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Trans Mountain Expansion Could Never Return the Expected $26.1 Billion Spent by Taxpayers

Executive Summary

The Canadian government recently declared that no more public money will be used to complete the Trans Mountain pipeline expansion (TMX). Canadian Finance Minister Chrystia Freeland made this statement in the wake of the disclosure that the TMX project costs have soared by 70% in just two years.[1] The government promises to rely on banks and public debt markets to raise the money necessary to complete the project. It is a promise that the government can't keep.

IEEFA's analysis finds that the government, which owns the project, would not be able to generate an adequate profit for investors because the tolls it would charge for the completed project's use cannot be raised high enough to support new debt on the pipeline plus operational costs. To do so would raise the cost of exporting oil through TMX to a price that would not be competitive in international oil markets. To compete, the government would have to maintain toll rates so low that it would be operating TMX at a loss for its investors.

To attract private money to complete the TMX project, IEEFA concludes, the Canadian government will have to protect investors by guaranteeing the debt. The investors will be protected. The taxpayers will not.

Between the $4.7 billion[2] purchase price and the reported $12.6 billion construction costs,[3] Canadian taxpayers have already funded $17.3 billion on the project. These funds will never be recovered, and guaranteeing another $8.8 billion to complete the project will simply be throwing good money after bad, for a total taxpayer loss of $26.1 billion.

Background

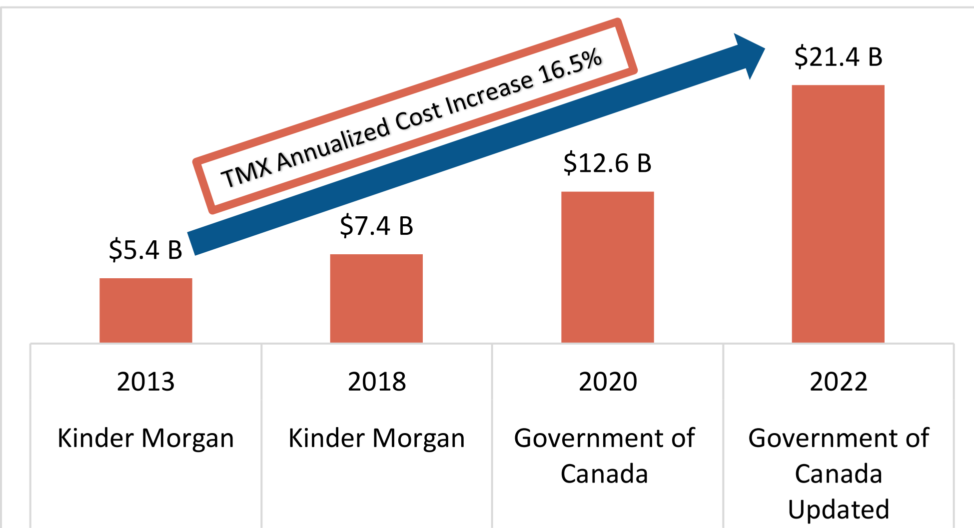
TMX began as a project undertaken by Houston-based energy infrastructure company Kinder Morgan. Its goal was to increase the capacity to export oil from the oil sands in the Canadian province of Alberta to Burnaby, British Columbia, increasing export capacity from 300,000 barrels per day (bbls/day) to 890,000 bbls/day. Described as a "twinning" of the first Trans Mountain pipeline, the finished project would include roughly 980 kilometers of new pipeline and the

[1] Financial Post. Chrystia Freeland closes the door on new funding for Trans Mountain as project costs surge. February 18, 2022.
[2] Note: All numbers reported in CAD unless otherwise stated.
[3] All the construction costs cited in this report were reported by the government of Canada and TMX but have not been verified by an independent third-party review.

reactivation of about 1,150 kilometers of existing pipeline.[4] When the project was at risk of abandonment, the Canadian government took the extraordinary step of purchasing it.[5] At the time of this decision, IEEFA expressed concerns about the fiscal implications of Canada's expenditures on the project, and the potential impact on Canadian taxpayers.[6]

The news of the TMX cost increase of 70 percent from 2020 to 2022 and a delay of operation into 2023 came in a press release on a Friday afternoon before a long weekend,[7] ostensibly to bury the bad news. The cost increase amounts to $8.8 billion. Putting the number into perspective: Before the Canadian government purchased TMX for $4.7 billion, it estimated TMX would cost $7.4 billion to finish (Figure 1).

