

Canada-US Energy Sector Competitiveness Survey 2021



Jairo Yunis and Elmira Aliakbari

Contents

| | |
|---|------|
| Executive Summary | / 1 |
| Introduction | / 3 |
| Survey Methodology | / 4 |
| Canada-US Results | / 10 |
| Results by Region | / 12 |
| Results by Category | / 16 |
| Overview | / 45 |
| Appendix 1: Additional Data | / 47 |
| Appendix 2: Previous Methodology and Additional Sub-Indices | / 48 |
| Appendix 3: Policy Perception Index 2020 versus 2021 | / 50 |
| Appendix 4: Weighted Median PPI Regional Scores | / 51 |
| References | / 52 |
| Acknowledgements | / 53 |
| About the Authors | / 54 |
| About the Fraser Institute | / 55 |
| Publishing Information | / 56 |
| Supporting the Fraser Institute | / 57 |
| Purpose, Funding, and Independence | / 57 |
| Editorial Advisory Board | / 58 |

Executive Summary

This report presents the results of the Fraser Institute's 2021 *Canada-US Energy Sector Competitiveness Survey* regarding barriers to investment in oil and gas exploration and production facilities in each country. The survey responses have been tallied to rank Canadian and American jurisdictions according to the extent of such barriers. Those barriers, as assessed by the survey respondents, include high tax rates, costly regulatory obligations, uncertainty over environmental regulations, and the interpretation and administration of regulations governing the “upstream” petroleum industry, as well as concerns over political stability and security of personnel and equipment.

This year's survey of senior executives in the upstream oil and gas sector is consistent with the methodology used in previous editions of the *Global Petroleum Survey* and the *Canada-US Energy Sector Competitiveness Survey*. A total of 71 respondents participated in the survey this year, providing sufficient data to evaluate five Canadian provinces and territories and 17 American states.

The jurisdictions that are evaluated are assigned scores on each of 16 questions pertaining to factors known to affect investment decisions. These scores are then used to generate a “Policy Perception Index” for each jurisdiction that reflects the perceived extent of the barriers to investment.

According to this year's survey, Texas is the most attractive jurisdiction for oil and gas investment followed by Oklahoma (2nd) and Wyoming (3rd). Seven other US jurisdictions also ranked in the top 10 this year: North Dakota (4th), Kansas (5th), Mississippi (6th), Utah (7th), Montana (8th), Pennsylvania (9th), and Louisiana (10th).

This year, no Canadian jurisdiction featured in the top 10. Saskatchewan (11th) is the highest-ranked Canadian province followed by Alberta (12th). In addition, Newfoundland & Labrador, which did not appear in last year's survey due to low response rates, ranked 16th this year. British Columbia (18th) is no longer the worst performing Canadian jurisdiction as this year the Northwest Territories (20th) posed the greatest barriers to investment among Canadian jurisdictions.

According to investors, regulatory factors continue to be a defining issue hampering Canada's energy competitiveness. This year's respondents pointed to the uncertainty concerning environmental regulations, regulatory duplication and inconsistencies, and the cost of regulatory compliance as key areas of concern in Canada compared to the United States. In particular, in 2021, only 13 and 20 percent of respondents indicated that

uncertainty concerning environmental regulations in Texas and Oklahoma, respectively, was a deterrent to investment, whereas the proportion who indicated it was an issue in Alberta and British Columbia was 65 and 91 percent, respectively. On average, 76 percent of respondents for Canada are deterred by environmental regulations, compared to 49 percent for the United States.

An Alberta/Texas comparison demonstrates how results vary by region considering that 71 percent of respondents identified regulatory duplication and inconsistencies as a deterrent to investment in Alberta compared to only 10 percent for Texas. Overall, investors expressed heightened concern over regulatory duplication and inconsistencies in Canada compared to the United States. The percentage of respondents indicating that this factor was deterring investment was, on average, 72 percent for Canada compared to 45 percent for the United States.

An Alberta/Texas comparison also shows that 56 percent of respondents identified the cost of regulatory compliance as a deterrent to investment in Alberta compared to only 9 percent for Texas. Overall, the cost of regulatory compliance is a significant concern for investors in Canada compared to the United States. The percentage of respondents for the Canadian provinces indicating that this factor was a deterrent to investment was, on average, 70 percent compared to only 43 percent for the United States.

Overall, our analysis of the 2021 survey results indicates that negative sentiment of the industry's senior executives regarding key factors driving petroleum investment decisions continue to be higher in many Canadian provinces than in competing American jurisdictions. In fact, the US performs better than Canada in 14 out of the 16 policy factors.

However, it is worth noting that all Canadian provinces improved their policy scores relative to last year's survey, largely driven by improvements in fiscal and taxation areas.

Introduction

This year's *Canada-US Energy Sector Competitiveness Survey 2021* builds on the Fraser Institute's previous work on competitiveness with the *Canada-US Energy Sector Competitiveness Survey 2020* (Yunis and Aliakbari, 2020) the *Canada-US Energy Sector Competitiveness Survey 2019* (Stedman and Aliakbari, 2019), and the *Global Petroleum Survey 2018* (Stedman and Green, 2018).

Thanks to the results from these surveys, we are able to better understand how Canadian provinces, American states, and offshore regions perform in several policy areas. The *Canada-US Energy Sector Competitiveness Survey 2021* continues to serve as a report card for policymakers given that jurisdictions that investors assess as relatively unattractive may use the findings of this publication to consider either comprehensive policy reforms or improvements in individual policy areas.

A recent report suggests that capital investment in Canada is falling relative to the United States and many other developed countries (Globerman and Emes, 2021). In particular, the percentage of capital investment in Canada's oil and gas sector as a share of total capital investment has plummeted, from 28 percent in 2014 to 9 percent in 2020 (Statistics Canada, 2021). In addition, between 2016 and 2018, the United States has enjoyed a 41 percent increase in investment in its upstream oil and gas sector compared to only a 15 percent increase in Canada (Globerman, 2019).

The *Canada-US Energy Sector Competitiveness Survey 2021* highlights policies that are known to affect investment attractiveness, including taxes, regulations, infrastructure, and labor availability, among others. This survey also provides a clear perspective on policy areas where regions require improvement in the eyes of investors. Our analysis offers a unique outlook on both the state of Canada's petroleum industry investment climate and how investor perceptions vary by region. In addition, this year's survey identifies potential reasons for declining investor perceptions of Canada's energy sector when compared to the United States.

Survey Methodology

Sample design

This survey of senior executives in the upstream oil and gas sector is consistent with the survey used in previous editions of the *Global Petroleum Survey* and the 2019 and 2020 *Canada–US Energy Sector Competitiveness Surveys*. The survey is designed to identify provinces, states, and offshore regions with the greatest barriers to investment in oil and gas exploration and production. Jurisdictions that investors assess as relatively unattractive may use the findings of the survey to consider comprehensive policy reforms that could improve their position in the rankings or implement policies that would improve individual policy areas. Petroleum companies can also use the information to corroborate their own assessments and to identify jurisdictions where business conditions and the regulatory environment are most attractive for investment. The survey results are also a useful source of information for academics interested in international competitiveness in the oil and gas sector, or the media, providing independent evidence as to how particular jurisdictions compare.

The survey was distributed to managers and executives in the “upstream” petroleum industry. This industry includes companies exploring for oil and gas, those producing crude oil from conventional and non-conventional sources (such as bitumen from oil sands and shale formations), and those producing natural gas from both conventional sources and non-conventional sources, such as coalbed methane and gas embedded in shale formations. It does not include companies that are refining, upgrading, or processing crude oil, bitumen, and raw natural gas, or those that are involved in the transportation and marketing of petroleum products, unless such companies are also directly involved in the upstream.

The names of potential respondents were taken from publicly available membership lists of trade associations and other sources. In addition, some industry associations and non-profit think tanks provided contact information and helped to advertise the survey to their members.

The survey was conducted from May 14, 2021, until August 20, 2021. A total of 71 individuals responded to the survey in 2021. This year’s response rate allowed for the inclusion of five Canadian provinces and territories and 17 American states.¹

As figure 1 illustrates, over half of the respondents were chairmen, CEOs, presidents, or directors of their firms. In addition, a little over two-thirds

¹ Jurisdictions that received fewer than 5 responses were not included in the survey.

Figure 1: The position survey respondents hold in their company, 2021

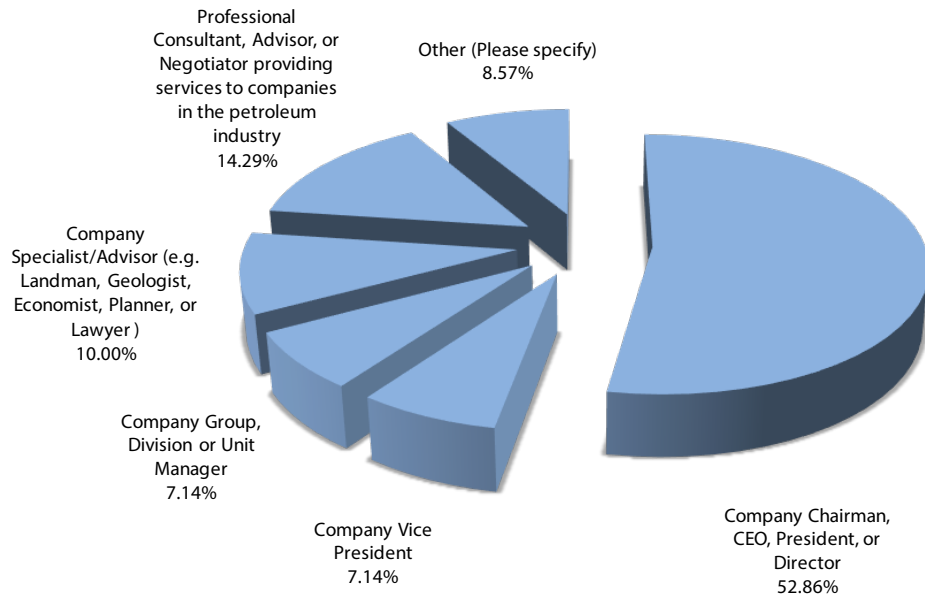


Figure 2: Activities performed by firms of survey respondents, 2021

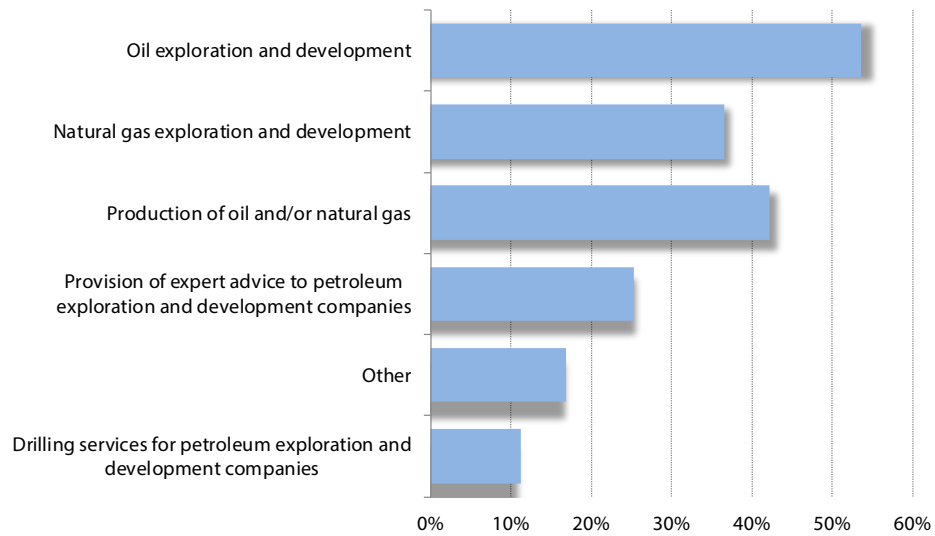
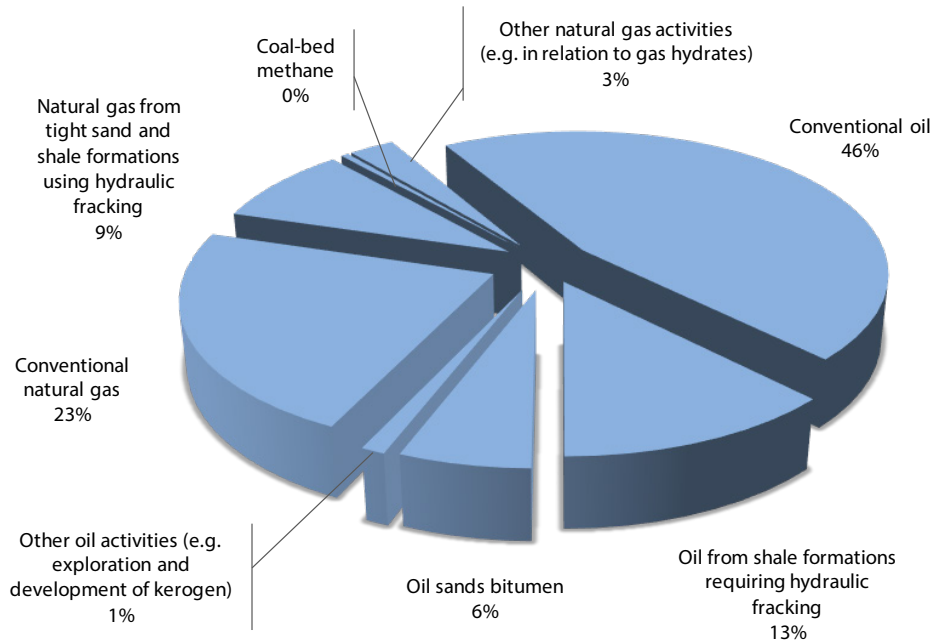


Figure 3: Company focus in petroleum exploration and development business, as indicated by respondents



of respondents identified themselves as either a manager or holding a higher-level position. Figure 2 shows that almost 54 percent of the firms participating in the survey are engaged in the exploration and development of oil, almost 37 percent are engaged in the exploration and development of natural gas, 42 percent are engaged in production of oil and/or natural gas, and 25 percent provide expert advice and/or drilling services.

