NIRB File No.: 17SN034

March 9, 2018

To: Distribution list

Re: Final Scope List for the NIRB's Strategic Environmental Assessment in Baffin Bay and Davis Strait

Dear Parties:

As you are aware, the Nunavut Impact Review Board (NIRB or Board) has initiated a comprehensive public process to identify the scope for the Strategic Environmental Assessment in Baffin Bay and Davis Strait (the SEA). The NIRB's scoping process is designed to collect feedback from government departments, industry, academia, non-governmental organizations, communities, and the general public. Using the feedback provided, the NIRB has identified the full range of possible offshore oil and gas activities, ecosystemic, and socio-economic factors, and questions and concerns to consider throughout the SEA.

The purpose of this correspondence is to circulate the Final Scope List for information.

FILE HISTORY

On February 9, 2017 the NIRB received a referral from Indigenous and Northern Affairs Canada (INAC) to initiate the SEA pursuant to Section 12.2.4 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (*Nunavut Agreement*).[1] The NIRB is responsible for coordinating the SEA, including considering previously-collected information and Inuit Qaujimajatuqangit and Inuit Qaujimaningit, facilitating public engagement, and submitting a final report to the Minister of Crown-Indigenous Relations and Northern Affairs by March 2019.

Between April 20, 2017 and May 15, 2017, public engagement sessions were held in support of the SEA in the communities of Clyde River, Arctic Bay, Resolute Bay, Grise Fiord, Pond Inlet, Qikiqtarjuaq, Cape Dorset, Kimmirut, Iqaluit, and Pangnirtung. The engagement sessions were organized and facilitated by the NIRB, with participation and support by representatives of the SEA working group: Indigenous and Northern Affairs Canada, Nunavut Tunngavik Incorporated, the Qikiqtani Inuit Association, and the Government of Nunavut. During these

[1] The NIRB's jurisdiction as expressed within the *Nunavut Agreement* continues to apply for the SEA in Baffin Bay and Davis Strait.

engagement sessions, the NIRB provided the public with information on the SEA process and next steps and received valuable information to inform the SEA process. On June 26, 2017 the NIRB circulated a summary report to its public distribution list detailing comments and questions from each community.

On September 11, 2017 the NIRB released a *Draft* Scope List for a period of public review and comment. Between October 18, 2017 and November 16, 2017, the NIRB, accompanied by representatives of the SEA working group, conducted public scoping sessions throughout the communities of the Qikiqtani Region listed above. Following the conclusion of public scoping meetings and the receipt of written comment submissions regarding the *Draft* Scope List, on December 20, 2018 the NIRB released a summary report detailing comments and questions received from each community, as well as a Revised *Draft* Scope List. Parties were invited to review the Revised *Draft* Scope List and provide written comments to the NIRB for consideration on or before February 5, 2018. Following the close of the commenting period, submissions were received by the following parties:

- Government of Nunavut,
- World Wildlife Fund Canada,
- Greenpeace Canada,
- Peter Croal, and
- Danish Centre for Environment and Energy / Greenland Institute for Natural Resources.

Following the public commenting period on the Revised *Draft* Scope List, the NIRB has produced the attached Final Scope List (Appendix C) for information. A summary table has also been enclosed to demonstrate how various suggested revisions offered through written comment submissions have been addressed, with an indication of where edits have either been incorporated into the Final Scope List, or if edits were not incorporated, a corresponding rationale. The NIRB sincerely appreciates the substantial time and effort that parties invested in developing their comment submissions.

All information relating to the NIRB's Strategic Environmental Assessment in Baffin Bay and Davis Strait can be accessed online from the NIRB's online public registry at www.nirb.ca by using any of the following search criteria:

- Project Name: Strategic Environmental Assessment in Baffin Bay and Davis Strait
- NIRB File No.: 17SN034
- Application No.: 125087

NEXT STEPS

For the information and planning of parties, the NIRB has enclosed the current Process Map and anticipated timeline for the NIRB's SEA in Baffin Bay and Davis Strait. Based on the feedback received by parties, the NIRB has provided a revised Appendix A, which provides additional background information on the SEA, as well as the Final Scope List (Appendix C). Following the release of the Final SEA Scope, the NIRB will release the *Draft* Possible Development Scenarios for public commenting period in April 2018.

If you have any questions regarding the Strategic Environmental Assessment in Baffin Bay and Davis Strait, please contact Heather Rasmussen, Policy Advisor, at (867) 983-4606 or via email at hrasmussen@nirb.ca.

Sincerely,

Ryan Barry
Executive Director
Nunavut Impact Review Board

cc: SEA Distribution List
Daniel VanVliet, Indigenous and Northern Affairs Canada
Filip Petrovic, Indigenous and Northern Affairs Canada
Jorgan Aitaok, Nunavut Tunngavik Incorporated
Rosanne D'Orazio, Qikiqtani Inuit Association
Steven Lonsdale, Qikiqtani Inuit Association
Annie Cyr-Parent, Government of Nunavut

Attached: Appendix A: Background Information on the Strategic Environmental Assessment in Baffin Bay and Davis Strait
Appendix B: Maps
Appendix C: Final Scope List for the Strategic Environmental Assessment in Baffin Bay and Davis Strait

Enclosed: Process Map for NIRB's Strategic Environmental Assessment in Baffin Bay and Davis Strait
SEA Baffin Bay and Davis Strait Draft Scope Comment Table

