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To Whom It May Concern:

Subject: Trans Mountain Pipeline ULC – Trans Mountain Expansion Project Review of Related Upstream Greenhouse Gas Emissions Estimates Draft for Public Comments

Thank you for your notification of the upstream greenhouse gas emissions estimates for the Trans Mountain Expansion Project that was posted for public comment on May 19, 2016. I am pleased to respond on behalf of the Government of Alberta.

Alberta has prepared the attached submission to refine and improve Environment and Climate Change Canada's analysis and emissions estimates. Alberta's submission focuses on:

- Providing Alberta-based emission factors that use third party verified (audited) emissions and crude production data from Alberta's 2015 Specified Gas Emitters Regulation,
- Accounting for expected emissions intensity reductions from Alberta's Climate Leadership Plan,
- Exemption of upgrading emissions and recommendation to exempt refining emissions, recognizing that these can occur upstream or downstream of the pipeline and inclusion in this analysis may lead to carbon leakage to downstream jurisdictions, and
- Quantification of Part A and Part B estimates with Alberta-based emission factors.
- Reinforcing the proposed 100 megatonne legislated oil sands emissions limit, with consideration for cogeneration and upgrading, as a statutory backstop to cumulative oil sands emissions growth that could be enabled by multiple pipeline expansions.

The attached analysis demonstrates that the Trans Mountain Expansion Project would result in maximum incremental emissions of 9.7 to 11.3 megatonnes in 2030, following the same calculation process as Environment and Climate Change Canada (instead of the 14 to 17 megatonnes estimated by Canada). This reflects the maximum incremental upstream emissions associated with the incremental 590 thousand barrel a day capacity provided by the Trans Mountain Expansion Project. Considering crude by rail and potential for upstream oil and gas investment to occur in other jurisdictions in the absence of pipeline capacity in Canada, the actual incremental emissions will be much lower. The table below summarizes the Government of Alberta's estimates in comparison to Environment and Climate Change Canada's.

Environment and Climate Change Canada and Alberta Climate Change Office 2030 Upstream Greenhouse Gas Estimate Comparison

Scenario	Environment and Climate Change Canada			Alberta Climate Change Office		
	Part A*	Part B	Maximum Incremental*	Part A	Part B	Maximum Incremental
Scenario 1	23.9	Not Specified	14 to 17	17.0	5.7	11.3
Scenario 2	22.2	Not Specified		16.3	5.5	10.8
Scenario 3	23.2	Not Specified		14.6	4.9	9.7
Scenario 4	20.3	Not Specified		17.4	5.9	11.5

*Note: Our analysis and attached feedback indicates that Environment and Climate Change Canada's Part A estimates may contain a calculation error, which may also affect the maximum incremental estimate.

The attachment provides Alberta's submission including calculations. The Climate Change Office is available to answer any questions you may have regarding our feedback and can offer additional data to help improve Environment and Climate Change Canada's estimates, upon request. Please contact Kate Rich, Climate Change Policy (kathleen.rich@gov.ab.ca), if further clarity is needed.

Thank you for considering Alberta's comments.

Sincerely,

Lora Pillipow
Assistant Deputy Minister

cc: Cynthia Farmer, Assistant Deputy Minister, Alberta Energy
Graham Statt, Assistant Deputy Minister, Alberta Environment and Parks
Garry Pocock, Deputy Minister, Alberta Intergovernmental Relations
Kate Rich, Executive Director, Climate Change Office

Attachment

**Government of Alberta Submission
Environment and Climate Change Canada's Upstream Greenhouse Gas
Emissions Estimates for the Trans Mountain Expansion Project (posted May 19,
2016)**

A. Estimation of the Upstream Greenhouse Gas Emissions

A.1. Emission Factors

Context:

The methodology described in Gazette 1 indicated that publicly available data would be used where available and applicable. Table 3 of the Draft for Public Comment provides upstream emission factors for various crude products, but the document does not provide clarity (i.e., calculation methodology) for how each emission factor was derived. Environment and Climate Change Canada also indicates that the analysis does not include Alberta's Climate Leadership Plan, to be factored in for future estimates as certain policies take effect.

