

**REGIONAL ASSESSMENT OF OFFSHORE OIL AND GAS EXPLORATORY DRILLING
EAST OF NEWFOUNDLAND AND LABRADOR
Technical Advisory Group (TAG) Session on *Climate Change*
September 17, 2019
QUESTIONS AND ITEMS FOR DISCUSSION
PARTICIPANT INPUT FORM**

Name and Affiliation: ___Gretchen Fitzgerald – Sierra Club Canada Foundation___

1) Are there any particular information sources or analysis (such as climate change projections) that you think should be included in the RA?

Contribution to climate change:

Projections of emissions for operating exploration and production well and contribution to emissions targets provincially, nationally, and internationally. See *Sea Change: Climate Emergency, Jobs, and Managing the Phase Out of UK Oil and Gas Extraction* - Oil Change International has been using IPCC, Rystad Energy, and World Energy Council data. See Figures ES-2 and ES-3. (<http://priceofoil.org/content/uploads/2019/03/r3.pdf>)

Resources to estimate ghg emissions:

Canada's National GHG Inventory (<https://open.canada.ca/data/en/dataset/779c7bcf-4982-47eb-af1b-a33618a05e5b>)

Methane leaks during “normal” operations (not flaring or offshore oil loading):

Riddick et al. 2019. **Methane emissions from oil and gas platforms in the North Sea.** (Atmos. Chem. Phys., 19, 9787–9796, 2019). (<https://doi.org/10.5194/acp-19-9787-2019>).

Masnadi et al. 2018. Global carbon intensity of crude oil production. Science. Vol. 361, Issue 6405, pp. 851-853. (<https://science.sciencemag.org/content/361/6405/851>)

Ability to stay within ghg emissions targets

Compare and explicitly use this decision-making process to reconcile and produce data showing:

Projections of production and implications for ghg emissions AND Canada's provincial, national, and international ghg emissions. NEB Petroleum Projections , such as Projections for Crude Oil Per Province 2010 to 2040: (<https://open.canada.ca/data/en/dataset/5a4157b924fd>)

Global Carbon Budget:

(https://uwaterloo.ca/paris-to-projects/sites/ca.paris-to-projects/files/uploads/files/p2p_full_report_23jan19.pdf)

Climate Change Impacts

Incorporate the findings and data underpinning the upcoming IPCC Report : Oceans and Cryosphere in a Changing Climate (<https://www.ipcc.ch/report/srocc/>)

Mitigation of Flaring

Model efficacy of existing flaring rules and practices in NL offshore and commit to international initiative to set targets and adopt best practices: Global Gas Flaring Reduction Partnership

(<https://www.worldbank.org/en/programs/gasflaringreduction#5>)

) and use this criteria to test validity of flaring measurements in NL offshore

(http://siteresources.worldbank.org/INTGGFR/Resources/Guidelines_Flare_Vent_Measurement.pdf?resourceurlname=Guidelines)

2) Are there any specific environmental phenomena or changes resulting from climate change that you feel are already having an effect on the environmental conditions of the Study Area that should be a focus of the RA? In particular, any with immediate or potential environmental effects of future exploratory drilling activities in the Study Area?

- changes in the distribution and abundance of marine mammals and other endangered or threatened species
- changes in the distribution and abundance of commercial fish stocks
- increased storm activity and unpredictable weather

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- 3) Are there any particular environmental components and conditions that will likely change over the course of an exploration which therefore require consideration in its initial and on-going planning and implementation? To what degree can such changes be anticipated and addressed in initial planning and design, or is an “adaptive management” approach required?

Climate Change Impacts

Incorporate the findings and data underpinning the upcoming IPCC Report : Oceans and Cryosphere in a Changing Climate (<https://www.ipcc.ch/report/srocc/>)

- 4) Do you have any suggestions around how the RA should consider climate change in its content and outcomes, including recommendations of the Committee?

