Alberta’s oil and gas sector regulatory paradigm shift: challenges and opportunities
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Executive summary

Regulators operate in a complex system – trying to balance multiple competing interests of public and private entities. They play an important role in the development of Canada’s energy industry and, as the industry becomes increasingly global, will continue to directly impact the success of all participants and stakeholders.

Leading regulators continue to look for new ways to enable growth while supporting the efficient, safe and orderly development of energy resources and minimizing the environmental footprint of these activities. Play based regulation (PBR) is one way for regulators to manage these dynamic shifts.

Potential benefits of PBR include:

**Broader view of cumulative effects**

PBR creates an opportunity to take a broader view and management of the cumulative effects, drive innovation and reduce industry footprint. In addition, PBR will help move beyond simply an upfront authorization and focus more on outcomes-based monitoring, including the monitoring of significant environmental outcomes.

**Collaboration between industry players**

PBR will allow for increased collaboration between oil and gas industry participants by allowing easier integration of land use activities. Increased integration will mean reduced costs for operators and a smaller surface footprint as a result of less scattered development.

**Improved regulatory effectiveness and reduced burden**

PBR combines the multitude of separate regulatory activities into a single application and review process for energy development activities associated with a specific location in Alberta. Moving from separate activity-based regulatory approvals to a single application, single review and single approval around a specific “play” could significantly reduce the regulatory burden on the system, while increasing the effectiveness.

**Optimized facility development**

In a PBR scenario it would be possible to time the pipeline construction ahead of drilling and therefore optimize pipeline development capacity and potentially reduce flaring and venting by allowing in-line testing.

**Increased ability to capture technology changes**

An integrated application process would allow stakeholders to benefit from knowledge and technology advances in a timely manner.

**Lower operating costs and less complex abandonment processes**

By bringing on several wells at one location onto production at the same time, companies will potentially have a more efficient allocation of capital and achieve economies of scale. They’ll also achieve efficiencies of rig utilization. This would also mean that the locations could be abandoned sequentially and all wells would be considered for abandonment at the same time.

**Shorter development cycle**

The disturbance on local stakeholders would be of greater intensity but over a shorter period as several wells are brought onto production at the same time. Rigs would also not need to be fully decommissioned and set up to drill all wells on a single pad if all were drilled at the same time.

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**Play based regulation (PBR) is an innovative approach to regulating Alberta’s oil and gas industry. The system, currently being piloted by the Alberta Energy Regulator (AER), has the potential to create numerous benefits for multiple stakeholders including industry, Albertans and environmental organizations.**
Regulatory policy

Regulatory policy stems from the need to balance multiple interests. It maintains adequate balance of social, environmental and economic values, while allowing for economic development. Regulations, set by the government, ensure public safety, environmental protection, resource conservation and fair and equitable resource development. Regulators develop and enforce regulations to protect the public and the environment, ensure industry does not waste the resource, and that the government receives any entitled royalties. Regulators are constantly trying to keep balance in the system, while maintaining an arm’s-length independence from a government’s political agenda.

Regulation process

Regulators receive policy and legislative statutes from government. It’s then translated into regulations with input from both internal and external stakeholders. Industry players that build and operate oil and gas projects and facilities then follow those regulations.
The Alberta Energy Regulator (AER) ensures the efficient, safe, orderly and environmentally responsible development of energy resources over their entire life cycle. This includes allocating and conserving water resources, managing public lands, and protecting the environment while providing economic benefits for all Albertans. The province's energy regulation has undergone significant changes since 2013 as a result of the Responsible Energy Development Act (REDA). These changes saw the creation of the AER through the combination of the regulatory functions in the Energy Resource Conservation Board (ERCB) and relevant regulatory functions from Alberta Environment and Sustainable Resource Development (ESRD). It was created to act as a single regulatory body for upstream oil and gas, oil sands and coal development activities. The regulatory body began operations in June 2013 and has since assumed functions under the Public Lands Act, Mines and Minerals Act, Water Act and Environmental Protection and Enhancement Act – authorizing it to protect land, water and air. Ministerial Order 141/2013 also provided the AER with eight specific directions and a process for First Nations consultation.

