The Role of Policy in Climate Change Adaptation: Oil and Gas Sector

The Intergovernmental Panel on Climate Change reports that global temperatures are projected to rise 2.6 to 4.8°C above present temperatures by the end of century, the number and severity of storms and extreme weather will increase, and precipitation patterns will change.

The **energy sector**, while often identified as a contributor to climate change due to its emissions of greenhouse gases during resource production, is a sector that will experience disruptions over the coming decades due to increasing extreme weather and climate variability. Climate change presents risks for the upstream oil and gas sector in Canada at all stages: exploration, extraction, processing, transportation, as well as remediation and reclamation – and opportunities for those actors able to manage those risks appropriately. Globally, the oil and gas sector is considered a leader in understanding and incorporating risk into their decision-making. However, it is unclear if operators within the sector are responding adequately to the changing nature of risk in a changing climate.

Climate change adaptation is the process of adjusting to actual or expected climate and its effects with the goal of avoiding or moderating harm or disruptions to energy systems, or to identify beneficial opportunities.

Corporate or sector-led efforts to prepare the oil and gas sector for the impacts of a changing climate will be influenced by existing policy regimes. It is important, therefore to better understand the policies that govern both exploration and production of oil and gas activities in Canada.

While policy can play a role in creating environments that can enable or drive adaptation, it can also pose as a barrier to adaption. An enabling policy environment can make adapting to climate change easier, more cost-effective or more efficient, while policy barriers can (intentionally or unintentionally) block or hinder adaptation or competitively disadvantage the proponent seeking to reduce climate related risk. More so, policy can be *perceived* to be hindering or driving adaptation, even though it may not be.

In **Role of Policy in Oil and Gas Adaptation: An analysis of policy drivers and barriers in the Alberta Oil and Gas Sector** (2015) authors used an evaluation framework to assess the effect of specific policies on the capacity of various stakeholders to adapt to climate change. **Five policies were evaluated** with this framework to determine whether, and to what extent, they either enabled or hindered adaptation in the oil and gas sector (see table below). The lessons and outcomes of this evaluation are also applicable to Ontario's oil and gas sector.

Policy	Enablers that offer opportunities for adaptation	Barriers to adaptation that could be improved
Environmental Impact Assessment (EIA) Regulation	• Ensures open access to all information contained in EIAs. • Promotes public and expert engagement in shaping the content and scope of EIAs.	• Outputs could explicitly require consideration of climate change risks and adaptation. • Guidance documents could be strengthened to ensure consistency across EIAs and promote integration of climate adaptation beyond risks to operations.
Responsible Energy Development Act (REDA)	• Provides flexibility within policy design and implementation. • Facilitates alignment with other policies and references other acts. • Promotes open information and public engagement.	• Could include clear references and guidance to climate impacts and adaptation. • Modifying limitations on eligibility in review processes could strengthen adaptation.
Oil and Gas Disclosure Regulation	• Discusses uncertainty and includes risk management terminology. • References the Canadian Oil and Gas Evaluation (COGE) Handbook as guidance document.	• Guidance documents (e.g. COGE) could be updated to include climate change as a factor of risks and costs. • Could support Alberta Securities Commission's review of disclosure regulations to provide investors with information on climate risks and risk management.
Alberta Wetland Policy (AWP)	• Principles of adaptive policy can be leveraged to advance climate change adaptation, including: adaptive management, continuous learning and review, etc. • Creates expectations for planning comprehensive and long-term resilience measures.	• Could incorporate projections related to climate change and hydrology and anticipated wetland impacts.
Lower Athabasca Land Use Plan (LARP)	• Principles of adaptive policy in LARP can be leveraged to advance climate change adaptation, including: long-term planning, scenario planning tools, etc. • References risk management and stated expectations for future environmental outcomes.	• Could include considerations for climate change in various areas: monitoring, infrastructure discussion, scenario planning, etc.

The review revealed that there are opportunities within policy to enable the oil and gas sector, and its stakeholders, to be proactive in responding to climate change risks. Within the limited set of policies reviewed, authors found no explicit barriers to adaptation, although some aspects of these policies could be improved. Furthermore, the policies included a few specific drivers of adaptation and many aspects favourable to the integration of adaptation practices. The analysis also demonstrated that leveraging principles of adaptive management already incorporated in policies provided additional **opportunities to strengthen adaptation.**

Recommendations for Strengthening Adaptation

There are 7 key areas of opportunity to strengthen the consideration of climate change impacts and the integration of adaptation measures in the oil and gas sector.

1. **Further research and analysis should be provided** to stakeholders of the oil and gas sector on local and regional climate impacts and risks based on relevant and up-to-date information.
2. **Guidance documents should be developed or strengthened** to ensure widespread integration of climate change risks consideration and improve consistency and quality of monitoring and reporting within the oil and gas sector.
3. **Collaboration between government, operators, industry associations, consultants and other stakeholders** would allow for a greater understanding of sector best practices and efficient information dissemination.
4. **Consultation processes can be strengthened** by encouraging experts or stakeholders with information relevant to climate change science, climate impacts and climate adaptation to participate.
5. **Policies that include indicators, monitoring, evaluation and review processes can be strengthened** by adding climate-related indicators and/or through providing information on the relationship between the selected indicators and climate change where relevant.
6. **When the objectives and desired outcomes of policy are dependent on climate change, an explicit recognition and discussion of this relationship is required**. A reliance on tools and processes for long term management of natural resources that do not incorporate climate change increases the risk that policy objectives will not be achieved.
7. **An alignment of timeframes should allow for the easy integration of climate risks when necessary**. Climate change projections and impacts align with planning timeframes and should be included in scenarios of future growth, resource and land use.

These recommendations to strengthen adaptation are transferable to policymakers and decision-makers in other regions and natural resources sectors.

For more information and to access the report, please visit:
www.climateontario.ca/doc/reports/RoleOfPolicyInClimateChangeAdaptation_FINAL_2015.pdf

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