

Analysis of the competitiveness of BC's proposed fiscal framework for LNG Projects

Prepared for the Ministry of Natural Gas
Development

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1. Overview and scope

1.1 Background

The Province of British Columbia (the “Province”) through the Ministry of Natural Gas Development (the “Ministry”) is seeking to engage the private sector to develop Liquefied Natural Gas (“LNG”) in British Columbia (the “LNG Projects”), and is currently in discussions with a number of potential proponents (“Proponents”).

As a result of the potential for significant revenues, and economic activity, from the LNG Projects, the Province is working with its advisors to determine a ‘fiscal framework’ for BC to apply to the LNG Projects. This fiscal framework comprises taxes and royalties payable by Proponents to Government and the Province’s objective is to develop a fiscal framework for BC that is competitive when compared against other selected jurisdictions also involved with LNG project development.

1.2 Scope of analysis

Given this objective, the Province engaged EY to develop a high level analysis of a proposed fiscal framework applicable in BC, against the current comparable fiscal frameworks in Australia and specific US States, based on a hypothetical set of assumptions for the LNG Projects, in order to provide an indication of its relative competitiveness. The projections in this Report are not estimates of revenues to be collected, and are merely to facilitate a comparative analysis of the fiscal frameworks.

In comparing the fiscal frameworks in the various jurisdictions the analysis has considered all taxes and royalties that would be payable by a Proponent in the various jurisdiction including Federal, Provincial/State and local/municipal taxes (referred to as “Government Revenues”).

The analysis considers the following jurisdictions (the “Cases”):

- ▶ The current applicable fiscal framework in BC (including the Federal portion of Corporate Income Tax), together with an assumed new BC LNG Income Tax provided by the Ministry (the “BC Case”)
- ▶ Australia (the “Australia Case”)
- ▶ Five specific US States - Alaska, Georgia, Louisiana, Oregon and Texas (the “Five US States”).

Australia and the Five US States were selected by the Province as comparators based on its’ assessment that these are the potential key competitors to BC in attracting potential proponents to develop the LNG Projects.

The analysis is based upon a hypothetical set of assumptions, intended to be broadly equivalent to 5 LNG facilities (the “Representative Project”), that are not specific to any Proponent or indicative of the size of the potential LNG sector in BC, and have been applied consistently to each of the Cases in order to facilitate the analysis of relative competitiveness of the proposed BC fiscal framework.

The scope of the LNG Projects reflects the following elements of the value chain:

- 1) Upstream: gas exploration, gathering and production
- 2) Pipelines or midstream: transportation to the LNG facility
- 3) Downstream: processing, liquefaction and loading at the LNG facility.

The analysis involved projection of indicative ranges of Government Revenues for each element of the value chain and on an integrated basis.

The scope of the engagement did not include EY commenting on the appropriateness of either the proposed BC fiscal framework, or any of the fiscal frameworks in alternative jurisdictions.

2. Process and methodology

The following summarises the high level process followed in developing the analysis:

- ▶ The Ministry has undertaken a detailed review of LNG projects on a global basis. As a result of this review, the Province has determined that the most appropriate comparators for the analysis are the fiscal frameworks currently in place in Australia and the Five US States
- ▶ The Ministry defined the Representative Project and provided EY with associated high level project assumptions as summarised in Section 3
- ▶ The Ministry provided EY with the details of a proposed new BC LNG Income Tax to be integrated into the fiscal framework applicable in BC, further described in *Budget 2014*¹
- ▶ EY considered the existing fiscal frameworks in Australia and the Five US States, drawing on internal experts in each of the relevant jurisdictions, and developed a high level analysis for each of the Cases
- ▶ EY considered potential variations in key underlying assumptions and developed alternative scenarios, described in Section 4.1 of this Report, with specific scenarios determined to represent the low and the high end of potential Government Revenues, over a 20-year operating period
- ▶ The outputs of the analysis were used to consider the potential competitiveness of the BC fiscal framework against the fiscal frameworks in Australia and the Five US States, based on the key assumptions of the Representative Project.

The following sources of Government Revenues were included within the analysis for each of the jurisdictions (as applicable):

- ▶ Royalties
- ▶ Corporate Income Tax (Provincial / State and Federal)
- ▶ Sales Tax
- ▶ Property Tax
- ▶ Carbon Tax
- ▶ Proposed LNG Income Tax (BC)
- ▶ Petroleum Resource Rent Tax (Australia)
- ▶ Franchise, Severance and Conservation Taxes (Five US States).

