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**RE: DRAFT REVIEW OF RELATED UPSTREAM GREENHOUSE GAS
EMISSIONS ESTIMATES FOR THE TRANS MOUNTAIN EXPANSION
PROJECT (TMX)**

Enclosed herewith: Comments on Draft Review of Related Upstream GHG Emissions for the Trans Mountain Expansion Project.

Please note that the enclosed document is a revised version of the substantially identical material submitted earlier today. Kindly substitute this submission for the previous filing.

Submission from:

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Comments on Draft Review of Related Upstream GHG Emissions for the Trans Mountain Expansion Project

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Submission by David Gooderham

Analysis

Introduction

On May 19, 2016, the Liberal Government released a document called the *Review of Related Greenhouse Gas Emissions Estimates for the Trans Mountain Expansion Project (TMX)* (also known as the Kinder Morgan pipeline). It was completed less than 60-days after details of the assessment procedure were announced on a government website. No members of the public had any access to the process. It was a closed process. It did not involve public hearings, or witnesses, or an opportunity for interveners to submit evidence.

The report can be found at: <http://www.ceaa-acee.gc.ca/050/documents/p80061/114550E.pdf>

The Kinder Morgan assessment report is the disappointing culmination of a long-standing effort by many Canadians to persuade the Federal Government to include in the pipeline approval process an examination of the impact of rising CO₂ emissions from oil sands production. The National Energy Board (NEB) is the government agency responsible for regulating and approving all oil and gas pipelines in Canada. It controls the entire environmental review process for pipelines. During the past three years, the NEB has repeatedly refused to consider the problem of greenhouse gas emissions.

Before looking in detail at the Kinder Morgan assessment report, it is helpful to recall the events of the past few years. The story begins with the NEB's inquiry into the Northern Gateway pipeline.

On December 18, 2013, the NEB recommended that the Northern Gateway pipeline be built. The pipeline is designed to ship 525,000 barrels of diluted bitumen a day to the port of Kitimat on the B.C. coast, located at the head of a tidal inlet that leads to the Pacific. At the start of its lengthy two-volume decision, the panel explained its approach.

This volume of our report, Connections, is about connections and linkages ... between the economy and the environment ...

Our task was to recognize those connections. We weighed them and balanced them to answer the fundamental question: would Canada and Canadians be better off or worse off if the project goes ahead?"

— *Report of the Joint Review Panel for the Enbridge Northern Gateway Project, Volume 1, Connections*, p.1 (emphasis added)

The task of the panel, in its own words, was to decide whether Canada and Canadians would be “better off or worse off if the project goes ahead”. The panel identified various economic benefits and environmental negatives. The environmental negatives it considered concerned mainly the risk of oil spills in the interior of British Columbia and along the coast, and damage to animal habitats along the pipeline route.

The positive linkage the NEB “weighed and balanced” was that building the Northern Gateway pipeline will expand the industry’s capacity to export bitumen, and will therefore allow the industry to continue to increase bitumen production.

Building new pipelines would allow continued growth of oil sands extraction in Alberta. That was the primary rationale for the panel’s recommendation that the Northern Gateway project proceed.

One important “linkage” the NEB panel was unwilling to recognize, or even discuss, is that expanding oil sands production will result in growing levels of CO₂ emissions because of the energy-intensive methods of extraction. The panel refused to allow any witnesses to provide evidence about the quantity or consequences of CO₂ emissions from expanding bitumen production in Alberta. The panel gave this explanation for its decision to exclude all evidence about the problem of carbon emissions:

Many people said the project would lead to increased greenhouse gas emissions and other environmental ... effects from oil sands development. We did not consider that there was a sufficiently direct connection between the project and any particular existing or proposed oil sands development ... to warrant consideration of the effects of these activities.

— *Connections*, Volume 1, p. 17 (emphasis added)

It is important to keep in mind that there exists no other environmental review process of any kind in Canada - either at the Federal Government level or in the province of Alberta – that weighs the effects of the growth of CO₂ emissions caused by expanding oil sands production. There is currently no limit on oil sands emissions, either by individual facility or industry-wide.

