

Reconciling the Paris Climate Commitments with the Kinder Morgan GHG Assessment

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SUMMARY

At the core of the Environment and Climate Change Canada (ECCC) draft methodology¹ for assessing the climate impact of Kinder Morgan's proposed Transmountain pipeline is a confusion over which of the many possible futures we are using as the baseline for making our decisions.

This matters because if we build our decision-making metric around an assumption that climate action will fail, then we will decide to do things that contribute to that failure. If, on the other hand, we base our decisions metrics on a future where we succeed in honouring the commitments made at the Paris climate conference, then we will make decisions that contribute to that success.

ECCC's draft methodology offers up a number of possible ways to calculate the greenhouse gas emissions (GHG) associated with the pipeline. Depending on which assumptions are chosen, the assessment could produce results that there are negligible (close to zero) or significant (17 million tonnes) greenhouse gas (GHG) emissions associated with the pipeline.

Unstated in the methodology paper is the fact that the decision over which set of assumptions to use – and hence what number you get - is determined by what is adopted as the underlying 'base case' for evaluating the climate impact of the pipeline. The two possible base case scenarios are:

1. **Canada (and the rest of the world) lives up to the commitments made at the Paris climate conference.** In this scenario, the key questions are whether the additional GHGs associated with this pipeline fit within Canada's 2030 carbon budget and whether the assessment for the future oil market is based on a dramatic reduction in global demand (and hence price) for oil. In this scenario, the GHG assessment would likely indicate that the Kinder Morgan pipeline should be rejected.
2. **Canada and the world do not make serious progress towards meeting their Paris climate commitments and hence the business-as-usual scenario prevails.** In this scenario, there is a growing global demand for oil and decisions in Canada over oil production increases (and building the pipelines to carry that increase) are driven by that demand. There is no coherent assessment of whether that increase is incompatible with our GHG reduction commitments because it is taken as a given. In this scenario, the GHG assessment would likely indicate that the Kinder Morgan pipeline should be approved.

Ultimately it is the federal Cabinet that will determine how the Paris climate commitments are integrated (or not) into the decision on the Kinder Morgan pipeline. They should do, however, so with a

clear understanding of how a seemingly technical discussion over methodology is really a question of political priorities.

If we are committed to making the Paris climate commitments a success, then the GHG review process should be based on the following core principles:

- Energy decisions must be guided by climate science.
- Decision-makers must develop and consider models that are consistent with a global economic transition away from high-carbon fossil fuels.
- Environmental review processes must assess the need for projects and policies in the context of global energy supply and demand scenarios consistent with international climate goals.
- Environmental review processes must assess a project or policy's greenhouse gas emissions.

BACKGROUND

In opposition, the Liberal party heavily criticized the environmental review process established by the Conservative government and promised to revamp the process once in office. Despite comments on the campaign trail to the effect that the Kinder Morgan review would have to be “redone”, the Trudeau government ultimately announced an interim measures for for major natural resource projects currently under review (including the Kinder Morgan pipeline).²

This interim review process incorporates an assessment of greenhouse gas emissions undertaken by Environment and Climate Change Canada, but there is no clear indication of how this assessment will figure in the final decision.

Environment and Climate Change Canada (ECCC) draft methodology for assessing the climate impact of the Kinder Morgan pipeline, for example, leaves a lot of scope for interpretation by the Minister. The key factors determining that scope are what is considered “incremental” as opposed to “additional” emissions, and what happens to production in Canada as opposed to globally.

Considering only the 590,000 barrels per day capacity **added** by the expansion project, the upstream GHG emissions could range from 14 to 17 megatonnes of carbon dioxide equivalent per year. The estimated emissions are **not necessarily incremental**; the degree to which the estimated emissions would be incremental depends on the expected price of oil, the availability and costs of other transportation modes (e.g., crude by rail), and whether other pipeline projects are built....