¹ <http://www.bcbudget.gov.bc.ca/>
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3. Assumptions

3.1 Overview of assumptions

The analysis is based on a number of high level assumptions as described below:

- ▶ Price assumptions are based on the forecast or forward crude oil and natural gas (“NG”) prices from the US Energy Information Administration² (“EIA”) and the Intercontinental Exchange³ (“ICE”)
- ▶ The Representative Project development and operating assumptions including:
 - ▶ Aggregate LNG volumes of 82 MTA⁴ from 2018 to 2037
 - ▶ Aggregate exploration costs and upstream, pipeline and downstream capital and operating costs over the construction and 20-year (2018 - 2037) operating period for the LNG Projects as a whole, which are broadly consistent with publicly available industry benchmarks⁵
- ▶ A capital allowance methodology based on nature of expenditure and relevant rates for each jurisdiction (subject to the limitations in Section 5), and consistent financing assumptions across the 5 LNG Projects
- ▶ The proposed BC fiscal framework reflecting the current royalty regime and the expected taxation regime in BC until 2037 together with the proposed new BC LNG Income Tax provided by the Province
- ▶ The fiscal frameworks from Australia and the Five US States are based on the current understanding of the legislation in the jurisdictions and do not take into account any discretionary credits that a Proponent may or may not be able to obtain
- ▶ The analysis has been undertaken in real 2012 dollars, avoiding the uncertainty associated with future inflation, as well as present value dollars, in order to reflect the time value of money, over a 20-year operating period.

Due to the complexities of potential corporate structures, and the other development activities of potential Proponents, the Government Revenues for the Reference Project only reflects operations within the LNG value chain defined in Section 1.2. It is noted that in reality, Proponents may have opportunities to structure their operations in a way to reduce the overall level of tax payable.

² <http://www.eia.gov/forecasts/aeo/data.cfm>

³ <https://www.theice.com/>

⁴ Million Tonnes per Annum

⁵ Including benchmarks contained in the Australian LNG Handbook, Deutsche Bank, 6 September 2011
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4. Summary analysis

4.1 Scenario analysis

The analysis undertaken included scenarios with sensitivities of key variables, in order to identify a potential range of Government Revenues from the fiscal frameworks over the 20 year operating period, under each of the Cases.

The limits of the indicative range involve sensitivities of price and expenditure assumptions, and can be summarised as follows:

- ▶ The low end reflects the use of ICE future pricing (the lower of the alternative LNG price projections) and a higher capital and operating cost sensitivity of 20% above the Reference Project assumptions
- ▶ The high end reflects the use of EIA future pricing (the higher of the alternative LNG price projections) and a lower capital and operating cost sensitivity of 20% below the Reference Project assumptions.

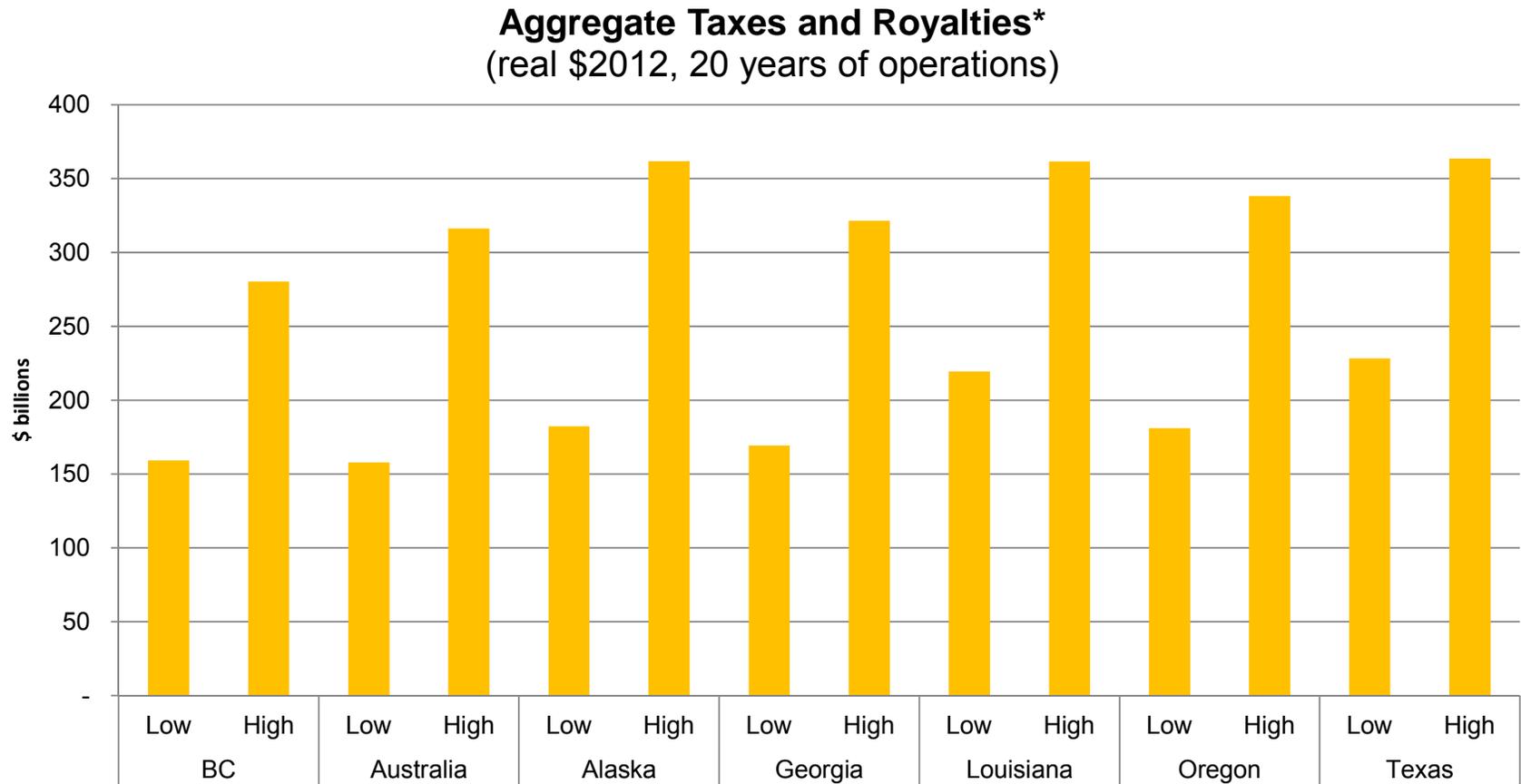
It is noted that this indicative range does not represent the full range of possible outcomes. As discussed further in Section 5, projections can, and will, change based on global and local influences including commodity prices and economic factors and as the global market for LNG continues to develop, and variability in the sensitized (or other) assumptions may be greater than projected in the analysis.

