the public has access to the information subject to Section 3.2. of the EA will allow third-parties to review and compare to measured data, operator reported emissions used by ECCC to evaluate the ongoing adequacy of the EA.

ECCC is relying on the provincial regulations to ensure that it meets the federal government's 2025 emissions reduction target. We urge ECCC to revise Section 3.2(1) of EA as follows to ensure that Alberta makes this information available to the public:

> On an annual basis, no later than December 31st, Alberta will ~~provide to Canada or~~ cause to be published on a publicly accessible website the following information for the previous calendar year;

2. *Reporting of Emissions from Additional Sources is Necessary for ECCC to Evaluate the Adequacy of the EA*.

The draft EA notes that ECCC anticipates reductions from compressors, fugitive emission sources, pneumatic instruments, pneumatic pumps, glycol dehydrators, and limits on venting at upstream oil and gas facilities to realize the necessary methane reductions required for equivalency. Section 2.2.b. Section 3.2.(1)(d) requires Alberta share annual emission volumes from "compressors, pneumatic instruments, pneumatic pumps, fugitive emissions, and routine events", reported by facility and source category, with ECCC to consider as part of its annual review. There are a few notable sources absent from this list that we discuss below. We also request clarification of what is meant by "routine events."

As discussed above, measurement campaigns in Alberta have identified methane emissions from sources that are either not subject to reporting or that are routinely underreported. Flares, in particular unlit flares, SCVF, gas migration, abandoned wells, and separators are all sources of methane. These sources are not subject to the annual information-sharing requirement in Section 3.2.(1)(d). The requirement in Section 3.3 of the draft EA is also not sufficiently granular to ensure reporting from these sources as this section merely requires Alberta publish "reported and modeled emissions for oil and gas facilities in Alberta" without specifying source-level reporting. We urge ECCC to ensure that its annual review of the adequacy of the Alberta MERR is comprehensive and includes all sources of upstream oil and gas methane emissions, including, but not limited, to sources that measurement campaigns have identified such as unlit flares, SCVF, gas migration, abandoned wells, and separators.

We request ECCC revise Section 3.2.d. as follows:

annual emission volumes from compressors, pneumatic instruments, pneumatic pumps, fugitive emissions, ~~and~~ routine events, **unlit flares, surface casing vent flows, gas migration, abandoned wells, and separators** reported by facility and source category;

We also respectfully request clarification regarding what is meant by "routine events." These events could encompass a variety of activities including routine maintenance events, routine venting, routine flaring, etc.

3. *The Information Provided Annually to ECCC Must Include Measurement Data*.

Emissions information based on direct measurement is absent from the list of information to be provided by Alberta annually to ECCC as the basis for ECCC's review of methane reductions attributed to the provincial methane regulations. We urge ECCC to remedy this. As discussed above, measurement studies routinely demonstrate that emissions are higher than those reported by industry. When reviewing the adequacy of this EA ECCC must rely on the best available and most accurate sources of methane emissions from the oil and gas sector. Direct measurement data is clearly the best available and most accurate source of emissions data.

We suggest the following revision to Section 3.2.d.e:

> information respecting an assessment of the implementation and effectiveness of the MERR in reducing methane emissions (in CO2e), including the methodology (by source), analysis undertaken and results of calculations of emission reductions **and the results of site and source level direct measurements taken by operators, regulators or independent third parties**.

4. *Transparency is Needed to Ensure that Alberta is Enforcing its Regulations and Validate Modeling Assumptions Regarding Compliance Rates.*

As part of the annual review of the EA, ECCC will review "a summary of compliance verification activities and enforcement or sanctions measures relating to the MERR applied to facilities and wells, segregated by well type and facility classification, including the number and type of inspections and verifications other than inspections, the number and type of non-compliance events and the orders, penalties or convictions." Section 3.2.f.