Figure 3 shows the principal focus of the petroleum exploration and development activities of companies whose managers or other representatives participated in the survey. Most of these companies (69 percent) specialize in finding and developing conventional oil and gas reserves. Unconventional oil and natural gas exploration and development represented 32 percent of the focus of companies in 2021.

Senior executives from petroleum firms reported that 19 percent of their upstream activity involves unconventional oil resources. The majority of this activity (65 percent) includes the recovery of oil from shale formations using hydraulic fracturing, 30 percent is focused on oil sands bitumen, and 5 percent on other oil activities, such as the exploration or development of oil from kerogen found in shale rock.²

² Kerogen is a naturally occurring, solid, insoluble organic matter that occurs in source rocks and can yield oil upon heating (Schulumberger, 2021).

Participants in the survey also reported that 12 percent of their upstream activity involves unconventional natural gas resources. The majority of this activity (73 percent) involves the recovery of natural gas from tight sand and shale formations using hydraulic fracturing. Three percent of petroleum firms responding to the survey reported other unconventional natural gas activities (e.g., related to gas hydrates) while less than 0.5 percent focused on coal-bed methane.

Survey questionnaire

The survey was designed to capture the opinions of managers and executives about the level of investment barriers in jurisdictions with which they are familiar. Respondents were asked to indicate how each of the 16 factors listed below influence company decisions to invest in various jurisdictions. The factors were consistent with the previous versions of the *Global Petroleum Survey* and the 2019 and 2020 *Canada-US Energy Sector Competitiveness Survey*.

1. **Fiscal terms**—including licenses, lease payments, royalties, other production taxes, and gross revenue charges, but not corporate and personal income taxes, capital gains taxes, or sales taxes.
2. **Taxation in general**—the tax burden including personal, corporate, payroll, and capital taxes, and the complexity of tax compliance, but excluding petroleum exploration and production licenses and fees, land lease fees, and royalties and other charges directly targeting petroleum production.
3. **Environmental regulations**—stability of regulations, consistency and timeliness of regulatory process, etc.
4. **Regulatory enforcement**—uncertainty regarding the administration, interpretation, stability, or enforcement of existing regulations.
5. **Cost of regulatory compliance**—related to filing permit applications, participating in hearings, etc.
6. **Protected areas**—uncertainty concerning what areas can be protected as wilderness or parks, marine life preserves, or archaeological sites.
7. **Trade barriers**—tariff and non-tariff barriers to trade and restrictions on profit repatriation, currency restrictions, etc.

8. **Labor regulations and employment agreements**—the impact of labor regulations, employment agreements, labor militancy or work disruptions, and local hiring requirements.
9. **Quality of infrastructure**—includes access to roads, power availability, etc.
10. **Quality of geological database**—includes quality, detail, and ease of access to geological information.
11. **Labor availability and skills**—the supply and quality of labor, and the mobility that workers have to relocate.
12. **Disputed land claims**—the uncertainty of unresolved claims made by aboriginals, other groups, or individuals.
13. **Political stability.**
14. **Security**—the physical safety of personnel and assets.
15. **Regulatory duplication and inconsistencies** (includes federal/provincial, federal/state, inter-departmental overlap, etc.)
16. **Legal system**—legal processes that are fair, transparent, non-corrupt, efficiently administered, etc.

For each of the 16 factors, respondents were asked to select one of the following five responses that best described each jurisdiction with which they were familiar:

1. Encourages investment
2. Is not a deterrent to investment
3. Is a mild deterrent to investment
4. Is a strong deterrent to investment
5. Would not invest due to this criterion

Scoring the survey responses — Policy Perception Index

This year we replicated the methodology used in 2016, which follows that used in the Fraser Institute's *Annual Survey of Mining Companies* (see Stedman and Green, 2018b). The methodology differs from that used prior to 2016³ in that it is based on an average of the responses for all five possible response categories.⁴ In previous years, the index was based only on the prevalence of responses in the “deters investment” categories. The measure also takes into consideration how far a jurisdiction's score is from the average in each of the policy areas. To calculate the Policy Perception Index (PPI), a score for each jurisdiction is estimated for all 16 factors addressed by the survey questions by calculating each jurisdiction's average response in relation to each survey question. This score is then standardized using a common technique, where the average response is subtracted from each jurisdiction's score on each of the policy factors and then divided by the standard deviation. A jurisdiction's scores on each of the 16 policy variables, as reflected by the responses to the survey questions, are then added to generate a final, standardized PPI score. That score is then normalized using the formula $((V_{max}-V_i)/(V_{max}-V_{min}))\times 100$.⁵ The jurisdiction with the most attractive policies receives a score of 100 and the jurisdiction with the policies that pose the greatest barriers to investment receives a score of 0.

³ See appendix 2 for an overview of the previous methodology.

⁴ Encourages investment, not a deterrent to investment, mild deterrent to investment, strong deterrent to investment, and would not invest due to this factor.

⁵ Where V_{max} is the maximum value, V_{min} is the minimum value, and V_i represents the summed score of a jurisdiction.

Canada-US Results

Policy Perception Index Rankings

Table 1 compares the scores and rankings on the Policy Perception Index (PPI) in 2021. The first set of columns shows the absolute scores for the jurisdictions, based on the methodology described above. The second set of columns shows the rankings. Readers are reminded that these rankings are driven purely by responses to the survey questions and do not account for the extent of any jurisdiction's proved oil and gas reserves. Hence, some jurisdictions with relatively small or even no reserves may rank more highly on the basis of the respondents' perceptions of business conditions, regulatory regimes, and other factors than some jurisdictions with significant reserve holdings.⁶

Table 1: Policy Perception Index 2021

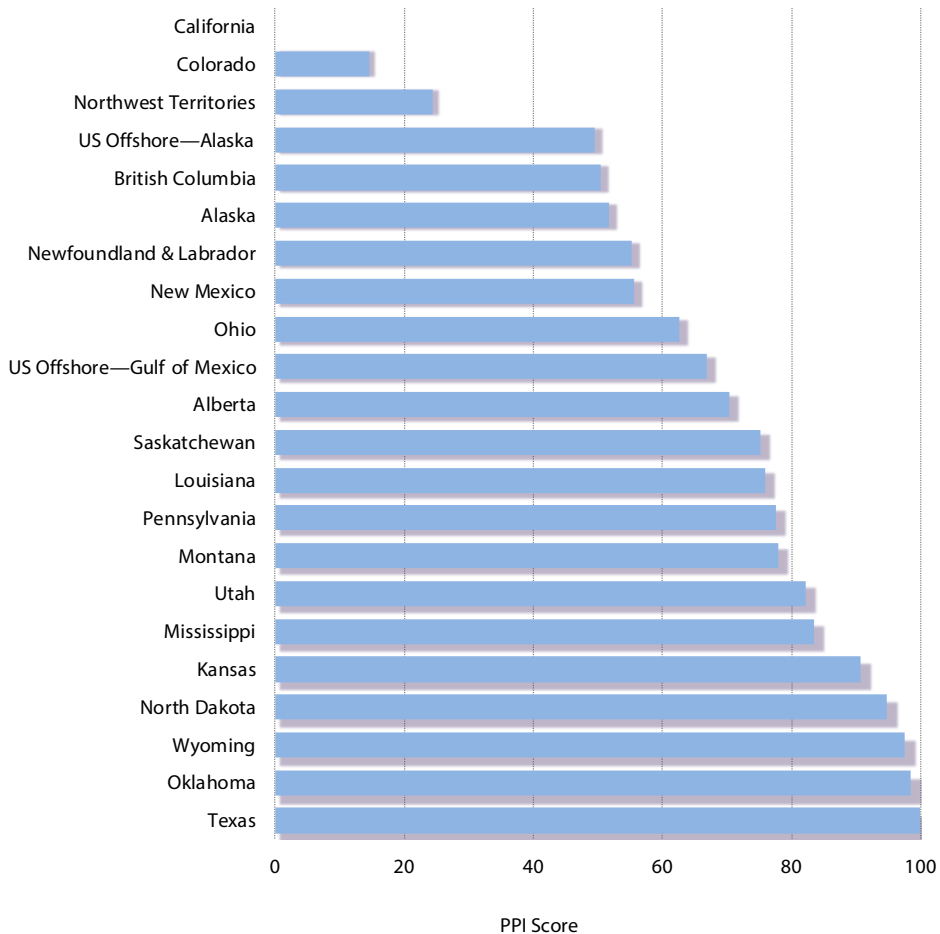
| | Score | Rank |
|----------------------------|--------|-------|
| Texas | 100.00 | 1/22 |
| Oklahoma | 98.38 | 2/22 |
| Wyoming | 97.54 | 3/22 |
| North Dakota | 94.71 | 4/22 |
| Kansas | 90.68 | 5/22 |
| Mississippi | 83.46 | 6/22 |
| Utah | 82.28 | 7/22 |
| Montana | 77.92 | 8/22 |
| Pennsylvania | 77.62 | 9/22 |
| Louisiana | 76.01 | 10/22 |
| Saskatchewan | 75.11 | 11/22 |
| Alberta | 70.43 | 12/22 |
| US Offshore—Gulf of Mexico | 66.79 | 13/22 |
| Ohio | 62.69 | 14/22 |
| New Mexico | 55.63 | 15/22 |
| Newfoundland & Labrador | 55.30 | 16/22 |
| Alaska | 51.77 | 17/22 |
| British Columbia | 50.44 | 18/22 |
| US Offshore—Alaska | 49.59 | 19/22 |
| Northwest Territories | 24.50 | 20/22 |
| Colorado | 14.59 | 21/22 |
| California | 0.00 | 22/22 |

⁶ As the 2018 *Global Petroleum Survey* noted, comparing jurisdictions based on their reserve size is particularly useful given that jurisdictions with small resource endowments cannot be expected to attract nearly as much investment as those with relatively large undeveloped oil and gas reserves. Therefore, this analysis compares jurisdictions with similar proved reserve sizes.

Figure 4 presents the Policy Perception Index rankings for the 22 jurisdictions ranked this year. Respondents ranked the following 10 jurisdictions as the most attractive for investment in petroleum exploration and development:

1. Texas
2. Oklahoma
3. Wyoming
4. North Dakota
5. Kansas
6. Mississippi
7. Utah
8. Montana
9. Pennsylvania
10. Louisiana

Figure 4: Policy Perception Index



Results by Region

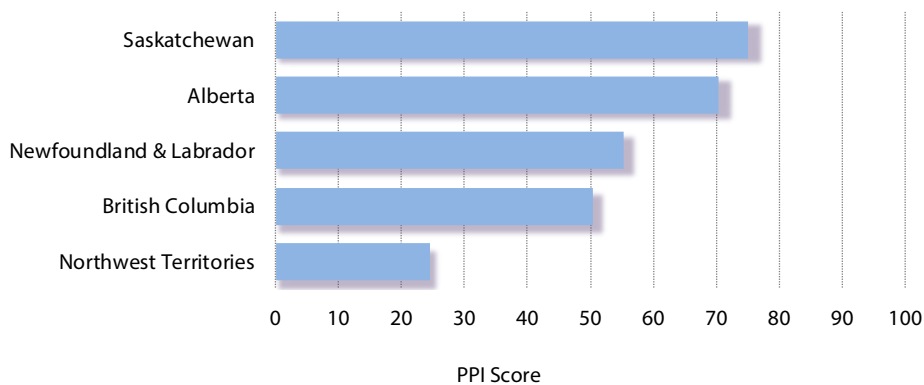
Canada

Figure 5 illustrates the relative performance of the Canadian jurisdictions in the 2021 survey. Compared to American jurisdictions, survey respondents gave less favorable overall scores to a number of Canadian jurisdictions this year, indicating that barriers to investment continue to be significant relative to the United States.