Comments:

Alberta was unable to replicate Environment and Climate Change Canada's emission factors using publicly available data. While the ranges in emission factors (44.2 kg CO₂e per barrel – 104.9 kg CO₂e per barrel) seem consistent with other commonly referenced upstream emission factors in various lifecycle assessment reports and studies (see the following table, Crude Oil Production column and WCSB rows with a range of 74 kg CO₂e per barrel – 105 kg CO₂e per barrel), further information with respect to Environment and Climate Change Canada's research methodology and assumptions for each crude oil type would allow for a more detailed analysis and verification of the annual projected upstream emissions.

Wells to Wheels Greenhouse Gas Emissions per Barrel for Reference Crudes, by Study and Lifecycle Stage

Study	Crude Type	GHG Emissions kgCO ₂ e per Barrel of Gasoline and Distillates ^a					
		Crude Oil Production	Crude Oil Transport	Refining	Finished Fuel Transport	Fuel Combustion	WTW Total
Jacobs	Middle Eastern Sour	43	15	69	2	396	526
	Mexican Maya	68	6	74	2	398	549
	Venezuelan	52	7	86	2	405	553
	WCSB	96	1	71	2	387	557
TIAX	Middle Eastern Sour	1	5	59	IE	390	456
	Mexican Maya	17	1	63	IE	390	470
	Venezuelan	55	1	67	IE	390	513
	WCSB	74	9	59	IE	390	533
NETL	U.S Average (2005)	36	7	47	5	393	488
	Middle Eastern Sour	13	15	55	5	393	480
	Mexican Maya	36	6	70	5	393	510
	Venezuelan	23	6	58	5	393	485
	WCSB	105	5	61	5	393	568

Source: Modified from SEIS (<https://keystonepipeline-xl.state.gov/documents/organization/221247.pdf>)

While the document presents the various processing stages and high-level boundaries that were considered, detailed crude pathway assessments should be defined for each crude oil type outlined in the report. This would include the key parameters typically used to develop the

respective emissions factors for each crude type. This information would also allow for an assessment of the emissions data vintage quality (i.e., audited and/or verified) used for the document's four scenarios.

It also appears that the ‘upgrading’ stage is included in the calculation of ‘synthetic’ emission factors. However, for other crude types (e.g., conventional oil), identical engineering processes are often utilized at the refinery stage, and are consequently not included in upstream emissions. Alberta requests recognition that the upgrading process may occur upstream or downstream of the pipeline and should be exempt from the estimate in order to avoid carbon leakage to downstream jurisdictions. The emissions benefits of upgrading are seen in the allocation and substitution of co-products in downstream processes. This would result in inequitable treatment of components, under the reports methodology, and an overestimation for ‘synthetic’ emission factor projections.

Similarly, the refined products emission factor appears to include refinery emissions in addition to the extraction emissions. Alberta's position is to not include the refinery emissions because they can occur upstream or downstream of the pipeline. Considering refinery emissions as an upstream greenhouse gas emission in the context of this review and decision could result in carbon leakage, potentially shifting the refinery emissions upstream of the pipeline to a jurisdiction downstream of the pipeline. Alberta's position is also to encourage value added production in Canada, but inclusion in the upstream greenhouse gas estimate could be a deterrent. Since we do not have Environment and Climate Change Canada's refined product emission factor disaggregated into extraction and refinery components, we are unable to deduct the refinery portion and offer an alternate emission factor.

Since we were unable to replicate or verify Environment and Climate Change Canada's emission factors with public data, Alberta offers the emission factors established with Alberta-based data. Using Alberta's 2015 Specified Gas Emitters Regulation data provides additional assurance since the data is third-party verified (audited). Alberta's emission factors also reflect the reductions in emissions intensity that we expect for the announced methane policy and the new performance standards pricing regime.

Recommendations:

In accordance with the above comments, the Government of Alberta recommends using the following Alberta-based emissions factors in the table below. The footnotes provide their basis, and more detailed information can be provided, if needed.

As noted in the comments above, although we were unable to deduct the refinery portion of the refined product emission factor, we recommend Environment and Climate Change Canada consider deducting the refinery portion to avoid carbon leakage and deterrence of value added processing.