Figure 1: Reported Construction Cost Increases of TMX From 2013 to 2022, in Billions[8, 9]



Note: Cost of project in CAD based on reports by previous owner, Kinder Morgan, and current owner, Government of Canada.

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[4] Trans Mountain. Expansion Project Overview. Accessed March 3, 2022.
[5] For a detailed discussion of the purchase, see IEEFA. Trans Mountain Pipeline Financials: Built on Quicksand and Clear as Mud. April 2019. Also see: IEEFA. Trans Mountain Pipeline Financials Suggest Taxpayer Dollars at Risk. November 2019.
[6] IEEFA. Canada's Folly: Government purchase of Trans Mountain Pipeline risks an increase in national budget deficit by 36%, ensures a 637% gain by Kinder Morgan. June 2018.
[7] BNN. Trans Mountain expansion price tag hits $21.4B, Feds cut off funding. February 2022.
[8] National Observer. Cost of Kinder Morgan's Trans Mountain expansion quietly rises to $6.8 billion. November 17, 2015.
[9] Trans Mountain. Trans Mountain Corporation Updates Expansion Project Cost and Schedule. February 18, 2022.

The TMX Problem: Profitability Needs Conflict With Market Competitiveness Needs

IEEFA examined financial reports from TMX, the Canadian Development Investment Corporation (CDEV), Kinder Morgan presentations (2018), CDEV transcripts, TMX transcripts, Canada Energy Regulator (CER) pipeline regulatory data, and CER regulatory filings. IEEFA's analysis finds that the TMX pipeline is not profitable as a standalone project.

To make the project profitable, TMX would have to increase the currently projected tolling rate for using the pipeline's transport services by 100%. A 100% increase in shipping costs, coupled with Canada's already high production costs, would result in a price that would prevent Canadian oil from breaking into Asian markets, as explained further below.

The recent statement by Canada's Finance Minister that no further public finds will be used is highly misleading. To raise the $8.8 billion now estimated to complete the project, further government financial involvement will be necessary. Although the government has released no details of how such involvement would work, IEEFA's analysis in this report, and its three previous reports on TMX,[10] make clear that the government would have to guarantee any private financing to meet the $8.8 billion gap.

Pursuant to a public guarantee, the Canadian government would write off most, if not all, of the $17.3 billion already spent on TMX and put another $8.8 billion of Canadian tax dollars at risk. IEEFA's analysis concludes that the total estimated investment made to build TMX may not be fully paid back by the time the asset becomes stranded and unusable (Figure 4).

Putting TMX in Context

The purchase price and construction costs, including the estimate to finish the job, now amounts to a staggering $26.1 billion of taxpayer dollars.[11] For a government focused on transitioning to a diversified energy economy, the $26.1 billion could have been spent instead on renewable energy development. It could have fully funded every major wind and solar project in Canada from 2019-2021 five times over, adding 15 gigawatts (GW) to Canada's power supply—equivalent to the total amount of energy added from wind and solar in Canada over the last decade.[12]

Even though the Canadian government has taken what appears to be a hard-line stance on funding the latest $8.8 billion cost overrun through bank debt or public

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[10] IEEFA. Trans Mountain Pipeline Financials Suggest Taxpayer Dollars at Risk, *op. cit.* Also see IEEFA. Trans Mountain Pipeline Financials: Built on Quicksand and Clear as Mud, *op. cit.* Also see IEEFA. Canada's Folly, *op. cit.*

[11] Trans Mountain. Consolidated Financial Statements Q3 2021. September 2021.

[12] University of Alberta Future Energy Systems. Canadian Renewable Energy Project Map. December 2021.

debt markets, the taxpayer should not be fooled.[13] Trans Mountain pays a low interest rate of 4.7 percent on its $9.1 billion construction loan and its $4.7 billion acquisition loan, which are provided to the Canadian government through CDEV.[14] For TMX to receive the same interest rate on new debt to fund cost overruns, the government of Canada would need to guarantee the debt.