Information regarding compliance rates and enforcement actions is also of significant interest to the public. There is evidence that operators in Alberta have not been complying fully with the province's methane regulations. In 2023/2024 AER conducted 345 audits to help improve industry compliance with the methane requirements. [36] Audits are desk-top exercises that review various information submitted by industry to AER including, but not limited to,

[36] AER. 2023/24 Annual Report, 2025, https://static.aer.ca/prd/documents/reports/AER2023-24-AnnualReport.pdf (accessed 2025-06-26), P.23.

reports. These audits found a compliance rate of only 52%.[37] Field inspections of 1219 found a higher compliance rate of 82%.[38] Similarly, the Auditor General of Canada found poor compliance rates with oil and gas methane regulations.[39] To the extent that ECCC's equivalency model assumes a compliance rate of 100%, past compliance rates indicate that application of Alberta's methane regulations may be achieving less methane reductions than expected. While Alberta publishes annual compliance rate information, to the extent that the information shared by AER pursuant to Section 3.2.f. of the draft EA differs from that published in AER's annual report, we request this information be made publicly available as well. We and other interested members of the public track how well operators are complying with the MERR, and what enforcement actions Alberta is taking, if any, against entities that are not complying with pollution reduction obligations, so that we can understand and analyze the ongoing efficacy of the provincial methane regulations.

As discussed below, ECCC's equivalency modeling should reflect actual compliance rates. We are concerned that the model may be overestimating methane reductions attributable to the Alberta methane regulations if it implicitly assumes a compliance rate of 100%.

B. Section 3.3 of the EA.

Section 3.3 requires Alberta to publish an annual report regarding reported and modeled emissions for oil facilities in the province on its website. As discussed above, reported and modeled emissions information may underestimate actual, measured emissions. We urge ECCC to require Alberta also publish measurement regarding upstream oil and gas methane emissions, where available, on its website. An accurate understanding of past, present and projected emissions is critical to tracking progress towards Canada's methane reduction targets, analyzing the efficacy of current regulatory approaches, and modeling the comparative reductions achieved by application of provincial or federal regulations. We urge Alberta to move towards a measurement-informed inventory and similarly, urge ECCC to ensure that the province publicizes all available measurement data.

We suggest the following revision to Section 3.3 of the EA:

Alberta will publish on its website an annual report under the MERR, which will include reported and modelled emissions for oil and gas facilities in Alberta. **Alberta will also make available on a publicly available website any methane emissions information obtained by direct measurements of sources or facilities in Alberta's Upstream Oil and Gas Sector.**

C. Section 3.5 of the EA.

[37] *Id*.
[38] *Id*.
[39] Office of the Auditor General of Canada, Emission Reductions Through Greenhouse Gas Regulations-Environment and Climate Change Canada, 19 (2023) (hereinafter "Auditor General Report").

This section requires the province notify ECCC of any proposed amendments to provincial laws or regulations governing methane emissions from oil and gas facilities (i.e, sections 196 and 197 of the Environmental Protection and Enhancement Act ("EPEA") and applicable sections of the MERR that incorporate by reference relevant sections of Directives 017 and 060.) We urge ECCC to require Alberta provide notice and an opportunity for the public to comment on any proposed amendments to EPEA and the MERR that incorporate by reference relevant sections of Directives 017 and 060 or otherwise apply to, or regulate, methane emissions from oil and gas facilities in Alberta.

Commenters have a strong interest in any revisions Alberta makes to its methane regulations. Robust regulations that limit or eliminate methane from upstream oil and gas operations are critical to ensuring Canada and Alberta meet methane reduction targets. Directive 060 sets forth mandatory emission control regulations for Alberta's upstream oil and gas operators. We have a strong interest in commenting on any revisions to this Directive as part of our efforts to ensure that regulations reflect international best practices to reduce methane emissions. Similarly, we have a keen interest in any revisions to Directive 017. Directive 017 contains monitoring, estimation and measurement requirements for upstream oil and gas sources.

We hope to see the province move towards empirically based inventory and reporting mechanisms in any revision to Directive 017 and Directive 060. Historically, we have commented on revisions or potential revisions to Alberta's methane regulations and we plan to do so going forward. We respectfully request the EA require Alberta provide notice and an opportunity for the public to comment on any proposed amendments to EPEA and the MERR that incorporate by reference relevant sections of Directives 017 and 060.