Alberta-based Emission Factors (kg CO₂e per barrel)

Synthetic Extraction Only (6)	31	31	31	31	31	31	31	31	31	31	31
Synthetic Extraction and Upgrading (7)	94	94	94	94	94	94	94	94	94	94	94
Refined Product (8)	117	116	113	109	109	109	110	110	110	103	102

Footnotes:

- (1) Alberta methane reduction policy commits to a 45% reduction in conventional oil and gas methane by 2025. Alberta deducted an equivalent emission factor for the methane reductions from ECCC numbers, based on 18 kg/bbl for 2014 conventional light emissions (ECCC) and production (NEB). Although Alberta expects early reduction requirements and voluntary reductions, the Government of Alberta has factored in only after 2025 since those policy details have not been decided.
- (2) Alberta methane reduction policy commits to a 45% reduction in conventional oil and gas methane by 2025. Alberta deducted an equivalent emission factor for the methane reductions from ECCC numbers, based on 44 kg/bbl for 2014 conventional heavy emissions (ECCC) and production (NEB). Although Alberta expects early reduction requirements and voluntary reductions, the Government of Alberta has factored in only after 2025 since those policy details have not been decided.
- (3) Based on 2015 Specified Gas Emitters Regulation regulated-facilities, established in situ CSS product intensity using total direct emissions without biomass CO₂ and reported bitumen production. Under the Climate Leadership Plan (and building from the Climate Leadership Report to Minister), Alberta expects an average emission intensity reduction of 2 per cent relative to intensities under the Specified Gas Emitters Regulation in each year. Assumed constant emission intensity over time, aside from greenhouse gas reductions.
- (4) Based on 2015 Specified Gas Emitters Regulation regulated-facilities, established in situ SAGD product intensity using total direct emissions without biomass CO₂ and reported bitumen production. Note that Nexen Long Lake reports multi-product intensities for bitumen, synthetic crude (for upgrading), and cogeneration of electricity, for which this product intensity only counted bitumen (cogeneration of electricity allocated to synthetic crude). Under the Climate Leadership Plan (and building from the Climate Leadership Report to Minister), Alberta expects an average emission intensity reduction of 2 per cent relative to intensities under the Specified Gas Emitters Regulation in each year. Assumed constant emission intensity over time, aside from greenhouse gas reductions.
- (5) Based on 2015 Specified Gas Emitters Regulation regulated-facilities, established mining bitumen product intensity using total direct emissions without biomass CO₂ and reported bitumen production (Syncrude Mildred Lake and Aurora North and CNRL Horizon bitumen production taken from Alberta Energy Regulator ST-53 since bitumen is not reported separately to Alberta Climate Change Office). Note that Suncor reports multi-product intensities for bitumen and synthetic crude (for upgrading), for which this product intensity only counted bitumen. Facilities with integrated mining and upgrading (i.e., Syncrude Mildred Lake and Aurora North and CNRL Horizon) that do not report separate multi-product intensities were assumed to have similar proportions of emissions to Suncor. Under the Climate Leadership Plan (and building from the Climate Leadership Report to Minister), Alberta expects an average emission intensity reduction of 4 per cent relative to intensities under the Specified Gas Emitters Regulation in each year. Assumed constant emission intensity over time, aside from greenhouse gas reductions.
- (6) Recommend using synthetic with only the extraction portion. Upgrading can occur upstream or downstream of the pipeline and the applicable emissions should be exempt to avoid carbon leakage. Based on 2015 Specified Gas Emitters Regulation regulated-facilities, established synthetic crude oil extraction intensity using total direct emissions without biomass CO₂ allocated as in (4) and (5). Facilities used in the emission factor have integrated extraction and upgrading: Nexen Long Lake, Syncrude Mildred Lake and Aurora North, CNRL Horizon, and Suncor. Under the Climate Leadership Plan, we expect an average emission intensity reduction of 4 per cent relative to intensities under the Specified Gas Emitters Regulation in each year. Assumed constant emission intensity over time, aside from greenhouse gas reductions.
- (7) For reference only, this emission factor includes extraction and upgrading intensity. Based on 2015 Specified Gas Emitters Regulation regulated-facilities, established synthetic crude extraction and upgrading intensity using total direct emissions without biomass CO₂ and reported synthetic crude oil production. Facilities used in the emission factor have integrated extraction and upgrading: Nexen Long Lake, Syncrude Mildred Lake and Aurora North, CNRL Horizon, and Suncor. Under the Climate Leadership Plan (and building from the Climate Leadership Report to Minister), Alberta expects an average emission intensity reduction of 4 per cent relative to intensities under the Specified Gas Emitters Regulation in each year. Assumed constant emission intensity over time, aside from greenhouse gas reductions.
- (8) Alberta Climate Change Office used the refined product emission factor provided by Environment and Climate Change Canada. As noted in our comments and recommendations we do not endorse the inclusion of refinery emissions; however, we do not have a clear way to deduct the refinery emissions intensity from the refined product emission factors.

