

# TRANSMOUNTAIN PIPELINE EXPANSION FATALLY FLAWED

*“...what’s really important to me is that ... we process the bitumen from the oil sands in Alberta which creates a lot of jobs, and a lot of job activity, and... that would be a better thing to do than merely sending the raw bitumen down the pipeline.”*

— the late former Alberta Premier The Hon. Peter Lougheed  
in an interview on September 13, 2011.

On December 16, 2013 Kinder Morgan filed application to the National Energy Board to expand its TransMountain Pipeline to the West Coast.

The application contains three major flaws — any one of which ought to be fatal.

The first is that Kinder Morgan has not applied to relocate the pipeline’s Westridge marine terminal from Burnaby, BC to Tsawwassen/Delta. By purchasing BC Ferries’ Tsawwassen terminal, all tanker traffic would be removed from Vancouver’s central and inner harbours, from underneath the Second Narrows and Lions Gate bridges, past Stanley Park, and from Burrard Inlet and a good part of the Salish Sea. Deep water at Tsawwassen would allow safe loading of much larger tankers, reducing additional Salish Sea tanker traffic by three-quarters. The Burnaby mountain tank farm could be dismantled and a new pipeline through Burnaby, the third most densely-populated municipality in the Lower Mainland, would no longer be required.

A Tsawwassen marine terminal eliminates two major pipeline crossings of the Fraser River. And it would eliminate the need to bring jet-fuel tankers up the Fraser River to a new jet-fuel marine terminal at Riverport and the need for a jet fuel pipeline through Richmond.

Proceeds from the sale would allow BC Ferries to construct a new terminal near Vancouver's airport, reducing Island transit times, not the same as crossing times, by half for many Lower Mainlanders and Islanders. The airport/ferry connection is fast and efficient with an extension of TransLink's Canada Line LRT to an Iona ferry terminal.

Other options include enlarging the Deltaport coal/container jetty to include a marine tanker terminal or building a new marine terminal jetty to the north of the Deltaport jetty.



Tsawwassen Ferry/Terminal Options, Re-located BC Ferries Terminal, and new Pipeline. Source, Mike Priaro. Base map, Johomaps.

Moving the Westridge marine terminal to Tsawwassen/Delta might provide incentive for Chevron, or a competitor, to replace the small, marginally-economic Burnaby

refinery and marine terminal with a larger, world-leading environmental showpiece refinery like Irving Oil's EPA-award winning refinery in Saint John, NB. Such a refinery could meet all of the Lower Mainland's and Islands' needs for petroleum products — including jet fuel which could be barged directly from the new refinery to the airport or to a new marine terminal. A new pipeline could be engineered to use the existing Roberts Bank Rail Corridor right-of-way to connect to the proposed TransMountain pipeline without crossing the Fraser River.

The second is that the expanded pipeline will send dilbit to the West Coast for export. There is no more environmentally-damaging crude than dilbit if spilled and no more economically-disadvantageous crude to export than the raw bitumen diluted with solvent that makes up dilbit. British Columbians should insist on an agreement that any dilbit shipped down the expanded TransMountain pipeline be completely phased out in favour of upgraded bitumen and conventional crude over an agreed-upon period — say 15 years, encouraged by a stiff and ever-increasing “environmental” levy. And all Canadians, including Albertans especially, must insist that all shipping of dilbit and exports of low-value raw bitumen be phased out.

Regardless, the third is that Kinder Morgan's application makes no provision for the creation of a strategically-located, world-leading, oil-spill response centre. The existing Western Canada Marine Response Corporation falls far short on response times, personnel availability, knowledge, experience, equipment, and location to handle a large dilbit spill in the Salish Sea. Funding to create a world-class spill response centre should come from crude producers, crude buyers, the pipeline company, marine shippers, the Province of Alberta, and the federal government.

A world-class spill response centre must also have: on-going funding; dedicated personnel on-duty 24/7; on-going drills, training and research; support from academia, industry and government; strategically-located water-front facilities, dedicated vessels and aircraft; specialized equipment and warehoused supplies; a command center with centralized communications; and, written and rehearsed emergency response plans to begin to effectively respond to the largest dilbit or oil spill, say 100,000 bbl, in the Salish Sea within one hour — day or night, weekdays or holidays, good weather or bad.

It might be possible to negotiate with U.S. Salish Sea and Puget Sound jurisdictions, regulators, and industry to co-operate on a joint Canada-US spill-response centre.

Conventional crude oil spills will generally float and/or evaporate depending on time, volatility and on density which is always less than fresh water. Unfortunately, recovery for a dilbit spill is likely to be very, very low and environmental damage very, very high.

It is difficult to predict whether and how long dilbit will float, have neutral buoyancy, or sink with weathering and sediment uptake making spill clean-up extremely difficult and costly – if not impossible. In fact, a dilbit spill could exhibit all three types of behavior simultaneously while any unrecovered bitumen, which will be most of it, will never evaporate.

The elimination of dilbit exports must be the imperative goal of all Canadians but this will require one or two decades to achieve. British Columbians have an opportunity to play a key positive role in achieving this important environmental and economic goal by demanding an agreement that dilbit volumes using an expanded TransMountain pipeline be phased out over, say, 15 years, in the face of a stiff and escalating environmental levy. Such a levy will recover some of the economic benefits lost by Canadians from the export of raw bitumen and by the high costs of diluent and compensate British Columbians for the disruptions and risks of an expanded TransMountain pipeline.

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## Author Bio

"Mike Priaro, B.Eng.Sc. (Chem. Eng.), U.W.O. '76, P.Eng., Lifetime Member Association of Professional Engineers and Geoscientists of Alberta (APEGA), worked in facilities, production, operations and reservoir engineering, as engineering consultant, area superintendent, and engineering management in Alberta's oil patch for 25 years for companies such as Amoco and PetroCanada."

"He increased oil production from the historic Turner Valley oilfield and brought in under-balanced drilling technology to drill out, complete, and test several of the highest producing gas wells ever on mainland Canada at Ladyfern. He co-authored '*Advanced Fracturing Fluids Improve Well Economics*' in Schlumberger's *Oilfield Review* and developed the course material for the '*Advanced Production Engineering*' course at Southern Alberta Institute of Technology."

"Mike has presented his work to Canada's *House Committee on Natural Resources* in Ottawa and had work published by the Macdonald-Laurier Institute in the March and April, 2014 editions of *Inside Policy* magazine, by U.S. energy industry websites such as *RBN Energy*, in the July 17, 2014 edition of the *Oil and Gas Journal*, and in *Petroleum Technology Quarterly Q3 2014*."

"Mike has no formal connection to any oil company, environmental organization, think tank, labour organization, lobbying or special interest group, academia, or to provincial or federal politics."

"Mike has incidental, long-time ownership of a modest number of TransCanada Corporation common shares and also owns a few common shares in several small resource companies."

"Mike is the author of "A 'Canada-First' Canadian Energy Strategy" (see [https://www.behance.net/portfolio/editor?project\\_id=5808629](https://www.behance.net/portfolio/editor?project_id=5808629) ) and is available for speaking engagements, special projects, and consulting work."