



June 10, 2016

Environment and Climate Change Canada
12th Floor, 351 Saint-Joseph Boulevard
Gatineau, Quebec K1A 0H3
Via email ec.egesa-ughga.ec@canada.ca

Dear Environment and Climate Change Canada,

Thank you for the opportunity to provide comments on the analysis Environment and Climate Change Canada ("ECCC") has completed on the Kinder Morgan Trans Mountain Expansion ("TMX") project's anticipated upstream greenhouse gas ("GHG") emissions.

We have some general comments that pertain to the methodology, following which I will list comments specific to each section of the analysis. Although ECCC has not disclosed how public comments will be applied to the TMX GHG analysis report, it is our understanding based on the reference in Part A to "incorporating [other data sets] into the final assessment as appropriate" that public comments, likewise, will be applied to a final draft of this report to be delivered to the Governor-In-Council.

First, the methodology as it was proposed earlier this year, and as it has been applied to the TMX project, does not resolve the question of how the assessment will fit into the statutory review processes under the Canadian Environmental Assessment Act, 2012 ("CEAA") and the National Energy Board Act ("NEBA"). While the TMX upstream GHG emissions analysis has been conducted within the overall National Energy Board ("NEB") review for the project, it remains unclear how decision makers might assess the significance of TMX's upstream GHG emissions and whether they are justified.

Second, the methodology as it was proposed and applied does not describe how the assessment would adhere to a projected markets analysis that is consistent with established global demand forecasts in line with internationally agreed targets on climate change (i.e. how would it fit within the Paris target of a global temperature rise of no more than 1.5C?). While such forecasts are described in the report, without a federal carbon budget, it is impossible for ECCC to evaluate the significance of its emissions calculations. Cabinet should defer its decision until after a national carbon budget, climate plan and a climate test for pipelines is in place.

Transition Initiative Kenora is an environmental non-profit operating in the Kenora area. We work with local people, government, and community groups to build the skills necessary to transition our economy to clean, renewable energy and to deal with the many impacts of climate change.

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Third, as we have previously commented to ECCC in our April 19, 2016 submission regarding the then-proposed upstream GHG emissions analysis methodology, when developing new analytical methodology, the Government of Canada should adopt as a best practice consultation with Indigenous groups, Inuit, Métis, environmental non-governmental organizations and other relevant stakeholders to ensure the most comprehensive approach is followed for assessing GHG impacts. More recently, the Government of Canada has pledged to adopt and implement the United Nations Declaration on the Rights of Indigenous Peoples (“UNDRIP”). We assert that full adoption and implementation of UNDRIP, including requirements to obtain Free, Prior and Informed Consent from affected Indigenous peoples for resource development projects that have the potential to infringe upon their inherent and Treaty rights and title should be a precursor to further review of any major energy project in Canada. Neither UNDRIP, nor any nation-to-nation consultation has been an element of the TMX upstream emissions assessment.

Finally, the methodology, of course, does not consider downstream GHG emissions and as such, fails to provide a measure of the true lifecycle impacts of the project. Downstream GHG emissions must be considered if Canada is to understand the lifecycle impacts of the projects under its regulatory authority.

Comments on Part A

1. GHG estimates should take into account indirect emissions resulting from the activities that produce the oil and gas in question. This includes land-use changes, grid electricity, and the use or production of fuels such as natural gas that are used in an oilsands facility. Upstream transportation emissions, including upstream transportation emissions for domestic diluent, related to moving product to the TMX loading facility should be included in the analysis.
2. ECCC should compel the project proponent to disclose data necessary to properly assess upstream GHG emissions, including their supply contracts that describe the source and quantity of specific grades of petroleum products that will fill the pipeline. While the Muse report provides a useful estimate of supply mix, TMX does have firm commitments from known shippers, and a more accurate estimate of the supply mix could be attained by examining these supply contracts.
3. Although ECCC removed imported diluents from its emissions projections, a more robust analysis would also require ECCC obtain the supply contracts for domestic diluent and other processing components.
4. This analysis only considers GHG reduction policy instruments in place as of September 2015 (the current measures reference scenario) and does not include highly relevant policy developments that have happened since that time. At the very least, the project’s emissions should be assessed within the context of the Alberta Climate Leadership Plan and the international Paris Agreement, which

