Prepared for Canadian Energy Pipeline Association

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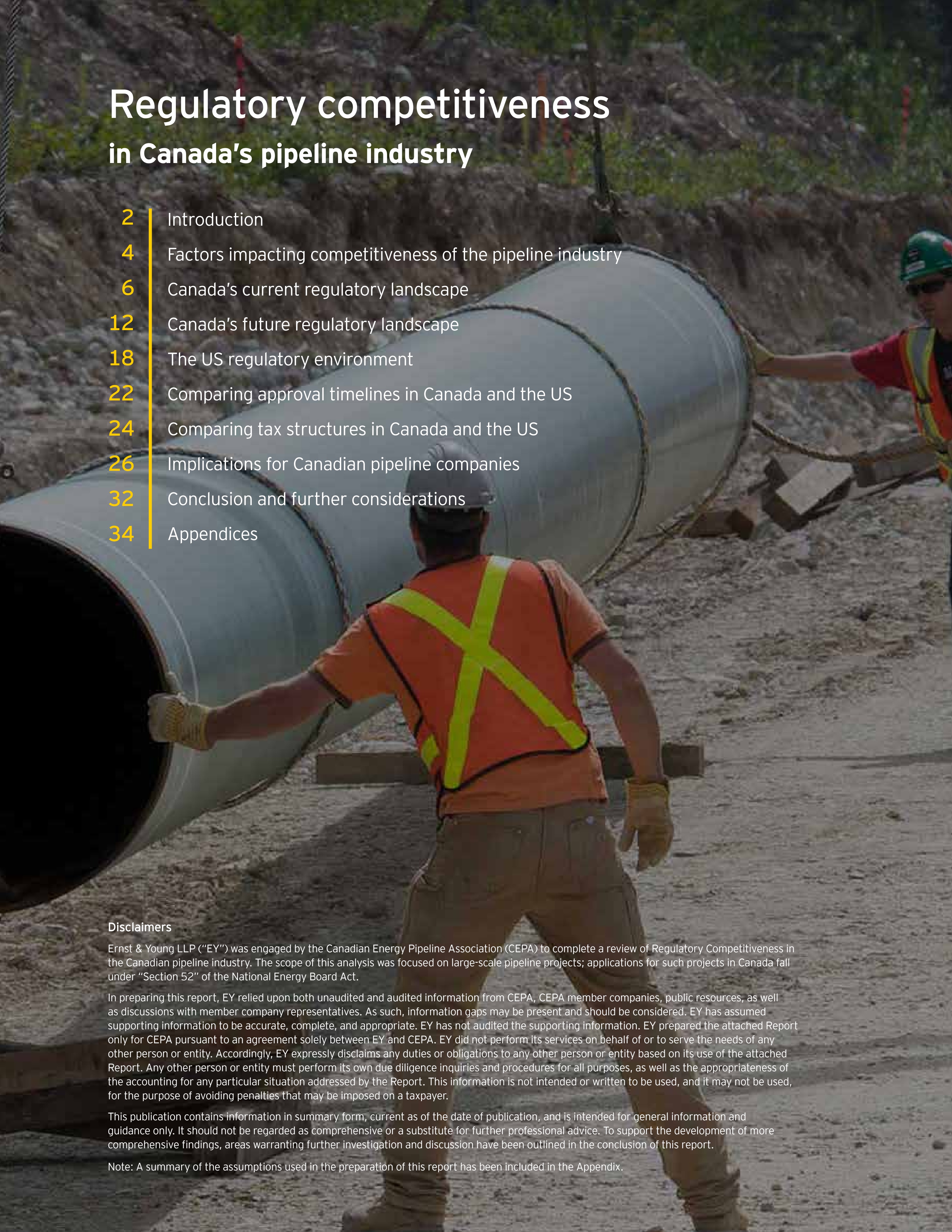
EY

Building a better working world

Regulatory competitiveness

in Canada's pipeline industry



Regulatory competitiveness

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Disclaimers

Ernst & Young LLP ("EY") was engaged by the Canadian Energy Pipeline Association (CEPA) to complete a review of Regulatory Competitiveness in the Canadian pipeline industry. The scope of this analysis was focused on large-scale pipeline projects; applications for such projects in Canada fall under "Section 52" of the National Energy Board Act.

In preparing this report, EY relied upon both unaudited and audited information from CEPA, CEPA member companies, public resources, as well as discussions with member company representatives. As such, information gaps may be present and should be considered. EY has assumed supporting information to be accurate, complete, and appropriate. EY has not audited the supporting information. EY prepared the attached Report only for CEPA pursuant to an agreement solely between EY and CEPA. EY did not perform its services on behalf of or to serve the needs of any other person or entity. Accordingly, EY expressly disclaims any duties or obligations to any other person or entity based on its use of the attached Report. Any other person or entity must perform its own due diligence inquiries and procedures for all purposes, as well as the appropriateness of the accounting for any particular situation addressed by the Report. This information is not intended or written to be used, and it may not be used, for the purpose of avoiding penalties that may be imposed on a taxpayer.

This publication contains information in summary form, current as of the date of publication, and is intended for general information and guidance only. It should not be regarded as comprehensive or a substitute for further professional advice. To support the development of more comprehensive findings, areas warranting further investigation and discussion have been outlined in the conclusion of this report.

Note: A summary of the assumptions used in the preparation of this report has been included in the Appendix.

Executive summary

Canada relies heavily on the resource sector as a major contributor to the economy, accounting for 11% of the nation's gross domestic product (GDP).[1] The health and competitiveness of the pipeline industry in Canada is critical to ensuring Canadians can get those resources to market and receive fair prices. Canadian crude oil is currently sold at discounts to West Texas Intermediate (WTI), with Western Canada Select trading as low as $14/barrel in 2018 – a $40 to $50 discount against WTI.[2] A primary driver of high differentials is the lack of pipeline capacity and market access for Canadian oil and natural gas. The problem has become so severe it eventually led to the Alberta Government announcing a temporary oil production cut effective January 2019.

Over the past several years there has been an increase in the volume, complexity and duplication of regulations imposed on the pipeline industry in Canada. This regulatory layering, along with other factors, is decreasing Canada's competitiveness globally. Energy East, Northern Gateway and the Trans Mountain Expansion Project are just a few examples that demonstrate the challenges companies face when trying to adapt to new and changing regulation.

It is important to note that a certain level of regulation is required for the pipeline industry to operate effectively. Both operators and regulators recognize the purpose regulation serves which, is to ensure the safe, reliable, responsible and economical transportation of energy in a way that benefits all Canadians. This is one of the reasons Canada has some of the highest regulatory and environmental standards in the world. It is critical Canada finds the right balance of appropriate and required regulation, which also allows for job creation and economic growth.

The Canadian Energy Pipeline Association (CEPA) has commissioned Ernst & Young LLP (EY) to work with CEPA member companies to complete an analysis to understand the impact that the regulatory environment is having on the competitiveness of the Canadian pipeline industry. In preparing this analysis, EY developed and assessed an inventory of current and proposed regulation in Canada, including comparisons to the United States where relevant and possible, given available information.

This report identifies seven factors impacting competitiveness:

- Regulatory certainty
- Regulatory overlap
- Transparency and clarity
- Predictability of process and outcomes
- Flexibility
- Timelines
- Cost

Based on the data examined, it has been determined that:

a) The volume of regulation has increased

b) Pipeline operators find that many regulatory processes are becoming more complex and challenging

c) Regulatory costs and timelines have been increasing for pipeline operators

These changes in the regulatory environment are one of the key factors impacting the competitiveness of the Canadian pipeline industry. There is increasing evidence that companies are choosing to deploy capital in other jurisdictions such as the US. Since 2016, there has only been one new Section 52 application to the National Energy Board (NEB) in Canada, while the Federal Energy Regulatory Commission (FERC) in the US has received 14 Section 52 equivalent project applications during the same period.[3] During this same period, regulatory timelines in the US have been decreasing while they are increasing in Canada.

More than anything, pipeline companies and investors are looking for clarity, certainty and predictability from the regulatory process in Canada. Finding the right balance between environmental, social and economic tradeoffs will be critical, and it may take years to fully assess whether recent changes in Canada's regulatory environment will achieve these desired outcomes.

Lance Mortlock
Strategy Partner and
Canadian Oil and Gas Leader
Ernst & Young LLP

Introduction

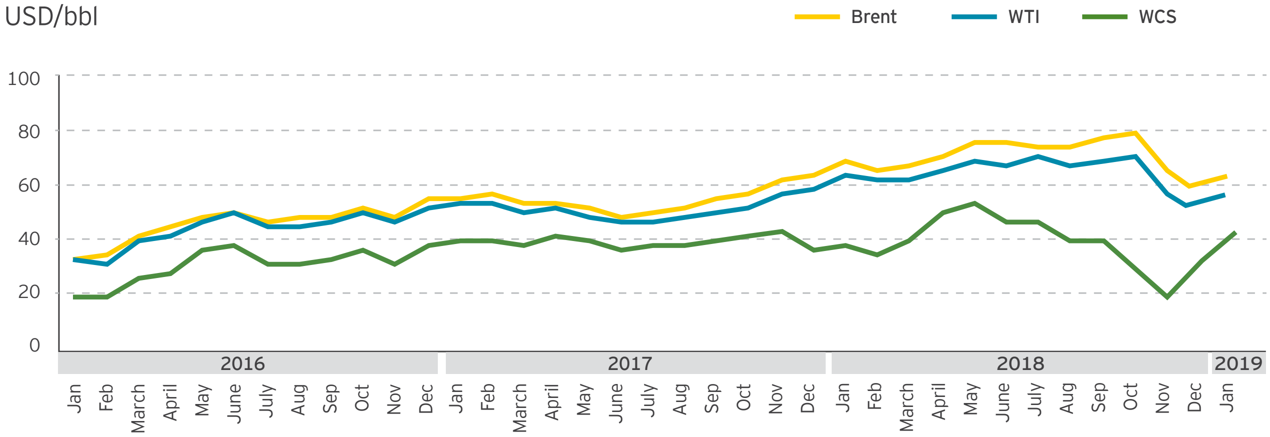
CEPA commissioned EY in the preparation of this report. CEPA's 11 member companies collectively operate 117,800 km of transmission pipelines in Canada. These pipelines transport approximately 1.4 billion barrels of liquid petroleum products and 5.7 trillion cubic feet of natural gas each year (>97% of Canadian volume).

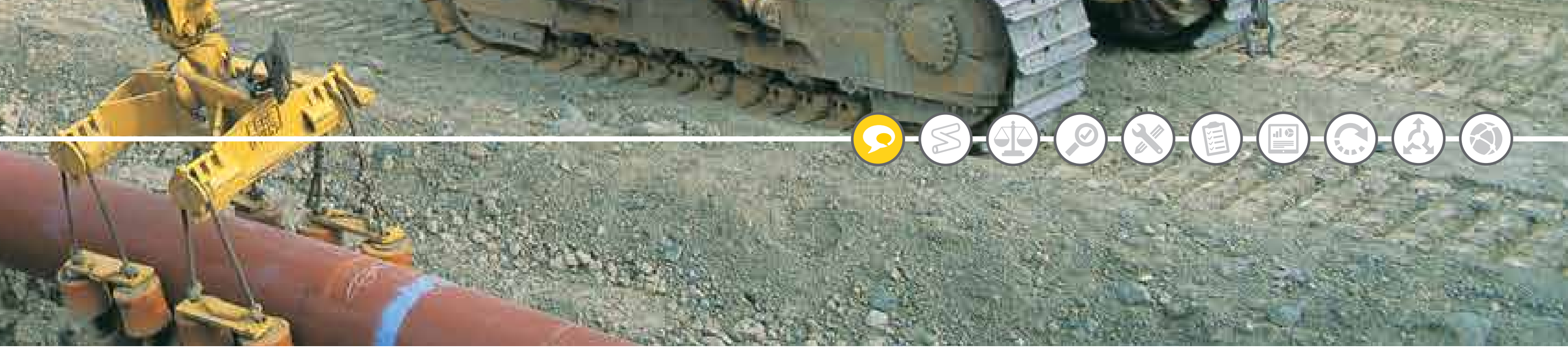
To conduct this assessment, EY consulted with CEPA member companies and accessed publicly available information. The focus of this report is on large pipeline projects (greater than 40 km in length) defined by the National Energy Board (NEB) Act as Section 52 and their US equivalents. To complete the analysis, EY developed a list (not exhaustive) of major, relevant regulation and legislation. EY also examined Canadian and US tax structures for comparative purposes.

When discussing regulation in the context of the Canadian pipeline industry, regulators and operators are aligned on the intent: to ensure the safe and reliable transport of energy to the benefit of all Canadians. The health of Canada's pipeline industry is strongly linked to the success of the energy industry as a whole, and has a direct impact on the Canadian economy and tax base.

The lack of new pipeline infrastructure to transport Canadian crude, including entry into new markets, has become the critical issue for the energy industry. This has been made increasingly important by the widening differentials that exist for upstream shippers.