APPENDIX A: BACKGROUND INFORMATION

PURPOSE OF THE ASSESSMENT

The focus of the Strategic Environmental Assessment in Baffin Bay and Davis Strait (the SEA) is to develop an improved understanding of potential types of oil and gas related development activities[2] that could one day be proposed within the Canadian waters of Baffin Bay and Davis Strait outside of the Nunavut Settlement Area (NSA), along with their associated adverse effects, benefits, and management strategies. The SEA will incorporate available scientific information, Inuit Qaujimajatuqangit and Inuit Qaujimaningit[3] and other types of traditional knowledge, and public feedback. An essential component of the SEA is to reflect Inuit concerns and traditional use of the associated marine areas. The NIRB is responsible for producing a final report at the conclusion of the SEA outlining the information collected throughout the assessment and providing recommendations to the Minister of Crown-Indigenous Relations and Northern Affairs for consideration. The Final SEA Report will inform the five (5)-year review of the Government of Canada decision to designate Canadian Arctic waters as off limits to future oil and gas licences. The decision to designate Canadian Arctic waters as off limits to future oil and gas licences was made through a joint statement by the President of the United States and the Prime Minister of Canada in December, 2016.[4]

Strategic environmental assessments can be used as beneficial planning and decision-making tools that can be applied to assess the potential outcomes and environmental effects of a policy, plan, or program in a defined geographical area or for a specific industrial sector. Strategic environmental assessments are well suited to undertaking a high-level and comprehensive analysis of alternatives, cumulative effects, and policy issues with regards to the potential for offshore oil and gas activities and components prior to individual projects being proposed and assessed. Unlike project-specific assessments undertaken by the NIRB, the SEA will not be focused on a proposed project. Instead, the SEA will identify the types of oil and gas activities that could potentially be proposed for Canadian waters in Baffin Bay and Davis Strait outside of the NSA, evaluate existing information, and examine issues, potential impacts and benefits, and management structures associated with possible activities.

The SEA will include an overview of how some of the applicable Strategic Environmental Assessment Guidelines have been incorporated into the assessment.

[2] For the purpose of the SEA, 'oil and gas development' will refer to the discovery and exploitation of oil and gas deposits and encompasses exploration, production, and decommissioning activities.
[3] Inuit Qaujimajatuqangit refers to traditional values, beliefs, and principles while Inuit Qaujimaningit encompasses Inuit traditional knowledge (and variations thereof) as well as Inuit epistemology as it relates to Inuit Societal Values and Inuit Knowledge (both contemporary and traditional).
[4] United States-Canada Joint Arctic Leader's Statement. December 20, 2016. Retrieved from https://pm.gc.ca/eng/news/2016/12/20/united-states-canada-joint-arctic-leaders-statement

SEA PHASES

The SEA will consist of the following three (3) general phases:

Issues Scoping: The scope of the SEA will outline the factors to be considered within the assessment, including the full range of possible offshore oil and gas activities; physical, biological, and socio-economic components; and questions and concerns to consider throughout the SEA.

Analyze Possible Development Scenarios: The various possible oil and gas development scenarios (including a 'no oil and gas development' scenario) will be identified in combination with other ongoing or planned activities (e.g., development projects, fisheries, conservation initiatives, traditional uses, etc.) and within the context of the unique biophysical, socio-economic, and regulatory environment of the area. The potential impacts and benefits of the possible development scenarios identified by the Board for inclusion in the SEA will be considered by the Board.

Develop Final SEA Report: During the final phase of the SEA, the NIRB will hold a final public meeting, with opportunities for representatives of the 10 selected Qikiqtani communities to attend and share their views and concerns with the Board. The Board will then prepare and issue the Final SEA Report to the Minister of Crown-Indigenous Relations and Northern Affairs. The Final SEA Report will be available to the public for information.

AREA OF FOCUS

As noted above, the SEA will consider possible types of oil and gas related development activities that could one day be proposed within the Canadian waters of Baffin Bay and Davis Strait outside of the Nunavut Settlement Area (NSA), along with their associated adverse effects, benefits, and management strategies. The Area of Focus established for the SEA is illustrated in Figure 1: Strategic Environmental Assessment Area of Focus in Baffin Bay and Davis Strait (see Appendix B). This broader Area of Focus will be used when developing descriptions of the existing environment, investigating available knowledge, and analyzing potential effects of development activities.

The study of the possible development scenarios will include possible oil and gas exploration and production in the area illustrated in Figure 2: Strategic Environmental Assessment Development Scenarios (see Appendix B). The possible development scenarios will not exclude the potential for coastal based infrastructure and activities and components to be established in support of offshore oil and gas development activities and components.

GUIDING LEGISLATION AND JURISDICTION

The SEA will describe the current regulatory and royalty framework for oil and gas development in the Canadian offshore waters[5] of Baffin Bay and Davis Strait, identifying existing and proposed legislation, regulations, protected areas, etc., that may be relevant or applicable.

All marine areas of the NSA and the adjacent continental shelf are subject to federal jurisdiction with respect to oil and gas development. Any potential oil and gas development activities that could be undertaken in the Canadian offshore waters of Baffin Bay and Davis Strait would necessarily occur in waters currently under federal jurisdiction and would be subject to the *Canada Petroleum Resources Act* (CPRA) and the *Canada Oil and Gas Operations Act* (COGOA). The CPRA authorizes the issuance of exploration licences, significant discovery licences, and production licences. Offshore oil and gas operations occurring within these areas would be subject to the environmental assessment and regulatory regime of the National Energy Board under the COGOA. Regulations related to the exploration and drilling, production, conservation, processing, and transportation of oil and gas in Canada's frontier and offshore areas and associated changes under consideration through the Frontier and Offshore Regulatory Renewal Initiative will also be discussed.