Soon after the Northern Gateway decision was announced, a second pipeline project from Alberta to the Pacific coast began to work its way through another NEB inquiry: the Kinder Morgan expansion involves a proposal to increase the capacity of the existing Kinder Morgan pipeline, from 300,000 barrels per day (bpd) to 890,000 bpd. The Kinder Morgan case raises the same issues of expanding oil sands production and continued emissions growth.

Almost two years ago, in a ruling in the Kinder Morgan case on July 23, 2014, the NEB refused to consider evidence about what the government and industry refer to as “upstream emissions”. Upstream emissions are the CO₂ and other GHG gases released into the atmosphere during extraction and processing in Alberta, before the oil sands bitumen is shipped by pipeline.

Faced with this rejection of any kind of inquiry to assess the impact of emissions, many of Canada’s most senior scientists and energy economists and others have called for a moratorium on further oil sands expansion. They want us to look carefully at the evidence. They have asked for a halt to further oil sands growth until a public accounting is done to ascertain *whether rising CO₂ emissions from oil and gas extraction over the*

next fifteen years can be reconciled with our existing commitments to achieve a deep reduction of Canada's total GHG emissions.

During the Federal election campaign in the fall of 2015, the Liberal Party made a promise that it would “include an analysis of upstream impacts and greenhouse gas emissions” for any project that fell under a federal environmental assessment.

On January 27, 2016, the new government announced a modification of the existing pipeline approval process. The government declared that in the case of the two major pending pipeline applications – Energy East and the Kinder Morgan project – the “project reviews will continue within the current legislative framework.” That decision by the Liberal Government meant that in making recommendations whether to approve the two current projects, the NEB is allowed to continue to exclude evidence about greenhouse gas emissions, as it had already done in the Northern Gateway case, and by its 2014 ruling in the Kinder Morgan case.

Instead, the Liberal Government promised that it would add a new process, a separate procedure that would in some way deal with the issue of emissions. The new procedure was very briefly described in the January announcement, in these few words:

Assess the upstream greenhouse gas emissions associated with this project and make this information public.

— *Interim Measures for Pipeline Reviews*, January 27, 2016

Details of the Liberal Government’s new assessment procedure were not released to the public until March 19, 2016. The new procedure is supposed to look at the impact of a new pipeline on Canada’s total GHG emissions.

The assessment of upstream emissions for the proposed Kinder Morgan pipeline was completed very quickly. The report was released on May 19, 2016, which was less than 60 days after details of the procedure were published. While the assessment procedure was being completed it received no public attention, because it was a closed process. There were no public hearings.

The main finding in the assessment report is that the Kinder Morgan pipeline will cause only a “minimal” impact on Canada’s GHG emissions. That conclusion is qualified by various assumptions about future oil prices, and some talk about “uncertainties”.

On the same day, May 19, the NEB released its own decision recommending that the Federal Government proceed with the construction of the Kinder Morgan project.

So we now have two separate reports relating to the Kinder Morgan pipeline. Media attention on May 19 and since has focused on the NEB’s decision, which recommends that Kinder Morgan be built. The NEB’s decision appears to many people to be the most consequential decision, and it *is* consequential. In British Columbia, including in many aboriginal communities, the risks of pipeline failure on land and in the river systems, and

the effects of heavy oil tanker traffic on marine life, and marine spills, drive much of the broad public interest, and concern.

The assessment report has had little public scrutiny. But the report will be used to persuade Canadians that the Kinder Morgan project will not make our emissions problem worse. We need to take this report very seriously.

The Liberal Government's assessment procedure (March 2016)

On March 19, 2016, the Liberal Government quietly released details of the Interim Measures to assess emissions associated with pipeline projects and “make this information public”. A notice published in the *Canada Gazette* explains the new procedure:

The assessment of upstream GHG's will consist of two parts: (A) a quantitative estimation of the GHG emissions released as a result of upstream production associated with the project, and (B) a discussion of the project's potential impact on Canadian and global emissions.

— “Estimating upstream GHG emissions”, *Canada Gazette*, March 19, 2016.
(<http://www.gazette.gc.ca/rp-pr/p1/2016/2016-03-19/html/notice-avis-eng.php#n14>)

The document describes the steps that should be followed to carry out each part of the assessment. It refers to these steps as “the methodology”.