The AER regulates:
- Over 181,300 wells and 415,000 km of pipelines
- 782 gas processing plants
- Nine oil sands mines
- More than 50 thermal in situ and 200 primary/enhanced schemes
- Five bitumen upgraders
- Eleven coal mines
- Four coal processing plants

Legislation administered by the AER:
- Energy Resources Conservation Act
- Oil and Gas Conservation Act
- Public Lands Act
- Water Act
- Environmental Protection and Enhancement Act
- Mines and Mineral Act
- Coal Conservation Act
- Gas Resources Preservation Act
- Oil Sands Conservation Act
- Pipeline Act
- Turner Valley Unit Operations Act
- AER Rules of Practice
- Coal Conservation regulation
- Gas Resources Preservation regulation
- Oil and Gas Conservation regulation
- Orphan Fund Delegated Administration regulation
- Oil Sands Conservation regulation
- Pipeline regulation
Environmental non-governmental organizations

Environmental non-governmental organizations (ENGOs) play a valuable role in supporting environmental responsibility across the regulatory system. Organizations like the Pembina Institute, Clean Air Strategic Alliance, Alberta Wilderness Association, Alberta Environmental Network, Greenpeace and Conservation International support regulatory policy in a variety of ways. ENGOs monitor government and industry environmental performance, educate and increase public awareness of environmental issues and collaborate with regulatory system participants to encourage responsible and orderly development. These players can also be involved in the creation of government regulations for the oil and gas industry.

First Nations

Alberta First Nations groups are a significant piece of the regulatory system. In 2011 and 2012 alone, more than 1,550 consultation meetings between First Nations and members of industry took place. These meetings revolved around pressing industry topics, including pipelines, forestry and varying resource development projects. First Nations involvement extends beyond consultation as well. Working relationships with Alberta’s oil sands industry has generated over $8 billion in revenues for First Nations.

Canada’s energy industry is expected to spend $650 billion on more than 600 major resource projects between now and 2023.¹ Many of these projects will have a significant effect on First Nations in Western Canada. This extensive development means that First Nations communities will continue to have a sizeable impact on energy regulation, and could be among the greatest beneficiaries - but most impacted - of new development.

General public

The general public – including land owners – play a big role in shaping energy regulation and there are a number of structures in place (administered by the regulatory bodies) to allow participation to occur.

Reliable, long-term environmental monitoring based on sound science is in the public’s best interest. The oil sands industry will pay an estimated $1.5 trillion in provincial ($302 billion) and federal ($574 billion) taxes and provincial royalties exceeding $590 billion over the next 25 years. The industry also provides employment opportunities for the general public. Direct employment, as a result of oil sands investments, is expected to grow from 149,000 jobs in 2014 to 225,000 jobs in 2038. And, when you factor in indirect employment opportunities, those numbers more than double in size. (These numbers could be subject to change based on the recent drop in global oil prices.)²

Challenge: regulatory burden and effectiveness

All participants share a common interest in seeing that regulatory processes are effective in protecting multiple competing demands, while supporting appropriate resource development. Balancing the objectives of achieving regulatory effectiveness while not simply creating unnecessary burdens is one of the primary challenges for Alberta’s regulatory system participants. With risk mitigation as the ultimate end goal, the costs and efforts related to adhering with energy regulations can impact a variety of areas: timeliness, predictability, cost effectiveness, duplication of efforts and innovation.

### Component | Key considerations
---|---
**Timeliness** | Timeliness is of extreme importance to all stakeholders in order for them to stay competitive and have their needs met in a timely fashion. Some pre-application processes are sequential, manual and prescriptive. The application process could be improved if applicants were given the flexibility to conduct separate application activities in parallel. Inconsistency with how applications are handled can lead to frustrations for all stakeholders and lead to delays and misunderstandings.

**Predictability** | Predictability around project approval timelines and other application and engagement process steps, public notice requirements and consistent review of environment considerations are key areas of concern for stakeholders. Regulatory bodies should consider setting a precedent to ensure more predictability.