A.2. Scenario Emissions

Context:

Table 2 of the Draft for Public Comment provides total emissions projections for the four scenarios, indicating that the Trans Mountain Expansion Project could generate between 20 and 26 megatonnes of carbon dioxide equivalent per year. These are based on the emission factors in Table 3, the production compositions in Table 1, and the full 890 thousand barrels per day of capacity as noted in the Draft for Public Comment.

Comments:

Alberta Climate Change Office was unable to replicate Environment and Climate Change Canada's emission estimates using the same production scenarios and emission factors from Table 3 of the Draft for Public Comment. Our replicate calculations with Environment and Climate Change Canada data resulted in between 22.5 and 27.6 instead of 20 to 26 megatonnes carbon dioxide equivalent emissions, which could indicate incomplete information or calculation error.

Regardless, as noted in section A.2, Alberta Climate Change Office offers Alberta-based emission factors that factor in the Climate Leadership Plan and exempt synthetic crude upgrading emissions. Replicating Environment and Climate Change Canada's analysis of the 890 thousand barrels per day with audited Alberta-based emission factors, we estimate upstream greenhouse gas emissions resulting from the Trans Mountain Expansion Project to be 14.6 to 21.3 megatonnes. The full results are provided in the table below.

Alberta Estimates of Part A Upstream Greenhouse Gas Emissions for 890 thousand barrels per day (megatonnes CO₂e)

Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Scenario 1	19.6	18.9	18.4	18.3	17.8	16.3	16.6	17.1	17.0	17.0	17.0
Scenario 2	19.2	19.2	19.1	19.0	19.0	16.0	16.1	16.2	16.2	16.2	16.3
Scenario 3	18.1	18.0	18.0	17.9	17.9	14.8	14.8	14.8	14.8	14.6	14.6
Scenario 4	21.3	21.3	21.3	21.2	21.2	17.2	17.3	17.4	17.4	17.4	17.4

Recommendations:

The Government of Alberta recommends Environment and Climate Change Canada consider using the Alberta-based emission factors for its estimate, which are based on third party verified emissions and production. As noted in section A.2, these emission factors also exempt synthetic crude upgrading emissions and incorporate aspects of the Climate Leadership Plan.

If Environment and Climate Change Canada concludes the assessment with its own emission factors, then we recommend checking for potential calculation errors given the discrepancy we observed upon replication of the analysis.

B. Impacts on Canadian and Global Upstream Greenhouse Gas Emissions

B.1. Effect of oil price on production

Context:

The Draft for Public Comment notes that incremental production more likely to be enabled by increased pipeline capacity when long-term Canadian light oil prices are in the \$60-\$80 per barrel range (2015 U.S. dollars). At prices higher than this range, many oil sands projects would be profitable even if transporting crude oil by rail was the only option.

Comments:

The analysis is similar to the assessment done for the Enbridge Line 3 replacement program, in which ECCC shows a range of US\$60-80 per barrel; however, the range is now based on Canadian light oil instead of WTI.

Recommendations:

The Government of Alberta recommends Environment and Climate Change Canada clarify the decision to change its expected range from WTI basis to Canadian light oil basis. Additionally, Canadian light oil prices are usually discounted from WTI by US\$5.50 per barrel as indicated in the same report. Therefore, it would be important to indicate why the implied range in WTI terms has changed (Environment and Climate Change Canada indicates that supply costs are based on their internal model but it is not clear if that was the only reason). Furthermore, according to Environment and Climate Change Canada, the incremental emission will occur only if more than one pipeline is built. Thus, it is recommended that Environment and Climate Change Canada explains how the incremental emission is tied to Trans Mountain Expansion Project.

B.2. US Gulf Coast Canadian Crude Imports

Context:

The Draft for Public Comment notes that U.S. PADD 3 will be the alternative market for western Canada heavy crude if the Trans Mountain Expansion Project does not go ahead. In the assessment, 2014 refinery information was used.

Comments:

There have been major developments with pipeline connectivity between PADD 2 and PADD 3 after 2014, such that Canada crude exports to PADD 3 have seen some growth.

Recommendations:

The Government of Alberta recommends using 2015 refinery information instead of 2014, which will more accurately reflect these developments.

B.3. Enbridge Mainline and Line 9 Reversal

Context:

The Draft for Public Comments notes that with Enbridge's Line 9B reversal, pipeline capacity for western Canada crude oil to refineries located in Quebec increased 300 thousand barrels per day.

