Ministry of Energy, Mines and Petroleum Resources

B.C. Oil and Gas Royalty Programs

2019 Performance Measures

Economics and Market Development Branch

Oil and Gas Division

April 2020

Table of Contents

Message from the Assistant Deputy Minister

The Ministry of Energy, Mines and Petroleum Resources (EMPR) is responsible for overseeing British Columbia (B.C.)'s upstream oil and natural gas sectors. Through teamwork and positive working relationships with its clients and stakeholders, EMPR facilitates thriving, safe, environmentally responsible and competitive natural gas and oil developments in order to create jobs and contribute to economic growth within the province.

The Province has a series of natural gas royalty programs aimed at ensuring B.C.'s fiscal regime remains competitive with other jurisdictions, encourages development of natural gas and, in turn, increases direct revenue to the Province. A positive investment climate is critical for creating good jobs in the sector and building a strong and sustainable oil and gas industry in B.C.

In response to a recommendation from the Office of the Auditor General in 2010, EMPR committed to prepare a Performance Measures Report every year to follow-up on the goals of the current royalty regime. The aim of such a report is to divulge more information on the impact of B.C. royalty programs to industry and the Province. Specifically, it addresses questions of whether B.C.'s royalty programs maximize value to the Province, treat producers fairly, are easy to administer, and contribute to long-term investment.

This Performance Measures Report is not intended to be a static document. EMPR welcomes feedback, comments and suggestions.

May Mah-Paulson
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Introduction to Performance Measures

B.C. collects royalties on oil and natural gas produced from Crown leases[1]. The royalty regime is structured to maximize the amount of economic rent collected from produced oil and natural gas, while ensuring that producers can earn a fair return on their investment. Specifically, the goals of the current royalty regime are:

- ***Value to the Province is maximized***: encourage resource development to the benefit of the Province in terms of maximizing royalties and taxes
- ***Equity***: producers, large and small, are treated equally under the regime
- ***Long-term investment***: the royalty regime is aimed at long-term investment by industry
- ***Administrative ease***: the royalty system is simple to administer and verify for government and industry

Industry evaluates a variety of factors when determining where to invest their capital budget. Some of those factors include geological characteristics of the resource, proximity to markets and business climate. Royalty programs do not exist in isolation when considering the impacts of government policy on the business environment; other policies that influence investment are climate policy, taxation and regulatory policy.

B.C. aims to have one of the cleanest, most environmentally responsible natural gas industries in the world. The CleanBC plan, released in December 2018, puts the province on a path to a cleaner, better future. The related policy changes and climate initiatives have impacts on the development of the natural gas industry in B.C. when compared with other jurisdictions in North America that do not have equivalent environmental policies and carbon prices. For example, all major U.S. oil and gas producing states do not have carbon pricing policies[2]. In addition, B.C. has taken the initiative to further the electrification of the upstream production and to reduce methane emissions throughout the oil and gas value-chain to help meet its stated climate targets. These initiatives add costs to oil and gas industry operations in B.C.

The market price for natural gas has been trending downward over the last decade due to rapid growth in shale gas production in North America. Despite challenged natural gas commodity pricing, provincial production has been growing due to sustained activity, impressive well productivity, as well as high market valuation for natural gas by-products.

The development of the prolific, liquids rich resource of the Montney formation, in the Province's northeast region, underpins the rapid growth in natural gas production in B.C. in the last decade and is expected to be the focus of oil and gas industry for the foreseeable future.

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[1]Crown leases tenures that permit private industry to develop publicly owned oil and gas resources in B.C.

[2] U.S. State Carbon Pricing Policies https://www.c2es.org/document/us-state-carbon-pricing-policies/.

Increasingly competitive natural gas and by-products markets in North America are presenting new challenges for attracting oil and gas industry investment in Western Canada. B.C. royalty programs are important tools for B.C. to secure market share. This in turn should secure long term value for what is arguably the most environmentally and socially responsible natural gas in the world.

Performance Measures Indicators

B.C.'s royalty programs include lower royalty rates for low-productivity, marginal and ultra-marginal natural gas wells, royalty credits for infrastructure development and for upstream infrastructure that reduces upstream Greenhouse Gas emissions (Clean Growth Infrastructure Royalty Program), royalty credits for deep gas exploration (deep well and deep re-entry well program), and the net profit royalty program.

Please refer to the following link for detailed information on B.C. royalty programs:
https://www2.gov.B.C..ca/gov/content/industry/natural-gas-oil/oil-gas-royalties/royalties-royalty-programs

Four indicators have been selected to assess the achievement of the four goals of the royalty regime listed above. These indicators are:

- ***Indicator #1***: Royalties per thousand cubic feet (mcf) of marketable gas production in B.C. over Alberta
- ***Indicator #2***: Producer equity ratio in B.C.
- ***Indicator #3***: Relative investment in B.C.
- ***Indicator #4***: Positive response rates on B.C. fiscal terms from the Fraser Institute Global Petroleum Survey

The selection of performance measures reporting indicators in this report is based on three conditions:

(1) The indicators should be representative of the goals of the royalty regime;
(2) The indicators should be readily available – moreover, if possible, data should be publicly accessible; and
(3) The indicators should be easy to understand for a non-technical audience.

Performance Measure #1: Value to the Province is maximized

Goal 1 of B.C.'s royalty regime calls for the maximization of value to the Province. More specifically, "encourage resource development to the benefit of the Crown in terms of maximizing royalties and taxes."

Rationale for Indicator #1

The Performance Measures Reporting Indicator #1 is aimed at capturing the balance between generating incentives for investment in B.C.'s oil and gas industry while still receiving a fair return for Crown resources. This way, value to the Province is maximized.

The measure of "royalties per thousand cubic feet (mcf) of marketable gas production B.C. over Alberta" is calculated by subtracting royalties per mcf of marketable gas production in Alberta from royalties per mcf of marketable gas production in B.C. If the indicator is positive, B.C. is charging higher royalties than Alberta on a per mcf basis. If the indicator is negative, B.C. is charging lower royalties than Alberta on a per mcf basis.

Royalties per mcf of marketable gas production are calculated based on the following information that is publicly available:

- Natural gas and natural gas liquids royalties received by B.C. and Alberta, in millions of Canadian dollars, by fiscal year (available from government websites); and
- Marketable (commercially sold) natural gas production in B.C. and Alberta, in billions of cubic feet (bcf), by calendar year[3] (available from Canadian Association of Petroleum Producers (CAPP)).

By introducing production in the analysis, the indicator adjusts for the fact that both provinces have different natural gas resources – and thus different productivity.