- would require this analysis to present not only an expected range of emissions, but also a context for those emissions within a global and national carbon budgeting framework.
5. Similarly, the modeling looks only as far as 2030, ostensibly because this is the end of the current federal climate policy timeline. Pipeline infrastructure exists on a much longer (50-year and longer) time horizon, and so the emissions analysis should be projected for the entire lifetime of the proposed project, not just to the end of the current federal climate policy timeline. As the Paris Agreement demands that global carbon emissions shrink approaching 2050, accordingly, any pipeline infrastructure project locked in now will demand an ever-increasing share of the global carbon budget going forward.
 6. For each scenario of the various crude oil mixtures that might be transported in the pipeline, the report should indicate cumulative upstream emissions, not just annual average emissions as a range.
 7. ECCC should explicitly disclose its emissions factors calculations. Although this report is an improvement over the analogous report for the Enbridge Line 3 replacement project in that it discloses that ECCC used GHG emissions values from *Canada's Second Biennial Report on Climate Change* and applied production projections from the NEB, it would still be helpful to see the source data for specific crude oil grades' emissions intensities to help explain how the values presented in Table 3 were derived.

Comments on Part B

1. Throughout the discussion in Part B, ECCC relies on the IEA's New Policies and 450 scenarios as policy instruments for critiquing Canada's role in providing crude oil to the world, but both scenarios are quite inadequate. Both fail to address the level of ambition required to attain internationally agreed upon climate goals set forth at COP21 in Paris, to keep warming below 1.5C by 2100. The IEA450 scenario, in particular, offers no better than a 50:50 chance of runaway climate destabilization and global warming, and is based on a 2C scenario, rather than the international target of 1.5C. ECCC would be far better served by a discussion that frames Canada's crude oil future against policies required to attain these international climate goals and explores whether there is any economic justification for the project in a world that respects these climate goals.
2. In section B.2.2, ECCC comments that new oil resources will need to be developed to compensate for declining output on existing oil and gas fields. This comment, oddly, reads like a justification for new Canadian oil extraction projects, which implies related justification for the TMX pipeline. Assuming such development were even possible while adhering to the Paris Agreement, the extraction and processing of new, and ever more marginal oil resources will result in higher per barrel emissions than waning current conventional projects.

- There is not a simple, directly equivalent substitution of new projects for old projects.
3. In section B.2.3.2: Potential Markets for Canadian Oil Sands Growth, without a citation to support its claim, ECCC states, “If the expanded Trans Mountain pipeline carries mostly diluted bitumen, refineries in Asia Pacific would either expand heavy oil processing capacity or use more Canadian heavy crude oil and substitute away from other sources of heavy oil.” There seems to be very little support for this view, even in the discussion that follows (sections B.2.3.2.1 through B.2.3.2.3) that demonstrates both that there is very little potential for heavy oil refining capacity in the Asia Pacific region, and also that Asia Pacific refineries are already well supplied by other jurisdictions, most notably Saudi Arabia and Russia. Even traditional U.S. PADD V destinations seem unlikely to be able to handle a large, new influx of Canadian heavy crude via the TMX pipeline due to state climate policy restrictions.
 4. In the section B.2.5: Canadian Climate Change Commitments and Oil Sands Production, ECCC notes, “Over time, new technologies and policies will be developed that will change the emissions intensity and economic feasibility of oil production both in Canada and globally, as well as act to change the attractiveness of alternatives to oil.” We caution that the hope for emerging technology to solve emissions problems should not overshadow the very real need for concrete and decisive policy action to effect emissions reductions.

The remaining comments relate to section B.4: Incremental Emissions and Pipeline Capacity Additions.

5. Scenario 1 assumes the NEB’s forecast for 576,000 bbl/d of proposed new production to come online by 2019 is correct and absolves from TMX the responsibility for incremental emissions tied to this new growth. If, however, some of these projects should be delayed such that they come online after the in-service date for TMX, the case for incremental emissions tied to TMX may exist.
6. Related to comment (2) above, it may be erroneous to assume there will be no incremental emissions for existing projects. ECCC’s analysis assumed that the existing or locked in production under development would not result in incremental emissions. However, the emissions profile of existing production is not necessarily static over time. For example, as existing production becomes more marginal over time, the emissions intensity related to obtaining that resource might increase. In this case, there could be incremental emissions tied to existing production, and ECCC should take this into account in its analysis.
7. Assuming the baseline understanding of the transportation system dynamics is correct, there are still numerous flawed assumptions around the applicability and equivalency of rail and pipelines.