Comments:

The pipeline capacity for western Canada crude oil to refineries located in Quebec does not appear to factor in U.S. Bakken crude in the Enbridge Mainline and on Line 9.

Recommendations:

In considering Western Canada pipeline capacity to Eastern Canada, the Government of Alberta recommends Environment and Climate Change Canada factor in the impact of U.S. Bakken crude moving on Enbridge Mainline system and on Line 9.

B.4. Downstream Emissions Impacts

Context:

The Draft for Public Comment notes that given global competition for investment in oil production, it is likely that if oil sands production did not occur in Canada, investments would be made in other jurisdictions and global oil production and consumption would be materially unchanged.

Comments:

Environment and Climate Change Canada indicates that the main destination for increased Western Canada production through the Trans Mountain Expansion Project would be the Pacific region (mainly California, China, Japan and Korea). In evaluating the impact of the Trans Mountain Expansion Project on global upstream greenhouse gas emissions, emissions from the incremental oil sands exports to Pacific region may need to be compared to emissions of likely displaced crude in that region.

As Alberta noted in our submission for Gazette 1, if Trans Mountain Expansion Project is not constructed, the resulting upstream greenhouse gas emissions would not change globally. Displacement of crude from highly regulated Canadian production by other jurisdictions may result in carbon leakage downstream that could be higher than if Canadian oil were not displaced.

Recommendations:

The Government of Alberta recommends including a calculation of the greenhouse gas emissions for alternate heavy crudes used in the Pacific region based on the analysis included in Figure 4 (Well-to-Tank GHG Emission Intensity Ranges by Type of Heavy Crude Oil used in the Pacific) to compare it with greenhouse gas emissions from oil sands Canadian crude that would be transported from Western Canada.

B.5. Emissions Impact of Existing Trans Mountain Capacity

Context:

Although the existing capacity of 300 thousand barrels per day is included in the scope of Part B, Environment and Climate Change Canada has not completed an upstream greenhouse gas emissions estimate for this level of production.

Comments:

Estimating the emissions impact of the existing 300 thousand barrels per day Trans Mountain capacity is necessary for a complete assessment of Part B upstream greenhouse gas emissions and subsequent calculation of the incremental emissions.

Recommendations:

The Government of Alberta recommends repeating the analysis set out in Part A for existing Trans Mountain capacity under Part B. Using the Alberta-based emission factors provided in the table above, Alberta estimates the maximum level of emissions from the existing Trans Mountain capacity to be between 4.9 and 7.2 megatonnes. The full results are provided in the following table.

Alberta Estimates of Part B Upstream Greenhouse Gas Emissions for 300 thousand barrels per day (megatonnes CO₂e)

Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Scenario 1	6.6	6.4	6.2	6.2	6.0	5.5	5.6	5.8	5.7	5.7	5.7
Scenario 2	6.5	6.5	6.4	6.4	6.4	5.4	5.4	5.5	5.5	5.5	5.5
Scenario 3	6.1	6.1	6.1	6.0	6.0	5.0	5.0	5.0	5.0	4.9	4.9
Scenario 4	7.2	7.2	7.2	7.1	7.2	5.8	5.8	5.9	5.9	5.9	5.9

Although Alberta has not factored in crude by rail transportation, we believe that upstream oil and gas production may proceed at prices above \$80 per barrel regardless of the Trans Mountain Expansion Project.

C. Incremental Assessment and Conclusion

C.1. Incremental Capacity

Context:

The Draft for Public Comment notes that the Trans Mountain pipeline system transporting 890 thousand barrels per day could generate between 20 and 26 megatonnes of carbon dioxide equivalent per year. It is expected that more than 700 thousand barrels per day of total planned capacity of 890 thousand barrels per day would be under committed contracts with shippers, leaving the remaining capacity for uncommitted shippers. Considering only 590 thousand barrels per day capacity added by the upstream GHG emissions could range from 14 to 17 megatonnes of carbon dioxide equivalent per year.

Comments:

Similar with the Line 3 replacement project, the estimated emission range provided is based on total capacity of the pipeline and the additional 590 thousand barrels per day, which includes 180 thousand barrels per day of uncontracted capacity. However, even if the replacement pipeline is built, there is no guarantee that producers will use the pipeline at its full capacity or that it will translate into incremental production. Where there are alternatives, producers use the transportation option that will secure the highest netback.