The indicator measures B.C.'s "maximization" of revenues using a relative measure (comparison to Alberta). Alberta is the historical competitor in terms of B.C.'s upstream investment. The incorporation of a neighbouring jurisdiction in the analysis reflects the fact that capital is mobile, and investors can decide to move their capital to other jurisdictions if B.C. does not offer competitive royalty treatment.

To achieve a balance between generating incentives for investment and receiving a fair return, the target for indicator #1 is set at no more than $0.10/mcf in absolute value. This target is selected based on historical trends (see Chart 4 for historical values for indicator #1 during the last 10 years).

[3] Royalties are expressed in government fiscal years (April to March), while production is expressed in calendar years, as there is a lag for the Province to receive royalties corresponding to a certain production period. For example, natural gas production generated in January 2018 pays royalties to the Province in March 2018. By lagging royalty payments, the calculation matches the royalties received to the associated gas production.

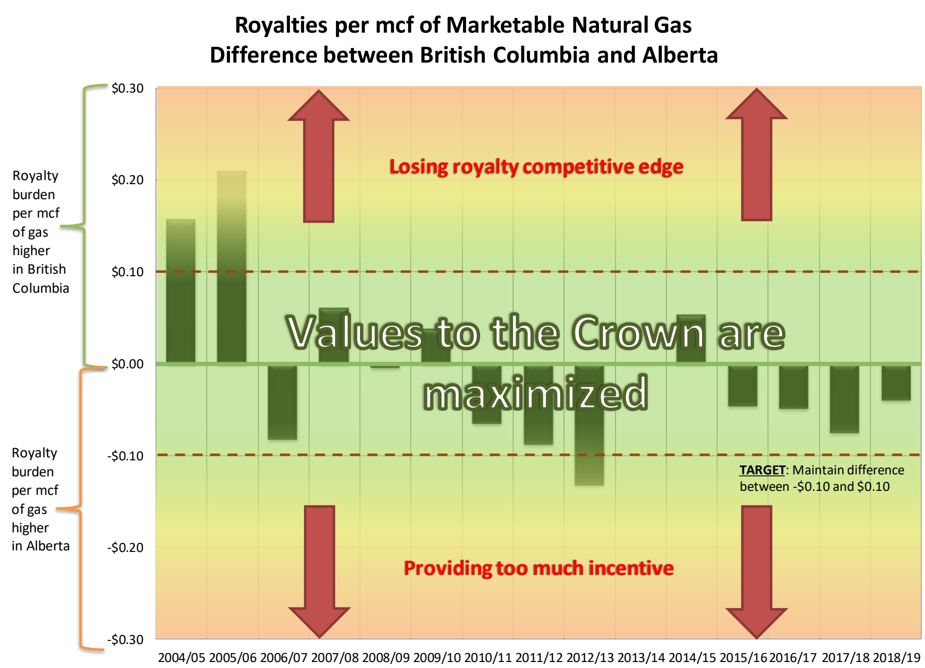
Indicator #1 Results

Royalties per mcf of production during the 2018/19 fiscal year were $0.10 in B.C. and $0.14 in Alberta. The royalties per mcf of marketable gas B.C. over Alberta was −$0.04 which indicates that, on average, B.C. collected 4 cents less royalties per mcf of natural gas production compared with Alberta during 2018/19.

B.C. collects lower unitized royalties in part due to its further distances to markets, and the higher infrastructure and transportation costs. The situation has been exacerbated since 2017 when Western Canada started to struggle with lack of incremental pipeline capacity to transport natural gas outside of the region. The egress restrictions impacted B.C. more so than Alberta as B.C. natural gas production increased at much higher rates compared with Alberta (see Chart 2).

Indicator #1, which compares absolute differences in unit royalties collected by the two provinces, also shows the same trends in historical developments when comparing the two provinces.

Chart 1: Indicator #1[4]



Indicator #1 has ranged between −$0.13 and $0.21 during the period between 2004/05 and 2018/19.

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[4] Charts 1 to 4: royalties per mcf of gas production from Government of B.C. and Alberta publications including annual, quarterly reports and/or public accounts https://www2.gov.bc.ca/gov/content/governments/finances/reports, https://www.alberta.ca/planning-reporting-savings.aspx.

Chart 2[4,5]

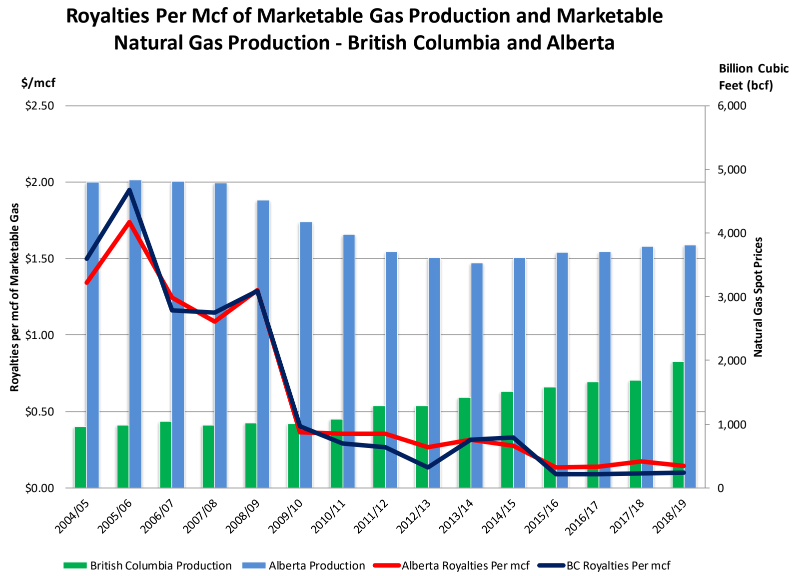
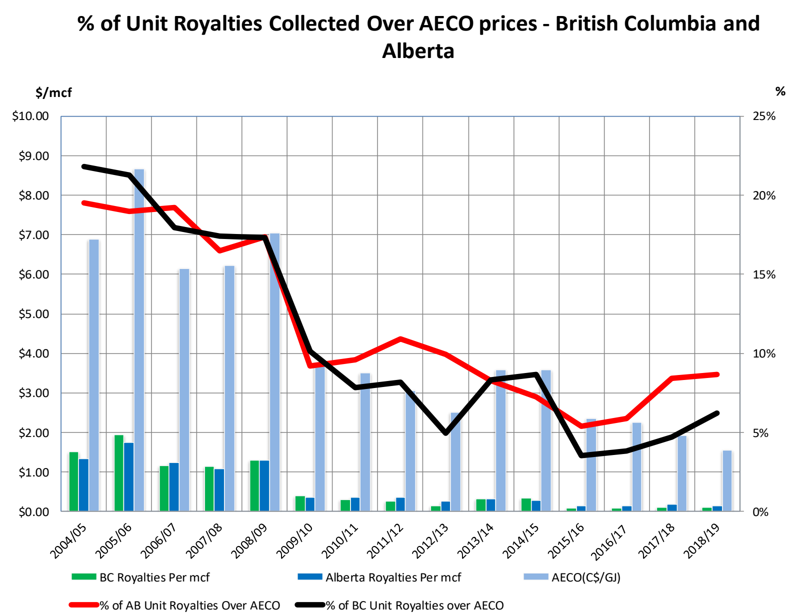