The “methodology” for Part A of the assessment is not complicated. The first step is to calculate the “estimated throughput” (i.e., how much diluted bitumen or other type of oil will be carried per day, per year, and over the lifetime of the pipeline). Part A of the assessment will therefore calculate the total GHG emissions “associated with the project” – which means the amount of CO₂ emissions that will be generated every year in the course of producing the amount of bitumen that *could* be transported to markets by the new pipeline.

But that information is already mostly available to the public. We already know, from the Government of Canada's own published data, that between 2013 and 2030 the annual level of emissions from oil sands production is projected to rise by about another 54 Mt (see Figure 1). The rising emissions level is driven by the expected growth of oil sands production. A recent study by the Pembina Institute has calculated that, based on the 1.1 million barrels per day (bpd) capacity of the Energy East pipeline, completion of that project will enable future expansion of oil sands production that would generate up to 30 Mt of new annual emissions.

The question we need answered is whether emissions increases of that magnitude from expanded oil sands production (and from other oil and gas sector activities) during the next fifteen years can be reconciled with Canada's promised reduction by 2030. Part A will not answer that question.

If we turn to Part B of the assessment, we are told it will provide “a discussion of the project’s potential impact on Canadian and global emissions”.

But if we read the notice in full, we can see that the “methodology” designed for Part B is formulated in a particular way, which significantly limits the scope of the inquiry:

The second part of the analysis discusses the conditions under which the Canadian upstream emissions estimated in Part A could be expected to occur even if the project were not built.

— *Canada Gazette*, March 19, 2016

The above wording means that in looking at the impact of a proposed pipeline project, for example Kinder Morgan, the assessment must only ask this question: will the future increase in oil sands production (and therefore the future increase of emissions) made possible by the additional transport capacity of this pipeline occur *even if the pipeline is not built*? Clear guidance is given on what steps the assessment must follow to answer that question:

The second step involves evaluating the technical and economic potential for alternate modes of transportation to be used in the absence of the proposed project.

The notice does not use the word “rail” or “railways”. But everybody familiar with discussions during the past few years about the options available to the industry – about how the oil sands industry can continue to increase production if new pipelines are not available – is aware that rail transport is the alternative. Rail is the only alternative.

The assessment is therefore required to evaluate whether rail transport would be an economically viable method to transport increased bitumen production to market: explicit instructions are given that the assessment shall evaluate the “economic and technical potential” of the alternate mode of transport. Rail transport is more expensive than pipelines (about US\$10 more per barrel). The crucial question for the assessment procedure is whether long-term oil prices will be high enough to cover the extra cost, “in the absence of the proposed project.”

If rail transport is a viable alternative, then Part B of the assessment can decide that the increased production that would be carried in the proposed pipeline (calculated in Part A) *will be produced anyway*, even if the pipeline is not built. The assessment will be obliged to conclude that approval of the new pipeline will not make emissions any worse – because the increased production would still occur even if there were no new pipeline. It could all be transported by rail.

The March 18, 2016 notice is absolutely clear about the method the assessor must follow:

As an example, when considering whether Canadian GHG emissions would increase as a result of a crude oil pipeline project, the primary factor will be the

potential increase in Canadian upstream oil production that would be expected to occur if the pipeline were not built.

So if an assessment determines that future oil sands production would be able to profitably expand without the proposed pipeline – because rail would be economical as the alternate mode of transport – the assessment will be expected to find that Canadian GHG emissions will not increase as a result of the pipeline project.

The terminology in the assessment procedure is that the pipeline will cause no “incremental emissions”.

This is an entirely artificial approach. GHG emissions increase whenever production expands, no matter how the oil is transported to market. Our concern should be about the increasing level of annual emissions from the expansion of oil sands production, whether that growth is made possible by new pipelines or rail.

Evidence: the cost of shipping oil by rail and future oil prices

A short time after the assessment procedure was announced on March 19, 2016, the Liberal Government completed (and released to the public) emissions assessment reports on two pipeline projects.

The first, relating to a project called Line 3, was released on April 25, 2016. It was described as the “first example of an upstream greenhouse gas assessment using Environment and Climate Change Canada’s proposed methodology published on March 19, 2016”. That assessment relates to the expansion of Enbridge’s Line 3, which runs between Alberta and Superior, Wisconsin. That project, less well known to Canadians than Energy East and Kinder Morgan, involves an expansion of the pipeline’s existing capacity from 370,000 bpd to 760,000 bpd.