Additionally, as noted in our Part A comments, there is potentially an error in the calculation of Part A emissions, which likely would affect Part B and the derivation of incremental emissions.

Recommendations:

In order to meet the original intent to perform incremental analysis, the greenhouse gas emission range should consider the uncertainty of incremental emissions from the 180,000 barrels per day of uncommitted capacity. Uncommitted capacity does not have take-or-pay shipper contract obligations, pays a higher uncommitted toll and is likely not associated with incremental upstream production. Additionally, it would be helpful if Environment and Climate Change Canada is able to provide more detailed information on its greenhouse gas methodology and calculations: tables or excel documents would be excellent complements to its analysis. Additionally, instead of using pipeline capacity, estimated pipeline throughput should be used in estimating possible greenhouse gas emission.

If Environment and Climate Change Canada concludes the assessment with its own emission factors, then we recommend checking for potential calculation errors given the discrepancy we observed upon replication of the analysis.

C.2. Trans Mountain Expansion Project Yields Zero Net Upstream Greenhouse Gas Emissions

Context:

Environment and Climate Change Canada concludes the Draft for Public Comments indicating a number of scenarios in which incremental emissions may or may not occur. The Executive

Summary is the only place where the incremental emissions are quantified in a range from 14 to 17 megatonnes of carbon dioxide equivalent per year.

Comments:

The Government of Alberta generally agrees with the qualitative conclusions, subject to the clarifications provided throughout this feedback document; however, Alberta wishes to offer an alternative estimate of the maximum incremental emissions that could occur.

Recommendations:

The Government of Alberta recommends Environment and Climate Change Canada consider an alternate assessment of the maximum incremental upstream greenhouse gas emissions based on Alberta's emission factors and under the same calculation process used by Environment and Climate Change Canada. By taking Alberta's Part A estimate (reflecting 890 thousand barrels per day of Trans Mountain Expansion Project capacity) and subtracting Part B (reflecting 300 thousand barrels per day of existing Trans Mountain capacity), the resulting maximum incremental emissions are shown in the following table. We believe these would be the maximum incremental emissions because our Part B estimate does not factor in the upstream emissions that would occur from transporting Alberta crude by rail or carbon leakage that would occur from upstream oil and gas investments globally.

Alberta-based Calculation of Maximum Incremental Upstream Greenhouse Gas Emissions Resulting from Trans Mountain Expansion Project (megatonnes CO₂e)

Maximum Incremental Emissions	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Scenario 1	13.0	12.5	12.2	12.1	11.8	10.8	11.0	11.4	11.3	11.3	11.3
Scenario 2	12.7	12.7	12.7	12.6	12.6	10.6	10.7	10.8	10.8	10.7	10.8
Scenario 3	12.0	12.0	11.9	11.8	11.8	9.8	9.8	9.8	9.8	9.7	9.7
Scenario 4	14.1	14.1	14.1	14.1	14.1	11.4	11.5	11.5	11.5	11.5	11.5

Alberta wishes to reinforce that these are assumed, enabled maximum incremental emissions that could occur because our Part B estimate does not factor in the upstream emissions that would occur from transporting Alberta crude by rail, uncommitted capacity or carbon leakage that would occur from upstream oil and gas investments globally. Furthermore, by assuming constant emission factors with 2015 data, this assessment does not factor in the expected improvement in emissions performance associated with new facilities and does not reflect more efficient recovery from in situ facilities as the heat content of the reservoir accumulates over time.

C.3. Cumulative Incremental Emissions Associated with Other Pipeline Expansion Projects

Context:

The Draft for Public Comments briefly examines the impact of multiple pipelines being built such that crude by rail is no longer necessary. Also, each project-specific upstream greenhouse gas estimate has so far been examined in isolation.

Comments:

The cumulative incremental emissions associated with other pipeline expansion projects may warrant commentary by Environment and Climate Change Canada, particularly in the context of

multiple ongoing upstream greenhouse gas estimates in isolation. The Government of Alberta wishes to reinforce that the proposed 100 megatonne legislated limit on oil sands emissions, with considerations for cogeneration and upgrading, provides statutory back-stop for potential growth of emissions upstream in the oil sands sector.

Recommendations:

The Government of Alberta recommends Environment and Climate Change Canada provide consideration to Federal Cabinet and in future upstream greenhouse gas estimate for the effect of Alberta's oil sands emissions limit on cumulative upstream greenhouse gas impacts from other pipeline expansion projects.