Chart 2 shows that producers have paid royalties to B.C. of between $0.09 and $1.95 per mcf of natural gas production between 2004/05 and 2018/19. In Alberta, this range is between $0.13 and $1.74 per mcf. In addition, B.C. marketable natural gas production has increased from 960 bcf in 2004/05 to 1,976 bcf in 2018/19 (a 106% increase) while Alberta production has declined from 4,795 bcf to 3,809 bcf in 2018/19 (a 21% decrease).

Chart 3[4,6]



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[5]Chart 2: Production from CAPP https://www.capp.ca/publications-and-statistics/statistics/statistical-handbook.

[6]Charts 3: AECO prices from Enerdata.

Chart 3 shows that % of unit royalties collected over AECO for both B.C. and Alberta dropped significantly beginning in 2009/10 as natural gas prices dropped to historically low levels. This is mainly because royalty rates in both provinces are price sensitive, i.e. base royalty rates drop as market prices are lower.

Chart 4[4]

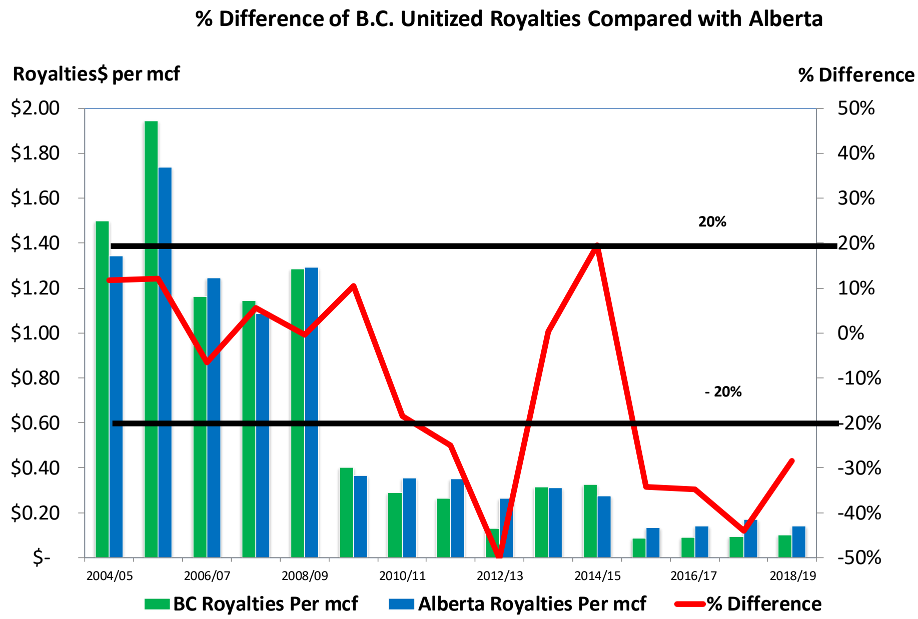


Chart 4 indicates that the percentage differences of B.C. unitized royalties compared with Alberta started to drop in 2010/11, when natural gas prices dropped to historically low levels. This is mainly because B.C. royalty programs offers credits which are not price sensitive. As royalty credits are deducted against low natural gas revenue, B.C. unit royalties collected dropped significantly compared with Alberta, which does not offer as much royalty credits for unit production. This trend briefly reversed around 2014/15 when natural gas prices had a brief surge and B.C. started to produce liquid-rich Montney gas, which generated more revenue for natural gas production.

Interpretation of Indicator #1 Results

Despite the changes in natural gas production levels between 2004/05 and 2018/19 for both provinces, royalties per mcf of marketable natural gas production in B.C. and Alberta have been very similar – the absolute difference is less than $0.10/mcf during 9 of the last 10 years.

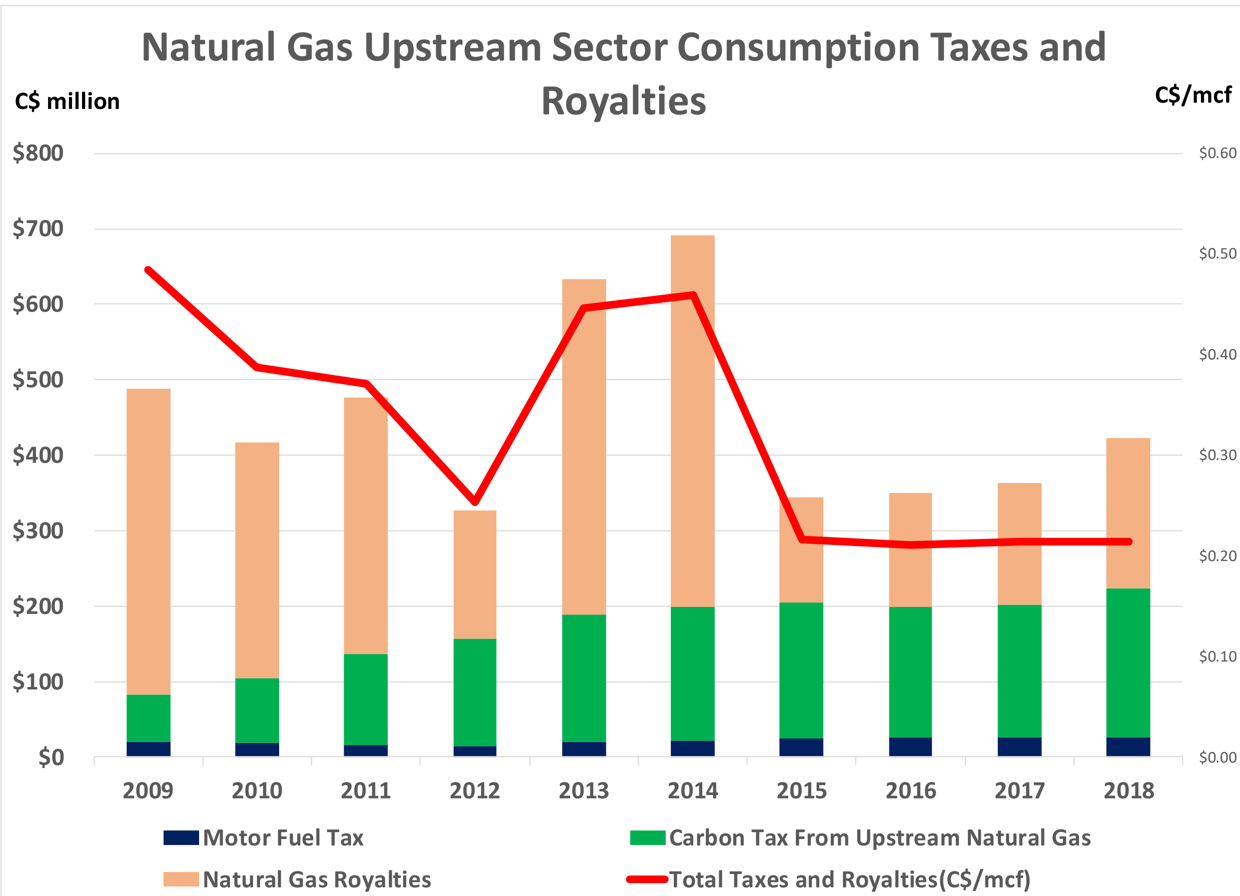
In 2018/19, indicator #1 was −$0.04/mcf, which met the target of an absolute value less than $0.10/mcf that was set for the indicator. Based on this result, B.C.'s royalty programs achieved the goal of maximizing values to the Province in 2018/19.