Such a guarantee would serve a purpose similar to the purpose served by the Alberta government's guarantees for TC Energy and the Keystone XL Pipeline expansion project (KXL). The Alberta government guaranteed loans to TC Energy for construction of the KXL even though the project's future was uncertain. The U.S. government had first denied a permit for the project. Then, a subsequent administration granted it, but the topic became a hotly contested issue in the next U.S. presidential election. Alberta's guarantee was made during that period of uncertainty. The new president, Joe Biden, subsequently made good on his pledge to revoke the international permit.[15] When the KXL developer wrote down $2.1 billion at the end of 2021 related to the pipeline, Alberta had to pay the company's $1 billion loan balance pursuant to its guarantee.[16] If Canada wants to make lending to the TMX project attractive to creditors, the country will have to follow suit and provide guarantees for the additional debt needed to finish the project.

TMX Economics: Investor Beware, There Are No Profits Here

A 2020 project analysis by the Parliamentary Budget Office estimated that TMX would lose money if costs increased by 10% from that point forward, and the project suffered a one-year delay.[17] The latest estimates result in a cost increase of 70% and a year delay, making it even less likely that the project will ever turn a profit.

TMX was viewed as a boon to the oil and gas industry, to help address the desire for large infrastructure expansion to get Canadian oil to markets in the U.S. and across the Pacific. Oil and gas companies saw the project as a means of diversifying markets. For diversification efforts to succeed, however, the transportation costs of moving crude oil must be competitive. The tolls necessary to generate an adequate profit for investors in the $26.1 billion TMX pipeline would not be cost competitive. In fact, to generate profit from the project, TMX costs would have to be 42% higher than rail costs from Canada to the U.S. Gulf Coast (Figure 2). Also, the total cost to

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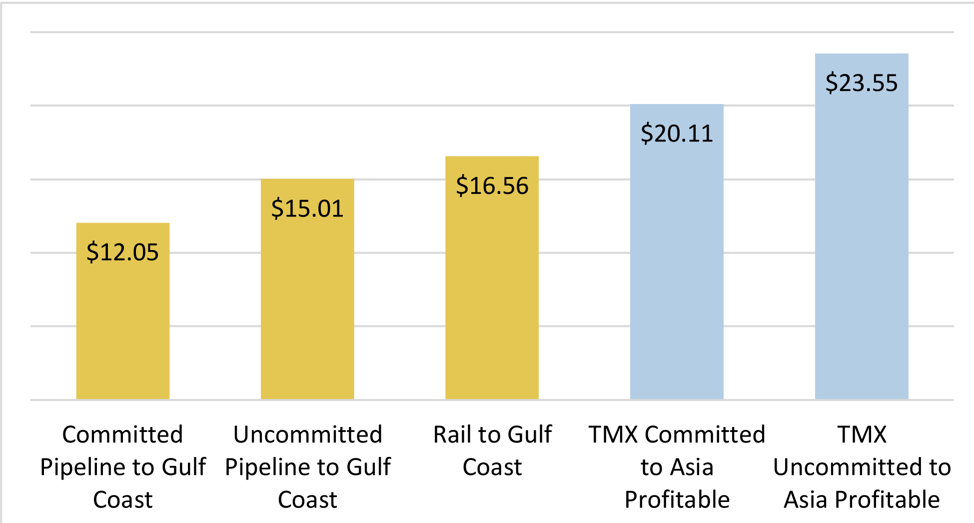
[13] Financial Post. Chrystia Freeland closes the door on new funding for Trans Mountain as project costs surge. February 18, 2022.
[14] Trans Mountain, *op. cit.*
[15] See Executive Office of the President. Presidential Permit of March 29, 2019: Authorizing TransCanada Keystone Pipeline, L.P., to Construct, Connect, Operate, and Maintain Pipeline Facilities, 84 Fed. Reg. 13101. April 4, 2019. Also see President Joseph R. Biden, Jr., Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, Exec. Order 13990, 86 Fed. Reg. 7,037, 7,041, Section 6. January 25, 2021.
[16] TC Energy. Annual Report 2021. February 2022, p. 60.
[17] Office of the Parliamentary Budget Officer. Trans Mountain Pipeline – Financial and Economic Considerations – Update. December 2020, p. 16.

transport crude oil from Canada to Asia would be 57% higher than pipeline costs to transport oil from Canada to the U.S. Gulf Coast (Figure 2). For this reason, oil and gas producers are encouraging the government to maintain low toll rates, even though it would mean operating TMX at a loss for investors.

Figure 2: TMX Tolling Costs vs. Competitors to the US Gulf Coast[18, 19, 20]



Note: Assumes Aframax shipping costs of $5 per barrel to markets in Asia.