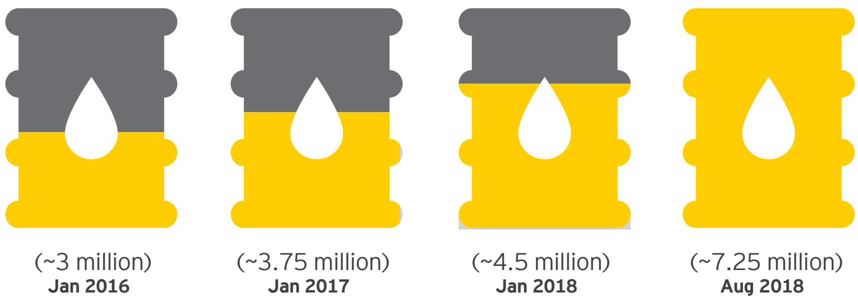
Figure 1. Monthly average oil prices
USD/bbl





The limited pipeline capacity currently available must be supplemented by other means such as truck and rail, which has seen monthly volumes grow quickly from 2,900,000 barrels in 2012 to 7,116,000 barrels in late 2018.[4] While the volume shipped via these alternatives is rapidly increasing, it is important to note that truck and rail are not subject to the same regulatory requirements as pipelines.

Figure 2. Canadian crude by rail volumes
2016–18
(barrels per month)



As the Canadian energy industry tries to cope with a lack of pipeline capacity, the political and regulatory environments in Canada and the US continue to change and evolve, furthering uncertainty in the sector. There have been major changes proposed in Canada related to the NEB and Bill C-69, as well as major changes to tax policy in the US. Political change on both sides of the border has led to significant regulatory change. Given that large projects can take many years to develop, a change in government at any level often means having to course correct and adjust what has already been completed.

Several concerns and questions have been raised about Canada's ability to attract investment and develop new pipeline capacity. There are likely several causes, but many point to changing regulation as one of the primary drivers. For this report, regulatory layering is referred to as the duplication of regulation across various jurisdictions and levels of government. As regulation has changed and evolved, it is reasonable to ask if the regulatory process is delivering the outcomes that were originally intended, while balancing legislative objectives including competitiveness. Bill C-69 specifically points to enhancing Canada's global competitiveness as a key outcome for the proposed regulatory changes.

This report looks to answer these questions while providing observations based on a review of Canada's regulatory landscape and the critical factors impacting competitiveness for the transmission pipeline industry.

Specifically, this report asks:

- Has the volume of regulation increased and is there regulatory layering?
- If so, what impact is this having on pipeline operators and the competitiveness of the Canadian pipeline industry?

Factors impacting competitiveness of the pipeline industry

Before examining the regulatory environment in Canada, it is important to understand the key factors impacting the competitiveness of the industry as shown in the framework below. This framework will be revisited later in the report to understand the complex and interrelated nature of competitiveness to draw conclusions about the overall effect (positive and negative) of regulation on the industry.

COMPONENT	KEY QUESTIONS
Regulatory certainty The level of ongoing change in the regulatory environment	▸ How often is new regulation introduced? ▸ How often are changes to regulatory processes and requirements introduced?
Regulatory overlap The level of regulatory overlap across different regulations and jurisdictions that aim to achieve the same objectives	▸ What is the current inventory of regulation in Canada? ▸ Is there regulatory overlap across different bodies and jurisdictions?
Transparency and clarity The level of clarity in the requirements of regulation	▸ How clear are the requirements of the regulation? ▸ How often is clarification sought from regulators? Is that clarification easily obtained?
Predictability of process and outcomes The level of predictability throughout the regulatory process	▸ Is the regulatory process consistent? ▸ If the process is followed, are the expected outcomes consistent and predictable?

COMPONENT	KEY QUESTIONS
Flexibility The extent to which operators can meet requirements in the way they choose vs. meeting requirements through a prescribed approach from regulators	‣ Is regulation prescriptive or outcome based? ‣ Does regulation allow for improvements through technology and innovation?
Timelines The level of clarity and consistency of regulatory timelines (for both approvals and compliance)	‣ Are timelines predictable and consistent for project approvals? ‣ Are project timelines increasing or decreasing?
Cost The impact that regulation and taxes have on the overall cost of pipeline development and operations	‣ What impact does regulation have on the cost of developing and operating a pipeline? ‣ Is there cost certainty? ‣ Are there tax or investment advantages?

Canada's current regulatory landscape

Overview

As one of the world's five largest energy producers, Canada is endowed with abundant natural resources, and is a producer and net exporter of energy commodities including crude oil, natural gas, and hydroelectricity. The diversity of the country's natural resources also applies to the geographic location of these resources, with oil and natural gas reserves located primarily in Alberta, Saskatchewan and British Columbia. A vast network of pipelines connects the hubs of Canadian oil and natural gas production with refining and export centres located in Western Canada, the eastern provinces and the US. Regulation is applicable to pipeline companies in all stages of the lifecycle and encompasses approvals, operations and reclamation.

The provincial and federal governments in Canada both develop policy and regulation, effectively creating two levels of authority and oversight over the development, management and transportation of natural resources. In Canada, the jurisdiction for environmental protection is shared between both levels of government. This means cooperation is critical between federal, provincial and territorial governments. The diversity of Canada's natural resources and their physical location across the country necessitates a complex balancing act, in which governments and businesses alike are required to navigate a broad energy system that is interconnected and interdependent.

Across Canada, regulators and pipeline operators have seen a rise in the public profile of the pipeline industry, as well as the number of direct and indirect stakeholders interested in regulatory processes and outcomes. There is an increasing requirement to manage advocacy from environmental non-governmental organizations, Indigenous groups, and members of the public. Most of this increased attention is focused on the provinces of BC and Alberta, which serve as the main jurisdictions for the forthcoming regulatory analysis of this report.

Regulatory layering in Canada

The energy industry has been subject to decades of changes in political mandates, policies and regulations. Many of these changes are a result of evolving knowledge, scientific understanding and technological advances.

To gain a better understanding of this regulatory layering, EY developed a detailed inventory of select key regulations (contained in the Appendix). The assessment of the Canadian regulations in this inventory, particularly those in Alberta and BC, was used to develop the illustration of layering in Section 3.2.1 (Figure 3) from pre-2005 through the likely state of Canadian pipeline regulation in 2030. The regulations included in both the inventory and illustration are not exhaustive, but were intended to capture major, relevant regulations (primarily federal, Alberta and BC).

> Figure 3 visually demonstrates the increase in the volume of regulation and the level of regulatory layering in Canada. One result of layering is the duplication of regulatory requirements, resulting in prolonged timelines and an increased likelihood that proponents, operators, and regulators are required to undertake redundant activities. This applies not just to new projects, but also to the operation of existing pipelines, leading to increased administrative burden and higher costs.

Examples of regulatory layering

In Canada, there are both federal and provincial regulations for reporting and reducing greenhouse gas (GHG) emissions. Several of these regulations were reviewed as part of this study to provide a snapshot example of the impact layered and disaggregated regulations and programs are having on operators.

At the federal level, GHG emissions are regulated primarily under the Canadian Environmental Protection Act (CEP Act), enacted in 1999, and the newly released Greenhouse Gas Pollution Pricing Act (GHGPP Act) enacted October 2018. Since 2004, industrial emitters have reported GHG emissions to the federal government via the Greenhouse Gas Reporting Program (GHGRP) that is governed under the CEP Act. Companies with total emissions greater than 10,000 tonnes carbon dioxide equivalent (t CO2e) annually are required to submit an annual GHG report to Environment and Climate Change Canada (ECCC). It is important to note that this reporting threshold was recently lowered from 50,000 tonnes CO2e/year to 10,000 tonnes CO2e/year, effectively expanding the reporting requirements to almost all industrial emitters.

In addition to current federal reporting requirements, several provinces including BC, Alberta, Quebec, Nova Scotia, and historically Ontario (currently under repeal) have their own GHG compliance programs. Several additional provinces are in the process of rolling out programs with respect to the Federal Carbon Pricing Act. The structure of the programs and compliance mechanisms, reporting thresholds, reporting mechanisms and verification requirements varies between provinces. Furthermore, different quantification methodology requirements and boundaries for reporting

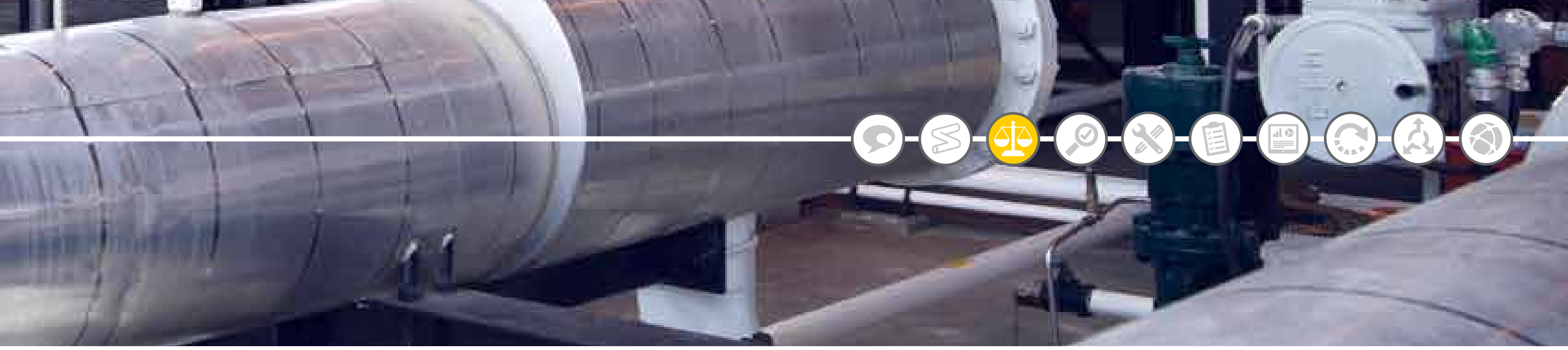
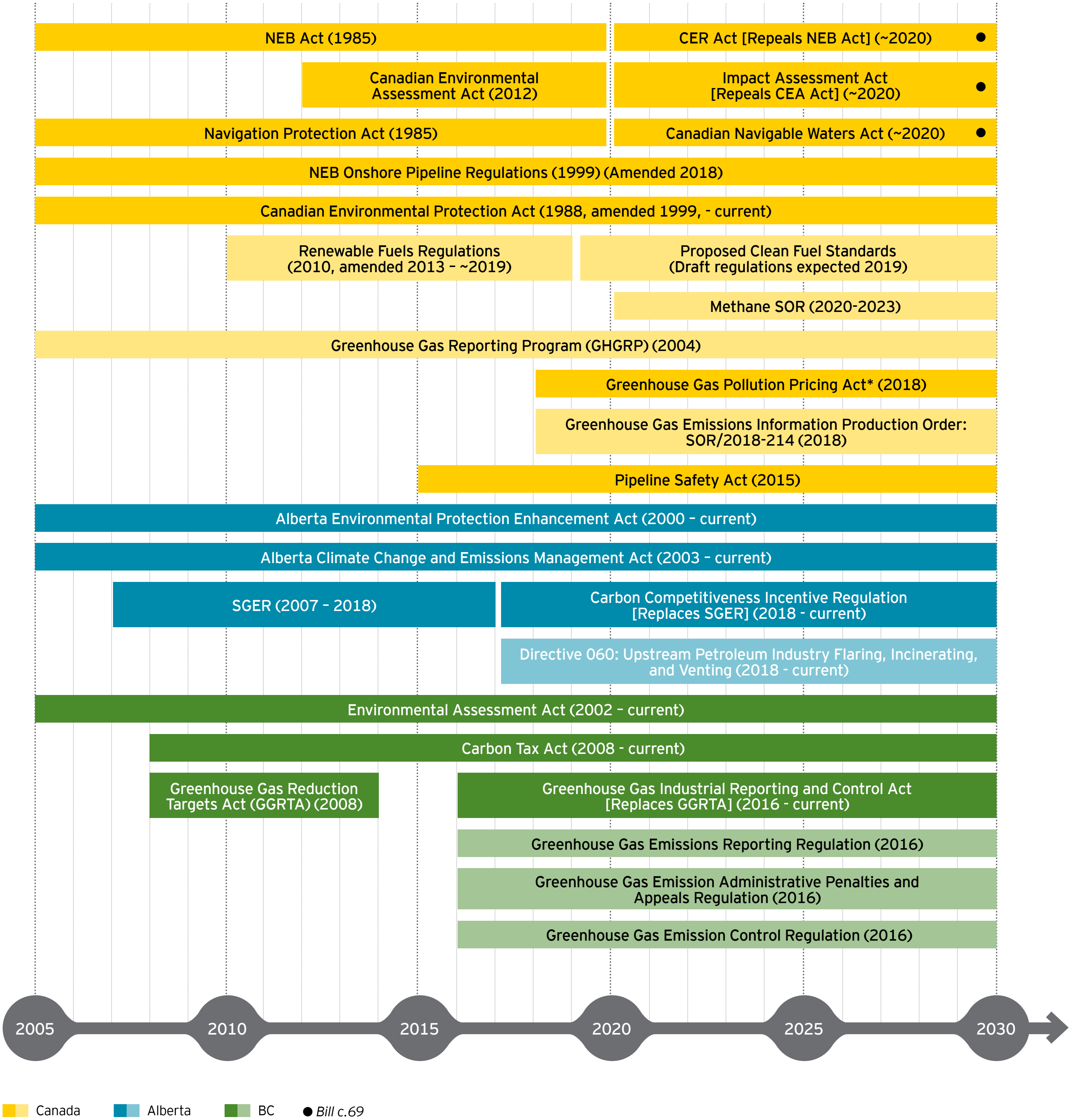


Figure 3: Regulatory layering in Canada (2005-30)



Dark entries: Acts & Legislation **Lighter entries:** Programs & regulations

result in companies having to undertake multiple approaches for calculating their GHG emissions, which duplicates efforts to fulfill regulatory reporting requirements. The reporting and verification deadlines also vary across all provinces and federally, resulting in calculation and reporting of GHG emissions on an ongoing basis throughout the year.