The second assessment report was released on May 19, 2016. It concerns the proposed expansion of the Kinder Morgan pipeline between Edmonton and the Port of Vancouver. The project will expand the capacity of the existing pipeline by an additional 590,000 bpd, from 300,000 bpd to 890,000 bpd.

The analysis followed in both reports is identical. Lengthy sections of both reports are the same, word for word. Apart from calculating different amounts of “throughput” and different calculations for the associated emissions (because Kinder Morgan adds more shipping capacity), all of the evidence about future long-term oil prices, the cost and availability of rail as an “alternate transport mode”, and supply costs is identical. That is not surprising. The only difference in the two cases is the amount of bitumen that each will carry.

Before turning to look closely at the Kinder Morgan report, it may be helpful to identify the nature and source of several key points of evidence relied on in both of these assessments. Because the two reports are identical in method and in their conclusions, I will not deal further with the specifics of the Line 3 assessment report.

Crucial evidence in both cases concerns the cost per barrel of using rail transport for bitumen, compared to the cost per barrel of using pipelines. Rail transport is about \$10 per barrel more expensive than pipelines. The assessments must also take into account the expected future level of world oil prices, looking ahead about twenty-five years – to decide whether oil prices will be high enough so that rail could be a viable “alternate mode of transport” to allow profitable expansion of oil sands production up to 2040, on the hypothetical assumption that no pipelines are built. The issue, in both assessments, was whether oil prices in future would be high enough to cover the extra cost of using rail transport.

The focus of the assessment reports is therefore not so much on emissions from oil sands production, but on the costs of shipping oil by rail and on future oil prices.

The assessment relies on the National Energy Board (NEB) for key parts of the evidence on those issues. The main source of recent NEB data used in the assessment procedure is a major report called *Canada's Energy Future 2016: Energy Supply and Demand Projections to 2040*, published by the NEB on January 27, 2016.

The NEB's forecast is that long-term oil prices will increase to about \$US78 by 2020 and will continue to rise gradually to US\$102 by 2040. That is the NEB's Reference Case oil price forecast using West Texas Intermediate (WTI) crude oil prices, which are a benchmark for North American oil prices.

In the same *Canada's Energy Future 2016* report, the NEB also produced an analysis (which it called the “Constrained Oil Pipeline Capacity Case”) showing that rail transport would be a viable substitution for pipelines over the period up to 2040. The Constrained Case is based on the same oil price projections as in the Reference Case – that is, prices increasing to about US\$80 by 2020 and continuing to rise gradually after that.

In the Constrained Case scenario, the NEB found that more than 90% of projected future growth of oil sands production between now and 2040 would occur *even without any new pipelines* – assuming that world oil prices move up in line with the NEB forecast.

The NEB's January 27, 2016 report therefore provides essential evidence to support an argument that building new pipelines will not increase emission. The rationale is that if the pipeline were not built, oil sands production would increase anyway (or at least 90% of the increase would occur anyway) because rail transport can be substituted as a more expensive, but still affordable, method of transport.

The Kinder Morgan assessment report

The emissions assessment report for the proposed Kinder Morgan pipeline project was released on May 19, 2016.

On that same day, the NEB's own report was made public. The NEB recommended that Kinder Morgan be approved. There are, therefore, two parallel procedures and two separate reports. One, the report prepared by the NEB, does not include any discussion of

GHG emissions caused by upstream bitumen production. The NEB during its inquiry process did not allow any testimony or scientific evidence about emissions or their impact on the climate system.

The second report is supposed to inform Canadians about the impact of the emissions.

In the case of Kinder Morgan, the project will expand the capacity of the existing pipeline to Vancouver by another 590,000 bpd, up to 890,000 bpd. The assessment report concludes that the volume of emissions associated with 590,000 bpd of bitumen production, which is the additional capacity provided by the proposed expansion of the Kinder Morgan pipeline, could range from 13.5 up to 17 Mt CO₂eq per year.