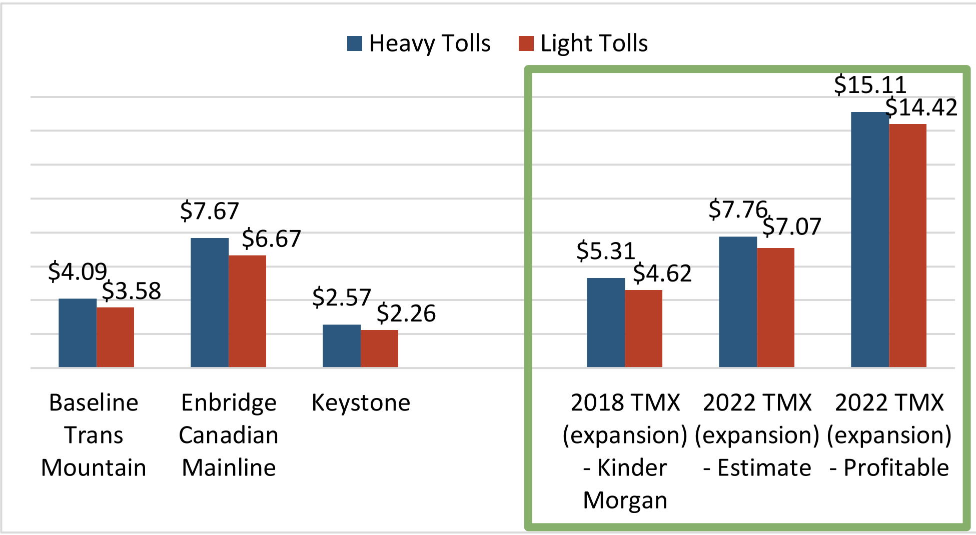
The chief executives of Cenovus and Suncor, two of the largest oil sands producers in Canada, both continue to support the TMX project, downplaying the cost increases.[21] The impact of those increases will be felt, however. The only question is by whom. In 2021, TC Energy threatened to halt construction of its Coastal Gaslink natural gas pipeline to Shell's LNG Canada facility in Kitimat, British Columbia due to rising costs, triggering negotiations with Shell and LNG Canada regarding higher tolling to share the cost increases.[22] A plausible remedy for TMX cost increases would be an increase in tolling rates for producers through renegotiations. As noted above, Trans Mountain would need to increase tolls by over 100 percent from estimated toll rates to generate a profit (Figure 3).

But TMX tolls are unlikely to be increased not only because they would be non-competitive, but also because a 2018 agreement limits such sharing of increased costs. Producers ensured, when entering into commitment agreements to pay TMX tolls, that they would only bear the risk of covering 25% of future cost increases.[23] With costs rising $14 billion from TMX's original budget in 2018, producers may

[18] Altex Energy. Economics of Rail vs. Pipeline. 2017.
[19] Congressional Research Service. Shipping US Crude Oil by Water: Vessel Flag Requirements and Safety Issues. July 2014. Figure 3.
[20] Argus. Canadian Producers Eye Asia Pacific Market. August 2021.
[21] Business News Network. Trans Mountain expansion price tag hits $21.4B, Feds cut off funding. February 2022.
[22] Financial Post. LNG Canada, TC Energy disagree on cost overruns for $6.6-billion Coastal GasLink pipeline. March 2021.
[23] CDEV. CDEV AGM Responses to Questions. November 2021. Page 3.

bear only $3.5 billion of cost increases so far; however, if the tolls resulting from the commitment agreements exceed market tolls (spot tolls), producers have the right to terminate their agreements with TMX.[24]

Figure 3: Tolling Required by TMX to Become Profitable[25, 26, 27,28]



Note: Tolling rates for TMX include the project's original assumption of $5.17 per barrel on average with a seven-cent increase in tolls per $100 million in cost overrun from the 2018 $7.4 billion budget, limited by a 25 percent cap on the cost overrun sharing that is passed through tolls.

An analysis of current tolling levels shows why the investment in Trans Mountain is not profitable. IEEFA assumes tolls of $7.76 per barrel for heavy oil and $7.07 per barrel for light oil, with a 2.5 percent annual inflation rate (Figure 4). This would give the TMX project a 2.1 percent rate of return with a 7.1 percent cost of capital, assuming interest rate costs remain at 4.7 percent and the additional cost overrun is funded through debt. Under this scenario, the project's return is less than the cost of capital, making it doomed to generate a loss for investors.