The indicator turned negative starting in 2010/11, when natural gas prices started to drop to historically low levels. B.C. was more severely impacted by low natural gas prices because of factors including its price insensitive royalty programs (compared to price sensitive royalty rates), further distance to markets, higher infrastructure and transportation costs, and higher growth rates in natural gas production, compared with Alberta.

Royalties are not the only way that natural gas development generates revenues for the Crown. As a carbon emitting fuel, natural gas is subject to the carbon tax. Activities to develop natural gas resources, including running generators, operating compressor stations, and transportation of water and equipment all produce emissions and are subject to carbon tax in the Province. It is also subject to a separate motor fuel tax when used to develop natural gas resources for market use.

In addition to royalties, significant amounts of carbon taxes and motor fuel taxes are collected from the natural gas industry in B.C.:

Chart 5: Consumption Taxes and Royalties[7]



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[7] Chart 5: natural gas royalties from B.C. government publications including annual, quarterly reports and/or public accounts https://www2.gov.bc.ca/gov/content/governments/finances/reports; motor fuel tax and carbon tax from upstream natural gas from B.C. Ministry of Finance.

Performance Measure #2: Equity

Goal 2 of B.C.'s royalty programs call for ensuring equal access to royalty programs. Specifically, "producers, large and small, are treated equally under the regime."

Ensuring producers have equal access to B.C.'s royalty programs is key to building investor confidence and creating an even playing field for all oil and gas companies. Equity is maintained through the process in which the royalty programs are administered. Industry participation in most royalty programs is determined automatically (based on qualifying criteria), while access to some royalty programs is determined by a competitive process through direct industry applications.

Table 1 summarizes how a determination is made regarding whether a company participates in each of B.C.'s royalty programs[8].

Table 1: Industry access to B.C. royalty programs[9]

Royalty Program	Accessibility
Low productivity	Ministry of Finance (MFIN) automatically determines eligibility and calculates rates based on producer well information.
Marginal	MFIN automatically determines eligibility and calculates rates based on producer well information.
Ultra-marginal	MFIN automatically determines eligibility and calculates rates based on producer well information.
Deep	MFIN automatically determines eligibility and calculates rates based on producer well information.
Infrastructure	Companies submit an application following a Request for Applications issued by EMPR. EMPR determines eligibility based on pre-determined criteria through a competitive process.
Net Profit[10]	Companies submit an application following a Request for Applications issued by EMPR. EMPR determines eligibility based on pre-determined criteria through a competitive process.
Clean growth infrastructure	Companies submit an application following a Request for Applications issued by EMPR. EMPR determines eligibility based on pre-determined criteria through a competitive process.

[8] Please note the MFIN acts as the royalty collector and EMPR acts as the administrator for B.C.'s oil and gas royalty programs.

[9] More information available from B.C. Oil and Gas Royalty Handbook https://www2.gov.B.C..ca/assets/gov/taxes/natural-resource-taxes/publications/royalty-handbook-oil-gas.pdf and EMPR https://www2.gov.B.C..ca/gov/content/industry/natural-gas-oil/oil-gas-royalties/royalties-royalty-programs.

[10] This program is no longer accepting new applications.

Out of all the royalty programs B.C. has offered over the years to support exploration and development of natural gas within the Province, the deep well program[11] is the largest program in B.C. in terms of total credits allocated and deducted. It is integral to the competitiveness of B.C.'s royalty regime.

Table 2 provides deep well credits associated with wells drilled each year, related revenue, prices and the associated capital expenditure by the oil and gas industry in B.C.:

Table 2: Deep Credits[12]

Fiscal Year	Deep wells [#]	Total deep well credits awarded [$ millions]	Remaining deep well credits [$ millions]	Net royalty [$ millions]	Tender bonuses [$ millions]	Capital expenditures [$ millions]	Natural gas price [C$/GJ]	Oil and condensate price [US$/bbl]
2013/14	397	639.4	336.8	442.9	220.5	5,742.8	2.57	99.01
2014/15	594	873.9	578.0	484.6	334.8	7,311.2	2.49	80.71
2015/16	364	545.7	353.6	130.8	15.9	4,943.6	1.18	44.85
2016/17	346	494.1	285.1	146.4	61.2	2,709.0	1.19	47.79
2017/18	462	650.0	406.4	153.8	140.9	4,011.5	0.98	53.66
2018/19	265	326.4	254.5	195.8	50.3	3,884.0	0.88	62.92

Rationale for Indicator #2

The selected indicator is called a "producer equity ratio in B.C.". This ratio is the percentage of royalty payers in B.C. that have accessed B.C.'s royalty programs during the year. It is built in the following manner:

(1) Total number of producers paying natural gas royalties, by fiscal year
(2) Number of producers who participate in at least one of the following royalty programs listed in Table 1 (marginal, ultra-marginal, deep, infrastructure, net profit, etc.)
(3) (2) divided by (1).

A high ratio of companies participating in royalty programs demonstrates equity among producers as programs have been accessed by a high percentage of companies operating in B.C.

Indicator #2 provides a good indication of how many producers have participated in B.C. royalty programs. Maintaining the ratio above 98 percent – the most recent 5-year average (2014-2018) – is considered as a reasonable target for this indicator.