Any land-based support and staging infrastructure and activities for offshore oil and gas activities and components that would be established along the coastal areas of Baffin Bay and Davis Strait – whether on land or in the water – within the boundaries of the NSA would generally be subject to all of the requirements described above as well as the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada* (the *Nunavut Agreement*) and applicable Territorial legislation. Pursuant to the *Nunavut Agreement*, the NIRB assesses proposed development within the NSA and may also have a role in assessing project proposals located outside of the NSA if there was the potential for project-induced significant adverse ecosystemic or socio-economic effects within the NSA (i.e., potential transboundary effects).

The SEA will further identify and consider existing and proposed management and conservation areas within the Area of Focus (such as the recently established Tallurutiup Imanga (Lancaster Sound) National Marine Conservation Area), their associated management measures and regulations, and implications for the possible development scenarios that will be assessed through the SEA.

OBJECTIVES

The primary objectives of the SEA are to:

1. **Provide background information.** This will include a description of:
    a. The geology and the identification of areas with any currently known, estimated, or speculated reserves, including their potential value and their ease/difficulty of exploitation, and areas with the greatest oil and gas potential;

[5] The Canadian offshore waters refer to waters of Canadian jurisdiction extending beyond the NSA.

b. Historic oil and gas activities within Nunavut and the Canadian waters of Baffin Bay and Davis Strait, including current status and state of any installations and ongoing monitoring measures;

c. Overview of the existing biological, physical, and human environments within Baffin Bay and Davis Strait, including bathymetry and physiography, prevailing currents, winds, tides, and any species at risk and special or sensitive areas, including areas of importance to Inuit, that could interact with potential activities;

d. Description of the current regulatory and royalty regimes and known future changes that may apply to the offshore oil and gas industry in the study area; and

e. High level and brief overview of relevant global factors that would determine demand for oil and gas and associated issues, including climate policies which influence the feasibility of oil and gas development in the Arctic and issues related to climate change.

2. **Describe potential challenges, obstacles, and other factors relevant to possible oil and gas development:**
   a. Potential technical challenges related to sea ice and icebergs, water depth, and lack of harbours and other infrastructure, etc.;
   b. General consideration of policy and regulatory frameworks and requirements and potential challenges, such as human and institutional capacity, and the implications of jurisdiction on environmental assessments;
   c. Collection of sufficient information on known and applicable royalty regimes in other jurisdictions to understand how royalties are applied under other regimes;
   d. General consideration of potential economic challenges related to the financial feasibility of developing oil and gas resources within the Canadian offshore waters of Baffin Bay and Davis Strait;
   e. Potential implications of public opinion on oil and gas development; and
   f. Possible future biological, physical, and human environments within Baffin Bay and Davis Strait.

3. **Describe possible oil and gas development scenarios, including:**
   a. Overview of typical offshore oil and gas activities encompassing exploration, appraisal, production, and decommissioning activities;
   b. An overview and analysis of possible offshore oil and gas development scenarios that could occur in Baffin Bay and Davis Strait will be prepared, including the circumstances and assumptions that may reasonably drive these scenarios. The scenarios will take into account timelines, activities, and equipment based on known factors such as infrastructure, technology, financial feasibility, domestic policy/regulations, including general requirements for benefits plans, and climate;
   c. The possible oil and gas development scenarios will be presented as a technical document and will outline typical offshore oil and gas lifecycle activities. Hypothetical development scenarios will be used to discuss in detail how these activities could reasonably be expected to be carried out based on current technology and the unique environment of Baffin Bay and Davis Strait – this would include examples of equipment and infrastructure that could be used.

Information presented in the technical document will be used to describe hypothetical scenarios that will provide a context for the review of potential effects on the physical, biological, and human environments. While the scenarios will not be associated with specific locations of activities, equipment, and/or infrastructure, it is expected they will generally identify areas where possible activities and infrastructure could be feasible or not;

d. The potential offshore oil and gas scenarios will include a 'no oil and gas development' scenario;

e. Description of alternative means to carrying out each scenario, including alternatives to individual components/activities, alternate timing, and development options; and

f. Identification of existing and potential reasonably foreseeable future marine activities in Baffin Bay and Davis Strait associated with communities as well as with mineral exploration and mining, coastal and marine tourism, and community port facilities.

4. **Assess the potential impacts and benefits:**

a. For each scenario, the potential for positive and negative ecosystemic and socio-economic effects to identified Valued Ecosystem Components and Valued Socio-Economic Components will be discussed;

b. The SEA will speak to the types of effects that could occur and the potential characteristics of these effects. The description of environmental effects will not be as detailed as that for a project level assessment and site specific effects will not be quantified as is typical of project level assessment. The SEA will not include significance determinations or modelling of spills or noise emissions;

c. While the assessment of effects of each scenario on the valued components will include the potential for greenhouse gas emissions resulting from activities associated with the oil and gas development scenarios, particularly the extraction and production of petroleum resources, potential greenhouse gas emissions from the end use of oil and gas products are excluded from the Scope of the SEA;

d. Identification of potential cumulative effects within the Area of Focus of offshore oil and gas activities and components, occurring both within Canadian and Greenlandic waters, with existing and reasonably foreseeable, marine activities in the Canadian and Greenlandic waters of Baffin Bay and Davis Strait;

e. Identification of potential transboundary impacts, including oil and gas development and associated activities in Greenlandic waters which could contribute to cumulative effects and the potential for accidents and malfunctions;

f. Identification of potential mechanisms for carrying out cumulative effects and transboundary assessments that could be undertaken at the project level (e.g., creation of a repository for regional data);

g. Identification and recommendations for general mitigative and monitoring measures (e.g., collection of baseline information) that could be employed during any potential offshore oil and gas activities in the region;

h. Identification, where appropriate, of activities and/or areas that may require

additional or enhanced levels of mitigation, and identification, if feasible, of the type and level of enhanced mitigation required;

i. Identification of potential accidents and malfunctions that could occur as a result of offshore oil and gas activities in Baffin Bay and Davis Strait – such as accidental oil spills or sub-sea blow-outs or leaks – will be considered, as well as whether they could obviously be mitigated or not. For impacts that the Board considers to be mitigable, the Board may also recommend appropriate mitigation measures;

j. Credible worst case accident and malfunctions scenario; and

k. Identify the level of uncertainty in the assessment of each scenario for each VEC/VSEC.