We respectfully suggest the following revisions to Section 3.5:

> Alberta will provide written advance notice to Canada of proposed amendments to sections 196 and 197 of EPEA and to the MERR including the applicable sections of Directive 017 and Directive 060 that are incorporated by reference, and notice of final amendments. **Alberta will provide notice and an opportunity for the public to comment on any proposed amendments to EPEA and the MERR.**

D. Section 3.8 of the EA.

Section 3.8 provides that ECCC and Alberta will meet annually "to discuss progress on compliance verification activities, enforcement measures, and measurement activities associated with studies funded or supported by either Party related to emissions from the oil and gas sector." We support and appreciate that the EA requires the province and ECCC meet annually and that the EA requires the province provide a summary of compliance verification activities and enforcement measures.[40] Mandatory communication between the provincial regulator and the federal government is important to ensure that policymakers have avenues to communicate productively and exchange key information at regular intervals. The sharing of information regarding compliance verification activities and enforcement measures responds to the

[40] Section 3.13.i.-ii of the EA.

recommendation by the Office of the Auditor General of Canada that ECCC "should collect all relevant information from provinces, including compliance data" when analyzing the effectiveness of provincial methane regulations.[41]

We urge ECCC to monitor compliance and enforcement activities closely since the Auditor General's report found "poor compliance rates during the first few years of the regulations."[42] As noted above, the Alberta Energy Regulator has documented compliance rates that fall short of 100% in recent years. Equivalency should only be maintained if compliance verification data demonstrates operators are generally complying with the regulations and the province is taking appropriate steps to enforce the regulations.

We also appreciate the requirement to share information of "measurement activities associated with studies funded or supported by either Party related to emissions from the oil and gas sector." However, we urge ECCC to broaden this provision to include measurement activities associated with studies funded or supported by independent third parties such as academics or NGOs.[43] Academia and NGOs also conduct measurement activities and ECCC should consider the results of these studies along with results of studies funded or supported by Alberta or ECCC.

We urge ECCC and Alberta to make public the information listed in Section 3.8. Doing so would increase transparency and public trust that application of the MERR is reducing methane emissions and achieving equivalent outcomes as application of the federal rules would do.

We respectfully suggest the following revisions to Section 3.8:

> The Parties agree to meet on an annual basis, the date to be determined by both Parties annually, but no later than December 31st of each year, to discuss progress on compliance verification activities, enforcement measures, and measurement activities associated with studies funded or supported by either Party **or a third-party** related to emissions from the oil and gas sector. **Alberta and/or Canada will publish the information subject to this Section on a publicly accessible website annually no later than December 31st of each year.**

E. Section 4.4 and 5.3 of the EA.

These sections provide for review of the EA in certain circumstances. Specifically, Section 5.3 provides for annual review of the EA by ECCC "notably in order to monitor for emission reductions resulting from the application of the MERR." Section 4.4 provides for periodic review of the EA "respecting any matter relevant to this Agreement" at the request of either party.

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[41] Auditor General Report, supra note 42 at 19

[42] *Id*. at 20.

[43] Third-parties funded by industry may also be able to share measurement data with regulators without revealing confidential business data by sharing overall measurement results and not attributing such results to individual companies.

We have several recommendations for these sections.

First, we urge ECCC to specify that the purpose of its annual review is to ensure that the application of the MERR continues to achieve equivalent methane emissions reductions as application of the Federal Methane Regulations. This should be explicitly stated in the EA in Section 5.3. We suggest the following revision to Section 5.3:

> Canada will review on an annual basis the information provided under section 3.0 of this Agreement, notably in order to monitor emission reductions resulting from the application of the MERR **in order to ensure that application of the MERR results in equivalent reductions of methane emissions (in CO2e) as the Federal Methane Regulations**.

Second, we urge ECCC to make the results of the annual review, and any periodic review, of the agreement publicly available. The annual review must ensure that application of the province's regulation, enforcement provisions, and compliance rates, continue to demonstrate equivalent outcomes. A determination that application of the province's regulations is not achieving intended methane emissions reductions affects the ability of Canada to achieve its methane reduction target and may be the basis for future policy actions at both the provincial and federal levels. Interested stakeholders will want to be involved in the development of such policies at the outset. We request ECCC issue an annual report that demonstrates progress against federal regulations.

III. Comments on Regulatory Impact Analysis

A. Modeling

We urge ECCC to provide more detail and transparency regarding its modeling. Specifically, we urge ECCC to explain if it made any adjustments to the baseline emissions scenario to account for the results of direct measurements of Alberta oil and gas facility emissions, how it groups emissions sources for purposes of scaling its baseline inventory to the National Inventory Report and provide more detail regarding assumptions used to calculate emissions reductions.