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[11] Deep well royalty credits are administered on a well-by-well basis – they are only used if the well that qualified for the credit produces and generates royalties in a month.

[12] Table 2: capital expenditure from https://www.capp.ca/publications-and-statistics/statistics/statistical-handbook; other data from EMPR internal analysis.

Indicator #2 Results

In 2018/19, the producer equity ratio was 97 percent, which means that out of the 87 companies paying royalties in 2018/19, 84 companies accessed a royalty program. And out of the 84 participating producers, 48 producers accessed the deep well royalty program and 84 producers accessed a royalty program other than deep (the two numbers are not mutually exclusive)[13].

The few companies that did not participate in any of the royalty programs are mostly operating conservation gas wells or producing associated gas from oil wells; conservation and associated gas wells pay royalties at the lowest rates among wells. Oil wells do not qualify for most BC royalty programs.

In 2018/19, out of 9,339 producing wells, 2,837 wells accessed the deep well royalty program and 7,945 wells accessed a program other than deep, while 1,441 wells accessed both deep and marginal programs. The new wells aiming at developing unconventional resources in the B.C.'s Montney play generally qualify for the deep program and if successful in competitive applications, can also qualify for the Clean Growth Infrastructure Royalty Program (CGIRP) (see page 16 for more information). In 2018/19, 434 new wells accessed the deep well royalty program (see Table 5).

Table 3: Industry participation in B.C. royalty programs by corporate entity[11,13]

Fiscal Years	Deep Well Participation	Marginal and other Programs Participation	Total Producers Participation	Total Producers	Participation Ratio
2008/2009	33	143	143	14300%	100%
2009/2010	46	148	148	14800%	100%
2010/2011	54	141	141	14100%	100%
2011/2012	47	120	120	12100%	99%
2012/2013	47	115	115	11700%	98%
2013/2014	47	108	108	11000%	98%
2014/2015	51	111	111	11300%	98%
2015/2016	46	97	97	9900%	98%
2016/2017	47	99	99	10100%	98%
2017/2018	44	89	89	9100%	98%
2018/2019	48	84	84	8700%	97%

[13]Tables 3 to 7 and Chart 6: EMPR internal data analysis.

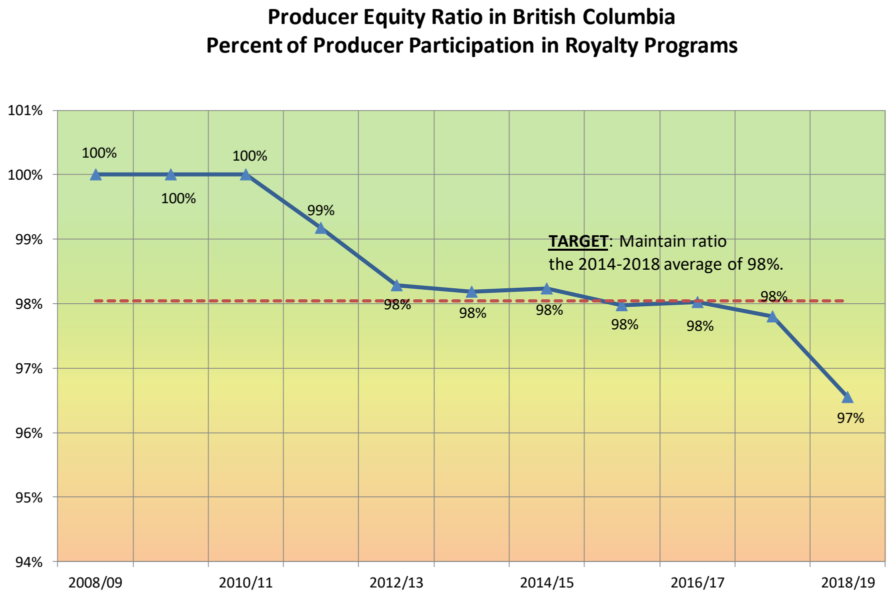
Table 4: Industry participation in B.C. royalty programs by wells[11,13]

Fiscal Years	# of Wells Participating in Deep Well Program	# of Wells Participating in Marginal and other programs	# of Wells Participating in both Deep and Marginal	Total # of Producing Wells
2008/2009	177	8,168	146	**8,198**
2009/2010	378	8,602	246	**8,694**
2010/2011	612	8,674	336	**8,843**
2011/2012	875	8,777	594	**9,052**
2012/2013	1,019	8,636	693	**8,959**
2013/2014	1,249	8,630	818	**9,052**
2014/2015	1,599	8,882	1,070	**9,409**
2015/2016	1,825	8,792	1,228	**9,385**
2016/2017	2,045	8,130	1,324	**8,847**
2017/2018	2,498	7,942	1,427	**9,012**
2018/2019	2,837	7,945	1,441	**9,339**

Table 5: Industry participation in B.C. royalty programs by new wells per year[11,13]

Fiscal Years	# of New Wells Participating in Deep Program	% of New Wells Participating in Deep Program	# of New Wells Drilled
2008/2009	108	14%	792
2009/2010	194	50%	387
2010/2011	304	65%	465
2011/2012	308	71%	432
2012/2013	291	73%	397
2013/2014	292	66%	445
2014/2015	493	81%	610
2015/2016	416	91%	458
2016/2017	294	91%	323
2017/2018	539	95%	566
2018/2019	434	94%	463

Chart 6: Indicator #2[13]



The Infrastructure Royalty Credit Program

The Infrastructure Royalty Credit Program (IRCP) was initiated in 2004 and concluded in 2018. The purpose of the program was to encourage increased upstream oil or natural gas exploration and production in under-developed areas and extend the drilling season to allow for year-round activity. Oil and gas producers, regardless of their size, could apply for a deduction of up to 50 percent of the cost of constructing roads or pipelines from the royalties they pay to the Province. The program operated through a competitive application process that evaluated road and/or pipeline applications.

Between 2004 and 2018, B.C.'s IRCP was offered through 17 installments for companies and resulted in more than 267 new or upgraded all-season roads and pipeline projects in the province. From 2006 to 2018, 45% of all applications were approved. Internal EMPR data indicates that, when dividing the applicants into small, medium and large producers[14], the following percentages of applications were approved for small, medium and large producers respectively: 47%, 49%, 42%.

[14] The definitions for small, medium and large firms have remained consistent and are based on volume of production as a percent of total. Each large firm is responsible for over 7% of total production, each medium firm is responsible for between 2% and 7% (inclusive) of total production and each small firm is responsible for under 2% of total production.

