

Technical Annex

to the *Economic Note*: “The Most Efficient Way to Stimulate the Economy:
Private Pipelines or Public Infrastructure?”

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Pipelines provide oil producers in Alberta and Saskatchewan with the opportunity to access world markets to sell a portion of their production. When restricted to the internal North American market, each barrel of oil is sold at a price that is lower than the price in other markets.

In order to get an idea of the magnitude of the economic losses incurred due to the isolation of Canadian oil production, we can carry out a calculation by putting forth three hypotheses. Of course, the result of this calculation should be used prudently and solely for purposes of illustration.

HYPOTHESES

1. The Price Differential

Between the Western Canadian Select, the West Texas Intermediate, and the Brent price (which are the prices of oil on different markets), the price differentials vary. For our calculation, we need to estimate a more or less constant price differential. Several similar exercises find a difference of \$10 per barrel, for example the National Energy Board¹ or *Oil Sands Magazine*.²

The Alberta government estimated the difference in price between the current situation and the one where new markets could be reached to access to the Pacific Ocean. In 2014, lack of access thus represented a price differential of \$7.42 per barrel of oil. Assuming that this difference is representative for all markets and all projects, we use a differential of \$7.42. This hypothesis is more prudent than a differential of \$10 per barrel.

2. The Production of Oil

Since we want to illustrate economic losses or gains in order to understand their size compared to the present situation, we use the estimated current production level of 4.6 million barrels per day for the first quarter of 2016 according to the most recent OPEC report.³

However, the presence of pipelines would lead production to increase marginally. The National Energy Board, in a scenario in its report on *Canada’s Energy Future 2016: Energy Supply and Demand Projections to 2040*, estimates that production would grow by 8% with additional

¹ National Energy Board, *Canada’s Energy Future 2016: Energy Supply and Demand Projections to 2040*, January 2016, p. 94.

² “Western Canadian Select Explained,” *Oil Sands Magazine*, February 18, 2016. (See the section: Why is Canadian heavy oil cheaper than other benchmarks?)

³ OPEC, *Monthly Oil Market Report*, May 2016 (see Table 10.6).

capacity compared to the production level without the pipelines.⁴ According to this hypothesis, the production level would therefore reach nearly 5 million barrels per day under current conditions.

3. Dynamic Effects on the Price of a Barrel of Canadian Oil

The transport capacity of the four projects studied amounts to 3.2 million barrels per day. In other words, even if Canada produced 5 million barrels per day, the new pipelines could not transport all of this production.

	Additional (b/d)
Energy East	1,100,000
Trans Mountain	718,000
Northern Gateway	590,000
Keystone XL	830,000
TOTAL	3,238,000

However, other pipelines already exist (Keystone, Trans Mountain, Enbridge's Line 9B that was re-reversed, etc.) and train transport capacity would be freed up. With a small proportion sold on the interior market of the North American continent, the price obtained on this market could also approach other world prices.

Given these dynamic effects, it is possible that the near totality of Canadian oil could be sold at prices not very different from world prices.

RESULT

According to the preceding hypotheses, the calculation is the following:

$$\text{Annual production capacity} \times (1 + 8\%) \times \text{Price differential} = \text{Total economic gain}$$

$$4.6 \text{ M barrels per day} \times 365 \text{ days} \times (1 + 8\%) \times \$7.42 \text{ per barrel} = \$13.5\text{B}$$

The result of this calculation indicates a shortfall or a total gain for the Canadian economy of \$13.5 billion annually.

⁴ National Energy Board, *op. cit.*, endnote 1, p. 5.