Given the global competition for investment in oil production, it is likely that if oil sands production were to not occur in Canada, investments would be made in other jurisdictions and **global oil consumption would be materially unchanged** in the long-term in the absence of Canadian production growth. As a result, **the difference in global GHG emissions arising from any increase in Canadian crude oil production would be the difference in emissions from upstream production, refining, and transportation between Canadian oil sands production and a comparable crude oil**, often referred to as differences in well-to-tank emissions.³
(emphasis added)

According to ECCC, “the word additional is used when discussing the added capacity that the project would bring. The word incremental is used when discussing the production (and resulting emissions) that could be directly enabled by this project.”

In effect, this means that the deciding factor in the methodology is a set of assumptions around what happens if the project doesn’t go ahead, or what can be thought of as the baseline scenario. For example, the assessment acknowledges that if the Kinder Morgan Transmountain Expansion pipeline isn’t built then additional oil can’t get to market without another new pipeline or expanded oil-by-rail – both of which the federal government has the power to prevent.

Yet here the methodology document gets confused. It starts by detailing the business-as-usual scenarios put forward by by ECCC for greenhouse gas emissions and by the National Energy Board (NEB) for growth in oil production.

It notes that ECCC's GHG projection found that that under existing policies, Canadian GHG emissions will increase from 723 million tonnes (MT) in 2013 to 815 MT in 2030 with the growth in emissions to 2030 "driven largely by growth in the upstream oil and gas sector and, in particular, from the oil sands".

A few pages later, it references Canada's Paris climate commitment: "Under this agreement, countries committed to the long-term goal to limit average temperature rise to well below 2°C and pursue efforts to limit the increase to 1.5°C. Under the UNFCCC, Canada committed to a target of reducing emissions 30% below 2005 levels by 2030."

The 30% reduction target translates as 523 MT in 2030, yet ECCC acknowledges existing policies will result in 815 MT, leaving a huge gap that must be addressed in some way by new policies mandating dramatic reductions outside the oil and gas sector, and/or by limiting emissions growth in that sector.

Moreover, the 30% target is the minimum Canada has committed to doing. The Trudeau government is committed to reviewing that target (established by the previous Harper government) with an eye to increasing the level of ambition.⁴ At the Paris climate summit, Canada actively advocated for the world to hold global warming to the more aggressive benchmark of 1.5 degrees Celsius, which require much greater effort to reduce emissions.⁵

So it is clear that business as usual will not get us anywhere close to meeting our current target and that the level of ambition may well rise in the near future.

Yet there is no attempt in the document to reconcile the projected rising GHG emissions from the oil sands and the need to dramatically reduce emissions according to our international commitments within the methodology, which implies that the reconciliation is being left to the Cabinet decision-making process.

This disconnect is also evident in the oil market forecasts. The NEB forecasts in the document are based upon an assumption of continued increase in global demand for oil. Yet it also notes that in the International Energy Agency's 450 scenario global oil demand declines 18% between 2014 and 2040. According to the IEA, its 450 scenario has a 50% chance of limiting the long-term increase in average global temperatures to no more than 2°C so it has only an even chance of achieving the Paris target implying we should aim for even greater reductions in oil consumption to keep warming as far below 2°C as possible.

Yet the baseline assumption in the ECCC draft methodology is that "that if oil sands production were to not occur in Canada, investments would be made in other jurisdictions and global oil consumption would be materially unchanged in the long-term." But if we are anticipating a world that is on track to meet the Paris climate commitment to keeping warming below 2 degrees Celsius, then we can't assume

that future production levels are fixed and thus we can't assume that a decision by Canada to not expand oil production simply results in increased oil production elsewhere.

A world with lower oil demand is also a world with lower oil prices. The recent dramatic drop in the price of oil was the result of a modest surplus in supply over demand, so the question then becomes what price would prevail in a world with dramatically lower demand. Professor Mark Jaccard undertook such a calculation for the City of Vancouver's submission to the Kinder Morgan pipeline review. He found:

In summary, evidence from the world's leading independent energy-economy-emissions models, as summarized by J. Hoffele, shows that oil sands expansion will not occur as global leaders, including the government of Canada, fulfill their commitment to prevent a greater than 2° C increase. The price path of oil will be far below the level necessary to induce expansion of the oil sands, and therefore the TMEP [Kinder Morgan's proposed Transmountain Expansion Pipeline] will not be "used and useful."⁶

So to sum up: in a world where we are keeping global warming below two degrees Celsius, there is no room within Canada's carbon budget for the additional emissions associated with the Kinder Morgan pipeline nor would there be demand for that oil.