4.2 Overview of analysis outputs

This section sets out the indicative projected range (based on the low and high scenarios above) of Government Revenues from fiscal frameworks in each of the relevant jurisdictions, as a result of the development and operation of the Reference Project over a 20-year operating period.

Relative results between the Cases were broadly consistent across the scenarios considered. The following charts contain the indicative projected range Government Revenues in both real and present value terms:

Figure 1 - Indicative projected range of aggregate taxes and royalties in real \$2012

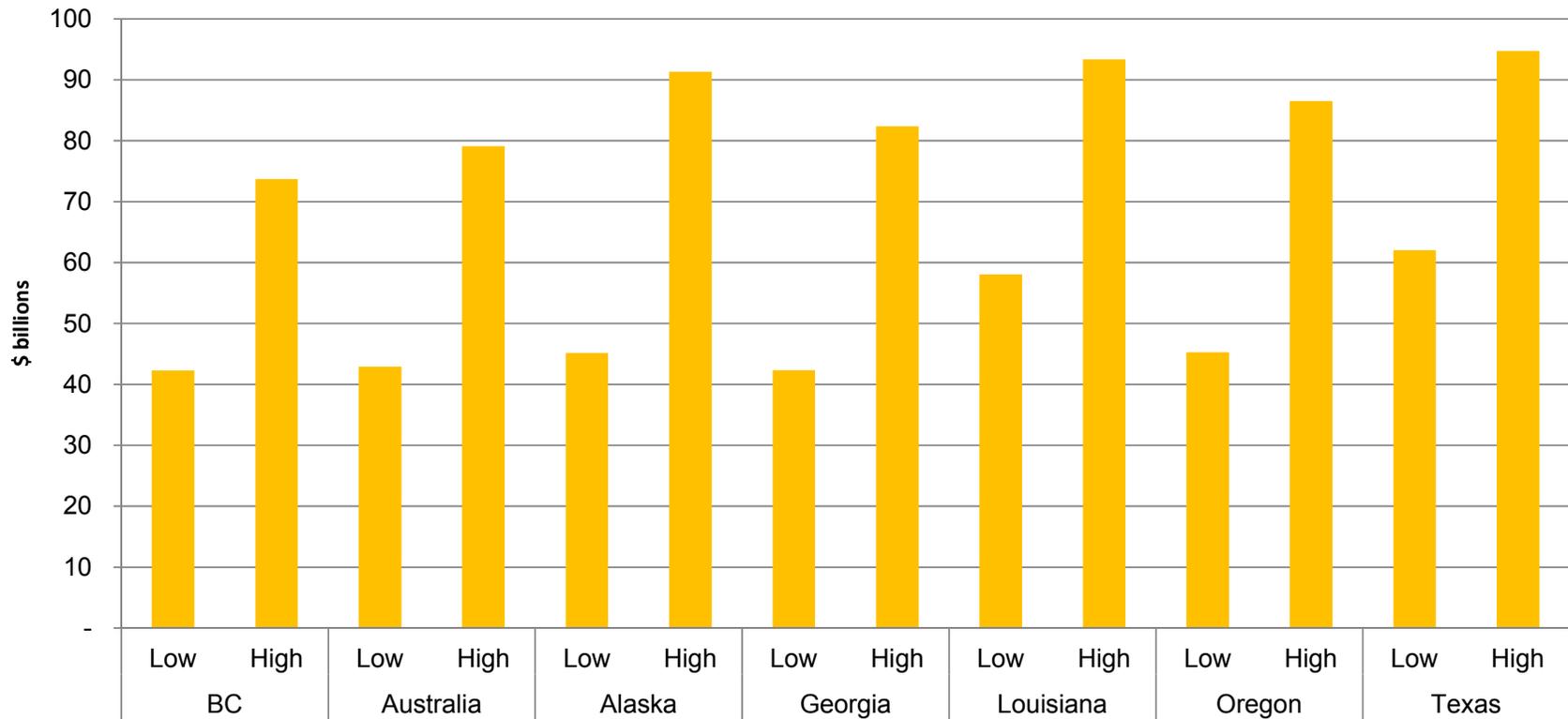


* Taxes and royalties from the fiscal framework in each jurisdiction across Federal, Provincial/State and local/municipal government

Figure 2 - Indicative projected range of aggregate taxes and royalties in present value terms using a discount rate of 8%

Aggregate Taxes and Royalties*

(Present value in \$2012 using 8% discount rate, 20 years of operations)



* Taxes and royalties from the fiscal framework in each jurisdiction across Federal, Provincial/State and local/municipal government

4.3 Interpretation of results

4.3.1 Summary results across jurisdictions

With respect to the indicative projected range of Government Revenues under the Reference Project, the results indicate that:

- ▶ The indicative range of Government Revenues under the BC and Australia Cases is below that of all of the Five US States
- ▶ The low end of the range is comparable under the BC and Australia Cases, the Australia Case shows a higher high end of the range, largely as a result of Petroleum Resource Rent Tax becoming payable under the high case
- ▶ The present value demonstrates similar relative results across jurisdictions as the real analysis.

These results indicate that the proposed BC fiscal framework, which includes the proposed BC LNG Income Tax, appears competitive relative to the existing frameworks in Australia and the Five US States.

The analysis was also run under a 'High Capacity' scenario assuming 82MTA for 2018 and 2019 increasing to 120 MTA (broadly reflecting an additional 2 LNG facilities) from 2020 through to 2037, and relative results between jurisdictions were determined to be materially consistent with those under the Reference Project.