Another scenario creating challenges for industry is the competing nature of certain regulations that do not seem to have been developed under a holistic approach that accounts for required interaction between regulations. An example of this is found when looking at limits for nitrogen oxides (NOx), particulate matter and GHG emissions. Meeting requirements for one of these regulations can mean that the ability to meet a competing regulation is impacted.

Moving forward, operators expressed a desire to see policy and regulatory development take a more holistic approach. This would allow for the true intent of regulation to be met in the most efficient way possible.

energy development and trade that serve the Canadian public interest. The Act is also the governing legislation for the NEB. Established in 1959 by Parliament, the NEB is an independent federal agency responsible for regulating the part of the energy industry which falls under federal jurisdictions (i.e., international and interprovincial aspects of the oil, gas and electric utility industries). More specifically, the NEB is responsible for regulating the construction and operation of interprovincial and international pipelines; the construction and operation of designated interprovincial and international power lines; pipeline traffic, tolls and tariffs; the export and import of natural gas; the export of oil and electricity; and frontier oil and gas activities. The NEB is accountable to Parliament through the Minister of Natural Resources Canada.

There are many different acts that relate to the NEB's mandate, including the Canada Oil and Gas Operations Act (1985), the Canada Petroleum Resources Act (1985), the Northern Pipeline Act (1985), as well as certain provisions of the Canadian Environmental Assessment (CEA) Act (2012).

Overview of in-scope regulations

The following section reviews the regulations included in the scope of this assessment to understand what each regulation intends to accomplish, the key aspects of each, and how each applies to Canada's pipeline industry.

National Energy Board (NEB) Act (Enacted 1985, amended March 2018)

As the act that establishes Canadian pipeline approval processes and the regulatory agency responsible for conducting them, the NEB Act dictates the requirements under which pipeline companies operate.

The NEB Act establishes a comprehensive regulatory approvals process with the purpose of regulating pipelines,

Section 52(2) of the NEB Act lays out a list of factors that must be considered when reviewing a pipeline certificate application. When making a recommendation, the NEB shall have regard to all considerations that appear, to the Board, to be directly related to the pipeline and to be relevant, and may have regard to the following: the availability of oil, gas or any other commodity to the pipeline; the existence of markets, actual or potential; the economic feasibility of the pipeline; the financial responsibility and financial structure of the applicant; the methods of financing the pipeline and the extent to which Canadians will have an opportunity to participate in the financing, engineering and construction of the pipeline; and any public interest that in the Board's opinion may be affected by the issuance of the certificate or the dismissal of the application. If the application relates

to a designated project as defined in the CEA Act (2012), the report issued by the NEB must also set out the Board's environmental assessment (EA) prepared under that Act in respect of that project.

The Canadian Environmental Assessment Act (CEA Act) (2012)

The CEA Act sets forth the requirements that occur during the assessment of proposed projects, including pipelines. Requirements are specified on a project-by-project basis.

The CEA Act establishes the legal basis for the federal EA process. It stipulates the responsibilities and procedures for carrying out an environmental assessment for projects that involve federal government decision-making.

The Act stipulates a list of factors that must be considered by the Canadian Environmental Assessment Agency when reviewing the impacts of potential designated projects. The Agency serves as the responsible authority to undertake an analysis of impacts should a federal assessment be required. This does not apply to designated projects that are regulated by the NEB and the Canadian Nuclear Safety Commission where an EA is already mandatory.

The detailed requirements of an EA are defined on a project-by-project basis. These requirements may also change during the project assessment lifecycle according to the discretionary powers of the minister/directors of respective agencies, or as interveners are engaged at various stages in the project assessment and review stage. The need for additional consultation or technical assessment can arise at any stage in the approvals lifecycle. Furthermore, there have been recent cases where the requirement for an assessment of lifecycle GHG emissions has been added for a new project as the application works its way through the approvals process. While the requirements for reporting GHG emissions are straightforward, the evolving nature of the GHG assessment criteria, which are not currently entrenched in regulatory frameworks or guidance documents, compounds the uncertainty.

Canadian Environmental Protection Act (CEP Act) (1999) (Enacted March 2000)

The CEP Act looks to limit pollution, and thus directly applies to pipeline companies, particularly regarding incident prevention.

The CEP Act is Canada's primary federal environmental legislation aimed at preventing pollution, as well as protecting the environment and human health. The Act makes pollution prevention the cornerstone of national efforts to reduce toxic substances in the environment and sets out processes to assess risks to the environment and human health posed by substances from across all industries of the economy. The CEP Act also imposes timeframes for managing toxic substances, provides a range of tools to help manage toxic substances, other pollution and waste, and ensures the most harmful substances are phased out or are not released into the environment at all. Vehicle, engine and equipment emissions all fall under the CEP Act.

Key provisions under the CEP Act include Canada Multi-Sector Air Pollution Regulation, updates to the voluntary Canadian Ambient Air Quality Standards, guidelines for the Reduction of Nitrogen Oxide Emissions from Natural Gas-fuelled Stationary Combustion Turbines and the GHGRP, enacted in 2004. Regulations Respecting Reduction in the Release of Methane and Certain Volatile Organic Compounds (Upstream Oil and Gas Sector), enacted in 2018, also fall under the CEP Act. These provisions are administered through ECCC. The government's proposed Clean Fuel Standards (CFS) will also fall under the remit of the CEP Act.

The CEP Act is not a static piece of legislation but is instead continually evolving as new guidelines and standards are added. Individual regulatory requirements may not constitute a significant impact, as the timelines for approvals and compliance are straightforward once the regulations are published. However, issues arise where changes to regulations and/or new regulations can seemingly appear with minimal prior notice. While the processes employed by regulators gather industry input in the development of policies and standards, members of industry have expressed concern with the pace of regulatory development and the level of transparency in how their input is being used.

Greenhouse Gas Pollution Pricing Act (Enacted 2018, effective 1 January 2019)

The GHG Pollution Pricing Act (GHGPPA), known as Canada's carbon pricing regulation, impacts pipeline companies both directly and indirectly. Pipeline operators are required to pay the carbon price in the operation of supporting facilities.

The GHG Pollution Pricing Act is meant to mitigate climate change through the pan-Canadian application of pricing mechanisms to a broad set of GHG emission sources and to make consequential amendments to other Acts. The federal carbon pricing "backstop" consists of two main parts: a levy on fossil fuels and an output-based pricing system (OBPS) as discussed below in more detail.

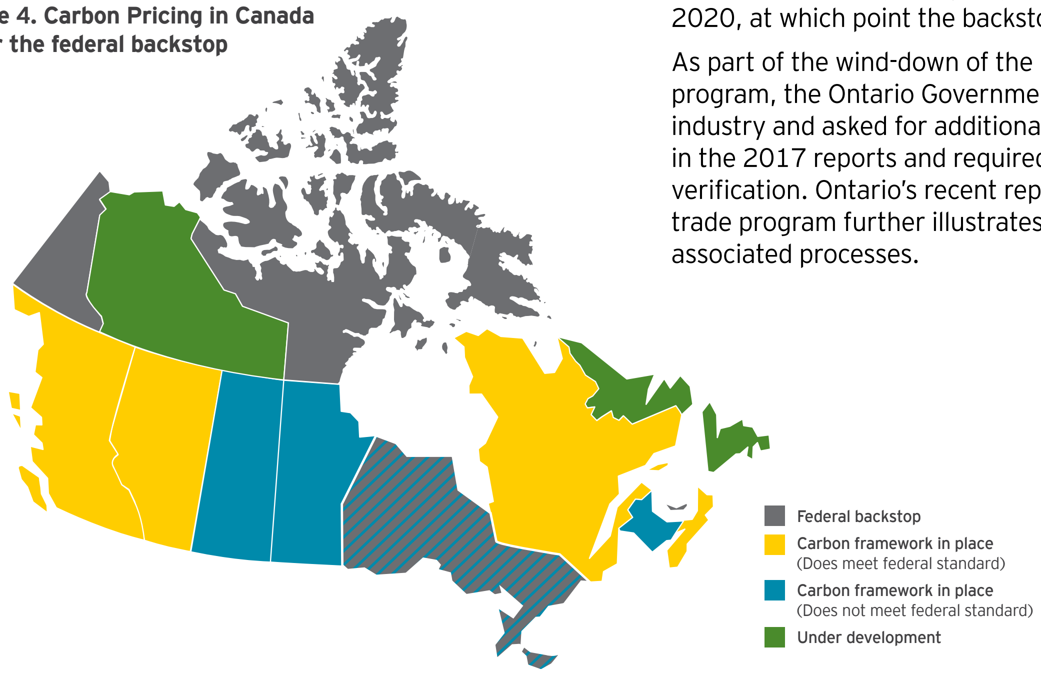
The main provision under the Act includes the GHG Emissions Information Production Order SOR/2018-214, enacted in 2018, and amended as SOR/2018-277 (December 2018). Under the OBPS, registered industrial facilities can purchase charge-free fuel and will be subject to a carbon price on the portion of their emissions that exceed an annual output-based emissions limit. A facility's annual GHG emissions limit, expressed in tonnes of CO2e, will be based on the prescribed output-based standards for the production activities that the facility undertakes. Under the OBPS, emission sources that are subject to pricing include fuel combustion, industrial process, flaring, and some venting and fugitive sources. The federal government has recently developed additional proposals related to Part 2 of the GGPPA which are currently out for public commentary as of January 2019. While already enacted, this is an evolving program, with the federal government considering new compliance options, including a federal offset system. The final rules, including those surrounding compliance options, voluntary participation and verification, continue to evolve.

Additionally, the Act establishes a national backstop price on carbon. Prior to the Act coming into force, provinces and territories were provided with the flexibility to develop their own carbon pricing system, provided prescriptive equivalency criteria were met. As previously mentioned, the Act outlines the two main components of the federal carbon pricing system: a regulatory charge on fuel and a trading system for large industry. At present, there is no carbon pricing system in place in Manitoba, New Brunswick, Ontario and Saskatchewan. That said, the federal government has confirmed that the backstop will be implemented in Manitoba, New Brunswick, Ontario, Saskatchewan, as well as Yukon, Nunavut and Prince Edward Island. The government intends to provide certain backstop relief to Yukon and Nunavut, whereby the OBPS and carbon levy will start to apply in July 2019. The backstop will supplement Prince Edward Island's proposed provincial carbon tax on fossil fuels, with the OBPS coming into effect as of January 2019. For Manitoba, New Brunswick, Ontario and Saskatchewan, the OBPS took effect January 2019 and the carbon levy will take effect as of April 2019.

The federal backstop will not apply to BC, Alberta, Quebec, Nova Scotia, Newfoundland and Labrador, and Northwest Territories, because these jurisdictions either have in place, or will have in place, an equivalent system. Absent any further changes by the Government of Alberta, the province's current price on carbon (\$30/tCo2e) will only satisfy the federal pricing requirements up until the end of 2020, at which point the backstop may apply.

As part of the wind-down of the Ontario cap and trade program, the Ontario Government has gone back to industry and asked for additional information contained in the 2017 reports and required mid-year reporting and verification. Ontario's recent repeal of the province's cap and trade program further illustrates changing regulations and associated processes.

Figure 4. Carbon Pricing in Canada under the federal backstop



Case: How carbon pricing impacts pipeline companies

The ongoing changes to carbon pricing across Canada due to changing political priorities at both the federal and provincial levels is creating new and ongoing challenges to regulatory certainty. While the implementation of the GHGPPA provides a clearer trajectory on the forecasted price of carbon nationwide, upcoming election cycles, and the increasing politicization of carbon, creates ongoing uncertainty around the future of existing regulations and policies. Even following enactment of the OBPS, details and final rules are continuing to evolve, prolonging the uncertainity around exact compliance requirements and mechanisms.

Even with the uncertainty regarding longevity of carbon pricing in Canada, the impacts, particularly when administered according to multiple different mechanisms, are becoming increasingly understood. Many organizations have been including the cost of their carbon compliance obligation into their operating costs forecast, especially when subjected to early programs as administered in BC and Alberta (through the Specified Gas Emitters Regulation). However, as carbon pricing matures, the implication of pricing on companies is complicated by varying provincial and federal requirements, reporting requirements and administrative approaches to reporting. This is especially relevant for operators in the pipeline industry who are impacted through multiple channels such as (1) spillover effects from increased compliance costs incurred by upstream operators, (2) contending with different compliance and reporting requirements for operators who have assets located in different parts of the country and (3) incurring additional expenses as a result.

The key implication of the GHGPPA relates to the overall compliance costs (both actual carbon costs paid and increased internal costs to meet reporting requirements) for a company. An increase in cost may be seen for companies with interprovincial operations in provinces that have not historically had carbon pricing or detailed reporting and verification (audit) requirements. With higher forecasted carbon prices, consideration of GHG emissions and carbon compliance costs will likely take on increased profile in economic planning for new projects and operations.

Pipeline Safety Act

The Pipeline Safety Act formalizes several key legislative requirements, including absolute liability for pipeline incidents. It also assigns liability to the owner as long as the pipeline remains in the ground.