This is the basic point that was made by over one hundred prominent scientists, including 12 Fellows of the Royal Society of Canada, 22 Members of the US National Academy, 5 Recipients of the Order of Canada, and a Nobel Prize winner. In June 2015, they issued a public call for a moratorium on new oil sands or related infrastructure projects unless they could be shown to be consistent with an implemented plan to rapidly reduce carbon pollution, safeguard biodiversity, protect human health, and respect treaty rights.

With respect to carbon pollution, they wrote:

The latest analyses agree that the warming predicted to occur this century will substantially raise the risk of severe ecological and economic damage, widespread social upheaval, and human suffering ([IPCC 2013](#)) and that oil sands expansion is inconsistent with avoiding this outcome ([Chan et al. 2010](#), [McCollum et al. 2014](#), [McGlade and Ekins 2014](#)). To address the risks of climate change, Canada has committed to significantly reduce greenhouse gas emissions by 2020 and 2030. Continued investment in oil sands production and infrastructure is not consistent with these targets and undermines broader efforts to reduce CO2 emissions and control climate warming ([Office of the Auditor General of Canada 2012](#), [Environment Canada 2014](#)).* We need a different energy path.⁷

Kathryn Harrison, a political scientist at the University of British Columbia who was one of the signatories to the moratorium call, has examined the Trudeau government's proposed 'climate test' for pipelines. She found it wanting in three major respects that echo the concerns expressed here regarding what 'base case' scenario is adopted:

The proposal falls short in three important respects.

First, the test will consider only “upstream” emissions associated with oil production, not the “downstream” emissions that occur when that oil is burned. The latter constitute over 80 per cent of the emissions associated with a barrel of bitumen. It is true that by international convention each country is legally responsible only for the emissions that occur within its borders.

Nonetheless, there is an economic reason to be attentive to downstream emissions from Canada’s exports. When the countries to which we export seek to reduce their own emissions, demand will fall and our high-cost oil is likely to be the first to go.

A second limitation concerns emissions assumed in the absence of a proposed pipeline.

Consider Trans Mountain’s application to build a second pipeline from Alberta to Burnaby. The business case for the pipeline is based on the Canadian Association of Petroleum Producers’ optimistic prediction of steadily increasing oilsands production. Trans Mountain further asserts that that level of production will occur regardless of whether new pipelines are built, based on a debatable assumption that all the oil will otherwise be transported by rail.

The implication of Trans Mountain’s baseline scenario is that the pipeline would have virtually no impact on Canada’s emissions. However, that conclusion was subtly baked into the analysis from the outset.

An alternate assumption, that additional pipeline capacity will result in expanded production, yields a radically different conclusion: a carbon footprint of the Trans Mountain pipeline equivalent to adding two million cars to Canada’s roads. Alas, the federal proposal offers no guidance as to which scenario should be used, even though the choice of emissions baseline has huge implications for a project’s estimated climate impacts.

Third, the proposed climate test is silent on how the government will weigh an emissions increase from any single project against Canada’s national target. In theory, a project yielding annual emissions up to the national target could be approved if Canada shut down every other source of emissions nationwide. That is of course unrealistic, but it illustrates the challenge of establishing a test for individual projects in the context of a national target.

The federal government must clarify the principles that will guide its decisions as to whether projects pass or fail the climate test. One could estimate what carbon price would be needed for Canada to meet its emissions targets in 2030 and beyond, then ask whether the proposed development would be economically viable under that scenario. Alternatively, one could predict the international prices needed over time to meet Canada’s goal of limiting climate change to 2C, again asking whether the project is consistent with that scenario.

