

REGIONAL ASSESSMENT OF OFFSHORE OIL AND GAS EXPLORATORY DRILLING EAST OF NEWFOUNDLAND AND LABRADOR Technical Advisory Group (TAG) Sessions, September 2019: <i>Climate Change</i> Engagement Activity / Meeting Notes Finalized: October 28, 2019		
Date and Time / Duration	Tuesday, September 17, 2019 9:30 a.m. – 12:30 p.m. NDT	
Location	Conference Centre, Memorial University's Signal Hill Campus, St. John's, NL	
Organization(s)	<ul style="list-style-type: none"> • Atlantic Policy Congress (APC) • BHP • Canada-Nova Scotia Offshore Petroleum Board (C-NSOPB) • Canadian Association of Petroleum Producers (CAPP) • C-CORE • Department of Fisheries and Land Resources, Government of Newfoundland and Labrador (FLR) • Ecology Action Centre (EAC) • Environment and Climate Change Canada (ECCC) • Exxon-Mobil • Fisheries and Oceans Canada (DFO) • Fish, Food and Allied Workers – Unifor (FFAW-Unifor) • Health Canada • Husky Energy • Imperial Oil • Miawpukek First Nation • Mi'gmawei Mawiomi Secretariat (MMS) • Nalcor Oil and Gas • Newfoundland and Labrador Wildlife Federation (NLWF) • NunatuKavut Community Council (NCC) • Nunatsiavut Government • Ocean Choice International (OCI) • Oceans North • Sierra Club of Canada • Wolastoqey Nation in New Brunswick (WNNB) • Wood PLC • World Wildlife Fund-Canada (WWF-Canada) 	
Participants (External)	<u>In-person:</u> Steve Bettles, Husky Energy Andrew Bouzan, NLWF Dr. Rob Briggs, C-CORE Frederic Cyr, DFO Julie Diamond, DFO Mitch Downton, APC Rick Ellis, OCI	<u>Video/teleconference:</u> Mark Brooks, WWF-Canada Bruce Fraser, ECCC Gretchen Fitzgerald, Sierra Club of Canada Susanna Fuller, Oceans North Carina Gjerdrum, ECCC Gordon Grey, WNNB Steve Jeffcotte, BHP

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	Steve Emberley, Nalcor Oil and Gas Ross Hinks, Miawpukek First Nation Michael Hingston, ECCC Kim Keats, DFO Robyn Lee, FFAW-Unifor Charlie Marshall, APC John McClintock, Wood Sara Rumbolt, Health Canada George Russell, NCC Gillian Savage-Knight, Exxon-Mobil Danielle Speers, Imperial Oil	Shelley Kath, Sierra Club of Canada Charlene Kippenhuck, NCC Keith MacMaster, EAC Jennifer Matthews, CAPP Patrick McDonald, CAPP Janice Ray, C-NSOPB Sarah Saunders, WWF-Canada Claude Sheppard, Nunatsiavut Government Laura Wright, C-NSOPB
Participants (Internal)	<u>Committee Members:</u> Garth Bangay (phone) Wes Foote Maureen Murphy Rustad Dr. Keith Storey	<u>Regional Assessment Task Team:</u> <i>Impact Assessment Agency of Canada</i> Virginia Crawford (phone) Derek McDonald (phone) Erin Stapleton <i>Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB)</i> Melissa Moss Ian Murphy <i>Natural Resources Canada</i> Melissa Preston
Record of Discussion	Information sources or analyses <ol style="list-style-type: none"> 1. DFO recommended the Committee look at changingclimate.ca. DFO supported ECCC in this initiative. The website contains a lot of information from the national point of view and on different regions regarding the effects of climate change on Canada. 2. Indigenous groups in northern communities have contributed very little to the human causes of climate change, but are feeling the impacts of climate change more than others. The Committee should incorporate Indigenous Knowledge on the changes seen over the years into the Regional Assessment. 3. The Regional Assessment should consider physical measurement of conditions, and traditional knowledge of conditions could be used to understand how climate change fits in. 4. There needs to be an effort to collect as much information as we can, so as things move forward, we have a better understanding of what's happening. 5. Physical environment characteristics in current project-specific environmental assessments isn't as up to date as it could be, and the latest information is not being used as well as it could. 6. A participant suggested doing a climate change projection analysis for the offshore area to help distinguish an effect from climate change versus an effect from drilling (e.g., dissolved oxygen), based on the 2013 climate projections for 	

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the province. A local PhD student's research provided likely scenarios, where the underlying change results in more intense events (e.g., high winds, high waves, etc.).