- a. First, in the baseline scenario, if there are no new pipelines it does not automatically mean that rail can or would rapidly scale up to cover the capacity shortage. In fact, rail may prove too costly or may offer insufficient capacity, and oil production shut-in could result.
 - b. Second, it is also a flaw to assume that under scenario 2 crude-by-rail would necessarily be eliminated. There may well be applications for which rail is a more practical option, irrespective of higher tolls (e.g. to service ephemeral shale wells), in which case it would remain part of the Canadian crude oil transportation mix.
 - c. Rail and pipelines are not completely interchangeable. Rail cannot always readily substitute for pipelines, and while it showed incredible ability to rapidly scale up between 2011-2014, it did so at great cost and physical risk to communities and the natural environment, as evidenced through numerous derailments including two at Gogama, ON in early 2015, and the infamous Lac Mégantic disaster in July 2013. Rail has proven itself a politically unpalatable option for crude oil transportation.
 - d. Moreover, to bring online an equivalent volume of rail capacity to meet the deficit left by an unapproved pipeline would be logistically challenging, if not impossible given capacity constraints on the existing rail network, as well as at loading and offloading terminals. The rail industry currently appears to have little appetite for investing in the expansion of rail infrastructure on a scale that would be need to meet the demands of a growing oil sector, on the chance that industry might find itself constrained by a lack of pipelines in a few years.
 - e. ECCC makes no comment on whether incremental emissions might be tied to rail expansion. This should be discussed in this analysis, given the arguments being made around the equivalency of rail to meet pipeline capacity gaps.
8. It is not clear that the baseline understanding of transportation system dynamics is correct, particularly in an ongoing a low oil price environment. Oil Change International's integrated North American pipeline model demonstrates that there is actually sufficient capacity in the *existing* pipeline transportation system to accommodate all current production *and* the anticipated locked in growth of 576,000 bbl/d to 2019. If this is true, then the baseline assumption that a scenario with no new pipelines would require a shift to rail to accommodate growth to 2019 may be wrong. There may, in fact, still be capacity in the combined rail and pipeline system post-2019, even without adding in any new pipeline. If this is the case, then Scenario 1, effectively becomes equivalent to Scenario 2: if only TMX is built, in a baseline world in which there is sufficient transportation capacity for the growth that is currently locked in and anticipated to 2019, then TMX could directly facilitate further production expansion after 2019, resulting in incremental emissions being attributable to the TMX project.

9. ECCC has not considered the impacts that the addition of new pipeline infrastructure would have on transportation tolls. Andrew Leach has argued that overbuilt pipeline capacity could drive transportation tolls up, making rail competitive and / or leading to shutting in production.¹
10. In the discussion in B.4.3.4: Global Oil Consumption and Upstream GHGs, it is important to remember that while current dollar costs related to producing alternative global crude oil might be equivalent, life cycle cumulative costs do differ. Emissions intensity of production, socio-political costs, and total cumulative environmental impacts all differ from project to project, region to region, country to country. If development costs are equivalent across jurisdictions, these other evaluations metrics are more relevant for determining a project's viability or likelihood of development. Cost does become relevant, however, if global climate goals of 1.5C or 2C are considered. In this case, it may be that the global carbon budget requires global demand to drop, resulting in no heavy crude production anywhere as we get closer to 2050. Lower demand means lower supply and the highest-cost, most carbon-intensive production sources will be the first to go. Canada's consideration of whether to develop its resource or not rests on our country having a firm national climate policy, a national carbon budget, and a robust environmental assessment framework.

It is encouraging to see ECCC taking a role in assessing upstream GHG emissions from projects under federal review, and we thank you for the opportunity to provide comment on this analysis. If the results of such assessments are to carry due weight and provide strong evidence for Cabinet to use in its decision making process, is vitally important that the methodology employed in these reviews is robust and credible. We believe that addressing the comments we have provided will improve ECCC's analysis and help Cabinet to make good, evidence-based decisions about the projects it reviews.

Sincerely,
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¹ Speaking as a panelist at the York University "Cross Canada Panel on Environmental Assessment Reform", March 23, 2016, Leach said, "Pipelines are a little bit different. If you want to strand a resource, one of the most effective ways to do it would be to have an overbuilt pipeline infrastructure, because an overbuilt pipeline infrastructure translates to higher transmission costs, not lower transmission costs." See 34:20 to 34:30 at <https://www.youtube.com/watch?v=-aBX-aqH2zM>