At the federal level, pipeline safety is primarily regulated by the NEB through the NEB Act (including amendments from the Pipeline Safety Act) and the NEB Onshore Pipeline Regulations (OPR). It is important to consider the OPR references Canadian Standards Association (CSA) Z662, essentially making the CSA standard a regulatory instrument as well. Interprovincial pipelines may face inspections at both the regional (provincial, territorial) level as well as the federal level.

The Pipeline Safety Act came into effect in 2016 and made a series of important amendments to both the NEB Act and the Canada Oil & Gas Operations Act. As with other legislation, the amendments applied to both existing and new projects that fell under the purview of the NEB.

This Act contains many provisions that make key changes to existing regulation, including: setting out absolute liability requirements, formalizing NEB jurisdiction over a pipeline in perpetuity, setting forth damage prevention requirements, and establishing increased clarity related to audits.

For pipeline companies, these changes resulted in formalized liability and increased costs to meet more frequent audit requirements. The Act now requires operators to be liable for up to $1 billion to cover costs and damage resulting from an incident, regardless of whether the operator is found to be at fault. The NEB also has the discretion to require operators to hold an amount of financial resources over and above the liability limit.

Canada’s future regulatory landscape

Overview and projections

Canada’s regulatory environment is facing several major changes in the coming years, including the OBPS (described in Section 3.3.4), CFS under the CEP Act, methane regulations, pending changes to the environmental assessment process in BC, and the Impact Assessment (IA) Act under Bill C-69.

Clean Fuel Standard (CFS)

A regulatory framework for Canada’s proposed federal CFS was originally released by ECCC in December 2017 with a goal to achieve 30 mega-tonnes CO_2e of annual reductions in GHG emissions by 2030, thereby contributing to Canada’s overall GHG mitigation targets. The CFS will establish lifecycle carbon intensity requirements separately for liquid, gaseous and solid fuels that are used in transportation, industry and buildings.

At present, there is uncertainty around the additional requirements that may be imposed on pipelines by the CFS, both in the short and long term, as the standards are finalized and implementation begins.

Methane regulations

Timelines for the implementation of new regulations are not always predictable, as seen with the ongoing development of methane regulations in Alberta. At the federal level, the Regulations Respecting Reduction in the Release of Methane and Certain Volatile Organic Compounds (Upstream Oil and Gas Sector) (SOR/2018-66) have been enacted and provide set timelines for when respective compliance requirements take effect. Federal consultation took place during the development of the regulations where industry provided feedback on the timeline for implementation. These comments are reflected in the extended timelines for implementation.

In Alberta, development of a methane-related policy framework began in 2017. Feedback from the public was solicited by the AER until May 2018, with amendments to the related AER directives finalized in December 2018. The finalization of Directive 017 and 060 introduced additional requirements around methane calculations, and required survey scopes and adjusted the exemption clauses. Concurrently, BC finalized amendments to the relevant regulations under the Oil and Gas Commission, covering methane-specific clauses, in December 2018.

This illustrates how similar regulations are being concurrently developed (provincially and federally) without a complete understanding of how they may interact. This could result in additive or duplicative requirements. Until the final regulations or directives are released, there is limited certainty around what the final compliance requirements will be as changes are often introduced up to the time of finalization. Additionally, companies require adequate lead time to prepare their operations for compliance with environmental and climate requirements. Without early clarity of requirements, companies are more likely to take last-minute action to become compliant, which may result in additional costs to industry.

Provincial environmental assessments

The BC Government has unveiled a revitalization of the province’s EA process (Bill 51) which has the potential to impact overall timelines and approvals for pipeline infrastructure. Under the province’s previous EA Act, the Reviewable Projects Regulation prescribed the criteria under which a project was considered “reviewable” under the Act for both new projects as well as the modification of an existing project. Energy projects and transmission pipelines are discussed in Part 4 of the regulation.

As part of the province’s public engagement on Bill 51, a discussion paper outlining the proposed changes to the province’s EA process as well as an engagement survey were made available for comment by the public, Indigenous groups and other stakeholders from 18 June to 30 July 2018. In response to comments received, and in alignment to issues covered in the discussion paper, the BC Government intends to review the Reviewable Project Regulation into the spring of 2019.

The continued uncertainty that exists regarding the above-mentioned changes has an impact on the ability of pipeline operators to forecast timelines and costs for both planned and in-operation pipelines. Assumptions must be made and then updated as new information is received.

Bill C-69

If passed as currently drafted, Bill C-69 will replace the CEA Act and repeal the NEB Act and the Navigation Protection Act. It has the potential to impact pipeline operators in various ways; notably the NEB will no longer lead EAs for designated projects (this will be done by a joint review panel led by the newly created Impact Assessment Agency of Canada) and the list of designated projects under the IA Act has yet to be specified. Under the proposed Bill C-69, the process of acquiring a pipeline certificate will change from the previous requirements. Four key changes are noteworthy: increased consultation, inclusion of climate change as a consideration, shifted timelines, and the introduction of a new governance model.

Change 1: Increased consultation

> Bill C-69 aims to promote more inclusive and comprehensive stakeholder engagement outside the traditional hearing process established under the CEA Act.

Public participation has been expanded under Bill C-69. The intent is to remove barriers to public participation in project reviews. Under the NEB Act, public participation was limited to those who would be directly affected by a project, or those who possess relevant information or expertise.

Section 12 of the Canadian Energy Regulator Act (CER Act) stipulates that the Canadian Energy Regulator (CER, Agency) (which will replace the National Energy Board) "must offer to consult with any jurisdiction that has powers, duties or functions in relation to an assessment of the environmental effects of the designated project and any Indigenous group that may be affected by the carrying out of the designated project." Section 183(3) stipulates that participation must be conducted in a manner specified by the Commission – which will also determine the level of involvement, introducing added levels of the subjective and discretionary power into decision-making.

Bill C-69 seeks to promote more inclusive engagement outside of the traditional hearing process under the NEB Act. While the intent of meaningful consultation is well received by industry, there does not appear to be a framework to guide the implementation of policy changes based on the input received through the consultation process, nor is it clear with whom this responsibility ultimately lies.

Change 2: Expanded considerations

> Bill C-69 aims to introduce a more robust set of formal factors for consideration of a new pipeline application. Some of these factors were previously considered on a discretionary basis.

Under Bill C-69, the list of factors that must be considered when reviewing a pipeline certificate application would expand in comparison to the CEA Act and the NEB Act. For example, five factors that were typically considered on a discretionary basis will be explicitly required under Bill C-69. These factors include environmental effects, safety and security of persons and protection of property and the environment, interests and concerns of Indigenous peoples of Canada (including use of lands and resources for traditional purposes), the effects on the rights of Indigenous peoples of Canada, and any relevant "Regional" or "Strategic" assessments referred to in the IA Act.

By making these factors explicit in both the IA Act and CER Act, the discretion of the regulator to consider them has been removed. At this point it is unknown what type of impact this will have on predictability and timelines associated with the process.

The scope of the assessment process will also be expanded to include two new factors: health, social, and economic effects; and environmental agreements entered into by the Government of Canada (such as the Paris Climate Accord). More specifically, "the extent to which the effects of the designated project hinder or contribute to the Government of Canada's ability to meet its environmental obligations and its commitments in respect of climate change." (Bill C-69, Section 22(1)(i)) would be considered under Bill C-69.

Change 3: Shifted timelines

> Bill C-69 makes some important changes to application timelines, providing improved clarity, and in some cases, potentially shorter timelines. A number of factors continue to have discretionary powers to extend timelines significantly.

Under existing regulation, there have been concerns about growing approval timelines (as seen with the Trans Mountain Expansion Project). Bill C-69 aims to provide enhanced clarity to regulatory timelines. The bill would formally establish a 180-day timeline for the planning and consultation phases of project applications. It would also establish a new timeline of 300 days for reviews of projects by the Agency,

with the possibility of extending this to a maximum of 600 days should a panel review be warranted. Under the CEA Act, these timelines are currently 365 days for reviews by the Canadian Environmental Assessment Agency and approximately 720 days (stated as 24 months in the Act) for assessment by review panels.

Building on these provisions to enhance timely reviews, Bill C-69 sets a 45-day timeline for establishing a review panel. At present, this is 60 days under the CEA Act. Further, under the NEB Act, and under appropriate circumstances, the Lead Commissioner, the Minister, and the Governor-in-Council (GIC) can all act to extend the review timeline. However, under Part 2 of Bill C-69, the CER Act, the Minister has the power to grant one or more extensions rather than the single three-month extension provided under the NEB Act. The discretionary powers of the Minister and GIC to extend these timelines multiple times remain, resulting in increased uncertainty overall on the part of both proponents and participants.

While some of the clarity regarding timelines from Bill C-69 may help predictability, this only applies if timelines are met throughout the process, which now requires increased consultation and expanded considerations.

Change 4: Section on proposed governance model

> Bill C-69 moves to repeal the NEB Act, replacing it with the CER Act. Pipeline companies will need to work to understand how they interact with this new organization and where ultimate authority lies.

Under Bill C-69, the governance, administrative, and adjudicative functions of the CER would be separated into subgroups, with the chair and CEO being separate from a board of directors, the latter of which is intended to provide oversight, strategic direction and advice on operations. A group of independent commissioners will ultimately be responsible for project review and decision-making. However, under this structure it is unclear as to how the decision-making experience of the commissioners will be integrated into the overall policy-making process. Responsibility for oversight of compliance is also not clearly assigned. Additionally, the potential exists for Section 76 of Bill C-69 to further complicate issues with the delegation of authority in that it allows the CER to enter into an arrangement with "any government or Indigenous organization to establish collaborative processes." Delegating authority away from the central body so the responsible Minister can set up specific groups to fulfill aspects of the CER Act mandate can be problematic and create uncertainty regarding the role the CER plays if such delegation of authority occurs.

Bill C-69 represents the largest regulatory change impacting the industry. Expanding the participation of stakeholders from those directly impacted creates the potential for increased costs associated with the increased volume of engagement and associated information. The proposed governance structure of the CER has the potential to further challenge policy and regulatory integration and may perpetuate a disconnect between overall policy setting and implementation.

Timeline impacts of future regulation

The changes being considered in pending regulations will have many impacts on the industry moving forward. Amongst these are fundamental changes to the regulators themselves. As Bill C-69 replaces the CEA Act with the IA Act, there would be changes to standard timelines as outlined in the chart below. Please note that a detailed review of the NEB Act was outside of the scope for this analysis.

	CEA Act (current)	IA Act (Bill C-69)	Difference
Planning / Screening	45 days to determine if assessment is needed following designated project description	Max 180 days	Longer timelines, but increased up-front consultation attempts to help minimize future interruptions
Agency assessment	Max 365 days	Max 300 days	Shorter timelines on paper, but subjective based on Minister and GIC
Review panel determination	Max 60 days	Max 45 days	Shorter timelines under IA Act to determine if an application should go to a review panel
Review panel assessment	Max 720 days (24 months) Minister can extend a max of 3 months. GIC can extend further with no time limit	Max 600 days	Similar timelines; changes to GIC extensions.
Decision	Within 24 months of review panel assignment	Max 30 days (No panel) Max 90 days (Cabinet decision)	Introduces timelines for decision statements to be issued

For reviews by the regulator or those referred to a review panel, the Minister maintains power to extend review time limits up to a maximum of 90 days to allow for additional review by the agency/panel. This time limit remains subject to the responsible Minister's discretion, although the proposed Bill C-69 does introduce a new requirement for Ministers to explain reasons for extending or shortening any time limit. The GIC has the power, on the recommendation of the Minister, to extend this time limit previously extended under subsection
(3) "any number of times." (Bill C-69, Section 37(4))

It remains to be seen what actual impact Bill C-69 will have on timelines. The above-mentioned timelines do not include extensions or time-outs, which could have an impact.

Regulator improvement initiatives

Over the past several years, regulators have become increasingly aware of the frustration and inefficiency involved with regulatory processes in Canada. These concerns have been raised not only by operators, but also by municipalities, Indigenous groups and stakeholders who are contacted multiple times throughout the approvals process. Regulators are attempting to address these concerns through several improvement initiatives. Two examples are shown below.

Case: Alberta Energy Regulator OneStop

The Alberta Energy Regulator OneStop (AER) ensures the safe, efficient, orderly, and environmentally responsible development of oil, oil sands, natural gas, and coal resources over their entire lifecycle. To improve the regulatory process in Alberta, the AER has developed a made-in-Alberta solution – OneStop.

The intent of OneStop is to simplify the regulatory process to one application, one review and one decision. This consists of integrating multiple activities into a single application (for pipelines there were previously at least four applications) and performing an integrated review of that application (for all activities from application through to reclamation), resulting in a single decision (approval, approval with conditions or denial). Along with this simplified process is the desire to embed continuous improvement principles throughout the process.

To deliver this, the AER has revamped systems and processes, which can now be found on a single website that includes templates, tools and information. The primary benefit of the changes is the reduction in the number of applications and repetitive consultations that used to occur. This can save time for not only operators, but also others involved in the consultation process. Accompanying this, however, is the need for operators and applicants to have all project information completed up front at the start of the process, which means more effort in the beginning, with a goal of less time overall.

Even though the OneStop program is in its infancy, initial feedback from the operators we spoke with is that it is having an impact, and they are starting to see some of the benefits.