**Cost effectiveness** | Cost effectiveness impacts all stakeholders. Increased costs suggest service levels will also increase, but that has not always been the case. There needs to be a greater understanding among all stakeholders of the cost impact of delayed regulatory approvals.

**Duplication of efforts** | Overlapping requirements or duplication of efforts costs stakeholders time and money. Application processes within individual Acts should move toward consistent standards and outcomes, and stronger alignment. Overlap of information and data requirements, environmental assessments and consultation requirements across multiple Acts should be removed entirely. Addressing and minimizing duplication of efforts can have a positive impact on cost effectiveness, predictability, timeliness and stakeholders’ ability to innovate.

**Innovation** | Regulators must create an environment that enables innovation. The importance of regulators in supporting innovation in the coming years will continue to increase in importance for both industry players and other stakeholder groups. Regulators must engage with technical experts from industry to identify new ideas for supporting innovations, be open and flexible to pilot testing activities and employing a more outcomes-based approach to regulation in order to support innovation. This includes developing incentives that encourage companies to collaborate while maintaining strong intellectual property protection.

“...AER needs to be a facilitator, enabler and partner, but not a barrier to innovation.”

- VP Government Relations of a large oil and gas company

We asked stakeholders what role they thought the regulator should play in terms of innovation. They told us they believe innovation is primarily a supporting, or enabling role.
PBR is the first step in a potential paradigm shift in how regulation is administered and enforced in Alberta. Advances in technology have expanded companies’ ability to exploit unconventional oil and gas plays. However, the current regulatory framework does not adequately take into account the cumulative impacts of this type of development. It also does not adequately address the risks introduced when leveraging these technological advances. Lastly, it does not adequately provide clarity and certainty to stakeholders relative to the overall play development.

Currently, energy development activities are relatively dispersed and governed by separate approval processes. PBR is intended to address these concerns and achieve the dual purpose of increasing regulatory effectiveness while reducing the overall regulatory burden.

Today, each energy development activity, such as building a road, diverting water, drilling a well and constructing a pipeline or facility requires a separate regulatory approval. PBR combines this multitude of separate regulatory activities into a single application and review process for energy development activities associated with a specific geographic area or development zone “play” in Alberta. Moving from separate activity-based regulatory approvals to a single application, single review and single approval around a specific “play” could result in significant improvements to increased stakeholder visibility; the ability to conduct risk-based, cumulative impact assessments and approval of development plans; and encouraging orderly and environmentally responsible development in the best interests of Albertans.

**Current state (no PBR)**
- Activity by activity authorization
- Limited opportunity for collaboration and shared development
- Cumulative effects not addressed

**Future state (with PBR)**
- Orderly development
- Cumulative project impacts can be managed
- Optimization of capital expenditure for operators
The AER is currently in the process of piloting a PBR framework to govern unconventional oil and gas development. The pilot project is focused on the Duvernay area in Alberta. This step forward could provide greater understanding of the cumulative and regional impacts of development projects while encouraging long-term planning by industry. The pilot will work to evaluate the benefits and challenges of PBR. It will test the project-based application and decision-making processes for several activities under different pieces of legislation and will promote collaboration between participants to reduce water use, minimize surface impacts of development projects, address well bore integrity issues and improve subsurface reservoir management. The program will also identify AER information systems technology requirements and capabilities necessary to implement technology solutions to help automate and support the PBR lifecycle.

The AER is working closely with industry and stakeholders to factor their perspectives into the development of PBR. EY conducted several detailed interviews on behalf of the AER to determine stakeholders’ perception and understanding of the new PBR method of regulation. Interview participants represented major oil and gas companies, junior and midstream oil and gas companies, ENGOs and other stakeholders, including land owner representatives.
EY asked five core questions around PBR

PBR interview questions

1 Level of understanding

How would you rate the level of understanding that your organization has about the Play Based Regulation (PBR) pilot?