The Kinder Morgan assessment report follows the methodology described above. On the opening page of Part B of the analysis, the report confirms the approach:

If oil production was expected to occur in the absence of the project, the pipeline project would not enable incremental oil production and would therefore have no impact on upstream GHG emissions in Canada.

— Report, B.1, p. 14

That formula is repeated in the concluding part of the report, after taking into account the available evidence about future oil prices and the costs of rail transport, and other details of the evidence:

If longer term oil light oil prices were greater than USD \$80 in real terms, a number of projects would likely already be expected to be strongly profitable and a large amount of oil sands growth would be expected to occur regardless of whether the oil was moved by pipeline or rail.

— Report, B.4.3.2.3, p. 32

The second quote does not go so far as to say there would be “no impact”. But the results of the full analysis are summarized in Table 6 of the report. The summary describes the amount of incremental emissions caused by the Kinder Morgan pipeline at prices above US\$80 as “minimal”.

We can follow the various steps of analysis. The entire document is only 35 pages long.

The report accepts that rail transport costs about \$10 more per barrel than using pipelines. With respect to evidence about expected future long-term oil prices, the report adopts the NEB’s recent projections (*Canada’s Energy Future 2016*), using the NEB’s reference case, mentioned above, which projects a price of about US\$78 by 2020, rising to US\$102 in 2040.

It accepts that if future oil prices are in that range, rail transport would be a viable alternate method of transporting all of Alberta’s increased production to market. In reaching that result, the Kinder Morgan assessment relies specifically on the NEB’s

Constrained Case, which found that more than 90% of the projected future growth of oil sands production between now and 2040 would occur, *without any new pipelines*.

The assessment also agrees that large-scale rail transport is feasible in terms of existing railway infrastructure. It finds that current “rail loading capacity” for oil in western Canada is over 1 million bpd, which is four times more than the highest level of crude-by-rail during the past few years. Therefore railway shipping is readily available, but it is more expensive.

After reviewing the costs of rail transport and other details of oil sands production costs, the Kinder Morgan report turns to the main question, laid out in the March 19, 2016 methodology: “whether Canadian GHG emissions would increase as a result of the crude oil pipeline project.”

The assessment looks at the expected growth of oil sands production up to 2040, based on three future oil price scenarios. Under each oil price scenario, the report discusses whether rail transport would be a viable alternate method of moving oil to export markets. Rail transport is more likely to be an affordable substitute for the proposed pipeline at higher oil prices.

In the case of the low price scenario, the assessment says that if oil prices remain under US\$60 per barrel for the long term, then after 2020 no substantial oil sands growth is expected at all. At those low prices, rail will clearly not be economical. Even building new pipelines would not encourage growth of production, according to the report. We can ignore the Low Price scenario.

If long-term oil prices are taken to be mid-range (defined in the Line 3 report as US\$60-\$80 per barrel) but do not rise above that level, then the construction of new pipelines will encourage some expansion of oil sands production, according to the assessment’s analysis. In this mid-level price range, *rail transport would be too expensive to make any new oil sands projects profitable*, except for a limited number of projects if oil prices are at the top end of that range (i.e., close to US\$80). In contrast, in the mid-range price level, new pipeline projects that offer a relatively inexpensive way to move bitumen to market would encourage some growth of new oil sands production, which would not otherwise occur. So at this mid-range price level, the assessment agrees that new pipelines, if approved, would cause some increase in Canadian GHG emissions. They would cause some “incremental emissions” – that is, an increase of emissions caused or enabled by the pipeline, which would not occur if the pipeline were not built.

The mid-range (US\$60-\$80) is the only scenario where the assessment agrees that building new pipelines would potentially cause some incremental emissions. The amount is not quantified.

The third scenario is the most important. It is described as the high price range. It assumes long-term oil prices will reach a level above US\$80 per barrel (consistent with the NEB’s recent long-term forecast). At this higher price level, future expansion of oil sands production will be substantial – and so will emissions growth.

The assessment concludes that if long-term oil prices move above US\$80, any “incremental emissions” caused by new pipelines will be “minimal”. In other words, at that price range, building new oil pipelines to move expanding oil sands production to export markets *will not increase the level of Canadian GHG emissions*.