However, all Canadian jurisdictions improved their policy scores in 2021 (compared to 2020 results) with the exceptions of Newfoundland & Labrador and the Northwest Territories, both of which were not included in last year's survey due to low response rates. More specifically, British Columbia improved its score by 26 points, Alberta by almost 7 points, and Saskatchewan by 3 points. These three provinces accounted for a little over 93 percent of Canada's total oil production in 2020 (Canada Energy Regulator, 2021).

Despite these score improvements, only British Columbia improved its position in the overall ranking going from 20th (out of 21 jurisdictions) in 2020 to 18th out of 22 jurisdictions this year. Saskatchewan, on the other hand, went from ranking 8th in 2020 to 11th in 2021 despite improving its score. Alberta held its position (12th in 2020 and 2021) despite also improving its PPI score.

Figure 5: Policy Perception Index—Canada



According to the Policy Perception Index measure, Saskatchewan is the most attractive Canadian jurisdiction for upstream petroleum investment. The second most attractive Canadian jurisdiction is Alberta, followed by Newfoundland & Labrador and British Columbia. The Northwest Territories, which had not featured in our survey since 2016, stands out as the Canadian jurisdiction posing the greatest barriers to investment, ranking 20th out of the 22 jurisdictions.

Comments from respondents about various Canadian provinces and territories ranged from complimentary to critical. The comments in the following section have been edited for length, grammar and spelling, to retain confidentiality, and to clarify meaning.

Canada—General

“The federal Impact Assessment Process restricts and hinders oil and gas development, disproportionately hurting large projects.”

Alberta

“The new LCA liability program [Licensee Capability Assessment] is going to further overstate actual true liabilities and is going to siphon material funding away from resource development and economic/employment growth.”

“The updated version of the Modernized Royalty Framework guidelines provides a fair and solid foundation for investment.”

Newfoundland & Labrador

“Approvals for new offshore exploration and development projects take too much time.”

“Availability of geological and geophysical information to industry at little or no cost facilitates investment conditions in the province.”

“Bill C-69 and its new Impact Assessment Process has added uncertainty to new energy development and has the potential to cause further delays.”

The United States

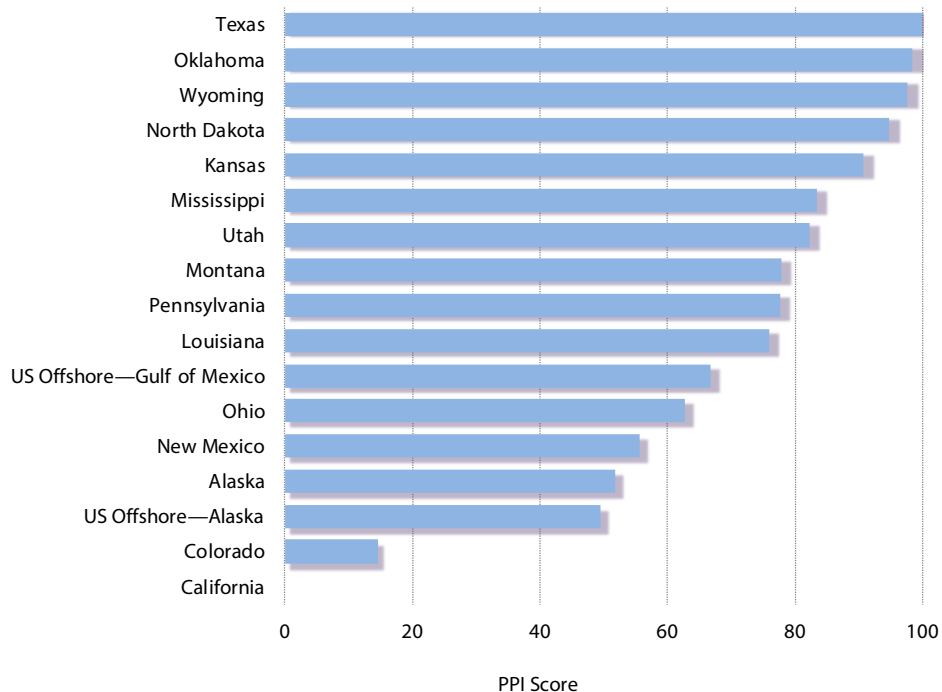
We received a sufficient number of responses in 2021 to enable us to rank 17 US jurisdictions.

Texas is the most attractive jurisdiction in the United States—and the most attractive jurisdiction included in this analysis. Oklahoma is the second most attractive jurisdiction in the US and the second most attractive in this year’s survey. Eight other US jurisdictions also ranked in the top 10 this year: Wyoming (3rd), North Dakota (4th), Kansas (5th), Mississippi (6th), Utah (7th), Montana (8th), Pennsylvania (9th), and Louisiana (10th) (**figure 6**).

Compared to last year’s survey, only five out of the 17 US jurisdictions (Oklahoma, Kansas, Utah, New Mexico, and Alaska) saw their policy scores decline while the vast majority saw improvements. For instance, New Mexico and Kansas experienced policy score declines of 12 and 9 points, respectively, while Pennsylvania and Wyoming saw their score increase by 36 and 20 points, respectively.

Following its absence from last year’s survey due to low response rates, California was once again included and ranked 22nd after Colorado, which ranked last in the 2020 survey.

Figure 6: Policy Perception Index—United States



Survey participants' comments on a number of American jurisdictions are presented below. Comments have been edited for length, grammar and spelling, to retain confidentiality, and to clarify meanings.

United States

"The new administration's moratorium of new drilling licenses on federal onshore lands hurts the industry and deters investment."

California

"The Governor's executive order to unilaterally ban hydraulic fracturing and other decisions against oil and gas exploration and development have essentially signed the death warrant for the industry in the state of California."

Colorado

"The administration is openly hostile to oil and gas development."

"Allowing non-state jurisdictions to control all oil and gas regulatory activities is a huge blow to the industry."

Louisiana

"The *ad valorem* tax, which in some cases is seven times the purchase price of a well, discourages investment."

Mississippi

"The administration encouraged horizontal drilling with a reduction in severance taxes."

Texas

"Texas has a very transparent, effective, and fair regulatory regime."

"The administration's support to invest in pipelines encourages production growth."

Wyoming

"Strong state support at all stages of exploration and development."

"The state-funded Enhanced Oil Recovery Institute works well with operators to assist in the improvement of field production."

Results by Category

The results of the survey have been broken into four areas: regulatory factors, commercial, geopolitical, and land-related risks.⁷

Regulatory factors

According to investors, regulatory factors continue to be a defining issue hampering Canada's energy competitiveness. This year's respondents pointed to the uncertainty concerning environmental regulations, regulatory duplication and inconsistencies, and the cost of regulatory compliance as key areas of concern in Canada compared to the United States.

To evaluate investors' perceptions of regulatory processes across jurisdictions we asked survey respondents six questions about the various regulatory factors. The analysis for questions with similar results are combined in this section.

Cost of regulatory compliance (table 2)

Canada

The vast majority of Canadian provinces rate poorly compared to their American competitors on an evaluation of the cost of regulatory compliance. For example, all respondents for the Northwest Territories indicated that the cost of regulatory compliance was a deterrent to investment. Similarly, 88 percent of respondents for Newfoundland & Labrador and 73 percent for British Columbia cited the cost of regulatory compliance as policy factor that scared away investment. Saskatchewan was the top performing Canadian jurisdiction in this category, with only a third of respondents claiming this factor dissuaded investment.

United States

In contrast, many US jurisdictions perform well on this factor, though with some exceptions. Only 8 percent of respondents for Oklahoma – ranked 2nd in this year's survey – indicated that the cost of regulatory compliance was a deterrent to investment, as did only 9 percent of respondents for Texas and 14 percent for Kansas. The worse performing US state was California, where all respondents were deterred by this factor.

⁷ This section uses categories (based on Appendix 2 from Stedman and Green, 2018a) that focus on particular dimensions of policy to streamline the analysis.

Overall

On average, respondents see the cost of regulatory compliance as more problematic in Canada than in the United States. On average, 70 percent (up 4 percentage points relative to last year's survey) of respondents for in Canadian provinces indicated that the cost of regulatory compliance was deterring investment, which compares to 43 percent for the United States.

Table 2: Cost of Regulatory Compliance

| | | 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 |
|----------------------|----------------------------|--------------------------|----------------------------------|---------------------------------|-----------------------------------|---|
| Response | | Percentages | | | | |
| | | 1 | 2 | 3 | 4 | 5 |
| CANADA | Alberta | 8% | 36% | 40% | 16% | 0% |
| | British Columbia | 0% | 27% | 45% | 27% | 0% |
| | Newfoundland & Labrador | 0% | 13% | 38% | 50% | 0% |
| | Northwest Territories | 0% | 0% | 60% | 20% | 20% |
| | Saskatchewan | 17% | 50% | 17% | 17% | 0% |
| UNITED STATES | Alaska | 0% | 36% | 27% | 36% | 0% |
| | California | 0% | 0% | 13% | 38% | 50% |
| | Colorado | 0% | 9% | 9% | 64% | 18% |
| | Kansas | 29% | 57% | 14% | 0% | 0% |
| | Louisiana | 45% | 27% | 9% | 18% | 0% |
| | Mississippi | 13% | 75% | 13% | 0% | 0% |
| | Montana | 40% | 40% | 0% | 20% | 0% |
| | New Mexico | 0% | 25% | 63% | 13% | 0% |
| | North Dakota | 57% | 29% | 0% | 14% | 0% |
| | Ohio | 0% | 40% | 40% | 20% | 0% |
| | Oklahoma | 23% | 69% | 0% | 8% | 0% |
| | Pennsylvania | 0% | 80% | 20% | 0% | 0% |
| | Texas | 39% | 52% | 4% | 4% | 0% |
| | Utah | 43% | 0% | 57% | 0% | 0% |
| | Wyoming | 40% | 30% | 30% | 0% | 0% |
| | US Offshore—Gulf of Mexico | 15% | 23% | 38% | 23% | 0% |
| | US Offshore—Alaska | 0% | 25% | 25% | 38% | 13% |

Note: Percentages may not add up to 100 due to rounding.

Regulatory enforcement (table 3)

Canada

When considering uncertainty concerning existing regulations, i.e., uncertainty about the administration, interpretation, stability, or enforcement of existing regulations, British Columbia is the worst performing province on this factor, with 64 percent of respondents indicating that regulatory enforcement was a deterrent to investment followed by Newfoundland & Labrador at 63 percent of respondents. The top performing Canadian jurisdiction on this measure was Saskatchewan, with 33 percent of respondents citing this factor as a deterrent to investment.

United States

Top performing US jurisdictions Texas and Oklahoma saw only 4 percent and 7 percent of respondents, respectively, indicating that uncertainty concerning regulatory enforcement was a deterrent to investment. That noted, several US jurisdictions perform poorly on this indicator. The poorest performing US states were California, Colorado, and New Mexico, where 100, 91, and 88 percent of respondents were deterred by this factor, respectively.

Overall

Some Canadian jurisdictions perform poorly relative to their US counterparts on the uncertainty around the administration, interpretation, stability, or enforcement of existing regulations. On average, 51 percent of respondents for the Canadian provinces indicated that this factor was a deterrent to investment, compared to 42 percent for the United States (which itself saw a 10-percentage point jump over last year).