To do otherwise is to continue the decades-long disconnect between Canada's economic policies and environmental commitments — all justified by a climate test that may be impossible to fail.⁸

THE WAY FORWARD: A CLIMATE TEST BUILT FOR SUCCESS

There is a way to establish a climate test that isn't designed to fail. The basics of such an approach were laid out in February 2016 by a coalition of environmental groups, who have summarized the core principles in the following way:

- **Energy decisions must be guided by climate science.** According to the IPCC's most recent analysis, global greenhouse emissions must be reduced dramatically by mid-century in order to limit global temperature rise to 2°C. Achieving the 1.5°C limit agreed to in Paris will require greater and more immediate reductions. Globally, these reductions will require the majority of fossil fuel reserves to remain unexploited. Within this context, it is imperative that decision-makers are provided with the tools they need to assess how energy projects and policies fit within a climate safe energy future.
- **Decision-makers must develop and consider models that are consistent with a global economic transition away from high-carbon fossil fuels.** It is essential that the United States and Canada have a clear roadmap for global energy supply and demand based on 1.5°C and 2°C limits. This roadmap will require U.S. and Canadian energy information agencies to construct robust models for global energy markets that are consistent with these climate scenarios.
- **Environmental review processes must assess the need for projects and policies in the context of global energy supply and demand scenarios consistent with international climate goals.** Any environmental review should take the aforementioned data and analysis and apply it to existing projects and policies under federal review to determine the economic and environmental viability of those proposals.
- **Environmental review processes must assess a project or policy's greenhouse gas emissions.** In addition to assessing the need for a project or policy in a scenario consistent with international climate goals, decision-makers should evaluate the greenhouse gas emissions associated with a project, assess the environmental impact of those emissions and evaluate their effect on national and international efforts to meet long term carbon reduction targets. In assessing the carbon pollution from any proposed project, the government should be able to show how that upward pressure is accounted for in their plan to meet their targets in the medium and long term.⁹

Environment Canada should revise their draft GHG methodology for the Kinder Morgan pipeline to be aligned with these principles, in order for to establish a credible climate test.

ENDNOTES

¹ From Environment and Climate Change Canada to the Government of Canada re: Trans Mountain Pipeline ULC - Trans Mountain Expansion - Review of Related Upstream Greenhouse Gas (GHG) Emissions Estimates. Web: <http://www.ceaa-acee.gc.ca/050/document-eng.cfm?document=114550>

² Government of Canada backgrounder: Interim Measures for Pipeline Reviews. Web: <http://news.gc.ca/web/article-en.do?mthd=tp&crtr.page=1&nid=1029989&crtr.tp1D=930>

³ From Environment and Climate Change Canada to the Government of Canada re: Trans Mountain Pipeline ULC - Trans Mountain Expansion - Review of Related Upstream Greenhouse Gas (GHG) Emissions Estimates. Web: <http://www.ceaa-acee.gc.ca/050/document-eng.cfm?document=114550>

⁴ Jason Fekete (November 9, 2015). "Liberals' climate-change targets will be tougher than Tory version, McKenna vows". *Ottawa Citizen*. Web: <http://ottawacitizen.com/news/politics/liberals-climate-change-targets-will-be-tougher-than-tory-version-mckenna-vows>

⁵ Laura Payton (December 7, 2015). "Canada endorses tougher 1.5-degree limit to global warming". *Macleans Magazine*. Web: <http://www.macleans.ca/politics/ottawa/at-cop21-canada-endorses-tougher-1-5-degree-limit-to-global-warming/>

⁶ Mark Jaccard and James Hoffele (May 6, 2015). Impact of National and Global GHG Targets on the Trans Mountain Expansion Project. Report prepared for the City of Vancouver. Web: <http://vancouver.ca/images/web/pipeline/Mark-Jaccard-impact-of-GHG-targets.pdf>

⁷ Web: <http://www.oilsandsmoratorium.org/>

⁸ Kathryn Harrison (May 4, 2016). "Ottawa must clarify climate test". *Ottawa Citizen*. Web: <http://vancouver.sun.com/opinion/ottawa-must-clarify-climate-test>

⁹ For more detail, see www.climate-test.org