5. **Identify knowledge and data gaps, including areas of concern.**

6. **Develop Final SEA Report with recommendations.** The final report will assist Indigenous and Northern Affairs Canada in its responsibilities for the administration of exploration rights in the offshore areas Baffin Bay and Davis Strait, and will inform the five (5) year review of the Government of Canada decision to designate Canadian Arctic waters as off limits to future oil and gas licences. The report will address the matters described above and there is nothing precluding the Board from considering views of parties regarding topics such as:

    a. Specific needs for additional information, including identification of knowledge gaps that should be addressed to inform future decision-making, with associated recommendations where possible;

    b. Processes, where possible, to fill information and data gaps;

    c. Location and timing of potential oil and gas activity;

    d. Actions to prevent or reduce potential adverse effects from offshore oil and gas activities;

    e. Emergency preparedness and response;

    f. Options to maximize benefits for Nunavummiut;

    g. Approaches to oil and gas development, if applicable;

    h. Potential alternative development activities that could be given further consideration;

    i. Potential needs to review and update the Strategic Environmental Assessment in Baffin Bay and Davis Strait; and

    j. Ongoing and reporting opportunities to support future decision-making.

COLLECTION AND USE OF INFORMATION

Throughout each of its phases, the SEA will gather and consider available scientific information, Inuit Qaujimajatuqangit and Inuit Qaujimaningit, and public feedback, with the information gathered made publically available through an online public registry, in-person community meetings, and periodic distribution of notices, reports, and other items.[6] Numerous

[6] Privileged, confidential, or proprietary information excepted.

opportunities will allow for interested parties and members of the public to participate in the SEA by providing oral and written comments, through community meetings, workshops, public commenting periods, and a final public meeting. Inuit Qaujimaningit shared with the Board by the public and Inuit organizations will be considered essential to shaping and influencing the SEA process and will be given equal weight to scientific information. The NIRB will work closely with the Qikiqtani Inuit Association, who will be collecting Inuit Qaujimajatuqangit to inform the SEA, to ensure community knowledge and Inuit Qaujimajatuqangit is appropriately used to inform the SEA. The feedback provided will assist the Board in developing the scope of the SEA, the consideration of possible development scenarios, and recommendations regarding possible oil and gas development activities in Baffin Bay and Davis Strait and associated issues.

Through an independent consultant, the NIRB will engage with technical experts within the oil and gas industry to assist in developing the possible offshore oil and gas development scenarios. Engagement is also planned to occur with transboundary groups, organizations, and Inuit from outside Nunavut, with the objective of understanding perspectives and learning lessons from other Arctic areas which have had experience with oil and gas development to date.

SEA MANAGEMENT

The NIRB will carry out the SEA as an independent body, providing a report with associated recommendations to the Minister of Crown-Indigenous Relations and Northern Affairs at the conclusion of the SEA. While the NIRB is responsible for coordinating the SEA, project support will be provided through the Northern Affairs Organization at Indigenous and Northern Affairs Canada (INAC) and a working-level advisory group with representation from:

- Nunavut Impact Review Board
- Indigenous and Northern Affairs Canada
- Nunavut Tunngavik Incorporated
- Qikiqtani Inuit Association
- Government of Nunavut

The working group will inform and guide the NIRB throughout the SEA, with opportunities for direct participation on community tours and at other key steps, including but not limited to:

- Development of the *Draft*, Revised *Draft*, and Final Scope List;
- Input into the scope and presentations for community meetings;
- Feedback on the *Draft* development scenarios and proposed effects mechanisms; and
- Input into the Final Public Meeting.

APPENDIX B: MAPS

Figure 1: Strategic Environmental Assessment Area of Focus in Baffin Bay and Davis Strait