Interview respondents agree that PBR is innovative but could face some challenges. Further and wider stakeholder engagement must be undertaken to improve understanding of the pilot PBR project. To date, it appears major oil and gas companies are the main stakeholders engaged in the pilot activities, so identifying the differing impacts for upstream, midstream and downstream participants will be critical. Respondents identified a lack of understanding around how Statements of Concern filed on a project application will impact a PBR project, likewise the alternative dispute and conflict resolution mechanisms are not entirely clear. They also expressed desire for clarity around what will need to be disclosed upfront for landowners and similar groups to analyze the cumulative development impact of a project. And, lastly, respondents require more understanding around the flexibility of the regulatory process given changes related to major projects are common during different phases of application, operation and closing.

“While we believe our organization has a good understanding of the PBR pilot we are concerned the AER is laying out expectations that we are unable to meet.”

– VP Regulatory of a major oil and gas company

2 Benefits

Do you think Play-Based Regulation (PBR) will be advantageous for unconventional oil and gas development in the province?

3 Process change

What level of process change will your organization have to undergo to adopt Play-Based Regulation (PBR)?

4 Key success factors

What are some of the key success factors that will assist in effective implementation of Play-Based Regulation (PBR)?

5 Collaboration

Do you think Play-Based Regulation (PBR) will drive further collaboration across the industry?

Level of understanding

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2014
When asked about the potential benefits of PBR, Interview participants identified both advantages and disadvantages of transitioning to this model.

**Benefits**

1. PBR creates an opportunity to take a broader view of cumulative effects, drive innovation and reduce industry footprint.
2. Effective implementation of PBR could lead to greater certainty and predictability in decision-making with outcomes defined and industry working to meet outcomes rather than prescriptive requirements.
3. PBR is going to allow all the stakeholders to adopt an integrated approach which may prove to be more effective and efficient for all parties.
4. There is an industry perception that the PBR framework could be applied to In-situ. Responsible energy development requires an understanding of the full-scale development and its potential risks in order to minimize cumulative impacts on the land, water and air. This could be done through the Lower Athabasca Regional Plan (LARP) if play based regulation were adjusted to include in-situ projects.
5. PBR has the potential to consolidate overlapping/duplicative information requirements.
6. PBR creates an opportunity to achieve greater efficiency by submitting one application for a big play in the area.
7. There is a perception that PBR may provide greater administrative benefits to industry in the long run.
8. PBR allows participants in the oil & gas industry to develop better long term plans. The ability to manage applications on a consolidated basis upfront could prove beneficial to all participants.
9. PBR could potentially reduce the environmental impact of energy development by having operators share resources in the play.
10. Having a single approval will reduce waiting times and encourage communication with stakeholders throughout the life of the project.

**Disadvantages**

1. ENGO’s fear that lack of clarity around PBR process could lead to quick development without meeting the expected environment screening standards.
2. There is a perception that industry may have to invest more on the planning side to meet the PBR requirements.
3. Industry is concerned about interveners targeting one big play to impede development.
4. PBR reinforces the idea that unconventional development is significantly different than conventional, particularly when conventional development is starting to use similar technologies.
5. PBR processes could prove to be challenging for industry participants that have activities in multiple plays.
6. Depending on the definition of the “Play,” there is the potential to slow development down to the pace of the slowest competitor within the Play.
7. There is a fear that PBR may turn into a larger regulatory footprint that allows higher intervention in the process. To mitigate this potential challenge, land use and government policy need to be clearly articulated.
8. Industry is concerned that they may end up putting a lot of effort in upfront planning, coordination and forecasting amendments for a project, which may not actually happen.
9. Perception that PBR is a lot of work for the regulator and industry. Some stakeholders feel that PBR’s objective could have been achieved through applying conditions on the land use planning process.
10. It is unclear how compliance activities will be conducted within the PBR framework.
Interview participants agreed more information is necessary to fully understand PBR rules, information requirements and process to adequately assess the level of process change required. Some industry participants, particularly large oil and gas companies, believe they may have to undergo a major process change to comply with PBR requirements, including setting up a dedicated regulatory team to continually work on coordinating consolidated application requirements with other players in the area. Many believe they may have to revisit their First Nations consultation process if PBR requires a different focus and planning for stakeholder engagement. Respondents also expressed concern that PBR may significantly impact development planning processes. And ENGOs believe that changes may require them to deploy their staff in a different way. Clarifying these concerns requires a greater, more holistic approach to understanding PBR.