7. A participant suggested the Committee consider a report forthcoming from the IPCC regarding oceans and cryosphere assessments.
8. The first version of Nalcor's NESS system had some climate change projections, though the current version may not have it or may be outdated.
9. A participant suggested the Committee look at the ECCC guidance document on how to assess climate change under the new *Impact Assessment Act*.
10. ECCC noted that one thing that project-specific environmental assessments don't do well is tease out the minor details of impacts of climate change (e.g., species-specific impacts), and suggested that the Regional Assessment may offer an opportunity to do this (perhaps not the first version, but in future updates).
11. The Regional Assessment should consider carbon leakage.
12. Methane leaks from exploration activities should be considered. There is a study out of Princeton on rigs leaking more methane than expected (it is related to production projects, but should be considered).

Environmental phenomena / changes resulting from climate change

1. Indigenous peoples spend half their lives on the ocean and have noticed many changes resulting from climate change (e.g., bird migrations, fish migrations).
2. Effects could be felt on biotic features, and on food web linkages. Important to include this knowledge in the Regional Assessment.
3. The Regional Assessment needs to consider changes that aren't necessarily the result of climate change, but are nonetheless occurring (and quickly, at that) (e.g., shifting migratory pathways of the North Atlantic Right Whale, and how that in turn has resulted in more vessel strikes).
4. A participant expects to see increased ice flows and icebergs off the coast of Labrador and into Newfoundland. Species will stay on the outside of those ice flows close to where a lot of exploration is planned, meaning more interactions.

Environmental components and conditions that will likely change over the course of an exploratory drilling program and adaptive management

1. Changes are occurring more rapidly than the duration of an exploratory drilling program. With the potential of 100 new wells by 2030, and if the Regional Assessment means project-specific environmental assessments are no longer required, there is concern that the Regional Assessment cannot adequately address and assess rapidly-changing environmental components and conditions.
2. A participant cautioned that "adaptive management" is often thrown about without much meaning tied to it. If the Committee will be making recommendations regarding adaptive management, they need to be very clear on what it means and what the requirements are.
3. The increase in frequency and severity of extreme weather events offshore should be considered in emergency response planning.

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NEWFOUNDLAND AND LABRADOR**

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Engagement Activity / Meeting Notes

Finalized: October 28, 2019

4. The Regional Assessment study areas is home to tens of millions of birds. There are consistent hotspots where species congregate. The systems and relationships are dynamic and will change in relation to climate change. There is a need for ongoing monitoring, as what we understand now may not be truth next year, and what we do now to mitigate may not be what is required in the future.

Consideration of climate change in Regional Assessment content and outcomes

1. A participant noted that the Regional Assessment must respect the new *Impact Assessment Act*, which includes assessing the effect of exploratory drilling on Canada's ability to meet its climate change targets.
2. The language in the backgrounder is fairly neutral on what is a very serious issue. Climate change is now referred to as a climate crisis. There is also no reference to anthropogenic climate change, even though humans are causing the climate crisis. The Regional Assessment should acknowledge the severity of the issue and the role humans have played in creating this problem.
3. The Committee needs to be specific in its report regarding the definition of climate change (e.g., anthropogenic climate change, natural variability, etc.).
4. A participant encouraged the Committee to take a precautionary approach with respect to what we may see regarding climate change impacts. Increasing caution should be exercised every year, including built-in future limits and limitations to safeguard the environment and industry.
5. It was suggested that recommendations be made around better monitoring of the conditions, and better collection, aggregation and sharing of the data that we depend on for climate change analyses (this could be connected to an Oceans Supercluster initiative around digitalization). The current system is not working.
6. A participant stated that any recommend mitigations from the Committee be outcome-based and not prescriptive with respect to technology.
7. A participant cautioned that climate change is a complex and complicated issue but the Regional Assessment has to remain focused, and expectations for operators have to be clearly communicated in the recommendations.
8. Since it will be kept up to date, participants see the Regional Assessment as a powerful tool to deal with climate change. Perhaps the first version may not be able to address all, and the Committee should first focus on what is achievable in the given timeframe. Other issues and challenges can be tackled in future versions.