The reason is that at prices above US\$80, oil sands production can profitably expand *even if no new pipelines are built* – because in this higher price range, rail transport is economically viable. In this oil price range, the extra cost of rail transport is not a deterrent. Producers will be willing to invest in new projects even without new pipelines. That is the reasoning followed by the assessment report.

Of course, in reality the oil will not be moved by rail, not much of it. Under the assessment’s methodology, once there is a finding that the proposed pipeline will not cause an increase in emissions (because it could be moved by rail), the pipeline will be approved. Following the same reasoning, another one or two pipelines will easily be approved after Kinder Morgan. By 2040 production will have doubled to 4.8 million bpd. It will all be moved by pipeline. Nobody wants to use rail. It costs more. In 2015, crude-by-rail exports averaged 105,000 bpd, less than 3% of Canada’s total production. In the Liberal Government’s assessment routine, the railways are mainly imaginary – like straw dogs in an ancient ritual, in this case a ritual to persuade Canadians that emissions will not increase if we build more pipelines. It is a game of language.

The Kinder Morgan assessment report does not directly offer an opinion on which of the three oil price scenarios is likely to most accurately describe the future outcome. The report provides a “discussion” of the possible outcomes, which depend on the future oil price scenario selected; the Liberal Government will make the final decision. By December 2016, the government will announce whether or not it will approve the Kinder Morgan project.

If the government wants to approve the Kinder Morgan pipeline, it can choose the high price range as the most likely story of how world oil prices will behave over the next twenty-five years. It will be able to point to the NEB’s long-term oil price forecast published January 27, 2016 in *Canada’s Energy Future 2016* as evidence supporting that view of future oil prices. In that way, the Kinder Morgan assessment report can be used to justify the conclusion that building Kinder Morgan will cause only a “minimal” increase in Canada’s GHG emissions. The Liberal Government will then be able to approve the project and defend its decision by declaring that Kinder Morgan will not increase emissions – or by saying that any emissions increase is uncertain and probably minimal.

We are left with a paradox. On the one hand, the assessment assures us that new pipelines will not increase emissions. On the other hand, the assessment informs us with a fair degree of precision that the volume of new bitumen production that can be transported by the expanded Kinder Morgan pipeline, whether it is in fact carried by the pipeline or by rail, will release into the atmosphere an additional 13.5 Mt to 17 Mt CO₂ every year.

Conclusion

No amount of public consultation or input can fix this broken assessment report.

The draft assessment report fails to answer the key question: can the continued growth of oil sands production up to 2040, enabled by building Kinder Morgan, be consistent with Canada achieving its commitments to reduce our total GHG emissions?

The first defect in the report is the methodology – that is, the elaborate GHG emissions accounting scheme released on March 19, 2016 that explicitly instructs the parties conducting the assessment that they must avoid counting the increased emissions from the expanded volume of bitumen that will be carried by the proposed pipeline, if the same amount of increased production could be economically transported by rail. If the Government of Canada were genuinely concerned about the impact of rising CO₂ emissions from oil sands production between now and 2040, this assessment would focus on the impact of the increased emissions. Instead, it focuses on the irrelevant issue of whether the expanded production, *which will in fact be shipped by pipeline if the project is approved*, might theoretically be transported by rail.

If we strip out the methodology, eliminating all the nonsense about imaginary rail transport, it is clear that Kinder Morgan alone will cause a 12 Mt to 20 Mt increase in the annual level of Canada's emissions by enabling a substantial expansion of oil sands production. Kinder Morgan and Line 9 combined will cause a 23 Mt to 30 Mt rise in Canada's annual emissions level. Over the next ten years, that is an average increase of about 2.3 Mt to 3.0 Mt every year.

But even if we strip out the methodology, the assessment is still useless. Although we know the Kinder Morgan pipeline expansion will add another 13.5 Mt to 17 Mt to our annual emissions, the assessment report still completely fails to answer the question of fundamental importance: *what is the impact of a 13.5 Mt to 17 Mt increase in oil sands emissions on Canada's ability to cut our annual level of our total emissions 30% by 2030?*

The report does not even offer an opinion on whether a reduction that comes halfway to the target is feasible within the next fifteen years. It does not sketch out, even in an approximation, whether we might get emissions down to 740 Mt or 680 Mt.