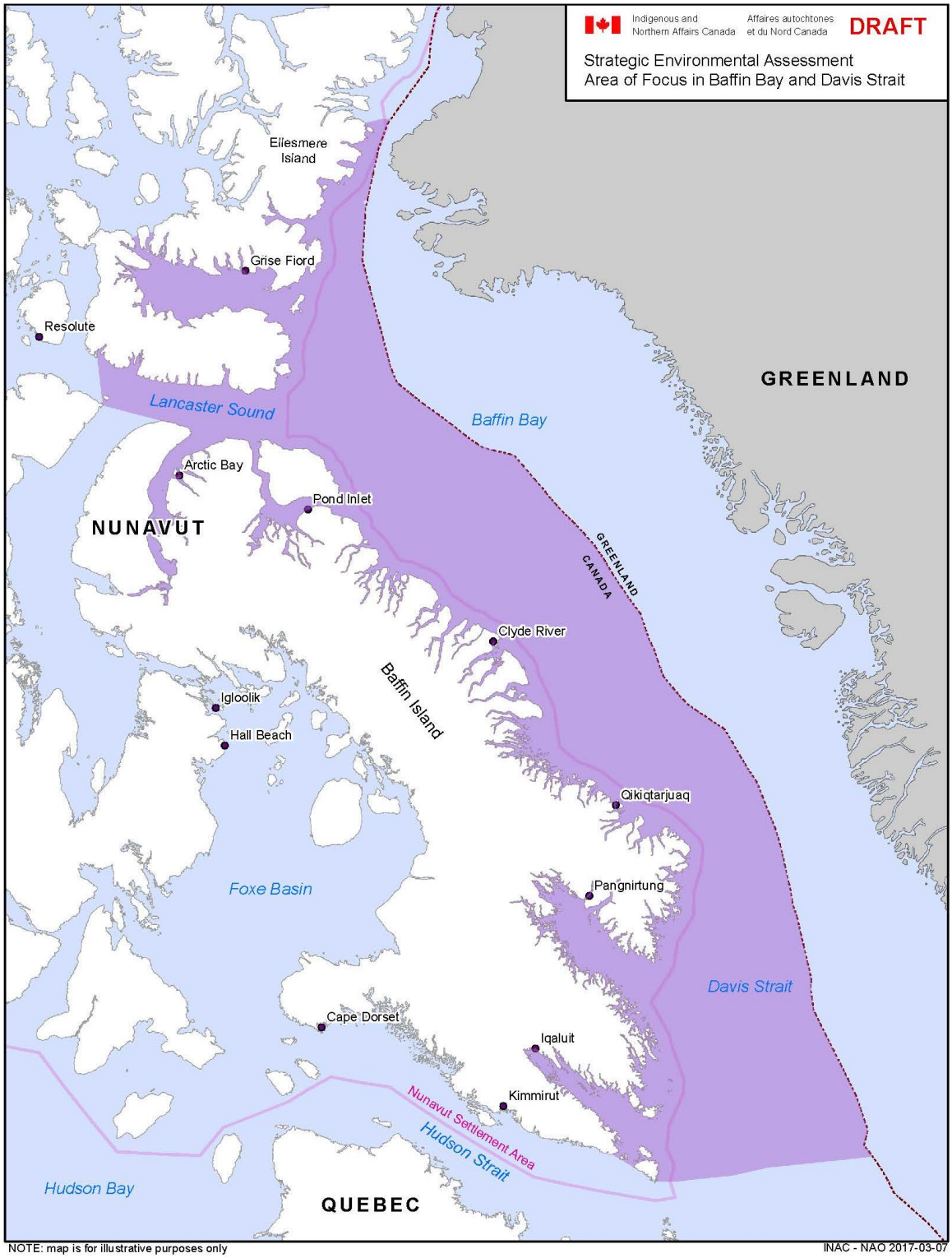
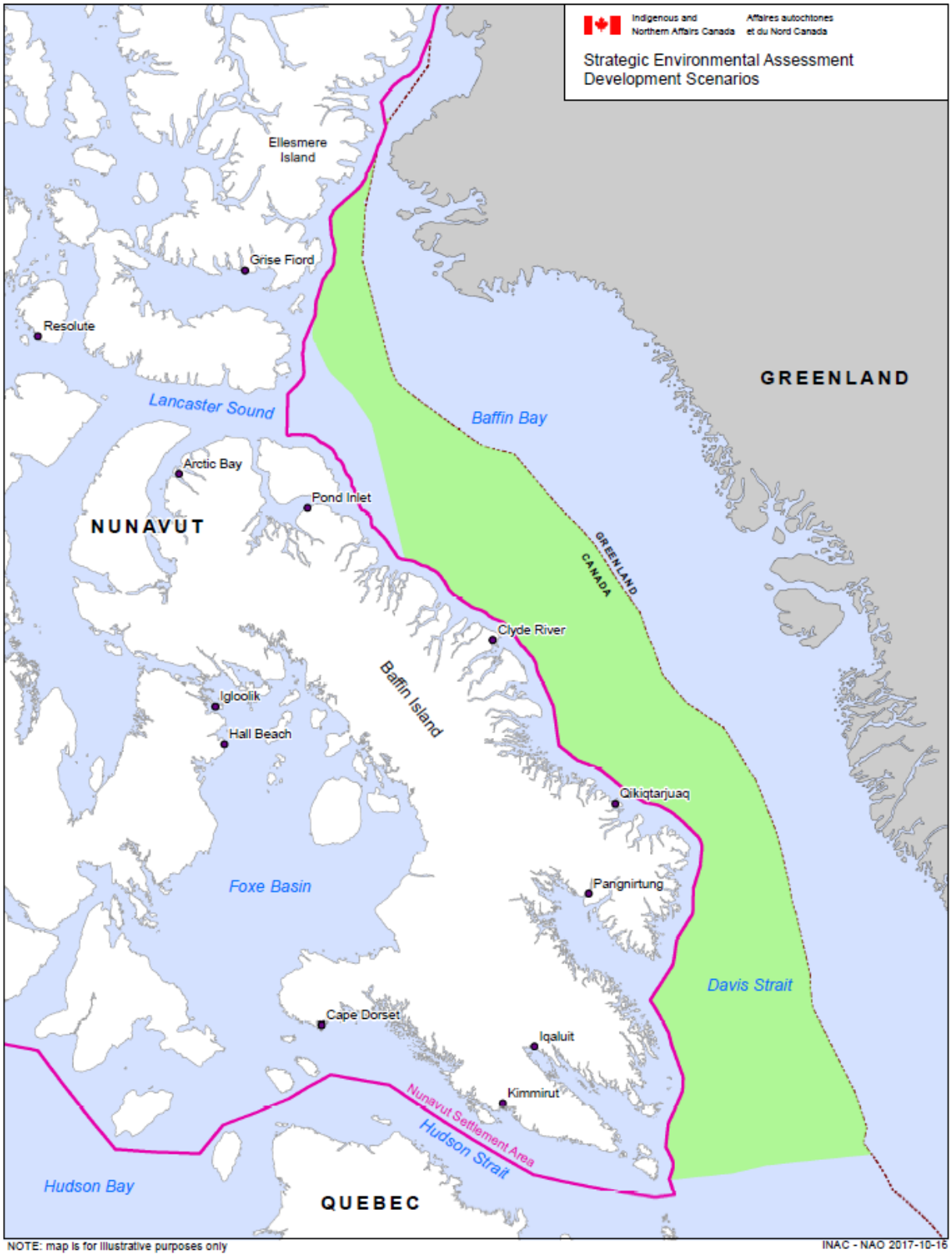