- Explicitly link decision-making with regard to projects (individually and cumulative) on provincial, federal, and International ghg targets (e.g. at what number of wells per year will the activities exceed limits)

- 5) Do you have any other input or recommendations that you would like to provide to the Committee on this topic?

The impact of climate change on oil and gas operations will be significant in terms of increased risks to the environment and costs.

Ironically, the oil and gas activities and combustion of the fossil fuels produced will contribute to the impacts of climate change becoming worse. The NL government’s planned production for oil and gas as outlines in Advance 2030: The Way Forward on Oil and Gas (<https://www.nr.gov.nl.ca/nr/advance30/>) will contribute 9.9% of global emissions budget that will keep us within 1.5 degrees Celsius of global warming.¹

¹ Calculations by Stephen Thomas, Energy Coordinator of Ecology Action Centre:

37 Billion Barrels of Oil:

- If extracted and burned would emit **15.910 Billion tonnes** of CO₂e (Which is absolutely insane)
- That’s the same as 20.7 years of the emissions from Canada’s entire economy today.
- That’s the same as 3.39 Billion cars on the road for a year (all of Canada has about 22 million cars today)

133 Trillion CF of Natural Gas:

- If extracted and burned would emit **7.328 Billion tonnes** of CO₂e (which is absolutely insane)
- That’s the same as 9.54 years of the emissions from Canada’s entire economy today.
- That’s the same as 1.559 Billion cars on the road for a year (all of Canada has about 22 million cars today)

Note: When using this equivalency, please keep in mind that it represents the CO₂ equivalency for natural gas burned as a fuel, not natural gas released to the atmosphere. Direct methane emissions released to the atmosphere (without burning) are about 25 times more powerful than CO₂ in terms of their warming effect on the atmosphere. ([source](#))

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This assessment process needs to point toward regulating and limiting expansion of the offshore oil and gas industry that recognizes the depth of the climate change crisis and the international consensus, as outlines in the IPCC 2018 Report, of the need to mitigate its impacts.

All comments received will be considered public and may be posted to the Canadian Impact Assessment Registry. For more information on the Canadian Impact Assessment Registry Terms of Use and Submission Policy, please consult <https://iaac-aeic.gc.ca/050/evaluations/introduction?culture=en-CA#innovation> . For more information on the Agency's privacy policies, consult the [Privacy Notice](https://iaac-aeic.gc.ca/050/evaluations/Protection?culture=en-CA) on its website: <https://iaac-aeic.gc.ca/050/evaluations/Protection?culture=en-CA>

Total for NL Offshore Petroleum Resource Potential (37 Million Barrels of Oil + 133 Trillion Cubic Feet of NG):

- If extracted and burned would emit **23.238 Billion tonnes of CO₂e** (which is absolutely insane)
- That's the same as **30.25 years** of the emissions from Canada's entire economy today.
- That's the same as **4.949 Billion cars** on the road for a year (all of Canada has about 22 million cars today – it's estimated that there are about 1 Billion cars in total on Earth right now)
- If burned, this one province's offshore petroleum resources alone represents **9.93% of the entire Earth's carbon budget** (~234 Gt) to reasonably stay below 1.5 degrees C of warming

Sources:

- o <https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references>
- o EIA (2017). [Natural Gas Conversions – Frequently Asked Questions](https://www.environment.gov.au/system/files/resources/5a169bfb-f417-4b00-9b70-6ba328ea8671/files/national-greenhouse-accounts-factors-july-2017.pdf).
- o <https://www.environment.gov.au/system/files/resources/5a169bfb-f417-4b00-9b70-6ba328ea8671/files/national-greenhouse-accounts-factors-july-2017.pdf>
- o <https://www2.gov.bc.ca/assets/gov/environment/climate-change/cng/methodology/2016-17-pso-methodology.pdf>
- o Global Carbon Budget: https://uwaterloo.ca/paris-to-projects/sites/ca.paris-to-projects/files/uploads/files/p2p_full_report_23jan19.pdf