Table 3: Regulatory Enforcement

| | | 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 | | | | |
|----------------------|----------------------------|---|-----|-----|-----|-----|
| Response | | Percentages | | | | |
| | | 1 | 2 | 3 | 4 | 5 |
| CANADA | Alberta | 20% | 44% | 32% | 4% | 0% |
| | British Columbia | 0% | 36% | 45% | 18% | 0% |
| | Newfoundland & Labrador | 0% | 38% | 38% | 25% | 0% |
| | Northwest Territories | 0% | 40% | 20% | 20% | 20% |
| | Saskatchewan | 33% | 33% | 25% | 8% | 0% |
| UNITED STATES | Alaska | 17% | 33% | 33% | 17% | 0% |
| | California | 0% | 0% | 25% | 13% | 63% |
| | Colorado | 0% | 9% | 9% | 73% | 9% |
| | Kansas | 29% | 57% | 14% | 0% | 0% |
| | Louisiana | 36% | 27% | 18% | 18% | 0% |
| | Mississippi | 38% | 50% | 13% | 0% | 0% |
| | Montana | 40% | 40% | 20% | 0% | 0% |
| | New Mexico | 0% | 13% | 75% | 13% | 0% |
| | North Dakota | 57% | 29% | 14% | 0% | 0% |
| | Ohio | 0% | 40% | 60% | 0% | 0% |
| | Oklahoma | 50% | 43% | 7% | 0% | 0% |
| | Pennsylvania | 0% | 80% | 20% | 0% | 0% |
| | Texas | 48% | 48% | 4% | 0% | 0% |
| | Utah | 14% | 29% | 57% | 0% | 0% |
| | Wyoming | 50% | 20% | 30% | 0% | 0% |
| | US Offshore—Gulf of Mexico | 38% | 15% | 31% | 15% | 0% |
| | US Offshore—Alaska | 22% | 22% | 22% | 22% | 11% |

Note: Percentages may not add up to 100 due to rounding.

Environmental regulations (table 4)

Canada

The survey includes questions that ask respondents about the stability of regulations, and the consistency and timeliness of environmental regulatory processes. This year, investors rated uncertainty concerning environmental regulations as the policy factor that most deters investment in Canada.

As a result, many Canadian provinces perform poorly compared to competing US states. For all provinces, at least half of the respondents cited uncertainty concerning environmental regulations as a key factor deterring investment. In particular, all respondents for the Northwest Territories and 91 percent of respondents for British Columbia indicated that this factor was adversely affecting their investment decisions.

The top performing Canadian jurisdiction on this measure was Saskatchewan, with 50 percent of respondents citing this factor as constraining investment.

United States

In contrast, only 13 percent of respondents for Texas, 14 percent for Kansas, and 20 percent for Oklahoma were deterred by uncertainty concerning environmental regulations. The poorest performing US state was California, where all of the survey respondents were dissuaded by this factor.

Overall

Uncertainty concerning environmental regulations is the policy factor that hampers Canada's energy competitiveness the most —and it continues to be a major area of concern when compared to the United States. The percentage of respondents for Canadian provinces indicating that this factor was a deterrent to investment was, on average, 76 percent (up 10 percentage points versus last year) compared to 49 percent for the United States.

Table 4: Environmental Regulations

| | | 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 | | | | |
| Response | | Percentages | | | | |
| | | 1 | 2 | 3 | 4 | 5 |
| CANADA | Alberta | 4% | 31% | 38% | 27% | 0% |
| | British Columbia | 0% | 9% | 36% | 55% | 0% |
| | Newfoundland & Labrador | 0% | 25% | 25% | 50% | 0% |
| | Northwest Territories | 0% | 0% | 60% | 40% | 0% |
| | Saskatchewan | 8% | 42% | 42% | 8% | 0% |
| UNITED STATES | Alaska | 8% | 15% | 38% | 38% | 0% |
| | California | 0% | 0% | 0% | 50% | 50% |
| | Colorado | 0% | 8% | 17% | 58% | 17% |
| | Kansas | 29% | 57% | 14% | 0% | 0% |
| | Louisiana | 27% | 36% | 9% | 27% | 0% |
| | Mississippi | 38% | 38% | 25% | 0% | 0% |
| | Montana | 33% | 33% | 17% | 17% | 0% |
| | New Mexico | 0% | 25% | 63% | 13% | 0% |
| | North Dakota | 38% | 25% | 13% | 25% | 0% |
| | Ohio | 0% | 20% | 60% | 20% | 0% |
| | Oklahoma | 33% | 47% | 7% | 13% | 0% |
| | Pennsylvania | 20% | 20% | 40% | 20% | 0% |
| | Texas | 43% | 43% | 9% | 4% | 0% |
| | Utah | 25% | 25% | 38% | 13% | 0% |
| | Wyoming | 55% | 18% | 18% | 9% | 0% |
| | US Offshore—Gulf of Mexico | 15% | 46% | 8% | 23% | 8% |
| | US Offshore—Alaska | 10% | 40% | 10% | 30% | 10% |

Note: Percentages may not add up to 100 due to rounding.

Labor regulations and employment agreements (table 5)

Canada

In this year's survey, investors expressed heightened concerns over the impact of labor regulations, employment agreements, labor militancy or work disruptions, and local hiring requirements for some Canadian provinces. In particular, 75 percent of respondents for Newfoundland & Labrador and 45 percent of respondents for British Columbia indicated that this factor was a deterrent to investment. Twenty percent of respondents for Alberta (down 10 percentage points from last year) expressed concerns over this area. The top performing Canadian jurisdiction on this measure was Saskatchewan, for which only 8 percent of the respondents cited this factor as dissuading investment.

United States

In contrast, no respondents for Kansas, Montana, Utah, or Wyoming expressed concerns that labor regulations and employment agreements were deterring investment. Similarly, only 7 percent of respondents for Oklahoma and 9 percent for Texas claimed that labor regulations and employment agreements were dissuading investment. The poorest performing American states were California and Colorado where 88 percent and 55 percent of respondents, respectively, were deterred by this factor.

Overall

Labor regulations and employment agreements are more of a concern for investors in Canada than in the United States. The percentage of respondents for the Canadian provinces indicating that this factor was a deterrent to investment was, on average, 38 percent (up 9 percentage points from last year's survey) compared to 21 percent for the United States.

Table 5: Labor Regulations and Employment Agreements

| | | 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 | | | | |
| Response | | Percentages | | | | |
| | | 1 | 2 | 3 | 4 | 5 |
| CANADA | Alberta | 20% | 60% | 16% | 4% | 0% |
| | British Columbia | 9% | 45% | 45% | 0% | 0% |
| | Newfoundland & Labrador | 0% | 25% | 38% | 38% | 0% |
| | Northwest Territories | 0% | 60% | 20% | 20% | 0% |
| | Saskatchewan | 25% | 67% | 8% | 0% | 0% |
| UNITED STATES | Alaska | 17% | 58% | 25% | 0% | 0% |
| | California | 0% | 13% | 25% | 50% | 13% |
| | Colorado | 0% | 45% | 18% | 27% | 9% |
| | Kansas | 29% | 71% | 0% | 0% | 0% |
| | Louisiana | 45% | 36% | 9% | 9% | 0% |
| | Mississippi | 13% | 75% | 13% | 0% | 0% |
| | Montana | 20% | 80% | 0% | 0% | 0% |
| | New Mexico | 13% | 50% | 38% | 0% | 0% |
| | North Dakota | 43% | 43% | 14% | 0% | 0% |
| | Ohio | 40% | 40% | 20% | 0% | 0% |
| | Oklahoma | 57% | 36% | 7% | 0% | 0% |
| | Pennsylvania | 40% | 40% | 20% | 0% | 0% |
| | Texas | 48% | 43% | 9% | 0% | 0% |
| | Utah | 43% | 57% | 0% | 0% | 0% |
| | Wyoming | 60% | 40% | 0% | 0% | 0% |
| | US Offshore—Gulf of Mexico | 38% | 38% | 23% | 0% | 0% |
| | US Offshore—Alaska | 11% | 67% | 11% | 11% | 0% |

Note: Percentages may not add up to 100 due to rounding.

Regulatory duplication and inconsistencies (table 6)

Canada

Investors expressed heightened concerns over regulatory duplication and inconsistencies for Canadian provinces compared to last year's survey and compared to their US competitors. Overall, respondents rated this factor as the second policy factor that most hampers Canada's energy competitiveness.

For all provinces, at least 60 percent of respondents cited regulatory duplication and inconsistencies as a key factor deterring investment. In particular, 71 percent of respondents for Alberta (up 24 percentage points) and 67 percent for Saskatchewan (up 40 percentage points) cited regulatory duplication and inconsistencies as a policy factor that adversely affects their investment decisions. In addition, all respondents for Newfoundland & Labrador indicated that this factor was discouraging investment.

United States

In contrast, none of the respondents for Kansas and North Dakota indicated that regulatory duplication and inconsistencies were a deterrent to investment. Similarly, only 8 percent of respondents for Oklahoma and 10 percent for Texas were deterred by regulatory duplication and inconsistencies. The worst performing US state was Colorado, where 89 percent of respondents were deterred by this factor.

Overall

This year, regulatory duplication and inconsistencies was a large concern for investors in Canada when compared to the United States. The percentage of respondents indicating that this factor was a deterrent to investment in the Canadian provinces was, on average, 72 percent (up 34 percentage points from last year's survey) compared to 45 percent for the United States (up 9 percentage points from the 2020 survey).

Table 6: Regulatory Duplication and Inconsistencies

| | | 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 | | | | |
|----------------------|----------------------------|---|-----|-----|-----|-----|
| Response | | Percentages | | | | |
| | | 1 | 2 | 3 | 4 | 5 |
| CANADA | Alberta | 4% | 25% | 58% | 13% | 0% |
| | British Columbia | 0% | 36% | 55% | 9% | 0% |
| | Newfoundland & Labrador | 0% | 0% | 63% | 38% | 0% |
| | Northwest Territories | 0% | 40% | 20% | 20% | 20% |
| | Saskatchewan | 8% | 25% | 67% | 0% | 0% |
| UNITED STATES | Alaska | 0% | 55% | 18% | 27% | 0% |
| | California | 0% | 14% | 29% | 43% | 14% |
| | Colorado | 0% | 11% | 33% | 44% | 11% |
| | Kansas | 33% | 67% | 0% | 0% | 0% |
| | Louisiana | 20% | 40% | 30% | 10% | 0% |
| | Mississippi | 33% | 33% | 33% | 0% | 0% |
| | Montana | 20% | 20% | 60% | 0% | 0% |
| | New Mexico | 0% | 17% | 83% | 0% | 0% |
| | North Dakota | 43% | 57% | 0% | 0% | 0% |
| | Ohio | 0% | 40% | 60% | 0% | 0% |
| | Oklahoma | 25% | 67% | 8% | 0% | 0% |
| | Pennsylvania | 0% | 60% | 40% | 0% | 0% |
| | Texas | 38% | 52% | 10% | 0% | 0% |
| | Utah | 43% | 0% | 57% | 0% | 0% |
| | Wyoming | 40% | 40% | 20% | 0% | 0% |
| | US Offshore—Gulf of Mexico | 20% | 30% | 30% | 20% | 0% |
| | US Offshore—Alaska | 13% | 13% | 50% | 13% | 13% |

Note: Percentages may not add up to 100 due to rounding.

Legal system (table 7)

Canada

Investor perceptions of the legal system vary by province. For instance, 36 percent of respondents for British Columbia and 21 percent of respondents for Alberta indicated that this factor was a deterrent to investment. On the other hand, Newfoundland & Labrador was the best performing Canadian jurisdiction on this measure, with none of the respondents citing this factor as a deterrent, followed by Saskatchewan with only 17 percent.

United States

None of the respondents for four US jurisdictions (Montana, North Dakota, Oklahoma, and Pennsylvania) indicated that the legal system was a deterrent to investment. Similarly, only 5 percent of respondents in Texas and 10 percent in Wyoming and the US Offshore Gulf of Mexico were deterred by this factor. The worst performing US state was Colorado with 78 percent of the respondents citing the legal system as a deterrent to investment.

Overall

The percentage of respondents deterred by the legal system is low and similar between the US and Canada. The percentage of respondents deterred by the legal system was, on average, 27 percent for Canada and 26 percent for the United States.