Case: Western Regulators' Forum

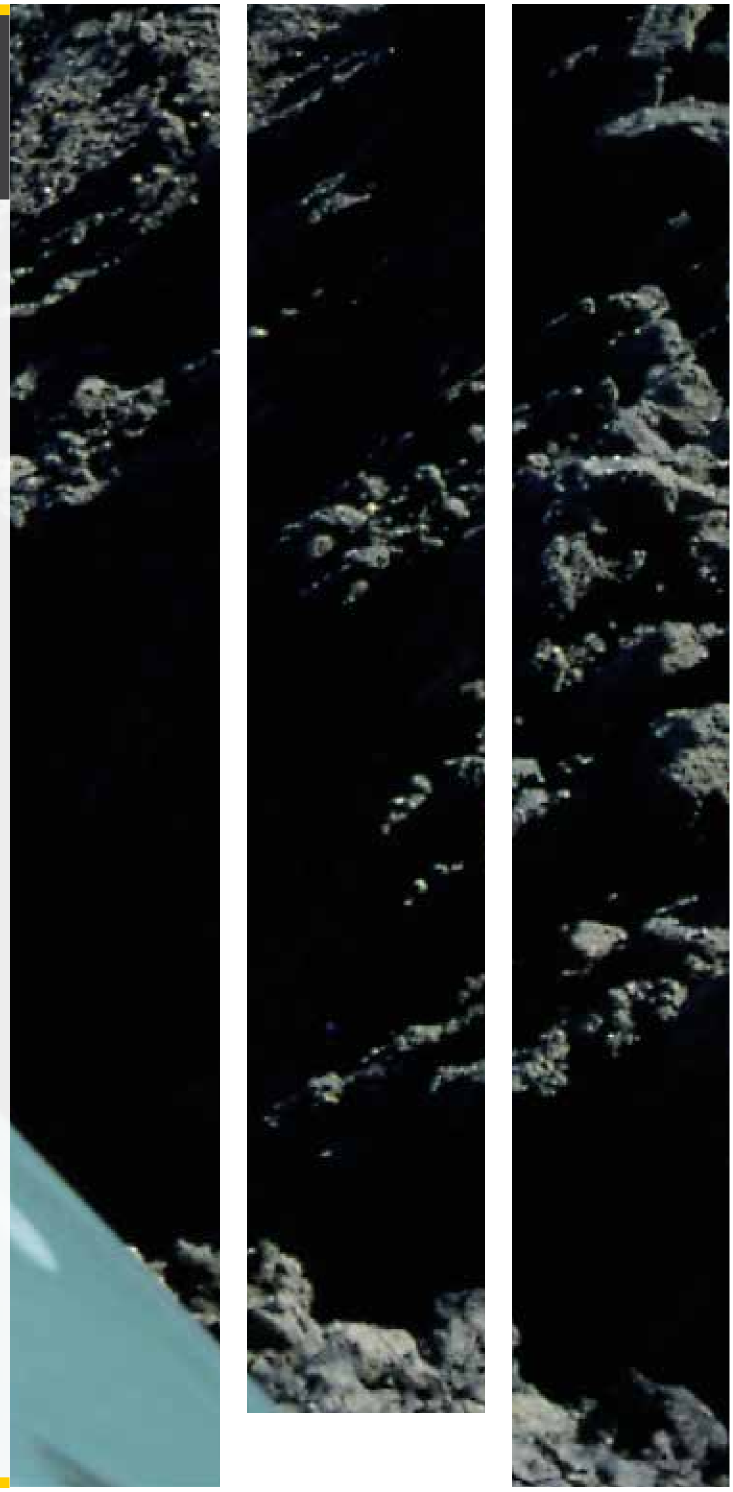
The Western Regulators' Forum (WRF) was established in 2014 to promote collaboration and pursue mutual priorities among oil and gas regulators in Western Canada. It helps different regulators in Canada collaborate, exchange information, cooperate, align and ultimately drive regulatory excellence. WRF members include the AER, BC Oil and Gas Commission, Saskatchewan Ministry of Energy and Resources, NEB and the Government of the Northwest Territories Office of the Regulator of Oil and Gas Operations.

WRF has four specific goals:

- Identify, share and develop leading regulatory approaches
- Facilitate strategic engagement and communications
- Address strategic challenges and opportunities
- Share information and resources

Specific efforts at WRF are currently underway to drive:

- Transparency in terms of the collection and public reporting of pipeline safety metrics
- Competency in terms of the design of risk-based problem-centric programs for managing the lifecycle of a pipeline from initial approval to abandonment and decommissioning
- Engagement in terms of the process for involving stakeholders and Indigenous people in the development and operation of pipeline systems



The US regulatory environment

Overview

In many ways, due largely to their proximity to each other, the US and Canada have been on parallel paths with regards to energy development. In recent years, due in part to political changes, the two countries have begun to diverge. A 2018 study found that US capital spending in oil and gas increased 38% in 2017, reaching a new high of US$120 billion, while Canadian spending fell to US$45 billion, a 19% decrease since 2016.[5]

Where the US was once a key consumer of Canadian oil, it has increasingly become a direct competitor for capital investment dollars. US oil production is growing at a rapid pace, having increased 70% between 2010 and 2017.[6] Given this changing relationship, Canada's ability to access new markets and attract finite capital investment is becoming more important.

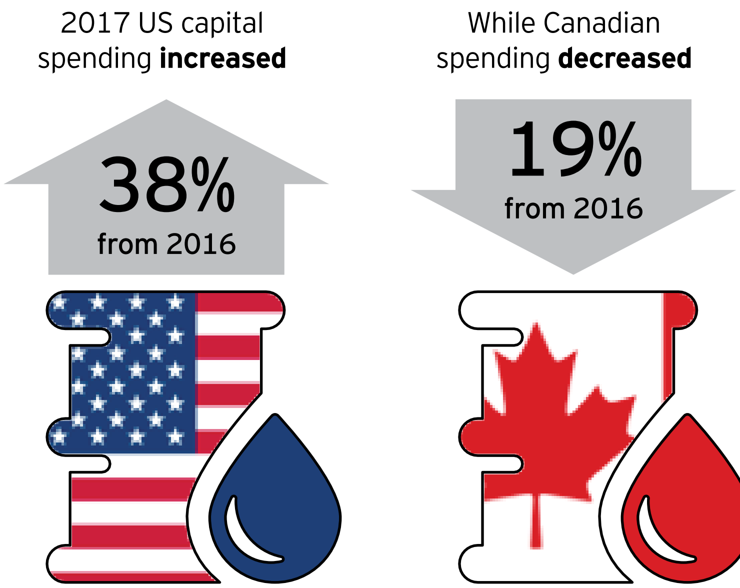
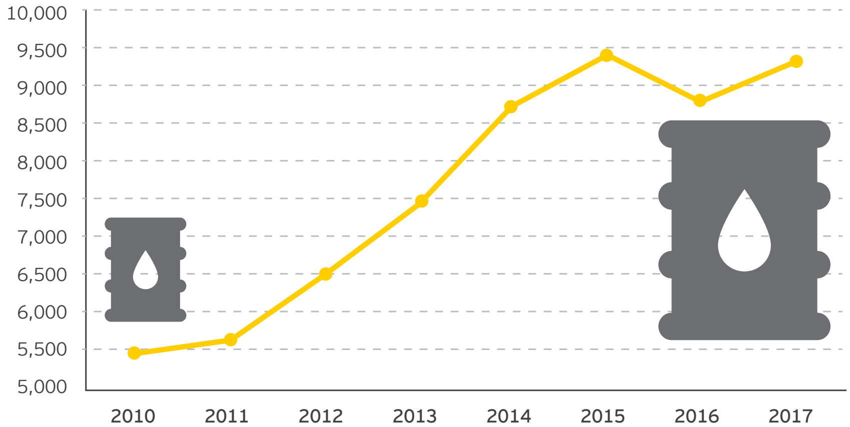


Figure 5. US oil production
(1000s of barrels per day)



Climate change policy

In the US, there is no national carbon pricing system in place. Rather, the strategic direction of climate change policy is largely set at the state level or through a series of Executive Orders signed by the President mandating, among others, the federal government (and its departments) to act in tackling climate change. By way of Executive Orders, the US essentially develops high-level climate-related policy goals and targets that are accountable to the office of the President. Notwithstanding the possibility of these Orders being rescinded by subsequent leadership, the Executive Orders establish not only policies and goals, but also requires inter - and intra-agency coordination to accomplish these goals through the development of different working groups and task forces.

Integration of policies and regulations is further accomplished through the core involvement of the Council on Environmental Quality (CEQ) and Office of Management and Budget (OMB), which support the development of cost-effective regulatory changes and actions. For example, Executive Order 13653.[7] issued by President Obama in 2013, required the heads of various federal departments to conduct an assessment and propose changes to the land and water-related policies, programs and regulations of each agency with regards to increasing climate change resiliency. Under the Order, many departments were required to work with the CEQ and the Director of the OMB to develop concrete plans and timelines for making changes to policies, programs and regulations. President Obama also issued Executive Order 13693[8] in 2015 establishing sustainability goals and GHG emission reductions for all executive departments and agencies, requiring each to designate a Chief Sustainability Officer to oversee implementation. The Order also required the head of each agency to, within 90 days of the date of the Order, propose to the chair of the CEQ and the Director of the OMB percentage reduction targets for agency-wide reductions of GHG emissions by the fiscal year end of 2025.

November 2013 (Revoked 2017)
Preparing the United States for the Impacts of Climate Change (EO 13653)

March 2015 (Revoked 2018)
Planning for Federal Sustainability in the Next Decade (EO 13693)

January 2017
Expediting Environmental Reviews and Approvals for High Priority Infrastructure Projects (EO 13766)

August 2017
Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure (EO 13807)

Environmental assessments

Like Canada, the requirements to conduct, as well as the scope of, environmental impact assessments (EIAs) in the US vary between activities conducted on private property, local, state or federally owned property, Native American tribal lands, and offshore production sites in the Gulf of Mexico. EIAs originated from the National Environmental Policy Act (NEPA) of 1970 and have been adopted at the state level by several states as part of industry or project-specific regulations. The scope of EIA reviews typically varies between the type of pipeline in question and if it is an exempt gathering system, intrastate or interstate pipeline. There are two possible results of an EIA, either a finding of no significant impact, or the need for a more comprehensive EIA. In terms of the level of scrutiny of an EIA, drilling operations conducted on private property under privately negotiated contracts are subject to the lowest level of scrutiny. In these cases, EIAs are typically based on findings of a statewide generic environmental impact statement (EIS) stating that oil and/or gas exploration, drilling, and production activities do not constitute a generally adverse environmental impact activity. A standardized EIS form is submitted for a well and/or pipeline-specific activity which effectively demonstrates compliance.

In circumstances where an EIA is required for a proposed project, proponents must provide evidence and analysis to determine if impacts are likely to occur (such that a complete EIS is required) and demonstrate compliance with applicable federal or state law when an EIS is not required. An EIA is a public document and is typically published in a local newspaper in the potentially affected area. The public and interested stakeholders have an opportunity to comment, and public hearings for comments are also sometimes allowed. Unlike in Canada, these public hearings are not usually a requirement of the EIA process. If required, proponents must also help facilitate the preparation of a comprehensive EIS.

Following the public comment period, the lead regulatory agency responds to any comments and determines if any significant impacts will result or issues a notice of its intent to conduct a full EIS. Undertaking a full EIS is more complex, lengthy and expensive compared to an EIA, and a final decision on an EIS is subject to challenge and review in the applicable state or federal court. As in Canada, an EIA is a public process requiring public notice and the opportunity to be heard.

One of the first executive orders signed by the Trump Administration in 2017 focused directly on expediting environmental reviews and approvals for high-priority infrastructure projects. Executive Order 13766 established

that any infrastructure projects deemed "high priority to the nation" should be expedited to the greatest extent possible within current law.[9] Upon declaration of a project as high priority, the federal government and relevant agencies are to establish expedited procedures and deadlines for the completion of environmental reviews and approvals.

Under the Trump Administration, the implementation of the NEPA by federal agencies has been significantly simplified through two main documents: Executive Order 13807[10] and a Memorandum[11] with federal agencies related to a "One Federal Decision Framework for the Environmental Review and Authorization Process for Major Infrastructure Projects under EO 13807." Executive Order 13807 requires federal agencies to process environmental reviews and authorization decisions for major infrastructure projects via a "One Federal Decision," effectively directing all federal agencies with environmental review, authorization, or consultation responsibilities for major infrastructure projects to develop a single EIS for such projects, sign a single Record of Decision and issue all necessary authorizations within 90 days thereafter, subject to limited exceptions. Executive Order 13807 further sets a government-wide goal to reduce the timeline for agencies to complete the required environmental reviews and authorization decisions for major projects to two years.

Safety policy

As with climate policy, pipeline safety policy is overseen by multiple levels of government in the US. Federal oversight for approval of gas pipelines is a shared responsibility of both FERC and the US Department of Transportation. For liquids pipelines including interstate pipelines, state regulatory agencies are responsible. During the construction phase, working with state regulators, the Pipeline and Hazardous Materials Safety Administration (PHMSA)'s Office of Pipeline Safety within the Department of Transportation is responsible for the safe construction of all interstate pipelines. The PHMSA is responsible for ensuring that operating pipelines are safe, reliable, and environmentally sound. While the federal government is responsible for developing, issuing and enforcing regulation, it is important to recognize that most actual compliance inspections are carried out by PHMSA or state regulators.