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2014
The following key success factors highlight specific recommendations suggested by interview participants for successful implementation of PBR:

**Policies must be in place.** This may require collaboration across ministries to achieve rapid policy response to gaps that hinder industry's ability to meet PBR goals. For instance, industry will need very specific and clear policy guidance around land and water use to manage the cumulative impacts.

**Stakeholder engagement strategies and guidelines need to be in place.** Clearly outlined processes for application commenting periods, project standing, statement of concerns, and broader, more inclusive stakeholder engagement strategies and plans need to be in place. The majority of interview participants expressed concern about interveners targeting one big play to impede development as a risk to successful implementation.

**Adopt a transitional approach and monitor rapid development growth.** Clarity around the PBR process must be in place to avoid rapid development before expected environment screening standards are met.

**Incentivize PBR.** Offering incentives can increase certainty around investment decisions to encourage industry participation in the PBR approach.

**Perform a thorough risk analysis with inputs from stakeholders.** Engage risk management advisors to help communicate transparently with stakeholders, in order to understand the risks and mitigate key identified risks.

**Adopt a flexible approach to implementation.** Assess the PBR initiative on an ongoing basis and improve the new process and approach as required through ongoing releases. For a period of time it may be necessary to run two parallel authorization systems (old and new) until issues with PBR are resolved and functionality is fully deployed through ongoing enhancements.

**Conduct interactive information sessions with stakeholders.** Arrange meetings throughout Alberta to allow participants in the regulatory system to learn more about the PBR concept, and have their input factored into future process and system changes.

**Investigate the system modernization options to support the process.** Stakeholders believe that the current regulatory system is incapable of supporting the consolidated application submission requirement (i.e. one application, one review and one decision) of PBR. Addressing this concern begins by investigating the system modernization opportunities that exist to support this new approach in the most effective and efficient way.

**Issue clear guidelines around rules related to environment screening.** There must be clarity around whether development would be only allowed on areas where there is no prohibition on land use.

**Identify and share the lessons learned.** Communicate lessons from the pilot implementation in Duvernay area with key stakeholders to spread understanding and identify areas of improvement as PBR potentially gets deployed in other plays in the future.
PBR interview participants generally agree there is already a high level of collaboration in Alberta’s oil and gas industry and question whether PBR will act as a catalyst to drive further collaboration. These players are also hesitant about the competitive implications to their organization resulting from moving toward an area-based, multi-stakeholder process. Alternatively, ENGOs cite opportunity for collaboration around environmental challenges as a potential positive benefit for all stakeholders. Regulatory bodies must provide greater insight into how collaboration can be achieved.

“If you merge Apple and Samsung when they are competitors you will get an excellent smart phone, but is that practically possible?”

- COO of a junior oil and gas company
Conclusion

As the energy industry continues to develop and evolve both in Alberta and other parts of the world over the coming years, regulators will need to continue to look for ways to support and enable innovation, protect the environment, support orderly development and manage activities in the most efficient and effective way. Effectively designed and implemented, PBR offers an innovative way for regulators to balance these multiple objectives.

If PBR is adopted across the industry as a new way of regulating in the Province of Alberta, it could redefine how some companies approach and plan development, how they collaborate and how cumulative effects get managed. Other regulators will be observing with interest and trying to understand relevance to their own jurisdictions. High-performing companies will be those that can respond, adapt, execute and implement the new PBR norm as quickly as possible.

How EY can help

The move toward an innovative regulatory model like PBR will require companies to rethink their strategies, business processes, organizational structures and operating models. Some organizations will succeed in this transformation; others will not.

EY works with clients to help define and implement actionable strategies to respond to multi-faceted and complex changes, and build the capability to deliver sustainable business results in an uncertain world. Adoption of some form of PBR is one of the evolving and dynamic challenges that oil and gas companies will face.

For more information, contact a member of EY’s Canadian Oil & Gas team.

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