Table 7: Legal System

| | | 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 | | | | |
| Response | | Percentages | | | | |
| | | 1 | 2 | 3 | 4 | 5 |
| CANADA | Alberta | 33% | 46% | 21% | 0% | 0% |
| | British Columbia | 27% | 36% | 27% | 9% | 0% |
| | Newfoundland & Labrador | 38% | 63% | 0% | 0% | 0% |
| | Northwest Territories | 20% | 20% | 40% | 0% | 20% |
| | Saskatchewan | 25% | 58% | 17% | 0% | 0% |
| UNITED STATES | Alaska | 18% | 36% | 45% | 0% | 0% |
| | California | 14% | 29% | 14% | 29% | 14% |
| | Colorado | 0% | 22% | 22% | 44% | 11% |
| | Kansas | 50% | 33% | 17% | 0% | 0% |
| | Louisiana | 30% | 30% | 10% | 20% | 10% |
| | Mississippi | 17% | 67% | 17% | 0% | 0% |
| | Montana | 20% | 80% | 0% | 0% | 0% |
| | New Mexico | 0% | 33% | 67% | 0% | 0% |
| | North Dakota | 43% | 57% | 0% | 0% | 0% |
| | Ohio | 0% | 60% | 40% | 0% | 0% |
| | Oklahoma | 50% | 50% | 0% | 0% | 0% |
| | Pennsylvania | 0% | 100% | 0% | 0% | 0% |
| | Texas | 48% | 48% | 5% | 0% | 0% |
| | Utah | 43% | 43% | 14% | 0% | 0% |
| | Wyoming | 60% | 30% | 10% | 0% | 0% |
| | US Offshore—Gulf of Mexico | 30% | 60% | 0% | 10% | 0% |
| | US Offshore—Alaska | 25% | 38% | 25% | 0% | 13% |

Note: Percentages may not add up to 100 due to rounding.

Commercial risks

Fiscal terms and taxation in general (tables 8 and 9)

Canada

Fiscal terms and taxation in general continue to be key areas of concern for investors in some Canadian provinces when compared to US states, despite some improvements in recent years.

For example, the share of respondents for Alberta citing fiscal terms and taxation in general as factors potentially deterring investment has significantly declined since 2019 when it stood at 45 percent and 53 percent of respondents, respectively (Stedman and Aliakbari, 2019). This year, only 19 percent of respondents (down 16 percentage points from last year's survey) indicated that licenses, royalties, and production taxes (i.e., fiscal terms), were affecting investment decisions and only 27 percent of respondents (down 20 percentage points from last year's survey) claimed that the level of taxation in the province was deterring investment. On taxes in general, Alberta is now the top performer among Canadian provinces and 10th in the overall ranking.

Saskatchewan is another province that has significantly improved its performance over the years. This year, only 8 percent of respondents claimed that fiscal terms were discouraging investment (Saskatchewan is the top performer among Canadian provinces and 7th overall in this policy factor), and 31 percent cited taxes in general as a key deterrent for investment.

However, some Canadian provinces continue to perform poorly in these areas. In British Columbia, the worst performer among Canadian provinces, 55 percent of respondents indicated that fiscal terms were a deterrent and 64 percent cited taxation as dissuading investment.

United States

In contrast, for five US states (Kansas, Mississippi, North Dakota, Oklahoma, and Wyoming) no respondents claimed that fiscal terms were affecting their investment decisions. Similarly, no respondents for three US states (North Dakota, Oklahoma, and Wyoming) cited taxes in general as deterring investments. The share of respondents indicating that fiscal terms and taxation were deterring investment in Texas were 4 percent and 8 percent, respectively.

California was the worst performer on fiscal terms and taxation in general, with 90 percent of respondents saying they were deterred by these factors.

Table 8: Fiscal Terms

| | | 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 |
|----------------------|----------------------------|--------------------------|----------------------------------|---------------------------------|-----------------------------------|---|
| | | Percentages | | | | |
| Response | | 1 | 2 | 3 | 4 | 5 |
| CANADA | Alberta | 37% | 44% | 19% | 0% | 0% |
| | British Columbia | 9% | 36% | 55% | 0% | 0% |
| | Newfoundland & Labrador | 13% | 38% | 50% | 0% | 0% |
| | Northwest Territories | 0% | 80% | 0% | 20% | 0% |
| | Saskatchewan | 38% | 54% | 8% | 0% | 0% |
| UNITED STATES | Alaska | 23% | 38% | 31% | 8% | 0% |
| | California | 0% | 10% | 10% | 60% | 20% |
| | Colorado | 0% | 23% | 31% | 38% | 8% |
| | Kansas | 50% | 50% | 0% | 0% | 0% |
| | Louisiana | 50% | 21% | 14% | 14% | 0% |
| | Mississippi | 60% | 40% | 0% | 0% | 0% |
| | Montana | 78% | 11% | 11% | 0% | 0% |
| | New Mexico | 0% | 80% | 20% | 0% | 0% |
| | North Dakota | 89% | 11% | 0% | 0% | 0% |
| | Ohio | 0% | 83% | 17% | 0% | 0% |
| | Oklahoma | 65% | 35% | 0% | 0% | 0% |
| | Pennsylvania | 17% | 67% | 17% | 0% | 0% |
| | Texas | 73% | 23% | 4% | 0% | 0% |
| | Utah | 60% | 30% | 10% | 0% | 0% |
| | Wyoming | 77% | 23% | 0% | 0% | 0% |
| | US Offshore—Gulf of Mexico | 36% | 36% | 14% | 14% | 0% |
| | US Offshore—Alaska | 44% | 22% | 22% | 11% | 0% |

Note: Percentages may not add up to 100 due to rounding.

Table 9: Taxation in General

| | | 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 |
|----------------------|----------------------------|--------------------------|----------------------------------|---------------------------------|-----------------------------------|---|
| Response | | Percentages | | | | |
| | | 1 | 2 | 3 | 4 | 5 |
| CANADA | Alberta | 19% | 54% | 27% | 0% | 0% |
| | British Columbia | 0% | 36% | 45% | 18% | 0% |
| | Newfoundland & Labrador | 13% | 25% | 50% | 13% | 0% |
| | Northwest Territories | 0% | 60% | 20% | 20% | 0% |
| | Saskatchewan | 8% | 62% | 31% | 0% | 0% |
| UNITED STATES | Alaska | 25% | 42% | 17% | 17% | 0% |
| | California | 0% | 10% | 40% | 30% | 20% |
| | Colorado | 15% | 15% | 54% | 8% | 8% |
| | Kansas | 25% | 63% | 13% | 0% | 0% |
| | Louisiana | 23% | 54% | 0% | 23% | 0% |
| | Mississippi | 11% | 78% | 11% | 0% | 0% |
| | Montana | 29% | 43% | 29% | 0% | 0% |
| | New Mexico | 0% | 50% | 50% | 0% | 0% |
| | North Dakota | 44% | 56% | 0% | 0% | 0% |
| | Ohio | 0% | 50% | 50% | 0% | 0% |
| | Oklahoma | 38% | 63% | 0% | 0% | 0% |
| | Pennsylvania | 17% | 50% | 33% | 0% | 0% |
| | Texas | 52% | 40% | 8% | 0% | 0% |
| | Utah | 44% | 44% | 11% | 0% | 0% |
| | Wyoming | 58% | 42% | 0% | 0% | 0% |
| | US Offshore—Gulf of Mexico | 21% | 50% | 7% | 21% | 0% |
| | US Offshore—Alaska | 22% | 56% | 11% | 11% | 0% |

Note: Percentages may not add up to 100 due to rounding.

Overall

On average, investors expressed more concerns over taxes than fiscal terms in Canada compared to the United States. The percentage of respondents in Canadian provinces indicating that fiscal terms was deterring investment was, on average, 30 percent compared to 22 percent for the United States (an 8-percentage point gap). In contrast, the percentage of respondents indicating that taxation in general was deterring investment was, on average, 45 percent for Canada compared to 28 percent for the United States (a 17-percentage point difference).

Trade barriers (table 10)

Canada

Investor perceptions of trade barriers in Canada are generally low but vary by province. Despite being the top performing Canadian province in the overall ranking, however, a third of respondents for Saskatchewan were deterred by this factor (it was the worst performing province in this area). On the other hand, only 13 percent of respondents for Newfoundland & Labrador and 20 percent for the Northwest Territories cited trade barriers as dissuading investment.

United States

In contrast, none of the respondents for six US states (Kansas, Mississippi, North Dakota, Oklahoma, Pennsylvania, and Texas) cited trade barriers as a deterrent to investment. Similarly, only 9 percent of respondents for Louisiana and 10 percent for Wyoming indicated that this factor was a deterrent to investment. The worst performing US state was Montana, where 40 percent of respondents were deterred by trade barriers.

Overall

The percentage of respondents deterred by trade barriers is low and similar in Canada and the United States. The percentage of respondents deterred by trade barriers was, on average, 23 percent for Canada and 16 percent for the US.

Table 10: Trade Barriers

| | | 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 | | | | |
| Response | | Percentages | | | | |
| | | 1 | 2 | 3 | 4 | 5 |
| CANADA | Alberta | 4% | 72% | 24% | 0% | 0% |
| | British Columbia | 0% | 73% | 27% | 0% | 0% |
| | Newfoundland & Labrador | 0% | 88% | 13% | 0% | 0% |
| | Northwest Territories | 0% | 80% | 20% | 0% | 0% |
| | Saskatchewan | 0% | 67% | 33% | 0% | 0% |
| UNITED STATES | Alaska | 8% | 58% | 33% | 0% | 0% |
| | California | 0% | 63% | 13% | 13% | 13% |
| | Colorado | 9% | 55% | 18% | 0% | 18% |
| | Kansas | 43% | 57% | 0% | 0% | 0% |
| | Louisiana | 36% | 55% | 0% | 9% | 0% |
| | Mississippi | 25% | 75% | 0% | 0% | 0% |
| | Montana | 40% | 20% | 40% | 0% | 0% |
| | New Mexico | 0% | 88% | 13% | 0% | 0% |
| | North Dakota | 29% | 71% | 0% | 0% | 0% |
| | Ohio | 40% | 40% | 20% | 0% | 0% |
| | Oklahoma | 50% | 50% | 0% | 0% | 0% |
| | Pennsylvania | 20% | 80% | 0% | 0% | 0% |
| | Texas | 35% | 65% | 0% | 0% | 0% |
| | Utah | 29% | 43% | 29% | 0% | 0% |
| | Wyoming | 30% | 60% | 10% | 0% | 0% |
| | US Offshore—Gulf of Mexico | 8% | 62% | 31% | 0% | 0% |
| | US Offshore—Alaska | 11% | 67% | 11% | 0% | 11% |

Note: Percentages may not add up to 100 due to rounding.

Quality of infrastructure (table 11)

Canada

Investor perceptions of the quality of infrastructure vary by province. For example, only 12 percent of respondents for Alberta (the top performing Canadian province and 6th overall in this policy area) but 33 percent of respondents for Saskatchewan indicated that the quality of infrastructure had a negative impact on their investment decisions.

In addition, all respondents for the Northwest Territories claimed that the quality of infrastructure was deterring investment.

United States

In contrast, none of the respondents for Kansas, North Dakota, and Oklahoma claimed that the quality of infrastructure was a deterrent to investment. Similarly, only 9 percent of respondents for Texas and Wyoming were deterred by this factor. The worst performing US states were, as was the case in the 2020 survey, Alaska and Colorado, where 75 percent and 55 percent of respondents, respectively, cited the quality of infrastructure as a factor dissuading investment.

Overall

Investors expressed heightened concerns about the quality of infrastructure in Canada compared to the United States, though the average is largely skewed by the responses for the Northwest Territories. The percentage of respondents deterred by the quality of infrastructure was, on average, 44 percent for Canada and 30 percent for the United States.

Table 11: Quality of Infrastructure

| | | 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 |
|----------------------|----------------------------|--------------------------|----------------------------------|---------------------------------|-----------------------------------|---|
| Response | | Percentages | | | | |
| | | 1 | 2 | 3 | 4 | 5 |
| CANADA | Alberta | 48% | 40% | 8% | 4% | 0% |
| | British Columbia | 27% | 36% | 36% | 0% | 0% |
| | Newfoundland & Labrador | 25% | 38% | 25% | 13% | 0% |
| | Northwest Territories | 0% | 0% | 20% | 60% | 20% |
| | Saskatchewan | 33% | 33% | 25% | 8% | 0% |
| UNITED STATES | Alaska | 8% | 17% | 42% | 25% | 8% |
| | California | 13% | 38% | 38% | 0% | 13% |
| | Colorado | 0% | 45% | 36% | 9% | 9% |
| | Kansas | 43% | 57% | 0% | 0% | 0% |
| | Louisiana | 45% | 36% | 0% | 18% | 0% |
| | Mississippi | 38% | 25% | 38% | 0% | 0% |
| | Montana | 20% | 60% | 20% | 0% | 0% |
| | New Mexico | 0% | 75% | 25% | 0% | 0% |
| | North Dakota | 43% | 57% | 0% | 0% | 0% |
| | Ohio | 0% | 60% | 40% | 0% | 0% |
| | Oklahoma | 57% | 43% | 0% | 0% | 0% |
| | Pennsylvania | 0% | 40% | 60% | 0% | 0% |
| | Texas | 70% | 22% | 9% | 0% | 0% |
| | Utah | 29% | 57% | 0% | 0% | 14% |
| | Wyoming | 36% | 55% | 9% | 0% | 0% |
| | US Offshore—Gulf of Mexico | 31% | 31% | 31% | 8% | 0% |
| | US Offshore—Alaska | 22% | 22% | 22% | 22% | 11% |

Note: Percentages may not add up to 100 due to rounding.