First, we ask ECCC to clarify whether the emissions estimates for each source contained in the baseline scenario reflect the updates ECCC has made to the NIR 2024. We understand ECCC's methodology when conducting its equivalency analysis for EA's to be as follows: First, ECCC builds a baseline inventory using bottom-up engineering emissions estimates. Second, ECCC scales its inventory to agree with the NIR. The recent updates to the NIR resulted in an adjustment to the NIR emissions estimates based on the results of direct measurement campaigns. This adjustment brought the 2024 NIR estimate of emissions closer in line with an estimate of 2022 emissions based on the results of over a decade of direct measurements of methane emissions.[44] If the modeling used in the equivalency outcome analysis did not incorporate the recent adjustments to the NIR based on direct measurements, we respectfully

[44] MacKay et al., *supra* note 12, at 14203.

request ECCC revise the baseline scenario emissions estimates to reflect the recent adjustments to the NIR and re-run the modeling. This will ensure that determinations of equivalency for provincial regulations (e.g., determination of Alberta's equivalency considered here as well as future equivalency determinations) are based on the most accurate and best available emissions modelling. Our recommendation aligns with that of the Office of the Auditor General of Canada who recommended ECCC "allow the use of the most recent measurement-based data to improve the accuracy of its estimates of methane emissions from the oil and gas sector."[45]

Second, we request ECCC provide more detail regarding how it scales estimated emissions with the NIR. The RIAS provides emission estimates for five sources of emissions: compressors, fugitives, glycol dehydrators, pneumatic controllers, pneumatic pumps, and routine venting. In Table 1 of the RIAS these sources are not grouped according to facility site (i.e., production facilities, gas processing plants, etc.). We would like to better understand if ECCC scaled emissions solely by emissions source type (i.e., comparing emissions from all pneumatics at any facility type in the bottom-up inventory to the NIR), or if ECCC scaled emissions by grouping emissions sources by source and facility type, or if ECCC scaled emissions in some other way.

Third, we request ECCC provide a detailed discussion and explanation regarding the assumptions it relies on when calculating emissions reductions from the relevant requirements of the MERR. U.S. EPA provides significantly greater detail regarding its modeling of anticipated reductions from proposed oil and gas methane regulations. For example, when modeling anticipated reductions from application of its leak detection and repair requirements, EPA takes into account the leak rate at each facility, repair times, and the expected percent reductions in methane emissions for different inspection frequencies.[46] An annual inspection frequency is assumed to reduce emissions by 46% while a monthly inspection frequency is assumed to reduce emissions by 86%. ECCC merely estimates total reductions for each emission source but provides little explanation for the basis of these reductions. ECCC notes that "the Department has maintained the analysis associated with the existing agreement showing methane reduction outcomes (in CO2e) from the Federal Regulations and the Alberta Regulations using the departmental reference case as published in Canada's Greenhouse Gas and Air Pollutant Emissions Projections: 2018 (the 2018 Reference Case.")[47] ECCC further notes that it developed "detailed, bottom-up engineering emission estimates for the baseline and regulatory scenarios for each emissions source" and "determined the departmental reference case...using historic emissions" from the NEI and the production forecast of oil and gas from the Canada Energy Regulator.[48] ECCC does not provide any additional detail regarding what assumptions go into its estimate of source level reductions in its federal regulations, such as what percent reductions it expects from allowable control technologies. Greater detail is required for the public to assess the adequacy of ECCC's conclusion that application of the Alberta regulations will achieve equivalent outcomes.

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[45] Auditor General Report, *supra* note 42, at 20.
[46] EPA, Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review, Supplemental Background Technical Support Document for the Proposed New Source Performance Standards (NSPS) and Emissions Guidelines (EG), Table 5-2a, p.5-10 (October 2022).
[47] RIAS, *supra* note 8.
[48] *Id*.

It is unclear whether ECCC's regulatory modelling considers unlit and/or malfunctioning flares. This is a critical consideration, as the Office of the Auditor General of Canada specifically pointed to this source as "unaccounted for in inventories and not covered by regulations"[49] and unlit flares are a significant source of methane emissions in Alberta according to independent measurement studies.[50] Understanding the true impact of flaring is critical to evaluating the effectiveness of Alberta's regulations since flaring is often used as the default alternative toto gas venting. Indeed, Alberta has seen such steep increases in industry-reported flaring that the province surpassed the solution gas flaring limit in Directive 060 in 2023 and 2024,[51] before it quietly removed this limit.[52] This weakens the reg and raises questions as to its continued equivalency.