Figure 2: Strategic Environmental Assessment Development Scenarios



APPENDIX C: *DRAFT* SCOPE LIST

PAST OIL AND GAS ACTIVITIES

No new oil and gas rights have been issued in the Eastern Canadian Arctic since the 1980s and there are no active authorizations for offshore drilling in Canada's Arctic, including Baffin Bay and Davis Strait.

The SEA will be informed by available information (including exploration, production, and reclamation activities) regarding past oil and gas activities undertaken within Nunavut (and/or previously the Northwest Territories). Where information is available, marine seismic programs, including those used for research purposes, such as those undertaken by the Geological Survey of Canada, will be included.

The SEA will further consider the experiences of other Arctic jurisdictions with oil and gas development, including the Inuvialuit Settlement Region, Eastern Canada, Greenland, and Alaska.

ACTIVITIES AND COMPONENTS

The scope of the SEA will encompass the full range of possible offshore oil and gas activities throughout the complete life cycle of development, while focusing on possible scenarios deemed more likely to be applicable in Baffin Bay and Davis Strait. Activities and components that may be considered include:

- Exploration and Appraisal Activities
  - Initial scouting activities;
  - Preliminary seismic surveying of the potential resource (2D, 3D, and 4D marine seismic surveys and vertical seismic profiling);
  - Well site, geotechnical, and geohazard surveys;
  - Exploratory and delineation drilling; and
  - Transportation (support/supply vessels, seismic vessels, and air transportation).
- Development and Production Activities
  - Associated coastal infrastructure and staging activities;
  - Pipeline routing, rig installation, and drilling;
  - Transportation of the extracted resource (oil or natural gas);
  - Seismic and geohazard surveying throughout production;
  - Operations and maintenance; and
  - Decommissioning and reclamation.

SPATIAL AND TEMPORAL BOUNDARIES

The Area of Focus of the SEA encompasses the Canadian waters of Baffin Bay and Davis Strait and adjoining bays, sounds, and inlets west of the Canada/Greenland border and extending from the latitude of Resolution Island in the south to Nares Strait in the north (see Figure 1, Appendix B).

The study of the possible development scenarios will include potential oil and gas exploration and production in the Canadian waters beyond the NSA and in the evaluation of scenarios the Board will consider limits imposed by existing and potential special and sensitive areas as well as management and conservation areas (see Figure 2, Appendix B). The Tallurutiup Imanga (Lancaster Sound) National Marine Conservation Area will be excluded from the scope of possible development scenarios.

The analysis of potential interactions would be undertaken throughout the entire SEA Area of Focus.

The SEA will consider the typical lifecycle of the various oil and gas scenarios, and the implications for short, medium, and long term time frames as applicable. The temporal scope will be further determined during the development of the potential oil and gas development scenarios.

COMPONENTS TO BE CONSIDERED

Valued Components

Using available information and input from stakeholders, the NIRB will identify the existing biological, physical, and human environments within the SEA Area of Focus. To do so, the following preliminary Valued Ecosystem Components (VECs), and Valued Socio-Economic Components (VSECs), including subjects of note, have been identified and shall take into account the temporal and spatial boundaries established for the SEA while drawing upon relevant information from scientific sources, Inuit Qaujimajatuqangit and Inuit Qaujimaningit,[3] traditional and community knowledge.

Physical Environment

Valued Ecosystem Components	Considerations To Include
a. Climate and meteorology (weather and storm conditions) **b.** Oceanography (including wind, waves, tides, currents, sea level, storm surge, and upwelling) **c.** Sea ice and iceberg conditions	• Trends, extreme events, and seasonal variations; • Climate change and greenhouse gas emissions; • Air quality; • Sea water temperature and salinity; • Polynyas; and • Marine weather forecast.
d. Air quality	• Identification of existing greenhouse gas (GHG) emission sources; • Identification of potential pollutants that would need to be assessed at the project specific level; and • Potential contributions of each

	development scenario to Territorial/National GHG emission levels.
e. Acoustic environment (atmospheric and under water noise)	• Baseline sound and vibration levels and variability; • Potential relationship between these parameters and local weather conditions, seasonal variations, etc.; and • Review of available studies/research on potential impacts of noise and vibration on marine wildlife behaviours and fish in comparable climate and geographical location.
f. Geology (coastal and submarine)	• Potential for seismicity and geohazard events (e.g., earthquakes, landslides, and mudslides).
g. Coastal landforms **h.** Marine sediment	• General description of coastal landforms. For water bodies that could potentially be impacted by activities/components: • Physical and chemical characteristics; and • Description of sedimentation rates and dispersion patterns of waterbodies.