Labor availability and skills (table 12)

Canada

Most Canadian jurisdictions perform well in terms of labor availability and skills with the notable exception of the Northwest Territories. In particular, only 8 percent of respondents for Saskatchewan and 16 percent of the respondents for Alberta indicated that this factor was a deterrent to investment. On the other hand, 80 percent of respondents for the Northwest Territories said the availability of labor and skills had an adverse impact on the investment attractiveness of the jurisdiction.

United States

In contrast, none of the respondents for New Mexico, North Dakota, and Oklahoma cited labor availability and skills as a deterrent to investment. Similarly, only 5 percent of respondents for Texas indicated this factor was affecting investment. Interestingly enough, Kansas, one of the top performers in the overall ranking, saw a third of its respondents citing labor availability and skills as a deterrent to investment – higher than the US average for this factor.

In the worst performing state, California, 71 percent of respondents were deterred by this factor.

Overall

This year, the percentage of respondents deterred by labor availability and skills was higher in Canada than in the US, largely due to responses for the Northwest Territories. The percentage of respondents deterred by labor availability and skills was, on average, 33 percent for Canada and 27 percent for the United States.

Table 12: Labor Availability and Skills

| | | 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 |
|----------------------|----------------------------|--------------------------|----------------------------------|---------------------------------|-----------------------------------|---|
| Response | | Percentages | | | | |
| | | 1 | 2 | 3 | 4 | 5 |
| CANADA | Alberta | 44% | 40% | 12% | 4% | 0% |
| | British Columbia | 36% | 27% | 27% | 9% | 0% |
| | Newfoundland & Labrador | 25% | 50% | 13% | 13% | 0% |
| | Northwest Territories | 20% | 0% | 40% | 40% | 0% |
| | Saskatchewan | 42% | 50% | 8% | 0% | 0% |
| UNITED STATES | Alaska | 33% | 25% | 33% | 8% | 0% |
| | California | 0% | 29% | 29% | 14% | 29% |
| | Colorado | 10% | 30% | 40% | 20% | 0% |
| | Kansas | 33% | 33% | 33% | 0% | 0% |
| | Louisiana | 40% | 50% | 10% | 0% | 0% |
| | Mississippi | 0% | 67% | 33% | 0% | 0% |
| | Montana | 0% | 83% | 17% | 0% | 0% |
| | New Mexico | 17% | 83% | 0% | 0% | 0% |
| | North Dakota | 50% | 50% | 0% | 0% | 0% |
| | Ohio | 20% | 20% | 60% | 0% | 0% |
| | Oklahoma | 46% | 54% | 0% | 0% | 0% |
| | Pennsylvania | 60% | 0% | 40% | 0% | 0% |
| | Texas | 43% | 52% | 5% | 0% | 0% |
| | Utah | 38% | 38% | 25% | 0% | 0% |
| | Wyoming | 36% | 45% | 18% | 0% | 0% |
| | US Offshore—Gulf of Mexico | 27% | 64% | 9% | 0% | 0% |
| | US Offshore—Alaska | 40% | 30% | 20% | 0% | 10% |

Note: Percentages may not add up to 100 due to rounding.

Geopolitical risks

Political stability (table 13)

Canada

Investor concerns related to political stability in Canada are low compared to the US and vary by province. For example, 45 percent of respondents for British Columbia (worst performing Canadian province on this measure) but only 24 percent of respondents for Alberta indicated that this factor was a deterrent to investment. Saskatchewan was the best performing Canadian jurisdiction in this area, with only 17 percent of the respondents citing this factor as a deterrent.

United States

None of the respondents for Mississippi and Pennsylvania indicated that political stability was a deterrent to investment. However, in both the US Offshore region of the Gulf of Mexico (45 percent) and the US Offshore region of Alaska (50 percent) respondents cited political stability as having a negative impact on their investment decisions. Similarly, at least half of the respondents for five US states claimed that the political stability factor was a deterrent to investment. The worst performing US state was Colorado, where all respondents were deterred by its political stability.

Overall

Investor concerns over political stability are higher for the United States than for Canada. On average, 30 percent of respondents for Canada and 35 percent for the United States were deterred by the political stability factor.

Table 13: Political Stability

| | | 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 |
|----------------------|----------------------------|--------------------------|----------------------------------|---------------------------------|-----------------------------------|---|
| Response | | Percentages | | | | |
| | | 1 | 2 | 3 | 4 | 5 |
| CANADA | Alberta | 20% | 56% | 20% | 4% | 0% |
| | British Columbia | 18% | 36% | 36% | 9% | 0% |
| | Newfoundland & Labrador | 25% | 50% | 13% | 13% | 0% |
| | Northwest Territories | 0% | 60% | 20% | 0% | 20% |
| | Saskatchewan | 33% | 50% | 17% | 0% | 0% |
| UNITED STATES | Alaska | 23% | 23% | 46% | 8% | 0% |
| | California | 0% | 14% | 29% | 29% | 29% |
| | Colorado | 0% | 0% | 60% | 20% | 20% |
| | Kansas | 33% | 33% | 33% | 0% | 0% |
| | Louisiana | 40% | 40% | 0% | 20% | 0% |
| | Mississippi | 17% | 83% | 0% | 0% | 0% |
| | Montana | 33% | 33% | 33% | 0% | 0% |
| | New Mexico | 0% | 50% | 50% | 0% | 0% |
| | North Dakota | 50% | 13% | 38% | 0% | 0% |
| | Ohio | 20% | 60% | 20% | 0% | 0% |
| | Oklahoma | 54% | 23% | 23% | 0% | 0% |
| | Pennsylvania | 20% | 80% | 0% | 0% | 0% |
| | Texas | 57% | 33% | 10% | 0% | 0% |
| | Utah | 50% | 25% | 25% | 0% | 0% |
| | Wyoming | 64% | 27% | 9% | 0% | 0% |
| | US Offshore—Gulf of Mexico | 27% | 27% | 45% | 0% | 0% |
| | US Offshore—Alaska | 30% | 20% | 20% | 20% | 10% |

Note: Percentages may not add up to 100 due to rounding.

Security (table 14)

Canada

Most Canadian provinces generally perform well in terms of security. In particular, none of the respondents for Newfoundland & Labrador and only 8 percent of respondents for Saskatchewan and Alberta cited security as a deterrent to investment. However, 20 percent of respondents for the Northwest Territories claimed that security had a negative impact on their investment decisions.

United States

None of the respondents for Kansas, Mississippi, Montana, North Dakota, Ohio, Oklahoma, Pennsylvania, Utah, or Wyoming indicated that security was a deterrent to investment in those jurisdictions. However, 20 percent of respondents for Louisiana claimed the state's security levels were deterring investment. The worst performing US state was Colorado where 30 percent of respondents were deterred by this factor.

Overall

Historically, the percentage of respondents deterred by security in either the United States or Canada is relatively low. However, this year, the US performed better than Canada mostly due to concerns around security in the Northwest Territories. The percentage of respondents deterred by security was, on average, 9 percent for Canada compared to 7 percent for the United States.

Table 14: Security

| | | 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 |
|----------------------|----------------------------|--------------------------|----------------------------------|---------------------------------|-----------------------------------|---|
| Response | | Percentages | | | | |
| | | 1 | 2 | 3 | 4 | 5 |
| CANADA | Alberta | 36% | 56% | 8% | 0% | 0% |
| | British Columbia | 27% | 64% | 9% | 0% | 0% |
| | Newfoundland & Labrador | 38% | 63% | 0% | 0% | 0% |
| | Northwest Territories | 0% | 80% | 0% | 20% | 0% |
| | Saskatchewan | 42% | 50% | 8% | 0% | 0% |
| UNITED STATES | Alaska | 46% | 46% | 8% | 0% | 0% |
| | California | 0% | 86% | 14% | 0% | 0% |
| | Colorado | 30% | 40% | 20% | 10% | 0% |
| | Kansas | 67% | 33% | 0% | 0% | 0% |
| | Louisiana | 60% | 20% | 10% | 10% | 0% |
| | Mississippi | 50% | 50% | 0% | 0% | 0% |
| | Montana | 67% | 33% | 0% | 0% | 0% |
| | New Mexico | 33% | 50% | 17% | 0% | 0% |
| | North Dakota | 88% | 13% | 0% | 0% | 0% |
| | Ohio | 60% | 40% | 0% | 0% | 0% |
| | Oklahoma | 67% | 33% | 0% | 0% | 0% |
| | Pennsylvania | 60% | 40% | 0% | 0% | 0% |
| | Texas | 52% | 43% | 5% | 0% | 0% |
| | Utah | 50% | 50% | 0% | 0% | 0% |
| | Wyoming | 82% | 18% | 0% | 0% | 0% |
| | US Offshore—Gulf of Mexico | 27% | 64% | 9% | 0% | 0% |
| | US Offshore—Alaska | 40% | 50% | 0% | 10% | 0% |

Note: Percentages may not add up to 100 due to rounding.

Land-related risks

Uncertainty concerning disputed land claims and protected areas (tables 15 and 16)

Canada

Two policy areas that continue to hamper investors' perceptions of some Canadian jurisdictions are uncertainty concerning disputed land claims and uncertainty over which areas will be protected. Investors expressed significant concern over these factors for British Columbia, where 82 percent of respondents saw uncertainty surrounding disputed land claims and 91 percent saw uncertainty over protected areas as deterrents. In Alberta, 46 percent of respondents cited uncertainty concerning disputed land claims as a deterrent and 52 percent saw uncertainty over protected areas as a deterrent.

Saskatchewan is the top performing province in both of these factors, with 33 percent of respondents citing disputed land claims and half indicating protected areas as deterrents to investment.

United States

In 2021, only 5 percent in Texas and 17 percent of respondents in Oklahoma indicated that uncertainty concerning disputed land claims was a deterrent to investment. The proportion who indicated that uncertainty concerning protected areas was an issue in Texas was 22 percent and in Oklahoma it was 21 percent.

New Mexico was the worst US performer on uncertainty concerning disputed land claims, with 67 percent of respondents for that state saying they were deterred by this factor. Colorado was the worst performer in the United States on uncertainty concerning protected areas, with all respondents for it saying they were deterred by this factor.

Overall

Overall, investors expressed greater concerns over disputed land claims and protected areas in Canada than in the United States. The percentage of respondents for Canadian provinces indicating that uncertainty concerning disputed land claims was deterring investment was, on average, 56 percent compared to 39 percent for the United States. Furthermore, the percentage of respondents for Canadian provinces indicating that uncertainty concerning protected areas was deterring investment was, on average, 63 percent compared to 49 percent for the United States.

Table 15: Disputed Land Claims

| | | 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 | | | | |
| Response | | Percentages | | | | |
| | | 1 | 2 | 3 | 4 | 5 |
| CANADA | Alberta | 4% | 50% | 38% | 8% | 0% |
| | British Columbia | 0% | 18% | 36% | 45% | 0% |
| | Newfoundland & Labrador | 13% | 50% | 38% | 0% | 0% |
| | Northwest Territories | 0% | 20% | 40% | 20% | 20% |
| | Saskatchewan | 8% | 58% | 33% | 0% | 0% |
| UNITED STATES | Alaska | 18% | 18% | 45% | 18% | 0% |
| | California | 0% | 43% | 43% | 14% | 0% |
| | Colorado | 0% | 22% | 56% | 11% | 11% |
| | Kansas | 17% | 67% | 17% | 0% | 0% |
| | Louisiana | 20% | 50% | 10% | 20% | 0% |
| | Mississippi | 17% | 67% | 17% | 0% | 0% |
| | Montana | 0% | 40% | 60% | 0% | 0% |
| | New Mexico | 0% | 33% | 67% | 0% | 0% |
| | North Dakota | 0% | 43% | 57% | 0% | 0% |
| | Ohio | 0% | 60% | 40% | 0% | 0% |
| | Oklahoma | 8% | 75% | 17% | 0% | 0% |
| | Pennsylvania | 20% | 60% | 20% | 0% | 0% |
| | Texas | 29% | 67% | 5% | 0% | 0% |
| | Utah | 14% | 57% | 29% | 0% | 0% |
| | Wyoming | 20% | 40% | 40% | 0% | 0% |
| | US Offshore—Gulf of Mexico | 9% | 82% | 9% | 0% | 0% |
| | US Offshore—Alaska | 13% | 38% | 38% | 0% | 13% |

Note: Percentages may not add up to 100 due to rounding.