Table 6: Summary of IRCP applications and approvals from 2006 to 2018[13]

Producer size	Approved applications	Total applications	Percent approved
Small	76	160	47%
Medium	61	124	49%
Large	106	255	42%
Total	**243**	**539**	**45%**

The Clean Growth Infrastructure Royalty Program

The Clean Growth Infrastructure Royalty Program (CGIRP) was initiated in 2019. The purpose of the program is to encourage increased upstream oil or natural gas exploration with projects under the growth category and reduce Greenhouse Gas emissions through upstream electrification infrastructure or emission reduction infrastructure under the sustainability category. Oil and gas producers, regardless of their size, can apply for a deduction of up to 50 percent of the cost of qualifying projects from the royalties they pay to the Province. CGIRP operates through a competitive application process that evaluates applications.

In 2019 CGIRP received applications for 27 projects; 24 projects were approved (12 growth projects and 12 sustainability projects). In 2019, 89% of all applications were approved. Internal EMPR data indicates that 90% of all applications from small producers were approved, 100% of medium producer applications were approved and 83% for large producers. In terms of the shares of the total deductions approved (the CGIRP program has a fixed annual allocation of royalty deductions available), small producers accounted for 20%, medium producers 39% and large producers 41%.

Table 7: Summary of CGIRP applications and approvals from 2019[13]

Producer size	Approved applications	Total applications	Percent approved
Small	9	10	90%
Medium	5	5	100%
Large	10	12	83%
Total	**24**	**27**	**89%**

Interpretation of Indicator #2 Results

In 2018/19, Indicator #2 was 97%, which was slightly lower than the most recent 5-year average (2014-2018) of 98 percent, indicating slightly smaller percentages of producers are currently accessing royalty programs. However, out of the 463 total new wells in 2018/19, 434 wells accessed the deep program. It indicates that 94% of new wells participated in the deep program, which is much higher than the 5-year average (2014-2018) of 85%. Since the deep well royalty program is the largest royalty program in B.C. in terms of total credits allocated and deducted, this level of participation of the new wells in the royalty programs indicates that B.C.'s royalty programs achieved the goal of ensuring equal access in 2018/19.

In addition, the results from CGIRP in 2019 show that producers, large and small, have equal access to the program.

Performance Measure #3: Long-term investment

Goal 3 of B.C.'s royalty programs call for ensuring long-term industry investment in B.C. Specifically, "the royalty regime is aimed at long-term investment by industry."

Industry evaluates a variety of factors when determining where to invest their capital budgets. Factors include geological characteristics of the resource, proximity to markets (two factors which the government cannot control) and business climate. B.C. has significant natural gas resources in the Montney formation, Horn River and Liard basins. Development of liquids rich tight gas in the Montney is the primary factor behind B.C.'s gas production doubling between 2006 and 2018, which also contributed to significant increases in Natural Gas Liquid's (NGL) production during the same period. Alberta has significant crude oil resources in the oil sands and abundant natural gas resources. Fluctuations in the relative prices for crude oil, natural gas and NGLs play a part in the relative investment changes in the two provinces.

The business investment climate is one factor a jurisdiction can impact. Having a competitive royalty regime is critical for maintaining industry investment levels in the Province.

Rationale for Indicator #3

The indicator selected for this measure is called "Relative investment in B.C." It is built in the following manner using information that is publicly available:

- Capital investment of the upstream petroleum industry in B.C. divided by the total investment amount in Canada.

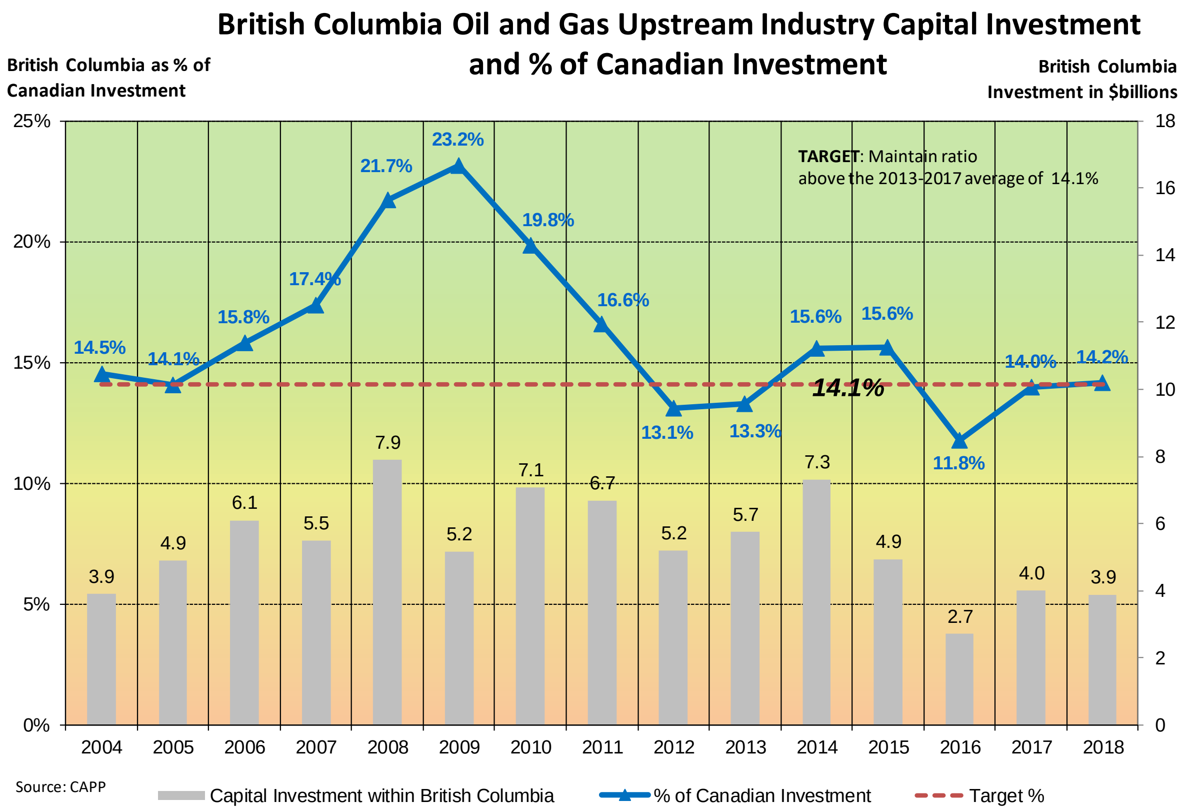
Capital investment of the upstream petroleum industry is available from CAPP. It is the sum of two components:

- Exploration investment; this includes expenditures on geological and geophysical drilling and land (i.e. bonus bids); and
- Development investment; this includes expenditures on drilling and well completions, field equipment, enhanced oil recovery (EOR) and gas plants.