Changes in the energy market are likely to make matters worse. The International Energy Agency warns that new investment in oil and gas is unwarranted if the world is to limit the increase in global temperatures to 1.5°C.[29] The investment in TMX will require a payback period that could span a period even longer than the actual life of the pipeline if the energy landscape continues to change. The trend of energy changes is only likely to increase the already unacceptable uncertainty in

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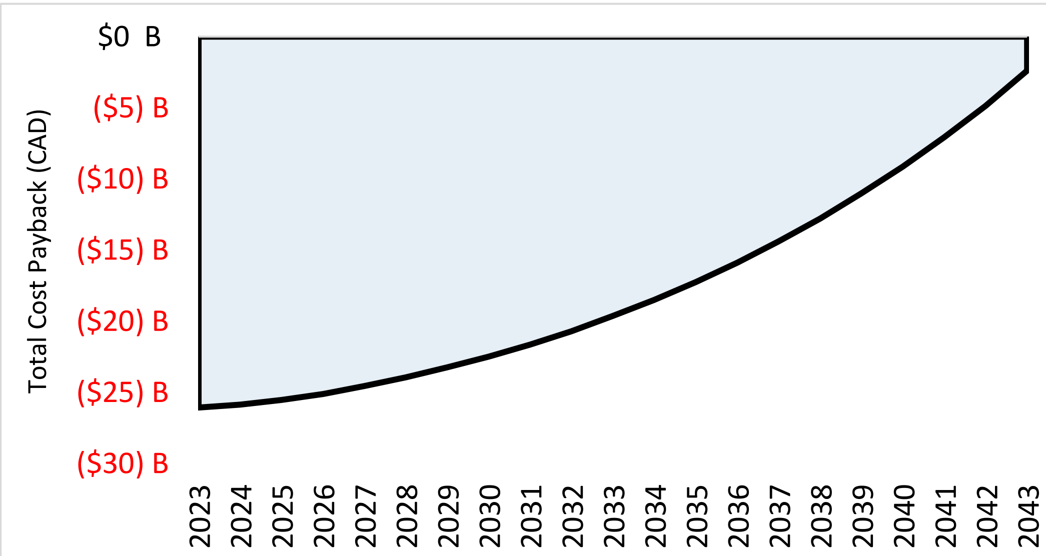
[24] FSA. Trans Mountain Pipeline Expansion Project Facility Support Agreement. 2012, p 10.
[25] Canada Energy Regulator. Pipeline Profiles. December 2021.
[26] Kinder Morgan Canada Limited. KML Investor Presentation. March 2018.
[27] CDEV. CDEV AGM Responses to Questions. November 2021, p. 3.
[28] FSA. Trans Mountain Pipeline Expansion Project Facility Support Agreement. 2012, p. 10.
[29] IEA. Net Zero by 2050. May 2021.

utilization of the pipeline, future toll rates, maintenance and repair, and price competitiveness in oil markets in Asia and the U.S.

The project will not be able to pay back the $26.1 billion investment, including the $8.8 million new investment likely to be guaranteed by the Canadian government, for the foreseeable future (Figure 4).

Figure 4: Payback on TMX Total Invested Dollars of $26.1 Billion[30, 31, 32, 33, 34]



Note: Based on tolling of $7.76 and $7.07 per barrel on heavy and light oil, respectively, with a 2.5% annualized inflation to a maximum toll rate of $17.57 and $16.00 per barrel, respectively, over 40-years. A mix of 65% heavy and 35% light oil will pass through TMX. 80% of the pipeline capacity will be committed under long-term contracts and the remaining 20% will be marketed pursuant to spot pricing for both heavy and light crude oil for 20 years.[35]

Funding the Unfundable

Any dreams of positive returns for investors have been dashed with the recent 70 percent increase in construction costs of TMX, bringing the total costs (including both purchase and construction costs) to $26.1 billion. The industry is beginning to realize the energy landscape has changed, and mega-projects in the oil and gas industry are costly and unpredictable. This lesson has been learned on the taxpayer