Table 16: Protected Areas

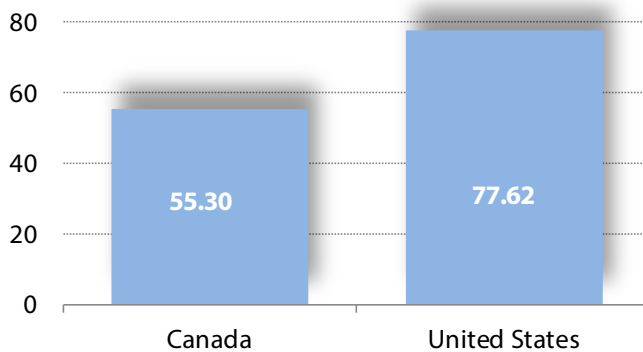
| | | 1: Encourages investment | 2: Not a deterrent to investment | 3: Mild deterrent to investment | 4: Strong deterrent to investment | 5: Would not pursue investment due to this factor |
|----------------------|----------------------------|--------------------------|----------------------------------|---------------------------------|-----------------------------------|---|
| Response | | Percentages | | | | |
| | | 1 | 2 | 3 | 4 | 5 |
| CANADA | Alberta | 0% | 48% | 44% | 8% | 0% |
| | British Columbia | 0% | 9% | 64% | 27% | 0% |
| | Newfoundland & Labrador | 0% | 38% | 50% | 13% | 0% |
| | Northwest Territories | 0% | 40% | 20% | 20% | 20% |
| | Saskatchewan | 8% | 42% | 50% | 0% | 0% |
| UNITED STATES | Alaska | 0% | 8% | 46% | 38% | 8% |
| | California | 0% | 13% | 13% | 25% | 50% |
| | Colorado | 0% | 0% | 42% | 42% | 17% |
| | Kansas | 14% | 71% | 14% | 0% | 0% |
| | Louisiana | 27% | 55% | 9% | 9% | 0% |
| | Mississippi | 13% | 75% | 13% | 0% | 0% |
| | Montana | 40% | 40% | 20% | 0% | 0% |
| | New Mexico | 13% | 63% | 0% | 25% | 0% |
| | North Dakota | 29% | 43% | 29% | 0% | 0% |
| | Ohio | 0% | 20% | 80% | 0% | 0% |
| | Oklahoma | 36% | 43% | 14% | 7% | 0% |
| | Pennsylvania | 0% | 60% | 40% | 0% | 0% |
| | Texas | 39% | 39% | 22% | 0% | 0% |
| | Utah | 14% | 29% | 43% | 14% | 0% |
| | Wyoming | 18% | 18% | 55% | 9% | 0% |
| | US Offshore—Gulf of Mexico | 8% | 15% | 62% | 15% | 0% |
| | US Offshore—Alaska | 10% | 10% | 50% | 20% | 10% |

Note: Percentages may not add up to 100 due to rounding.

Overview

Our analysis of the 2021 survey results indicates that, despite a change in government in the United States, the extent of negative sentiment regarding key factors driving petroleum investment decisions continues to be higher in Canada than in the US. In fact, as figure 7 illustrates, Canada's median Policy Perception Index (PPI) score (55.30) is over 20 points lower than that of the United States (77.62), demonstrating that the US has a competitive advantage over Canada in most policy areas. This year, in particular, Canada had a higher share of negative responses relative to the US in 14 of the 16 policy factors.

Figure 7: Canada-US Investment Attractiveness, Median PPI Scores by Country



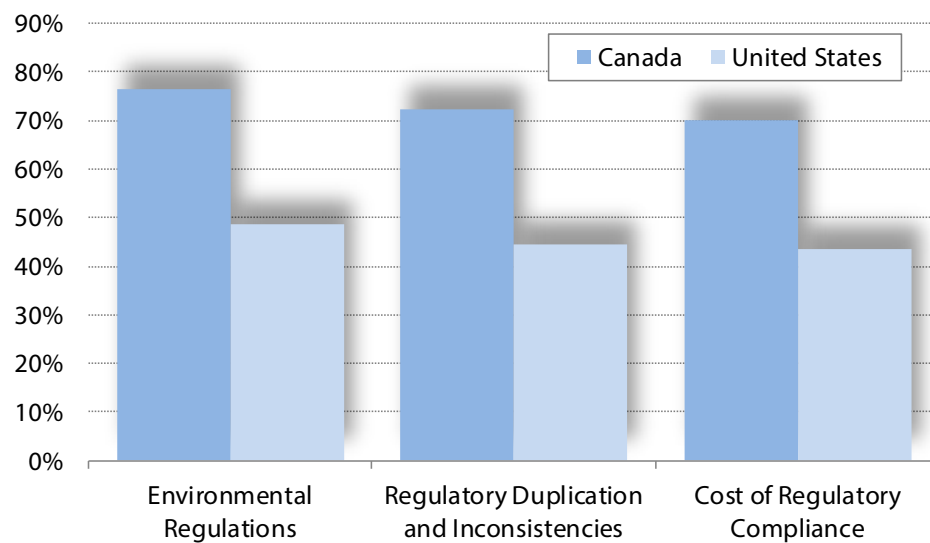
Canada's score is likely a reflective of a number of regulatory changes in recent years that have resulted in a less competitive environment when compared to many competing US jurisdictions.⁸

Despite improvements in the fiscal and taxation areas, investors continue to perceive Canada's regulatory environment as onerous compared to many that in competing US jurisdictions. When comparing countries based on the level of deterrence for each policy factor, investors cite Canada's uncertainty concerning environmental regulations, regulatory duplication and inconsistencies, and the cost of regulatory compliance as the top areas of concern (figure 8). On average, 76 percent of respondents for Canada are deterred by

⁸ There are many potential reasons for investors to perceive Canada's investment attractiveness as declining. Some factors include insufficient pipeline capacity, the federal carbon tax, Bills C-69 and C-48, and onerous regulations. Canada's recent policy and regulatory changes have been particularly damaging given that deregulation and sweeping tax reforms in the United States have significantly improved the business environment in that country, particularly for the oil and gas sector.

environmental regulations, compared to 49 percent for the United States, a difference of 28 percentage points between the two regions. When considering regulatory duplication and inconsistencies, on average, 72 percent of respondents for Canada are deterred by this factor compared to 45 percent for the United States, a difference of 27 percentage points. Finally, the percentage of respondents deterred by the cost of regulatory compliance was, on average, 70 percent for Canada, compared to 43 percent for the United States, a difference of 27 percentage points.

**Figure 8: Top Areas of Concern for Canada and the US,
Average Deterrence by Factor**



Appendix 1: Additional Data

What follows is additional data that was included in the calculation of PPI scores but was not discussed in the analysis section ([Table 17](#)).

Table 17: Quality of the Geological Database

| | | 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 |
|----------------------|----------------------------|--------------------------|----------------------------------|---------------------------------|-----------------------------------|---|
| | | Percentages | | | | |
| Response | | 1 | 2 | 3 | 4 | 5 |
| CANADA | Alberta | 54% | 42% | 4% | 0% | 0% |
| | British Columbia | 64% | 36% | 0% | 0% | 0% |
| | Newfoundland & Labrador | 57% | 29% | 14% | 0% | 0% |
| | Northwest Territories | 0% | 60% | 40% | 0% | 0% |
| | Saskatchewan | 58% | 42% | 0% | 0% | 0% |
| UNITED STATES | Alaska | 25% | 42% | 25% | 8% | 0% |
| | California | 13% | 25% | 50% | 13% | 0% |
| | Colorado | 9% | 64% | 18% | 9% | 0% |
| | Kansas | 29% | 43% | 29% | 0% | 0% |
| | Louisiana | 36% | 45% | 18% | 0% | 0% |
| | Mississippi | 25% | 63% | 13% | 0% | 0% |
| | Montana | 20% | 20% | 60% | 0% | 0% |
| | New Mexico | 25% | 63% | 13% | 0% | 0% |
| | North Dakota | 43% | 29% | 29% | 0% | 0% |
| | Ohio | 20% | 60% | 20% | 0% | 0% |
| | Oklahoma | 43% | 50% | 7% | 0% | 0% |
| | Pennsylvania | 40% | 60% | 0% | 0% | 0% |
| | Texas | 45% | 50% | 5% | 0% | 0% |
| | Utah | 57% | 29% | 14% | 0% | 0% |
| | Wyoming | 80% | 20% | 0% | 0% | 0% |
| | US Offshore—Gulf of Mexico | 17% | 58% | 25% | 0% | 0% |
| US Offshore—Alaska | 0% | 50% | 38% | 13% | 0% | |

Note: Percentages may not add up to 100 due to rounding.

Appendix 2: Previous Methodology and Additional Sub-Indices

The methodology previously used in 2015 to calculate the Policy Perception Index is as follows. For each jurisdiction, we calculated the percentage of negative scores for each of the 16 factors. We then developed an index for each factor by assigning the jurisdiction with the highest percentage of negative responses a value of 100, and assigning correspondingly lower values to the other jurisdictions according to their scores. Upstream investors consider jurisdictions with the lowest index values the most attractive, and thus rank them above jurisdictions that scored higher as a consequence of having greater proportions of negative scores.

The Policy Perception Index value (referred to in surveys prior to 2013 as the All-Inclusive Composite Index) for each jurisdiction is derived from the equally-weighted scores achieved on all 16 factors. This index is the most comprehensive measure of the extent of policy-related investment barriers within each jurisdiction. Most of the discussion that follows is based on the jurisdictional scores and rankings obtained using this index **A high score on this measure reflects considerable negative sentiment on the part of respondents and indicates that they regard the jurisdiction in question as relatively unattractive for investment.**

In previous surveys we also included three additional sub-indices that focused on particular dimensions of policy, such as the regulatory climate and perceptions of geopolitical risk. In order to streamline the report and in response to feedback from respondents, we did not calculate these separate indices last year or this year. However, we have included below descriptions of the indices and which measures would be used to calculate them. For those wishing to calculate these additional indices, all data from the survey is publicly available at www.fraserinstitute.org.

Commercial Environment Index

The Commercial Environment Index ranks jurisdictions on five factors that affect after-tax cash flow and the cost of undertaking petroleum exploration and development activities:

- fiscal terms
- taxation in general
- trade barriers
- quality of infrastructure
- labor availability and skills

We calculated the scores for the Commercial Environment Index for each jurisdiction by averaging the negative scores for each of these five factors. A high index value indicates that industry managers and executives consider that the business conditions reflected in this measure constitute significant barriers to investment.

Regulatory Climate Index

The Regulatory Climate Index reflects the scores assigned to jurisdictions for the following six factors:

- the cost of regulatory compliance
- regulatory enforcement
- environmental regulations
- labor regulations and employment agreements
- regulatory duplication and inconsistencies
- legal system

A relatively high value on the Regulatory Climate Index indicates that regulations, requirements, and agreements in a jurisdiction constitute a substantial barrier to investment, resulting in a relatively poor ranking.

Geopolitical Risk Index

The Geopolitical Risk Index calculates scores for political stability and security. These factors are considered to be more difficult to overcome than either regulatory or commercial barriers, because for significant progress to be made on them, a change in the political landscape is usually required. A high score on the Geopolitical Risk Index indicates that investment in that jurisdiction is relatively unattractive because of political instability and/or security issues that threaten the physical safety of personnel or present risks to an investor's facilities.