Biological Environment

Valued Ecosystem Components	Considerations
i. Coast and shoreline environment (including coastal and marine plants)	• Species distribution, life stages, and important areas; • Unique habitats; • Protected areas or parks; and • Fish spawning habitat.
j. Plankton **k.** Benthic flora and fauna (including soft corals and seaweed) **l.** Fish and fish habitat (including water quality) **m.** Waterbirds (seabirds, waterfowl, and shorebirds) **n.** Marine mammals	• Species distribution, migratory routes, life stages, behaviour/lifestyle, and important areas; • Unique and vulnerable habitats; • Polynyas; and • Biodiversity among species.

o. Species at Risk	• *Species at Risk Act, Migratory Birds Convention Act*, Committee on the Status of Endangered Wildlife in Canada (COSEWIC); • Species and associated habitat[7]; • Associated monitoring of species at risk and/or associated habitat[8]; and • Biodiversity among species.
p. Special and Sensitive Areas	• Areas identified and/or designated under Territorial and/or Federal legislation, processes, and frameworks (e.g., Ecologically and Biologically Significant Areas, Marine Protected Areas, National Marine Conservation Areas, Migratory Bird Sanctuaries, and National Wildlife Areas); • Rare or unique habitats (e.g., North Water Polynya); and • Important migration routes or spawning, breeding, or calving areas.
q. Areas of Concerns/Importance	• Areas identified by government departments, academia, non-governmental organizations, potentially interested communities; and • Areas identified through Inuit Qaujimajatuqangit and Inuit Qaujimaningit will be highlighted.

Human Environment

r. Potentially interested communities	• Clyde River, Arctic Bay, Resolute Bay, Grise Fiord, Pond Inlet, Qikiqtarjuaq, Cape Dorset, Kimmirut, Iqaluit, and Pangnirtung.
s. Economic development and opportunities[9]	For the Qikiqtani region, with focus on the

[7] Associated habitat to include: seasonal movements, movement corridors, habitat requirements, key habitat areas, and potential critical habitat which include consideration of important biophysical attributes related to any of its general life history states (e.g., breeding, foraging, etc.,).

[8] A review of available and relevant literature on whether potential or future critical habitat, listed wildlife species or species assessed as "at risk" by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) occur or are expected to occur within the study area and zone of influence.

	potentially interested communities: • The traditional economy, current economic structure including the interaction between the wage and traditional economy, development trends and variability, as well as in Nunavut as a whole; • The roles of renewable resource development (e.g., subsistence and commercial hunting and fishing) in the local, regional, and territorial economy; and • Community and resident self-reliance.
t. Employment	For the Qikiqtani region, with focus on the potentially interested communities: • Labour supply statistics in terms of relative genders, ages, and other demographic categories; • Local household incomes, income sources, and composition of income; • Sector specific breakdown of employment within the NSA; • Existing local employment opportunities and labour supply status; and • For each possible development scenario, discussion of the requirements for employment (e.g., education levels) and the potentials of needs to be met by local recruitment.
u. Contracting and business development	For the Qikiqtani region, with focus on the interested communities: • Current data available as it relates to types of contracting and business opportunities from socio-economic studies associated with the possible development scenarios; • For each possible development scenario,

[9]This component will consider, at a high-level, economic development and opportunities in addition to, or as alternatives to oil and gas development, but will not be assessed or analyzed in depth.

	types of potential goods and services to be supplied, including procurement, services contracting, and other business opportunities; and • Economic structure and characteristics of local and regional economies, existing business types, and potential capacity to meet needs through the possible development scenarios.
v. Education and training	For the Qikiqtani region, with focus on the interested communities: • Overview of the existing education system and training opportunities and programs (early childhood through post-secondary), with a focus on opportunities and programs relevant to the possible development scenarios; and • Education and skill levels of residents and experience of the local labour force in different demographic categories based on available data.
w. Population demographics[10]	For the Qikiqtani region, with focus on the potentially interested communities: • Description of community populations, demographics structure, composition, characteristics, and population trends; and • Discussion of observed variations in education levels, dietary habits, religious characteristics, and other social aspects in different demographic categories.
x. Wellbeing and health of coastal communities[10]	For the Qikiqtani region, with focus on the potentially interested communities: • Description of the current individual and family well-being; • Description of the current status of health, including physical, mental, and psychological; and

[10] The Board's consideration of these VSECs will be conducted at a high-level and these topics will not be subject to the type of in-depth analysis associated with a project-specific assessment.

	• Description of nutritional requirements with quantitative information on the diet habits of residents, including consideration of details such as the seasonal, gender, and age-related consumption of country foods.
y. Community infrastructure and services	For the Qikiqtani region, with focus on the potentially interested communities: • Description of existing transportation modes and travel routes; and • Coastal infrastructure (e.g., ports) associated with communities as well as with mineral exploration (e.g., metal mines).
z. Traditional activity & knowledge and community knowledge including • Land use • Food security • Cultural activities	• Description of cultural and traditional activities, including but not limited to travel routes, activity type, dependence on traditional foods (including cultural and financial significance), and type and location of species consumed; and • Current land uses and limits/interference with existing uses.
aa. Non-traditional, recreation, and tourism activities	• Type of activity, timing, and location; • Description of identified and anticipated overlapping zones and/or areas where the land use activities co-exist or interact with Project components and activities; • Canadian/Armed forces exercises; • Pleasure crafts; and • Value of the 'Nunavut Brand:' clean, unspoiled, and uncontaminated wilderness.
bb. Cultural and commercial harvesting (including fisheries)	• Historic, current, and potential future practices, encompassing areas, timing, and species, and quality of harvest.
cc. Marine commercial traffic (including cruise tourism and re-supply vessels)	• Routes and frequency (including entry to the Northwest Passage); and • Associated regulations.
dd. Other reasonably foreseeable future activities	Identify and describe known and planned future activities and developments that are

	either already occurring, likely to continue to expand, and/or publically announced, including those related to: • Marine transportation; • Commercial fisheries; • Submarine fibre optic communication cables; • Canadian/Armed forces exercises; and • Coastal infrastructure (e.g., ports).
ee. Heritage resources	• Summary description of known archaeological/paleontological, cultural and historic, sacred and spiritual sites within the SEA Area of Focus (including shipwrecks); • Description of regulatory requirements and procedures for recovery and removal of artefacts and/or fossils in areas of proposed development; and • Description of the relationship between the cultural sites and social lives of the potentially interested communities.