Notably, other modeling efforts have reached different conclusions regarding the expected emission reductions from Alberta's methane regulations. In a peer-reviewed academic article, Johnson and Tyner analyzed the likely reductions from application of Alberta's methane regulations and the Federal Methane Regulations for the period 2020-2023.[53] The analysis projected the current Federal Methane Regulations to achieve a 25-27% greater reduction than application of the provincial regulations in 2018. If this or a similar modelled result were to play out over the full course of implementation of the regulation, it would represent a material shortfall relative to the federal reduction target and a significant failure of the equivalency process. This credible, independent modeling by established experts calls into question the results of ECCC's model and underscores the need for greater transparency regarding the inner workings of ECCC's model.

The Office of the Auditor General of Canada has also questioned the opacity of ECCC's model and its findings. In its 2023 report the Auditor General noted "[M]odelling by Environment and Climate Change Canada showed that federal and provincial methane regulations would reduce emissions by 39% by 2025 from 2012 levels, slightly short of the 40% to 45% target. ***This analysis did not quantify the impacts of other programs and initiatives. In our view, there are several reasons to doubt the accuracy of this estimate****."*[54] ***(emphasis added)***. Additional transparency into ECCC's equivalency model is necessary.

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[49] OAGC, Emission Reductions Through Greenhouse Gas Regulations— Environment and Climate Change Canada. *Reports of the Commissioner of the Environment and Sustainable Development to the Parliament of Canada* **2023**, 44.

[50] Conrad et al., supra note 15.

[51] Stephenson, A. Alberta Oil and Gas Sector Exceeded Flaring Limit in 2023, Data Shows. *BNN Bloomberg*. June 24, 2024. https://www.bnnbloomberg.ca/alberta-oil-and-gas-sector-exceeded-flaring-limit-in-2023-data-shows-1.2088673; Stephenson, A. Alberta Industry Blew Past Gas Flaring Ceiling in 2024 as Province Eliminates Limit. *CBC News*. June 24, 2025. https://www.cbc.ca/news/canada/edmonton/alberta-flaring-1.7569189.

[52] AER. *Bulletin-2025-21: Removal of the Provincial Solution Gas Flaring Limit*; Alberta Energy Regulator, 2025. https://static.aer.ca/prd/documents/bulletins/Bulletin-2025-21.pdf (accessed 2025-06-24).

[53] Johnson and Tyner, "A case study in competing methane regulations: Will Canada's and Alberta's contrasting regulations achieve equivalent outcomes," (2020) Element 8:7, https://online.ucpress.edu/elementa/article/doi/10.1525/elementa.403/112749/A-case-study-in-competing-methane-regulations-Will.

[54] Office of the Auditor General of Canada, Report 5, Emission Reductions Through Greenhouse Gas Regulations-Environment and Climate Change Canada, 19, Finding 5.75, https://www.oag-bvg.gc.ca/internet/docs/parl_cesd_202304_05_e.pdf.

IV. Regulatory Development Section

We suggest that in the future ECCC open negotiations concerning renewals of EAs to broader stakeholder engagement and provide opportunities for the public to comment on revisions to this EA and to any renewed EA. As noted above, we have several questions and concerns with the modeling that underpins the determination that application of Alberta's regulations will achieve equivalent methane reductions as the federal rules and several suggestions for how to strengthen the EA and the EA review process to allow for more transparency and public input. Additional early input from stakeholders and an opportunity for public comment can ensure a more robust agreement and improve public trust and confidence in the process.

V. Conclusion

We appreciate the opportunity to comment on the draft EA with Alberta. We look forward to future discussions with ECCC and the province on ways to increase transparency, enhance opportunities for public involvement and ensure that application of the Alberta regulations maintain ongoing equivalent methane reductions from oil and gas facilities as would application of the federal methane rules.

Sincerely,

Ari Pottens
Jon Goldstein
Elizabeth Paranhos
Environmental Defense Fund

Amanda Bryant
Pembina Institute

Thomas Green
David Suzuki Foundation