Relative investment in B.C. indicates that royalty programs help contribute to the competitiveness of the royalty regime by attracting more investment to B.C as a percentage of the Canadian total. The target for this indicator is set at or above the previous 5-year (2013-2017) average of 14.1 percent.

Indicator #3 Results

Chart 7: Indicator #3 Results[15]



Interpretation of Indicator #3 Results

As shown in Chart 7, B.C.'s market share of upstream industry investment has remained consistently above 10 percent since 2004. In 2018 the share was 14.2%, slightly higher than the target set for this indicator. These results highlight that royalty programs have been ensuring stable long-term industry investment in B.C.

[15] Chart 7: capital investment from CAPP https://www.capp.ca/publications-and-statistics/statistics/statistical-handbook.

Performance Measure #4: Administrative ease

Goal 4 of B.C.'s royalty programs call for ensuring administrative ease of the royalty regime. Specifically, "simple to administer and verify for government and industry."

The importance of having a royalty regime which is simple and easy to administer from a government's perspective is two-fold:

- to ensure Crown royalties can be calculated accurately; and
- to ensure stakeholders properly understand the "rules" of oil and gas investment in the jurisdiction.

From an industry perspective, it is important to fully understand the royalty and regulatory frameworks of the jurisdiction in which they are planning to do business. Oil and gas activities are major projects which involve millions to billions of dollars of investment. A royalty regime that is simple to administer and verify is important for attracting capital and building investor confidence. Complex regulatory or royalty frameworks which are not clearly documented or explained create uncertainty for industry.

Rationale for Indicator #4

One way to measure the administrative ease and simplicity of a royalty regime is to conduct a survey of oil and gas companies.

The Fraser Institute conducts an annual survey of petroleum industry executives and managers (processors, marketers and distributors of oil and natural gas were not surveyed) around the world regarding barriers to investment in various jurisdictions.

Due to lack of responses globally from jurisdictions outside of North American, the 2019 study was entitled Canada – US Energy Sector Competitiveness Survey 2019[16]. The survey received responses from 81 individuals during spring 2019 and provided enough data to evaluate five Canadian provinces and 15 American states.

The survey was designed to capture the opinions of upstream oil and gas companies regarding the level of investment barriers in jurisdictions with which they were familiar. Respondents were asked to rate how 16 different factors influence company decisions to invest in various jurisdictions. These factors included areas such as taxes, regulations and regulatory enforcement.

The survey's "fiscal terms" factor includes licenses, lease payments, royalties, other production taxes, and gross revenue charges, but not corporate and personal income taxes, capital gains taxes, or sales taxes.

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[16] Charts 8 & 9 : The 2019 Survey is available on the Fraser Institute website at https://www.fraserinstitute.org/studies/canada-us-energy-sector-competitiveness-survey-2019.

For this factor, respondents were asked to select one of the following five responses that best described each jurisdiction they were familiar with:

1. Encourages investment.
2. Not a deterrent to investment.
3. Mild deterrent to investment.
4. Strong deterrent to investment.
5. Would not pursue investment due to this factor.

If a jurisdiction has high proportion of responses 1 and 2, this means the jurisdiction has a positive fiscal environment, which could be interpreted as having a positive royalty framework (it is simple and easy to administer) from an investment perspective. That is, the jurisdiction would be more attractive for oil and gas investment. While not specifically designed to determine administrative ease of a royalty system, the fiscal terms factor is most closely related to the administrative ease performance measure and is selected as Indicator #4.

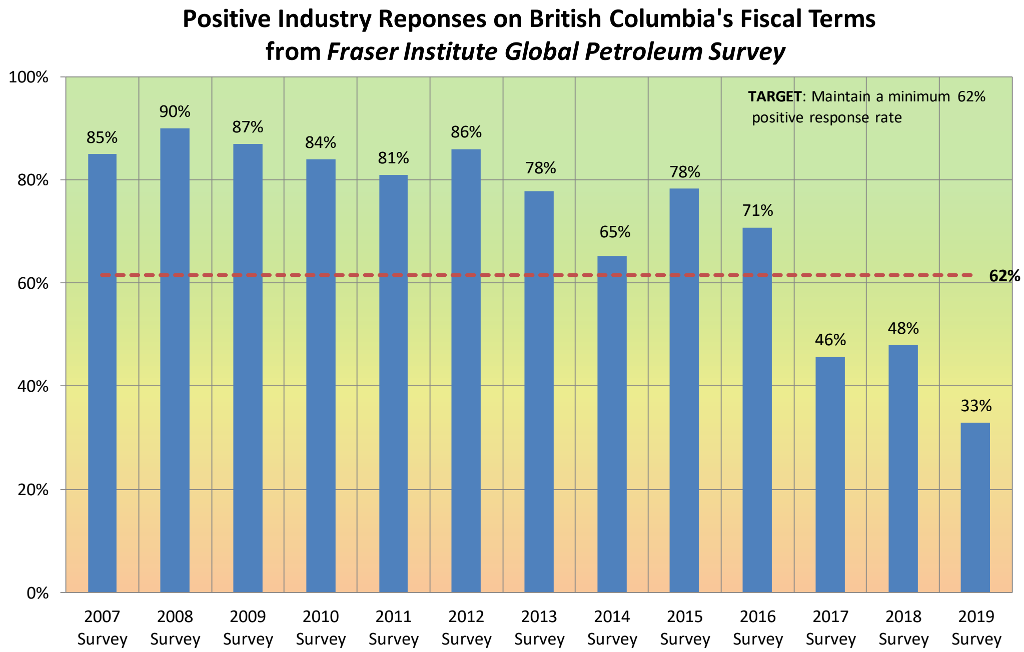
Indicator #4 is called “Positive response rates on B.C. fiscal terms from Fraser Institute Global Petroleum Survey.” It is the percentage of responses that rate 1 and 2 for the fiscal terms factor for B.C. in the Survey.

A reasonable target for Indicator #4 is a positive response rate of 62 percent, which is the average rate of the last five years’ surveys (from 2014 to 2018).