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[30] Office of the Parliamentary Budget Officer. *op. cit.*
[31] Trans Mountain, *op. cit.*
[32] J. David Hughes. Reassessment of Need for the Trans Mountain Pipeline Expansion Project. October 2020.
[33] Canada Energy Regulator, *op. cit.*
[34] CDEV. Interim Financial Report Q3 2021. September 2021. Page 24.
[35] Operating costs are estimated at 45% from TMX income statements, along with a 4.7% interest rate on existing and additional debt. Maintenance capital is estimated at $162 million based on TMX annual financial reports. TMX assumes a cash outlay of $21.4 billion in construction and construction-related costs and $4.7 billion in acquisition costs.

dime. With a project that is too far gone to rehabilitate and a government determined to deliver its boon to the oil and gas industry, public debt markets and banking institutions may, as Canada's Finance Minister has stated, look at funding TMX—but only as a distressed opportunity with a taxpayer-funded guarantee to safely fund the unfundable.

Under current tolling and debt regimes, the project presents unreasonable risks for investment—but if it is backed by the Canadian government, new creditors could be protected.

The taxpayer will inevitably have less protection from the Canadian government than the creditor or creditors. While Canada gave Kinder Morgan a good deal in 2018 in what was supposed to be a distress sale, the action of creditors in funding this project will be predatory in nature because they will understand that the taxpayer is the ultimate investor and will suffer while creditors are protected by the government. In the end, the government has failed to recognize what many in the oil and gas industry have already realized, namely: Large infrastructure projects often have substantial cost increases, while fossil fuel projects face uncertainties in the energy transition. The combined impact can result in a never-ending funding treadmill, a risk that has haunted the oil and gas industry for the last decade.

The Government Can't Get Itself Out of This Hole by Selling TMX

When the government bought TMX, Canadian officials said it eventually could be sold and put on the market at a gain for the taxpayer.[36] As IEEFA's prior reports on TMX have shown, these claims lacked credibility and requests for comprehensive disclosures have gone ignored.

It will be impossible for the government to sell the pipeline for more than it has spent on it. Taxpayers have already lost at least $17.3 billion and will likely have to cover the additional $8.8 billion that investors will lose if they invest in TMX.

Raising Another $8.8 Billion Is Just Digging a Deeper Hole

IEEFA identified key requirements for attracting private investors to the project:

- A credible estimate of costs to finish the project must be disclosed, and the estimate must take cognizance of the range of uncertainty in heavy capital construction costs related to inflation.[37]

[36] Fraser Institute. Trans Mountain pipeline will benefit Canada—but at a very high price. May 2018.
[37] Commercial Property Executive. Construction Costs Will Keep Rising. Here's How Much. October 2021.

- An interest rate for any newly raised money must be established. The pipeline itself is not a profitable investment as a standalone enterprise. Any interest rate by a bank or other private lending institution would be prohibitive without a guarantee. The Canadian government, however, has a strong AAA bond rating, which will be necessary directly or indirectly to support investment of $8.8 billion in new credit for the troubled TMX project.

- Any investment will have to separate and subordinate all the Canadian government's spending (an estimated $17.3 billion) from new investor money (an estimated $8.8 billion). Investors will have to be paid back before the taxpayers. At this point, the Canadian government has relinquished any claim to ever recovering the $17.3 billion it has spent on the project and will likely have to cover the $8.8 billion, for a total of 26.1 billion.

- The likely write-off of government contributions to TMX might then enable the project lender to provide capital to TMX and perhaps even transfer ownership in the event of default.

The project will remain a very high risk, even if all capital contributions are relinquished, because the tolls cannot be raised high enough to support operational costs and new debt on the pipeline. To do so would raise the cost of exporting oil from Canada to a price that is no longer competitive in international markets.

The transaction(s) that will be necessary to achieve the goals set out by the Canadian government will also come with significant costs in fees for advisors and finance professionals.

Conclusion

TMX was not a profitable investment when the Canadian government bought the project from Kinder Morgan at a price above market value. Rising construction costs have only placed the project further in the red.

The overall plan to increase Canadian oil exports in the world market remains risky.

Finance Minister Freeland's assertion that Canada will invest no more public money in TMX is grossly misleading to the public. TMX is a government-owned entity, and IEEFA concludes that any money borrowed by a private company for the completion of the project will have to be guaranteed by the Canadian government.

About IEEFA

The Institute for Energy Economics and Financial Analysis (IEEFA) examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy. www.ieefa.org

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