Cumulative effects

1. A participant noted that Canada has a 2-degree target, and that there is no mention in the backgrounder of how an exploration well may become a development well. The projected 100 wells by 2030 will cause a significant increase in the province's greenhouse gas (GHG) emissions targets, accounting for approximately 70% of the GHG targets in 2030. Exploratory drilling leads to development, which does not help Newfoundland and Labrador and Canada meet

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Engagement Activity / Meeting Notes

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climate change targets. This should be an important consideration in the Regional Assessment.

2. Other participants mentioned that emissions from drilling are typically 20-30 k tonnes per year, a much lower magnitude than that from production installations, and that in offshore Newfoundland - ~300 exploration wells have been drilled and only 4 development projects have resulted. If there are permanent production facilities planned, they would still undergo the project-specific environmental assessment process, and emissions would be considered at that time. Additionally, an increase of 5 megatonnes of GHGs is minor compared to China and the US. In terms of the global energy outlook, the world is not getting off oil in the next 20 years, so some feel best to produce in Canada where regulations and commitments are strong.
3. The Committee confirmed they are looking at modelling scenarios, including high and low activity, and working with the C-NLOPB in developing these scenarios. A participant suggested that modelling include scenarios that consider the GHG emissions associated with X number of wells.
4. Vessels will be included in the cumulative effects assessment. Vessel emit GHGs, and Health Canada has completed research in Halifax Harbour on some of the impacts to human health.
5. A participant suggested showing the province's GHG emissions as a percentage of Canada's emissions, and how much emissions are attributable to oil and gas.
6. A participant requested that integration and assessment of downstream emissions be included in the Regional Assessment (and not in project-specific environmental assessments), as not doing so has gotten Canada to this point where climate change goals cannot be met. A participant quoted a Shell 2013 report that speaks to importance of incorporating how future production projects will contribute to Canada meeting GHG targets. Consideration must also be given to stranded assets.
7. There were questions regarding how to distinguish between an effect of drilling versus and an effect of climate change, and between the effect on climate change caused by offshore Newfoundland and Labrador's offshore industry versus global influences. The Committee said they didn't have the answers and were looking to others to provide advice on that.

GIS Platform

1. Indigenous Knowledge and GIS data from Indigenous groups will be included in the GIS decision support system where it is made available, and is applicable to the Regional Assessment.

Regional Assessment timeline

1. There was concern regarding the timeline for completion of the Regional Assessment (including when considering the time it takes to gather and incorporate Indigenous Knowledge into the Regional Assessment, and to tackle a complex issue like climate change). The Committee stated that doing it right was

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Technical Advisory Group (TAG) Sessions, September 2019: *Climate Change*

Engagement Activity / Meeting Notes

Finalized: October 28, 2019

	<p>more important to them than timeline.</p> <p>Regulation(s) arising from the Regional Assessment</p> <ol style="list-style-type: none">1. A participant asked if there would opportunity for public comment on the regulation(s) that will result from the Regional Assessment. The Committee is not involved in the drafting the regulation, but their recommendations in the Regional Assessment report will inform that regulation. The draft report will be made available for public review and comment.
Follow-up / Action Items	<p>Scope of the Regional Assessment</p> <ol style="list-style-type: none">1. WWF-Canada to provide Committee with references to international sources/papers.
Prepared By:	Erin Stapleton, Virginia Crawford, Melissa Moss