In Texas, inspection responsibilities fall to the Pipeline Safety Section of the Texas Railroad Commission, while in Oklahoma those responsibilities fall to the Pipeline Safety Section of the Oklahoma Corporation Commission. Other states, such as Minnesota, have similar agencies, with some having inter-state inspection authority.

Regarding pipeline safety regulation in the United States, one regulator typically has inspection authority over a pipeline.

Comparing approval timelines in Canada and the US

Overview

In recent years, there has been a steady increase in the approval timelines for Section 52 pipeline applications (liquids and gas projects) in Canada. Data shows that average approval timelines grew from 357 days in 2009 to 681 days in 2016. The following data is sorted by the year the application is submitted, making 2013 an outlier (as it contains the lengthy Trans Mountain Expansion Project timeline). This dataset does not include Enbridge's Northern Gateway project, proposed in 2010, approved in 2014, but ultimately rejected by the Canadian Government in 2016.

Under the new US Administration, several changes have been made that have decreased timelines. Using data on FERC permitting (limited to gas projects, as liquids are not under the purview of FERC), again sorted by application date, the average days for approval of a Section 52 equivalent project (those greater than 25 miles in length) peaked at 561 in 2015 but dropped as low as 336 in 2017.[12]

Figure 6. Canadian section 52 pipeline applications, average total days to approve
(Initial application through GIC decision)

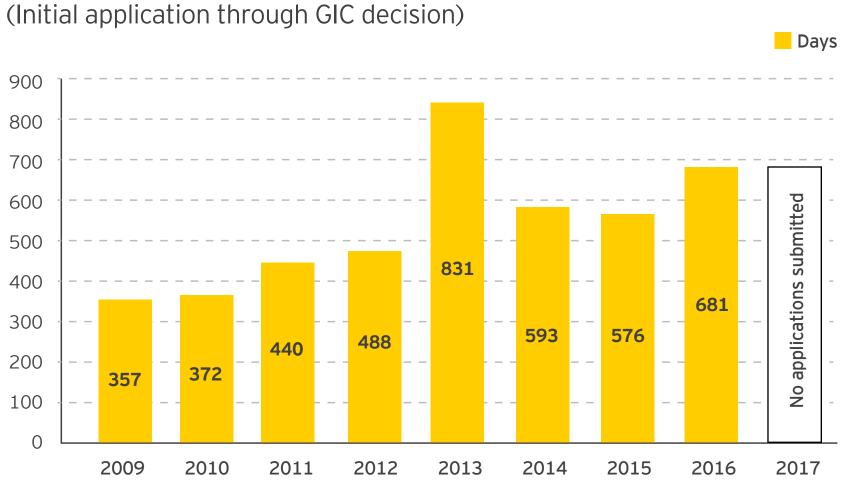
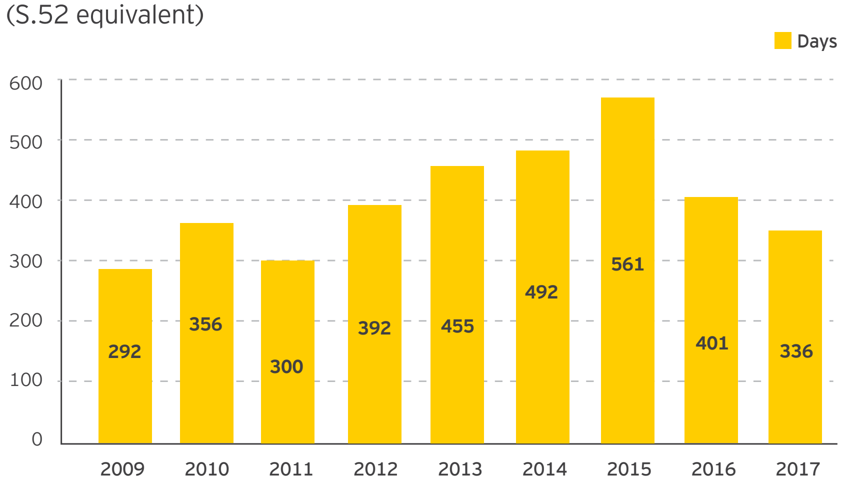


Figure 7. US section 52 equivalant pipeline applications, average total days to approve
(S.52 equivalent)



The following two cases describe the challenges faced with gaining regulatory approval for large, complex projects in Canada.

Case: Energy East

Announced in 2013 by TransCanada Pipelines, the Energy East project serves as a prime example of the impacts of regulatory uncertainty in Canada's pipeline industry.

At 4,500 km in length, Energy East was meant to repurpose long stretches of existing natural gas pipeline capacity with the goal of creating a truly national pipeline. Energy East would have extended from Hardisty in Alberta, through Saskatchewan, Manitoba, Ontario, and Quebec, ultimately terminating on Canada's east coast in St. John New Brunswick.[13] If approved, Energy East would have been operational in 2020, providing Canada's energy industry with 1.1 million barrels per day of new capacity, and Atlantic tidewater access to global markets.

The project was initially filed with the NEB in 2014 in what was the largest application ever submitted. Following filing, various advocacy groups submitted feedback, resulting in TransCanada submitting an amended application containing 700 route changes in December 2015.[14]

In April 2016, the NEB announced that Energy East would face an extended time limit of 21 months, as requested by the federal government. This review was expected to wrap up in early 2018.[15] Those timelines would not be met. Over the coming months, members of the NEB review panel recused themselves over potential conflicts. A new panel was appointed in January 2017 and the process was restarted. With the review restarted in August 2017, the NEB announced it would for the first time consider the impact of upstream and downstream GHG emissions from the increased production and consumption of oil resulting from the project.

TransCanada Pipelines withdrew the Energy East application in October 2017, taking a $1 billion loss, citing "changed circumstances" as the reason for the decision.[16] Many have speculated that these changed circumstances included uncertainty around extended timelines, growing application costs, and global energy market shifts.

Case: Northern Gateway

Enbridge's Northern Gateway project provides an interesting case study into the finality of the NEB review process, the level of uncertainty introduced by the legal system regarding pipeline applications, and the ways in which politics can influence the approvals process. During the Northern Gateway approvals process, which spanned several years, various pieces of legislation were passed, including the Pipeline Safety Act and CEA Act (2012).

First announced in 2002, the 1,200 km Northern Gateway pipeline would run from Bruderheim, Alberta to Kitimat, BC, providing west-coast tidewater access to Canadian energy producers. The pipeline was expected to transport 525,000 barrels per day to international markets.[17]

Enbridge submitted the application to the NEB in May 2010. A Joint Review Panel was established between the Minister of the Environment and the NEB to review the application under both the CEA Act and the NEB Act.[18] In December 2013, the Joint Review Panel issued its report recommending that the federal government approve the project, subject to 209 conditions that Enbridge would need to meet. The recommendation would be accepted, with the federal government approving the project in June 2014, subject to the same 209 conditions as set out by the Joint Review Panel. Following that decision, the NEB issued certificates approving the pipeline.

Over the next two years, Northern Gateway would face court challenges. In June 2016, the Federal Court of Appeal quashed the permit, concluding that the former Conservative government failed in its duty to consult Aboriginal groups prior to issuing the project approval following issuance of the Joint Review Panel report. No member of the court found flaws with the regulatory review leading up to issuance of that report. The succeeding Liberal government then needed to determine whether to conduct additional consultations with affected Aboriginal groups. In November 2016, it instead directed the NEB to formally dismiss the Northern Gateway application.[19]

Comparing tax structures in Canada and the US

Corporate tax in Canada

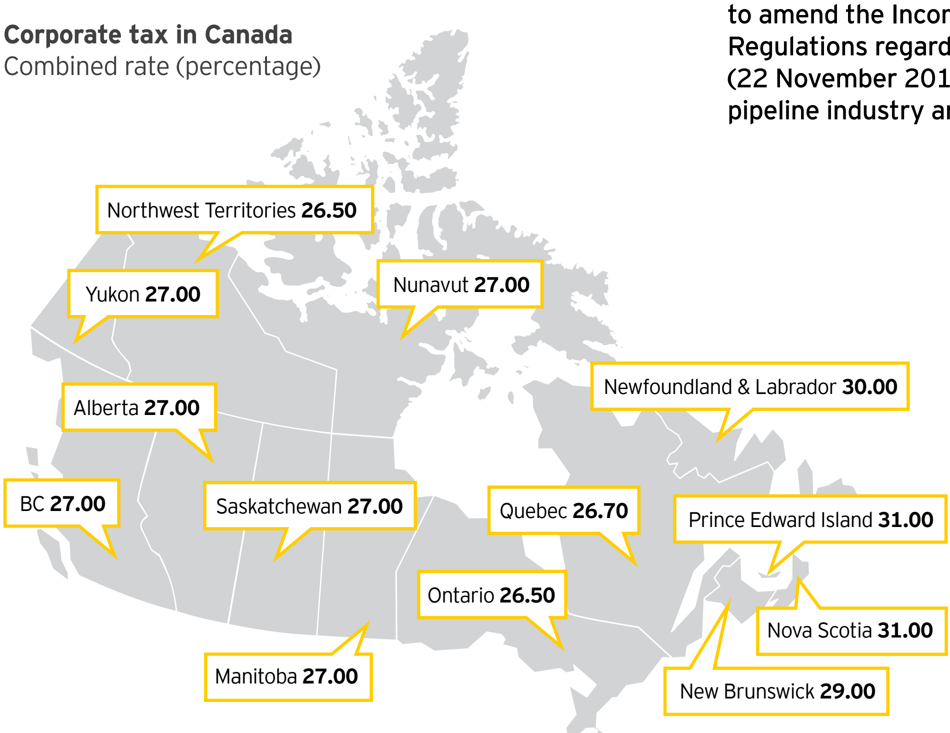
Historically Canada has been very competitive where taxation is concerned. Cumulative corporate income tax rates have traditionally been lower than the cumulative rates imposed in the US.

In recent years provinces have expanded their tax base in relation to the pipeline industry through the introduction, particularly in Western Canada, of various unrecoverable transaction taxes (e.g., provincial sales tax, fuel tax and carbon tax).

Income tax

As with all other industries in Canada, pipeline companies are subject to both federal income tax (15% flat rate) and provincial income tax. In 2015, Alberta's corporate tax rate increased from 10% to 12%. At the time of writing, the combined tax rates for each province ranged from 26.5% to 31% as follows:[20]

Corporate tax in Canada
Combined rate (percentage)



Pipeline companies are subject to income taxes in all regimes crossed by their pipeline based on a proportional allocation basis (calculated by the percentage of income from the pipeline that can be attributed to each province).

Sales and indirect tax

Pipeline companies are subject to indirect taxes in the form of sales taxes in Canada. While goods and services tax/harmonized sales tax (GST/HST), should be fully recoverable by the pipeline business, provincial sales tax (PST) is not. PST applies broadly to many of the goods and services used by the pipelines and is applicable in BC, Manitoba and Saskatchewan. While some provinces have PST exemptions targeted at oil and natural gas exploration and production, the exemptions generally do not apply to pipeline companies. In addition, carbon taxation from both provincial and federal governments has increased (or will soon increase) construction and operating costs for the pipeline industry.

Note: During the writing of this report, the federal government tabled a notice of ways and means motion to amend the Income Tax Act and the Income Tax Regulations regarding capital cost allowance acceleration (22 November 2018). The details and impacts for the pipeline industry are not yet known.

Corporate tax in the United States

While corporate taxes in the US are generally more complex than in Canada, there are some key similarities in that companies are subject to a combination of federal and state income taxes as well as sales tax.

In 2017, the US federal government introduced legislation making key changes to tax rules that impact pipeline companies. While many of these changes are far too specific for consideration, income tax rates and depreciation are applicable.

Income taxes

Beginning in tax year 2017, the federal income tax rate in the US is a flat rate of 21%, down from a set of graduated rates capping out at 35% in prior years.

Most US companies are now subject to a blended federal + state tax rate of 27%-28%, like the blended rates seen in Canada. State tax structures vary on a state-by-state basis.

Texas, for instance, does not impose a traditional corporate income tax, instead leveraging a franchise tax (often referred to as a margin tax). The Texas franchise rate is 0.75% for most businesses (including pipelines) and 0.375% for retail & wholesale businesses.

The taxable margin is calculated based on the lowest of four calculations:[21]

- 100% of total revenue minus cost of goods sold
- 100% of total revenue minus compensation (wages, cash comp and employee benefits)
- 70% of total revenue
- Total revenue minus US$1m

For pipeline companies with pipes running through Texas and other jurisdictions, taxes payable under the Texas franchise tax are apportioned according to the percentage mileage of the pipe running through Texas.

Oklahoma, unlike Texas but like most other states, does impose a traditional corporate income tax. Businesses in Oklahoma are taxed at a flat 6% for all income. The tax payable is based on a three-part formula based on the portions of a company's sales, property, and payroll that are based in the state.[22] Like most other jurisdictions, taxes payable can be reduced through a series of deductions. As in Texas, Oklahoma also imposes a franchise tax, calculated as US$1.25 for each US$1,000 invested in the state.[23]

Federal bonus depreciation

One of the most significant changes made to the US tax regime is the introduction of a more competitive depreciation structure for capital investments. Often referred to as "bonus depreciation," the new structure allows for bonus depreciation of 100% on new property in the same year as the capital expense for any depreciating asset with a modified accelerated cost recovery system depreciation period of 20 years or less. Additionally, this change now allows for bonus depreciation of used assets in addition to new assets. It is important to note that this doesn't apply to all entities, and depends largely on asset classification.