The reason we are concerned about the impact of increasing carbon emissions is because of their *accumulating impact on the earth's climate system*. Therefore, the only meaningful criteria or method to assess the significance of rising emissions in Canada from expanding oil sands production is to examine whether the expected increase is consistent with our commitment to make deep emissions cuts to keep global warming under the 2°C threshold.

The only measurable way to answer that question is to ask if the rising level of oil sands emissions will prevent us from successfully cutting our total GHG emissions 30% by 2030. That is our specific commitment to put Canada's emissions on a pathway that will

be consistent with the 2°C goal. That is Canada's measure of success or failure. It has a deadline, and it has a number. The number is 524 Mt.

The assessment fails to answer the essential question: can rising CO₂ emissions from expanding oil sands production over the next fifteen years be reconciled with *our existing commitment* to cut our total emissions to 524 Mt by 2030? The report is completely silent about the feasibility of meeting Canada's target by 2030.

That failure of the assessment procedure cannot be remediated, because there is a third flaw, which concerns the evidence. The assessment report omits – or refuses to admit and consider – the kind of evidence that is essential if we want to answer that important question. For example, the assessment fails to include any emissions studies or projections showing that the other six economic sectors in Canada (e.g., transportation, buildings, electricity generation, emissions-intensive industries etc.) will be able to achieve large enough emissions reductions to get us to the 2030 target, *if oil and gas sector emissions continue to grow*. There is no expert analysis or any other evidence cited in the draft report to demonstrate that we can simultaneously grow oil sands production and meet our 2030 target.

There is no record. There was no hearing. There were no witnesses. The basic problem is the evidence.

The assessment also fails to consider the available scientific evidence to properly understand – and to explain to Canadians – the narrowing time-lines that we have to arrest the accumulation of CO₂ and other gases in the atmosphere. Canadians are invited to acquiesce in the building of new pipelines to expand oil sands output, but we are denied the kind of evidence we need to make an informed decision.

We appropriately lose all confidence and trust in a process that is marked by so many failures to ask probing questions, and so many failures to bring forward crucial evidence.

One egregious section of the report merits special attention: section B.2.5, at p. 22. In that section, only about one page in length, the assessment adopts, without dissent, the NEB's forecast that Canada's oil sands production will continue to grow from 2.4 million bpd in 2014 to 4.8 million by 2040. *No evidence is provided about the expected annual level of oil sands emissions by 2040*. Section B.2.5 does not comment on whether, or how, that growth could be reconciled with our specific 2030 reduction target, to cut our total emissions to 524 Mt.

But looking at the long-term period up to 2040, the report acknowledges that there is an issue about *whether long-term growth of the oil sands can be consistent with a 2°C world*. That is an easier question for the assessment, because it is framed in terms of the long-term future: there is no deadline, and no measurable definition of Canada's success or failure in contributing to the 2°C outcome (the only available measure of Canada's contribution to the global 2°C outcome is our commitment to a 30% reduction by 2030). In section B.2.5, the report looks at several sources, summarizes four of them, and declares that the expert evidence is *uncertain* whether the oil sands industry can survive

long-term in a world that that moves to keep warming below 2°C – the answer is “not clear”, says the report.

The Liberal Government’s assessment report therefore admits that continued growth of oil sands production to 2040 may turn out to be *inconsistent* with a 2°C world. That is the closest we come to the truth in this entire document. Despite that finding, the assessment report (which is really our government’s voice) endorses the NEB’s ambitious projection that oil sands production will double by 2040.

If we know that the evidence is “not clear”, a decision to adopt the NEB’s 2040 growth projection is reckless and unconscionable. We are being invited to embark on a path of oil sands expansion that offers perhaps a 50-50 chance of being compatible with our long-term 2°C goal. And the odds may be worse.

The final defect lies in the procedure itself. Not just the methodology. The entire process was conducted in secret. There was no public access. It had no elements of judicial independence. We do not know who wrote the draft report. We had no chance to challenge the evidence. In the case of section B.2.5, we do not know who selected the sources of information and concluded that the evidence is “not clear” on the single most important question facing all of us – we know nothing about their competence, experience, or qualifications, and we do not know who they work for

Had there been a proper inquiry process, most of the grave errors that have irreparably tainted the Kinder Morgan assessment could have been avoided.