5. Limitations

The Province engaged EY to develop a high level analysis of a proposed fiscal framework applicable in BC and to compare this against the current comparable fiscal frameworks in Australia and specific US States in order to provide an indication of its relative competitiveness. The projections in this Report are not estimates of revenues to be collected, and are merely to facilitate a comparative analysis of the fiscal frameworks.

As described above, the cost and operating inputs into the analysis have been provided by the Ministry on the basis of a set of hypothetical data and have been compared to other industry benchmarks. The assumptions do not contain any project specific inputs.

The assumptions provided are high level in nature and have not been itemised into component parts. As such:

- ▶ It has been assumed that all costs are eligible expenditures in determining tax bases
- ▶ Each of the individual asset classes (upstream, pipeline and downstream) will be comprised of numerous individual assets with a range of individual asset lives. For the purpose of the analysis, it has been assumed that the assets lives are a single average rate for each of the individual assets classes
- ▶ In determining the Government Revenues of the Reference Project under the Cases, it has been assumed that all elements of the LNG Project, defined in Section 1.2, are subject to the fiscal framework in the respective jurisdiction. It is noted that in reality, Proponents will have other activities that are likely to reduce their tax payable.

The scope of the engagement did not include EY commenting on the appropriateness of either the proposed BC fiscal framework that is the basis of the BC Case, nor any of the fiscal frameworks in alternative jurisdictions.

The projections presented in this Report are for illustrative purposes only. They are based on a set of assumptions and other information at a given point in time. Projections can, and will, change based on global and local influences including commodity prices and economic factors and as the global market for LNG continues to develop. The inherent uncertainty and variability in the assumptions may result in the Province receiving significantly different revenue from the LNG Projects than estimated.

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