Indicator #4 Results

The oil and gas industry considers B.C. to be significantly less favourable in fiscal terms based on the latest survey, with a 33 percent positive response in 2019 versus 48 percent in 2018. For B.C., the percentage of positive responses has ranged between 33 percent and 78 percent in the last five annual surveys conducted by the Fraser Institute as shown on Chart 8:

Chart 8: Indicator #4 Results[16]



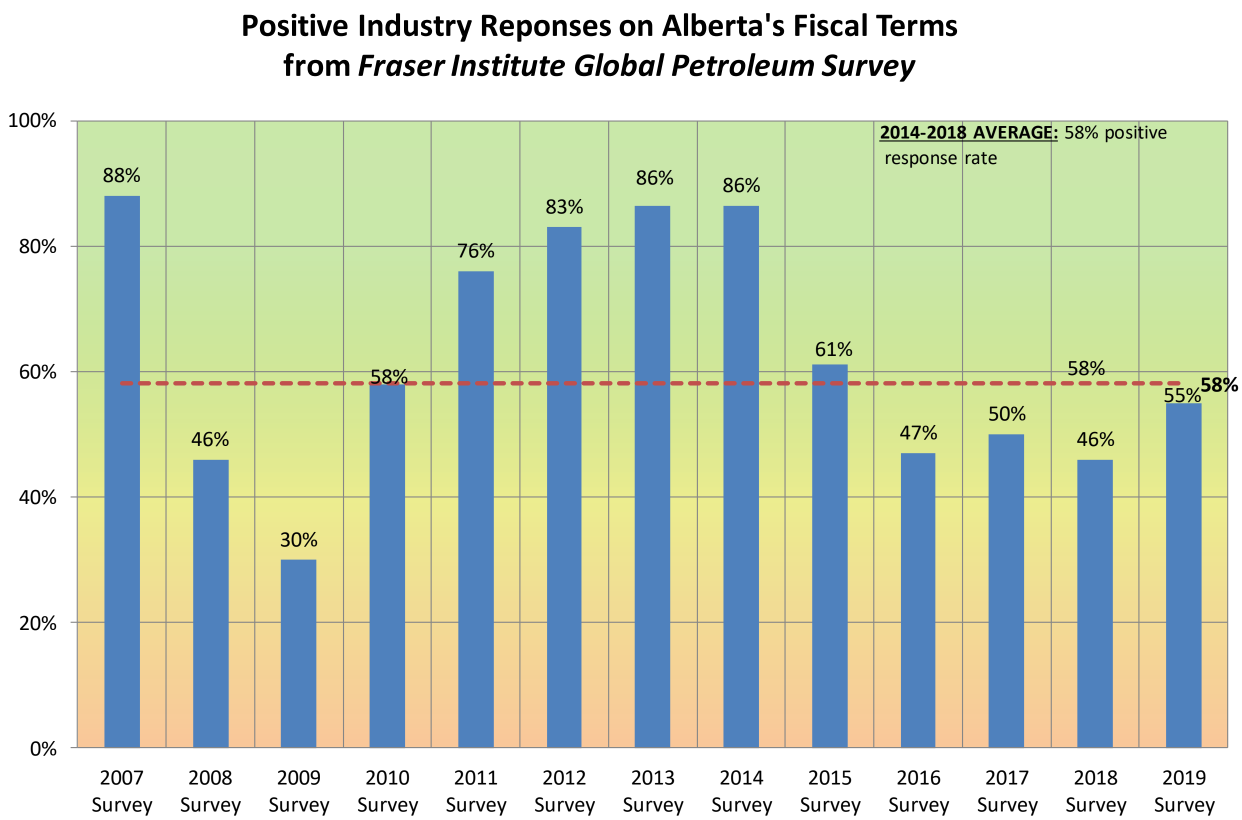
Interpretation of Indicator #4 Results

B.C.'s fiscal framework did not go through major changes from 2017 to 2019, however, scores of Indicator #4 from 2017 to 2019 were much lower than the scores in the years before 2017. This can be explained by concerns from business leaders about the Western Canadian overall fiscal environment for oil and gas industry investment since 2016/17. This is confirmed by Chart 9 which shows the declining positive industry response rates on Alberta's fiscal terms from the same survey.

In 2019, B.C. received a negative response on oil and gas fiscal terms from the Fraser Institute Survey when compared with 2018, with results in both years significantly lower than the average of the previous five years.

In the 2019 survey B.C. stands out as the Canadian jurisdiction posing the greatest barriers to investment. More respondents believe the following factors are investment deterrents in B.C. in 2019 than in 2018: fiscal terms, taxation, environmental regulations, trade barriers, quality of infrastructure, and regulatory duplication/consistency. This indicates that during times of significant changes in markets the results of this indictor are impacted by many others factors outside of the influence of administrative ease and cannot be attributed directly to the performance of this measure but rather should be considered as part of overall effects from the performance of all government policies impacting the oil and gas sector.

Chart 9: Indicator #4 for Alberta[16]



Conclusion

This Performance Measures Report supports the following conclusions of the impacts of B.C. royalty programs on oil and gas activity, in accordance with the four goals of the current royalty regime:

- Value to the Province is maximized: Despite the changes in natural gas production levels between 2004/05 and 2018/19, royalties per mcf of marketable natural gas production in B.C. and Alberta have been very similar. This demonstrates that B.C.'s royalty programs achieved the goal of maximizing the amount of economic rent collected while ensuring that producers can earn a fair return on their investment compared with investment in Alberta.
- Equity: the goal is to meet the previous 5-year average ratio of companies participating in the royalty programs, which demonstrates equity as programs are accessible to 98 percent of producing companies in B.C. It was slightly lower in 2018/19. Out of the 463 total new wells in 2018/19, 434 wells accessed the deep well royalty program (94%). This is much higher than the 5-year average (2014-2018) of 85%. The deep program is the largest royalty program in B.C. in terms of total credits allocated and deducted; this level of participation for new wells in the program indicates that B.C.'s royalty programs achieved the goal of ensuring equal access in 2018/19. In addition, the results from CGIRP in 2019 show that producers, large and small, have equal access to the royalty programs.
- Long-term investment: the goal of meeting the previous 5-year average ratio of industry investment in B.C. vs. industry overall investment in Canada (14.1%), which demonstrates attractiveness of B.C.'s natural gas resources and programs, was achieved in 2018/19.
- Administrative ease: In 2019, B.C. received a more negative response on oil and gas fiscal terms in the Fraser Institute Survey compared with 2018, with results in both years significantly lower than the average of the previous five years. The main reason for this underperformance in 2019 is due to concerns from business leaders on the Western Canadian overall fiscal terms, taxation, environmental regulations, trade barriers, quality of infrastructure, and regulatory duplication/consistency. This indicates that during times of significant market changes the results of this indictor are impacted by many others factors outside of the influence of administrative ease and cannot be attributed directly to the performance of this measure. The results should instead be considered as part of overall effects from performance of all government policies impacting the oil and gas sector.

Our commitment is to generate these reports every year. As this is a work in progress, suggestions and comments are welcome, and can be sent to:

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