> The tax advantage that companies once benefited from in Canada has been eliminated due to recent changes in US tax rates. These changes could impact investment decisions between the two countries.

Implications for Canadian pipeline companies

The data and analysis in this report are intended to demonstrate the implications of regulatory layering on the competitiveness of the Canadian pipeline industry. In this section, those implications are grouped into the seven components of the competitiveness framework described earlier.

In summary, the data shows there has been an increase in the volume of regulation imposed on the industry. Pipeline companies are also finding regulatory processes more complex and challenging. In some cases, companies have cancelled projects and shifted investment outside of Canada towards the US where they view their investment choices as more attractive.

It is important to note that it was not always possible to separate out specific costs that can be 100% attributable to any given regulatory issue or change. Companies tend to absorb costs and resources across different projects. Where possible, examples and data have been provided.

Regulatory certainty

Questions: How often is new regulation introduced? How often are changes to regulation introduced?

Based on the regulatory inventory developed in this report, there is evidence of an increase in the volume of regulation and changes to current regulation. As the political landscape changes across Canada, we often see accompanying changes in regulatory requirements, which have a major impact on certainty. Projects often take many years to develop from original concept to approval and construction, and therefore can be subject to multiple political changes. With regulatory change, there is the potential for cost escalation for regulators and operators to implement and comply. Even if it is viewed as a positive change for industry, there can still be a cost to "unwind" what an operator has already done to comply with the previous regulation.

Examples of uncertainty can be found in the evolving nature of the GHG assessment criteria, the Strategic Assessment of Climate Change, additional compliance obligations that may be imposed under the CFS, and the EA Revitalization Intentions from BC Bill-51.

With several of the recent regulatory changes, there is also a perception from many that the extent of what can be asked, and by whom, is increasing. There are many who believe that regulation is becoming increasingly politicized, with key decisions being made by senior civil servants or Ministers as opposed to regulatory bodies.

Conclusion: Regulatory certainty has been decreasing.

Regulatory overlap

Questions: What is the current inventory of regulation? Is there overlap across different regulatory bodies and jurisdictions?

As shown in the earlier sections of this report, regulatory overlap exists to a certain extent. In some circumstances regulatory overlap is necessary and can lead to positive outcomes. However, this is not the case when multiple regulations are duplicating effort to achieve the same outcomes.

A specific issue that exists is the additional burden and cost that is placed on operators to comply with similar regulations across jurisdictions. This can be seen with different carbon pricing mechanisms, requiring operators to comply with multiple reporting frameworks and be ready to adjust to changing pricing systems across Canada.

Several operators noted an increasing level of effort and cost required to do this. Some have reallocated resources, while others have outsourced or contracted out this work. One operator described how many of their managers now spend upwards of 50% of their time reviewing and responding to new regulation and changes.

Conclusion: Regulatory overlap exists to a certain extent.

Transparency and clarity

Questions: How clear are requirements? How often is clarification sought? Is that clarification easily obtained?

Transparency is required to enable an efficient regulatory system. Participants need to know what information is needed, why it is being asked for, and what it is being used for. The true intent of regulation can sometimes be overshadowed and lost in translation between development and day-to-day application. This can be found when regulation is applied purely based on precedent, rather than true applicability towards a project.

Operators reported that technical requirements for most individual regulation are often clear. The challenge usually relates to how individual regulations interact with competing regulations (e.g., NOx vs. particulate matter vs. GHG). It can be unclear how to meet certain regulations without impacting the ability to meet a competing regulation. This is where a holistic approach to regulatory policy is needed.

During the development of Bill C-69, operators were consulted, but most felt that their input and guidance was not considered. Additionally, there are areas of Bill C-69 that remain unclear. Examples include the discretionary ability to determine when and how the public can participate, consultation requirements, and projects subject to a joint review (designated project list).

Conclusion: Regulatory transparency and clarity is an issue.

Predictability of process and outcomes

Questions: Is the regulatory process consistent?
If the process is followed, are the outcomes consistent and predictable?

One of the biggest issues facing Canada's regulatory system today is the lack of predictability of process and outcomes. There have been many highly publicized examples demonstrating that it is becoming increasingly difficult to predict regulatory outcomes, even when the process is followed. While the Trans Mountain Expansion Project received federal approval in 2016, a seemingly endless number of challenges found the project still in the approvals process as of November 2018. The Trans Mountain Expansion Project has now been purchased by the federal government in an effort to provide some level of certainty.

Recent changes to the level of consultation and engagement required throughout the regulatory process have the potential to further impact the predictability of outcomes. The more people involved in the process, the more difficult it is to predict outcomes. Above all, the discretionary powers of the Minister and GIC are increasingly important, as they enable the government to change the course of the application process when and where they see fit (including through mechanisms such as time outs and extensions).

Conclusion: Predictability of process and outcomes has been decreasing.

Flexibility

Questions: Is regulation prescriptive or outcome based?
Does regulation allow for improvements made in technology and innovation?

The common goal for both regulators and operators should be to allow for regulation to be met in the most effective and efficient way possible, embracing new technology and innovation, and achieving the desired outcomes.

In general, operators prefer outcome-based regulation rather than prescriptive regulation, as this allows them to meet requirements in the manner that best suits their circumstances. Today there is a mix of both prescriptive and outcome-based regulation in Canada.

With the introduction of new regulation and changes to existing regulation, operators need some level of prescriptive clarity to understand how they can meet requirements. Many operators find this guidance is often missing when new regulation is introduced (for example there is a lack of process clarity around the federal government's duty to consult in relation to proposed changes under Bill C-69).

Operators also expressed a common desire to use advancements in technology to help meet regulatory requirements in a more efficient way. Regulators are also looking for ways to do this, and in some cases they are (e.g., AER OneStop). Leading practices need to be shared on both sides to be as productive as possible (as evidenced by industry groups such as CEPA, and regulatory groups such as WRF).

Conclusion: Canada has a mix of prescriptive and outcome-based regulation. New technology and innovation need to be embraced and encouraged to be more effective and efficient.

Timelines

Questions: Are timelines predictable and consistent for project approvals? Are they increasing or decreasing?

Regarding project approval timelines, it is important to note that no two pipeline projects are the same. As a result, we need to look for overall trends when comparing timelines across jurisdictions. The impact on timelines tends to be the result of factors such as transparency, certainty and predictability. These can eventually influence overall timelines in either direction.

Once regulation is published, timelines are known to operators. However, when changes or new regulations are introduced with little notice this can create a negative impact on timelines. In addition, timelines for the implementation of new regulation are not always predictable.

With proposed changes under Bill C-69, Canada would have an EA timeline set at 300 days, which could extend to 600 days if deemed necessary. One of the aims of Bill C-69 is to provide greater certainty on timelines. It remains to be seen if this will in fact be the case, as the time periods mentioned above do not include time outs and/or extensions. The introduction of increased requirements for consultation and engagement as part of Bill C-69 also has the potential to increase overall timelines.

The impacts of the changing regulatory environment are starting to become evident when we compare timelines in Canada and the US. The data in in Section 6 outlines the trend of increasing timelines for Section 52 approvals in Canada, as well as a reduction for equivalent projects in the US. Only one new application for a Section 52 project has been made in Canada since 2016, signalling a decrease in investment.

Conclusion: Timelines in Canada are not always consistent or predictable, and have been trending upwards.

Cost

Questions: What impact does regulation have on the cost of developing and operating a pipeline? Is there cost certainty? Are there tax or investment advantages?

An increase in the volume of regulation and uncertainty in the regulatory process can influence timelines and extend the decision-making process. This eventually leads to an increase in cost and low levels of cost certainty. These costs may be paid by the operators or regulators up front, but ultimately make their way to the consumer and taxpayer. In some cases, this includes regulatory and legal advice for operators to navigate increasingly complicated and untested regulation and determine what constitutes compliance.

Specific areas that impact cost competitiveness include:

- Canadian methane regulations will result in increased compliance, monitoring and audit costs beginning in 2020 and 2023.
- Increased resourcing and verification costs linked to increased reporting requirements.
- Introduction of carbon pricing at a national level in Canada.
- Increased requirement for consultation and engagement related to environmental assessments.
- Uncertainty in the regulatory process makes it difficult and costly to plan development and construction activities with contractors.

Many transmission pipeline operators reported having to increase headcount to deal with regulatory change and uncertainty. One operator reported their costs have doubled for external reporting requirements over the past two years. They also noted it took more than 1,000 person hours to comply with the NEB legal registry, in addition to continued ongoing maintenance costs.

A second operator noted the time and cost associated with an NEB management system audit took more than 2,000 person days over the first six months alone. That same operator noted the significant increase in the number of construction inspections over the past two years, driven primarily by the NEB. This resulted in increased travel costs and removing company personnel from their day jobs for extended periods of time.

From a tax perspective, recent changes to US federal tax law mean Canada no longer has a competitive tax advantage. The introduction of federal "bonus depreciation" in the US provides a more competitive depreciation structure for capital investments, which has a direct impact on investment and innovation.

Conclusion: Regulation is impacting costs, and there is not a high degree of cost certainty. Tax advantages that Canada once enjoyed no longer exist.

Case: What does this mean for investment in Canada?

Many pipeline projects require several billion dollars in capital investment spanning multiple years. As soon as the regulatory climate in any jurisdiction becomes uncertain or burdensome, it becomes less attractive to investors. This is not only because it can cost more to get something done, but also because it forces companies to spend potentially billions of dollars with the possibility of having to walk away from it based on a regulatory process that can have a high degree of uncertainty, as was the case for TransCanada Pipelines with the Energy East project. Given that capital is liquid and investors like certainty, Canada has become an increasingly difficult place to attract new pipeline projects and investment.

Over the past two years alone, TransCanada Pipelines Limited has cancelled several major Canadian projects worth tens of billions of dollars. In 2016, TransCanada Pipelines capital investment in natural gas pipelines was evenly split between Canada and the US, but in 2017 nearly 60% of capital spend was based in the US. Perhaps more alarming are the statistics on construction spend for new natural gas projects. In 2016, 46% of spend was in Canada and 54% in the US. In 2017, only 20% of spend was in Canada an 80% was in the US.

While this trend obviously has an impact on the Canadian pipeline industry, it has a more profound effect on the Canadian upstream industry and the entire energy sector. Not only does this mean industry has market access issues that force it to sell products below market value, it has also delayed or cancelled many new investments in the upstream sector. Many upstream executives have publicly commented that they are delaying or restricting new investment capital in Canada until the market access issues are resolved.

Conclusion and further considerations

Regulation plays a critical role in helping ensure the safe and reliable movement of energy in Canada. It is in the best interest of all Canadians to have an effective and efficient regulatory environment to achieve both a clean environment and a strong Canadian economy. At the end of the day, the cost and uncertainty that exists in the regulatory process eventually make their way to the Canadian consumer and taxpayer.

The volume of regulation imposed on the Canadian pipeline industry has increased, and pipeline operators are finding it more challenging, complex and costly to deal with regulation. The data in this report has shown an increase in regulatory layering in Canada, and how this continues to negatively impact the competitiveness of the pipeline industry. Rather than one specific item, it is the cumulative effect of many factors which makes it more difficult to develop new projects and attract investment. This is best demonstrated by the steadily increasing regulatory timelines, the significant drop in new pipeline applications, and the shifting of capital from Canada to the US.

It is important to note that while factors like cost and taxes are significant considerations, it is the predictability of process and certainty that industry desires most. When regulations are added or changing and lack the required level of clarity and transparency, it is difficult to deploy capital and resources in the most effective way.

The net impact is that much-needed new transmission pipeline capacity is not being built, and the Canadian energy industry is continuing to suffer with a lack of market access for its products. As a result, billions of dollars in revenue and taxes are lost, impacting the Canadian economy and employment. If Canada is to reverse this trend and realize fair prices for Canadian resources, changes need to occur that make Canada a more competitive place to develop and operate pipelines.

Canadian regulators have begun to make many moves in the right direction, with AER's OneStop providing a single review and approval system, efforts by the WRF to improve regulatory collaboration, and efforts by Canada's national and some regional regulators to reduce regulatory burden. It remains important that these efforts continue and expand. Success will be determined by action and results.

Looking forward, Bill C-69 identifies six key desired outcomes that claim to address many of the issues impacting competitiveness brought up in this analysis. It will take years to determine if those outcomes will be met and improve the competitiveness of Canada's pipeline industry, thereby strengthening Canada's economy.