Appendix 3: Policy Perception Index 2021 versus 2020

Policy Perception Index 2021 versus 2020

| | PPI Score 2021 | Rank 2021 | PPI Score 2020 | Rank 2020 |
|----------------------------|-------------------|-----------|-------------------|-----------|
| Texas | 100.00 | 1/22 | 91.60 | 3/21 |
| Oklahoma | 98.38 | 2/22 | 100 | 1/21 |
| Wyoming | 97.54 | 3/22 | 79.16 | 7/21 |
| North Dakota* | 94.71 | 4/22 | 81.02 | 6/21 |
| Kansas* | 90.68 | 5/22 | 99.42 | 2/21 |
| Mississippi* | 83.46 | 6/22 | 67.68 | 9/21 |
| Utah* | 82.28 | 7/22 | 82.30 | 5/21 |
| Montana* | 77.92 | 8/22 | 57.92 | 14/21 |
| Pennsylvania* | 77.62 | 9/22 | 41.48 | 19/21 |
| Louisiana | 76.01 | 10/22 | 55.54 | 16/21 |
| Saskatchewan | 75.11 | 11/22 | 72.03 | 8/21 |
| Alberta | 70.43 | 12/22 | 63.34 | 12/21 |
| US Offshore—Gulf of Mexico | 66.79 | 13/22 | 52.00 | 18/21 |
| Ohio* | 62.69 | 14/22 | — | — |
| New Mexico* | 55.63 | 15/22 | 67.25 | 10/21 |
| Newfoundland & Labrador* | 55.30 | 16/22 | — | — |
| Alaska | 51.77 | 17/22 | 59.56 | 13/21 |
| British Columbia | 50.44 | 18/22 | 24.21 | 20/21 |
| US Offshore—Alaska* | 49.59 | 19/22 | — | — |
| Northwest Territories* | 24.50 | 20/22 | — | — |
| Colorado* | 14.59 | 21/22 | 0.00 | 21/21 |
| California* | 0.00 | 22/22 | — | — |

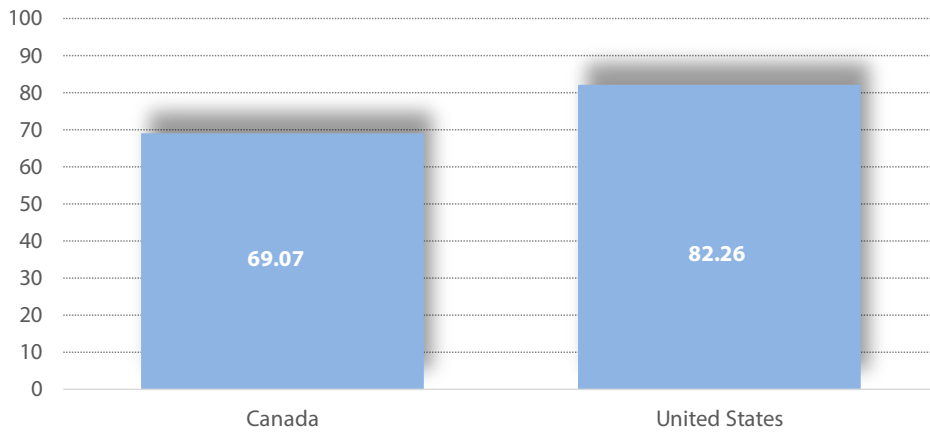
*Jurisdictions that received 5 to 9 responses in the survey are shown with an asterisk.

Appendix 4: Weighted Median PPI Regional Scores

Weighted Median PPI Regional Scores are calculated using standardized PPI scores and oil and gas reserves data for each jurisdiction. This calculation takes into account the importance of geological factors in investment attractiveness and decisions.

Oil and gas reserves data were taken from Canada Energy Regulator (2021), Canadian Association of Petroleum Producers (2021), and the United States Energy Information Administration (2021).

Canada-US Investment Attractiveness, Regional Median PPI Scores, Weighted by Oil and Gas Reserves



References

- Aliakbari, Elmira (ed.) (2019). *Assessing Canada's Energy Sector Competitiveness: Collected Essays*. Fraser Institute. <<https://www.fraserinstitute.org/studies/assessing-canadas-energy-sector-competitiveness>>, as of November 2, 2021.
- BP (2021). *Approximate Conversion Factors*. Statistical Review of World Energy. BP. <<https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-approximate-conversion-factors.pdf>>, as of November 2, 2021.
- Canada Energy Regulator (2021). *Canada's Energy Future 2020: Energy Supply and Demand Projections to 2050*. <<https://apps.cer-rec.gc.ca/ftppndc/dftt.aspx?GoCTemplateCulture=en-CA>>, as of November 2, 2021.
- Canadian Association of Petroleum Producers [CAPP] (2021). Table 02-9: Marketable Natural Gas by province – Remaining Established Reserves in Canada at year end 1962-2019. *Statistical Handbook*. CAPP. Extracted from <<https://www.capp.ca/resources/statistics/>>, as of November 2, 2021.
- Globerman, Steven and Joel Emes (2019). *Investment in the Canadian and US Oil and Gas Sectors: A Tale of Diverging Fortunes*. Fraser Institute. <<https://www.fraserinstitute.org/sites/default/files/investment-in-canadian-and-us-oil-and-gas-sector.pdf>>, as of November 2, 2021.
- Globerman, Steven and Joel Emes (2021). *An International Comparison of Capital Expenditures*. Fraser Institute. <<https://www.fraserinstitute.org/sites/default/files/international-comparison-of-capital-expenditures.pdf>>, as of November 2, 2021.
- Schlumberger (2021). Kerogen. *Oilfield Glossary*. Schlumberger. <<https://www.glossary.oilfield.slb.com/en/Terms/k/kerogen.aspx>>, as of November 2, 2021.
- Statistics Canada (2021). Table 34-10-0035-01: Capital and repair expenditures, non-residential tangible assets, by industry and geography (x 1,000,000). Statistics Canada. <<https://www150.statcan.gc.ca/tl/tbl1/en/tv.action?pid=3410003501>>, as of November 2, 2021.
- Stedman, Ashley, and Elmira Aliakbari (2019). *Canada-US Energy Sector Competitiveness Survey 2019*. The Fraser Institute. <<https://www>.

[fraserinstitute.org/sites/default/files/2019-canada-us-competitiveness-survey.pdf](https://www.fraserinstitute.org/sites/default/files/2019-canada-us-competitiveness-survey.pdf)>, as of November 2, 2021.

Stedman, Ashley, and Kenneth P. Green (2018a). *Global Petroleum Survey 2018*. The Fraser Institute. <<https://www.fraserinstitute.org/studies/global-petroleum-survey-2018>>, as of November 2, 2021.

Stedman, Ashley, and Kenneth P. Green (2018b). *Fraser Institute Annual Survey of Mining Companies 2018*. The Fraser Institute. <<https://www.fraserinstitute.org/sites/default/files/annual-survey-of-mining-companies-2018.pdf>>, as of November 2, 2021.

United States Energy Information Administration [EIA] (2021). *Proved Reserves of Crude Oil and Natural Gas in the United States, Year-End 2019*. Government of the United States, Department of Energy. <<https://www.eia.gov/naturalgas/crudeoilreserves/pdf/usreserves.pdf>>, as of November 2, 2021.

Acknowledgements

The authors wish to thank the anonymous reviewers for their comments, suggestions, and insights. Any remaining errors or oversights are the sole responsibility of the authors. As the researchers have worked independently, the views and conclusions expressed in this paper do not necessarily reflect those of the Board of Directors of the Fraser Institute, the staff, or supporters.

About the Authors



Jairo Yunis is a Policy Analyst at the Fraser Institute. He holds a Bachelor of Political Science and International Relations from the Pontifical Xaverian University of Colombia and a Master's degree in Public Policy from the University of Calgary. Mr. Yunis has previously worked for government in Colombia in policy issues related to local economic development and competitiveness. He specializes in energy policy, with a focus on carbon pricing and electricity markets.



Elmira Aliakbari is Director of Natural Resource Studies at the Fraser Institute. She received a Ph.D. in Economics from the University of Guelph, and M.A. and B.S. degrees in Economics, both from the University of Tehran in Iran. She has studied public policy involving energy and the environment for nearly a decade. Prior to joining the Fraser Institute, Ms. Aliakbari was Director of Research, Energy, Ecology and Prosperity with the Frontier Center for Public Policy. She has presented her work at many academic conferences and has been published in the prestigious academic journal *Energy Economics*. Ms. Aliakbari's research has been discussed in prominent media outlets including *the Wall Street Journal*, and her commentaries have appeared in major Canadian and American newspapers such as the *Globe and Mail*, *Washington Times*, *National Post*, and *Financial Post*.

About the Fraser Institute

Our mission is to improve the quality of life for Canadians, their families, and future generations by studying, measuring, and broadly communicating the effects of government policies, entrepreneurship, and choice on their well-being.

Notre mission consiste à améliorer la qualité de vie des Canadiens et des générations à venir en étudiant, en mesurant et en diffusant les effets des politiques gouvernementales, de l'entrepreneuriat et des choix sur leur bien-être.

Peer review—validating the accuracy of our research

The Fraser Institute maintains a rigorous peer review process for its research. New research, major research projects, and substantively modified research conducted by the Fraser Institute are reviewed by experts with a recognized expertise in the topic area being addressed. Whenever possible, external review is a blind process. Updates to previously reviewed research or new editions of previously reviewed research are not reviewed unless the update includes substantive or material changes in the methodology.

The review process is overseen by the directors of the Institute's research departments who are responsible for ensuring all research published by the Institute passes through the appropriate peer review. If a dispute about the recommendations of the reviewers should arise during the Institute's peer review process, the Institute has an Editorial Advisory Board, a panel of scholars from Canada, the United States, and Europe to whom it can turn for help in resolving the dispute.

Publishing Information

Distribution

These publications are available from <<http://www.fraserinstitute.org>> in Portable Document Format (PDF) and can be read with Adobe Acrobat Pro® or Adobe Acrobat Reader®, versions 8/9 or later. Adobe Acrobat Reader DC®, the most recent version, is available free of charge from Adobe Systems Inc. at <<http://get.adobe.com/reader/>>. Readers having trouble viewing or printing our PDF files using applications from other manufacturers (e.g., Apple's Preview) should use Adobe Acrobat Reader or Adobe Acrobat Pro.

Ordering publications

To order printed publications from the Fraser Institute, please contact:

- e-mail: sales@fraserinstitute.org
- telephone: 604.688.0221 ext. 580 or, toll free, 1.800.665.3558 ext. 580

Media

For media enquiries, please contact our Communications Department:

- 604.714.4582
- e-mail: communications@fraserinstitute.org.

Copyright

Copyright © 2021 by the Fraser Institute. All rights reserved. No part of this publication may be reproduced in any manner whatsoever without written permission except in the case of brief passages quoted in critical articles and reviews.

Date of issue

November 2021

ISBN

978-0-88975-676-2

Citation

Yunis, Jairo, and Elmira Aliakbari (2021). *Canada-US Energy Sector Competitiveness Survey 2021*. Fraser Institute. <<http://www.fraserinstitute.org>>.

Supporting the Fraser Institute

To learn how to support the Fraser Institute, please contact

- Development Department, Fraser Institute
Fourth Floor, 1770 Burrard Street
Vancouver, British Columbia, V6J 3G7 Canada
- telephone, toll-free: 1.800.665.3558 ext. 586
- e-mail: development@fraserinstitute.org

Purpose, Funding, and Independence

The Fraser Institute provides a useful public service. We report objective information about the economic and social effects of current public policies, and we offer evidence-based research and education about policy options that can improve the quality of life.

The Institute is a non-profit organization. Our activities are funded by charitable donations, unrestricted grants, ticket sales, and sponsorships from events, the licensing of products for public distribution, and the sale of publications.

All research is subject to rigorous review by external experts, and is conducted and published separately from the Institute's Board of Directors and its donors.

The opinions expressed by the author are his own, and do not necessarily reflect those of the Institute, its Board of Directors, its donors and supporters, or its staff. This publication in no way implies that the Fraser Institute, its trustees, or staff are in favour of, or oppose the passage of, any bill; or that they support or oppose any particular political party or candidate.

As a healthy part of public discussion among fellow citizens who desire to improve the lives of people through better public policy, the Institute welcomes evidence-focused scrutiny of the research we publish, including verification of data sources, replication of analytical methods, and intelligent debate about the practical effects of policy recommendations.

Editorial Advisory Board

Members

Prof. Terry L. Anderson

Prof. Robert Barro

Prof. Jean-Pierre Centi

Prof. John Chant

Prof. Bev Dahlby

Prof. Erwin Diewert

Prof. Stephen Easton

Prof. J.C. Herbert Emery

Prof. Jack L. Granatstein

Prof. Herbert G. Grubel

Prof. James Gwartney

Prof. Ronald W. Jones

Dr. Jerry Jordan

Prof. Ross McKittrick

Prof. Michael Parkin

Prof. Friedrich Schneider

Prof. Lawrence B. Smith

Dr. Vito Tanzi

Past members

Prof. Armen Alchian*

Prof. Michael Bliss

Prof. James M. Buchanan*†

Prof. Friedrich A. Hayek*†

Prof. H.G. Johnson*

Prof. F.G. Pennance*

Prof. George Stigler*†

Sir Alan Walters*

Prof. Edwin G. West*

* deceased; † Nobel Laureate