This report contains data and analysis of Canada's current and future regulatory environment. To fully understand the impacts that were outside of the scope of this report, several areas will require further analysis. They include:

- A cost analysis of the impact of regulation to Canadian consumers
- An analysis of the regulatory impact on smaller projects (Section 58)
- An analysis of social and Indigenous consultation requirements
- An analysis of the impact of BC Bill-51
- A further in-depth analysis of Bill C-69
- An assessment of technology and innovation that can improve regulatory processes
- A detailed analysis of the current and pending US regulatory environment

Regulatory inventory

To gain an understanding of the regulatory environment in which pipeline companies operate, the following regulations were assessed for this report:

Regulation reviewed	Enacted | Updated
Canadian federal regulations	
The proposed Bill C69, comprised of: (Environment and Climate Change Canada (ECCC), Natural Resources Canada (NRCAN), Transport Canada)	
Impact Assessment Act	
Canadian Energy Regulator Act	
Canadian Navigable Waters Act	
Bill C68 Fisheries Act (ECCC)	
Canadian Environmental Protection Act (CEPA)	2000
Canada Multi-Sector Air Pollution Regulation (ECCC)	
Clean Fuel Standards	
Guidelines for the Reduction of Nitrogen Oxide Emissions from Natural Gas-fuelled Stationary Combustion Turbines (ECCC)	
Greenhouse Gas Reporting Program (GHGRP)	E 2004 | U 2017
Regulations Respecting Reduction in the Release of Methane and Certain Volatile Organic Compounds (Upstream Oil and Gas Sector)	2018
Greenhouse Gas Pollution Pricing Act* (*Pricing mechanism)	2018
Greenhouse Gas Emissions Information Production Order: SOR/2018-214	2018
Methodology for estimating upstream greenhouse gas emissions on major oil and gas projects undergoing federal assessments (ECCC)	2016
Pipeline Safety Act *Enshrines the polluter-pays principle into law, as well as clarifies the audit and inspection powers of the National Energy Board. The Act is also intended to ensure companies are held responsible for any abandoned pipelines.*	2016
National Energy Board (NEB) Act	E 1985 | U 2018
NEB Onshore Pipeline Regulations	E 1999 | U 2018
Alberta provincial regulations	
Alberta Environmental Protection and Enhancement Act *Establishes regulatory requirements for air, water, land, and biodiversity are managed. The Act supports and promotes the protection, enhancement and wise use of the environment by designating proposed activities for which an approval or registration is required.*	E 2000 | U 2013
Environmental Assessment Regulation	E 1993 | U 2013
Activities Designation Regulation	E 2003 | U 2017
Alberta Climate Change and Emissions Management Act *Establishes intensity-based targets to reduce emissions, mandatory reporting requirements, and a Climate Change and Emissions Management Fund to support initiatives to reduce specified gas emissions. Addresses carbon dioxide, methane and other specified gas emissions that contribute to climate change.*	E 2003 | U 2017
Alberta Specified Gas Emitters Regulation	E 2007
Alberta Carbon Competitiveness Incentive Regulation (CCIR) (Replaces SGER)	E 2018
Alberta Directive 060 Upstream Petroleum Industry Flaring, Incinerating, and Venting *Outlines the requirements for flaring, incinerating, and venting in Alberta at all upstream petroleum industry wells and facilities. The requirements also apply to pipeline installations that convey gas (e.g., compressor stations, line heaters) licensed by the AER in accordance with the Pipeline Act. Directive 060 applies to all schemes and operations approved under Section 10 of the Oil Sands Conservation Act (OSCA), with the exception of oil sands mining schemes and operations.*	E 1999 | U 2018
Alberta Methane Reduction Initiative (Alberta Environment and Parks)	

Regulation reviewed	Enacted | Updated
BC provincial regulations	
BC Environmental Assessment review – Environmental Assessment Act (BC Ministry of Environment and Climate Change) *Establishes legislative mechanism for reviewing major projects in BC and to assess any potential significant adverse environmental, economic, social, heritage or health effect, and to designate a project as being in the public interest.*	E 2002
BC Greenhouse Gas Reduction Targets Act (GGRTA) (Cap and Trade Act) *Sets legislated targets for reducing greenhouse gases. Under the Act, B.C.'s GHG emissions are to be reduced by at least 33% below 2007 levels by 2020. Interim reduction targets of six percent by 2012 and 18% by 2016 are in place to guide and measure progress. A further emission reduction target of 80% below 2007 levels is set for 2050. The Act also provided authority for the Greenhouse Gas Emission Control Regulation and the Carbon Neutral Government Regulation (enacted in December 2008).*	E 2008
BC Greenhouse Gas Industrial Reporting and Control Act *Enables performance standards to be set for industrial facilities or sectors, as listed within a Schedule to the Act. For example, there is a schedule that sets a greenhouse gas emissions benchmark for LNG facilities, as well as an emission benchmark for coal-based electricity generation operations. The Act is intended to streamline existing GHG legislation and regulation into a single legislative and regulatory system, including the emission reporting framework previously established under the Greenhouse Gas Reduction (Cap and Trade) Act. The Act provides authority for the Greenhouse Gas Emission Reporting Regulation, the Greenhouse Gas Emission Administrative Penalties and Appeals Regulation and the Greenhouse Gas Emission Control Regulation.*	E 2016
BC Greenhouse Gas Emissions Reporting Regulation *Legislation requires industrial operations that emit over 10,000 carbon dioxide equivalent tonnes per year (tCO2e) to report their GHG emissions on an annual basis. Those operations that emit over 25,000 tCO2e must have their emission reports independently verified. LNG operations are defined under the regulation and specifies which emissions are attributable to the emission benchmark as set in the Schedule in the Greenhouse Gas Industrial Reporting and Control Act. Requirements for compliance reporting for regulated operations, including LNG, are prescribed within the regulation.*	E 2016
BC Greenhouse Gas Emission Administrative Penalties and Appeals Regulation *Establishes the conditions, timelines and amounts related to administrative penalties, including administrative monetary penalties that may be levied for non-compliance with the Act. It also outlines the process for seeking appeals after decisions have been made by the Director under the Greenhouse Gas Industrial Reporting and Control Act.*	E 2016
BC Greenhouse Gas Emission Control Regulation *Establishes the mechanisms and requirements for issuing emission offset units and funded units, as well as establishes the BC Carbon Registry. The registry enables the electronic issuance, transfer and retirement of compliance units - namely emission offset units, funded units and earned credits.*	E 2016
BC Carbon Tax Act (BCMOE) *Establishes a price (revenue neutral tax) on greenhouse gas emissions. All revenues generated are recycled back into the economy and to taxpayers through other tax reductions.*	E 2008
Environmental Management Act - Division 2.1 Spill preparedness, response and recovery (BC Ministry of Environment and Climate Change)	
United States regulations	
US National Environmental Policy Act *Requires federal agencies to assess the environmental effects of their proposed actions prior to making decisions. NEPA covers actions related to making decisions on permit applications, adopting federal land management actions, and constructing highways and other publicly-owned facilities. The Act sets out a process for agencies to evaluate the environmental and related social and economic effects of their proposed actions. Agencies also provide opportunities for public review and comment on those evaluations. The Act established the President's Council on Environmental Quality (CEQ) to oversee implementation.*	E 1969 | U 1982
Regulations 40 CFR Parts 1500-1508 *Implements NEPA and establishes binding regulations on all federal agencies. Regulations address the procedural provisions of NEPA and the administration of the NEPA process, including the preparation of environmental impact statements. Federal agencies have the authority to develop their own NEPA procedures that supplement the CEQ NEPA regulations. These NEPA procedures vary from agency to agency due to the fact that they are tailored according to the specific mission and activities of the agency. As it relates to midstream industry,*	
US Clean Air Act *Federal law that regulates air emissions from area, stationary, and mobile sources. This law authorizes the US Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment. The Act also authorizes the EPA to regulate greenhouse gases (GHGs) from mobile and stationary sources of air pollution. Section 202 establishes standards for mobile sources and GHGs from stationary sources.*	E 1955
New Source Performance Standards (NSPS), Permitting Rules for the Oil and Natural Gas Industry (40 CFR Part 60, Federal Regulation 35824) *Note that in 2017, EPA issued 90-day stay of the compliance exercising its authority under CAA Section 307 These are under review, pending public comment until Dec 2018.)*	E 2016

Assumptions

This report, developed by EY on behalf of CEPA, includes a series of findings based on important assumptions. These assumptions include:

- Data provided by CEPA and CEPA member companies was assumed to be accurate and complete, and to represent the best data the organization and members had available for analysis. CEPA member companies were the only stakeholders consulted during this report.
- Data drawn from publicly available databases (including the National Energy Board, Alberta Energy Regulator, and US Federal Energy Regulatory Commission) is assumed to be complete and accurate.
- The scope of regulation for this report is as identified in the appendix and is not exhaustive.
- The primary jurisdictions in scope were Alberta and BC in Canada, and Texas and Oklahoma in the US.
- The inventory of environmental and safety regulations that was developed is assumed to be largely representative of major regulation at the federal level, as well as provincially for Alberta and BC.
- The draft of Canadian Bill C-69 reviewed at the time of the publication of this report is assumed to be the most accurate representation of the pending legislation available. Note that, should changes to the bill be made, some of the analysis contained in this report will require updates.
- Pipelines greater than 40 km (~25 miles) regulated by the Federal Energy Regulatory Commission in the United States were assumed to be considered equivalent to Section 52 pipelines regulated by the National Energy Board in Canada.
- Pipelines were assumed to be a depreciable asset under the changes to the United States tax code. EY did not conduct a detailed analysis of the changes to the US Tax Code to confirm the full legal validity of this assumption.

1 "Energy and the Economy," Natural Resources Canada, https://www.nrcan.gc.ca/energy/facts/energy-economy/20062, accessed 14 November 2018.

2 "Oil Prices Plunge Below $15 In Canada," OilPrice.com, https://oilprice.com/Energy/Oil-Prices/Oil-Prices-Plunge-Below-15-In-Canada.html, accessed 14 November 2018.

3 "Major Pipeline Projects Pending (Onshore)," US Federal Energy Regulatory Commission, https://www.ferc.gov/industries/gas/indus-act/pipelines/pending-projects.asp, accessed 11 November 2018.

4 Canadian Crude Oil Exports by Rail," National Energy Board, https://www.neb-one.gc.ca/nrg/sttstc/crdlndptrlmprdct/stt/cndncrdlxprtsrl-eng.html, accessed 20 November 2018.

5 "A Global Vision for the Future of Canadian Oil & Natural Gas," Canadian Association of Petroleum Producers, https://www.capp.ca/publications-and-statistics/publications/315421, accessed 12 November 2018.

6 "US Field Production of Crude Oil," US Energy Information Agency, https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRFPUS2&f=A, accessed 15 November 2018.

7 "Executive Order 13653: Preparing the United States for the Impacts of Climate Change," US Federal Register, https://www.gpo.gov/fdsys/pkg/FR-2013-11-06/pdf/2013-26785.pdf, accessed 5 November 2018.

8 "Executive Order 13693: Planning for Federal Sustainability in the Next Decade," US Federal Register, https://www.gpo.gov/fdsys/pkg/FR-2015-03-25/pdf/2015-07016.pdf, accessed 5 November 2018.

9 "Executive Order 13766: Expediting Environmental Reviews and Approvals for High Priority Infrastructure Projects," US Federal Register, https://www.federalregister.gov/executive-order/13766, accessed 10 November 2018.

10 "Executive Order 13807: Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure," US Federal Register, https://www.federalregister.gov/executive-order/13807, accessed 14 November 2018.

11 "Memorandum M-18-13: One Federal Decision Framework for the Environmental Review and Authorization Process for Major Infrastructure Projects under Executive Order 13807," Executive Office of the President, https://ceq.doe.gov/docs/ceq-regulations-and-guidance/One_Federal_Decision_Framework_Guidance_(M-18-13)_2018-03-20.pdf, accessed 4 November 2018.

12 "Approved Major Pipeline Projects (2009-Present)," US Federal Energy Regulatory Commission, https://www.ferc.gov/industries/gas/indus-act/pipelines/approved-projects.asp, accessed 11 November 2018.

13 "Energy East and Eastern mainline Projects," National Energy Board, https://www.neb-one.gc.ca/pplctnflng/mjrpp/nrgyst/index-eng.html, accessed 21 November 2018.

14 "Controversial events in the history of TransCanada's Energy East pipeline," Financial Post, https://business.financialpost.com/pmn/business-pmn/controversial-events-in-the-history-of-transcanadas-energy-east-pipeline, accessed 21 November 2018.

15 "NEB releases preliminary timeline for Energy East," Government of Canada, https://www.canada.ca/en/national-energy-board/news/2016/04/neb-releases-preliminary-timeline-for-energy-east.html, accessed 21 November 2018.

16 TransCanada cancels plans for Energy East pipeline," Maclean's, https://www.macleans.ca/economy/transcanada-cancels-plans-for-energy-east-pipeline/, accessed 22 November 2018.

17 "NEB suspends Northern Gateway timeline review after initial approval quashed," CBC, https://www.cbc.ca/news/canada/calgary/neb-suspends-northern-gateway-timeline-review-1.3671508, accessed 22 November 2018.

18 Northern Gateway: Timeline," Global news, https://globalnews.ca/news/1384346/northern-gateway-timeline/, accessed 22 November 2018

19 "Line 3 Replacement Program and Northern Gateway Decision Statement," Enbridge, http://www.enbridge.com/media-center/media-statements/government-of-canada-pipeline-decisions, accessed 22 November 2018.

20 "2018 Corporate Tax Rates for Active Business Income," EY, https://www.ey.com/Publication/vwLUAssets/Tax-Rates-Corporate-2018/$FILE/Tax-Rates-Corporate-2018.pdf, accessed 22 October 2018.

21 "Franchise Tax," Texas Comptroller's Office, https://comptroller.texas.gov/taxes/franchise/, accessed 27 October 2018.

22 "Corporate Income Tax," Oklahoma Policy Institute, https://okpolicy.org/corporate-income-tax/, accessed 27 October 2018.

23 "Oklahoma Franchise Tax," Oklahoma Tax Commission, https://www.ok.gov/tax/Businesses/Tax_Types/Franchise_Tax/index.html, accessed 27 October 2018.

24 "TransCanada annual reports 2016, 2017, Accessed 27 October 2018.

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