Other Considerations

Component	Consideration
ff. Climate change	• Trends, extreme events, and seasonal variations; • Surface air temperature; • Sea water temperature; • Precipitation; • Snow cover; • Sea ice extent; and • Frequency of extreme precipitation events.
gg. Accidents and malfunctions	• Types and likelihood of spills, including the potential source of contaminants and other materials that could be released to the surrounding environment;

	• Discussion of spill and accident preparedness, prevention, and response;
	  • Identification of standard mitigations and planning considerations;
	  • Discussion of standard response measures, including contingency, clean-up, or restoration work, response regimes, capabilities, and associated available infrastructure; and
	• Identification and brief description of common tools and data that can be used in the assessment of project-specific effects from accidents and malfunctions.

hh. Jurisdiction and responsible authorities	• Roles and responsibility of the federal and territorial governments and Inuit organizations in land use management, including community based monitoring, throughout the SEA Area of Focus. • Relevant international agreements (e.g., the Agreement between the Government of Canada and the Government of the Kingdom of Denmark for Cooperation Relating to the Marine Environment (Treaty E101887)).

Subject of Note:
Energy security and diversification

- Potential implications of possible offshore oil and gas development on the availability of affordable energy sources in Nunavut and Canada, such as through resource, infrastructure, and technology sharing.

Naturally occurring oil seeps, including location and extent.

ASSESSMENT OF EFFECTS OF OFFSHORE OIL AND GAS PROJECTS/ACTIVITIES

The prospective interactions of the activities and components associated with each possible oil and gas development scenario and the surrounding environment will be identified through an effects assessment on the Valued Ecosystem Components and Valued Socio-Economic Components identified in the previous section.

If a possible interaction between possible oil and gas activities identified through the scenarios and the VECs or VSECs have been identified, the potential negative effects related to the following could be considered:

- Disturbances to benthic habitat;
- Disturbances to marine mammals and seabirds, including but not limited to, noise, light interference, and contact (such as death, behaviour, movement and migration routes, hearing, and communication);
- Attractions of marine wildlife and birds to potential future oil and gas activities and components;
- Changes to air quality, including production of greenhouse gas emissions;
- Changes to water quality;
- Operational discharges and the effects on water and sediment quality;
- Disturbances to traditional harvesting activities, areas of importance to Inuit, and migration routes;
- Disturbances to food security through changes to harvesting activities and species availability, and through species ingesting contaminants;
- Bio-accumulation within the food chain;
- Disturbances to human health;
- Interactions with the coastal environment;
- Conflict with other types of land use (including Aboriginal and Traditional fisheries, commercial fisheries, marine shipping, cultural and travel routes, and tourism activities);
- Decreased level of interest in participating in tourist activities in areas that overlap with oil and gas activities;
- Disturbances to the quality of seafood harvested through commercial fishing and resulting impacts to the industry; and
- Disturbances resulting from accidents and malfunctions, particularly associated with oil and fuel spills and sub-sea blowouts or leaks.

Below are examples of potential benefits that could be experienced within Nunavut as a result of possible oil and gas development in the Canadian offshore waters of Baffin Bay and Davis Strait and/or associated activities within the NSA:

- Direct and indirect employment: Opportunities for unskilled, skilled, and professional positions;
- Education: Trades and training programs;
- Direct and indirect contracting and business opportunities;
- Capacity building and transferable skills;
- Benefits and revenues: Tax, royalties, etc.; and
- Transportation infrastructure.

Note: While the SEA will include an assessment of whether royalties and benefits could reasonably be expected to be experienced, the NIRB will not be analyzing the extent or appropriateness of possible benefits. The SEA is expected to identify the regulatory and royalty regimes, including mechanisms for benefits and revenues, and general employment and business requirements associated with the possible oil and gas development scenarios to assist with future planning considerations. Related concerns expressed during the SEA process will be brought forward.

Assessment of potential project effects to include:

- Potential effects mechanisms;
- Potential mitigation of effects;
- Likelihood of residual effects after mitigation; and
- Measures for effects monitoring and compensation.

ASSESSMENT OF EFFECTS OF THE ENVIRONMENT ON POTENTIAL OFFSHORE OIL AND GAS PROJECTS/ACTIVITIES

The scope of the assessment will include the potential for the Arctic environment to exert effects on the potential oil and gas exploration and development activities, including the following specific factors:

- Climate and meteorology including climate change, storms, and weather;
- Severe winds, storms, and waves;
- Extreme temperature;
- Sea ice and icebergs;
- Seismic events;
- Available infrastructure and capabilities for response to potential accidents and malfunctions, including follow up measures (e.g., spill response waste treatment);
- Public perception of oil and gas activities; as well as
- Global factors, including issues related to climate change, contributing to demand for oil and gas and potential volatility for each development scenario.

ASSESSMENT OF CUMULATIVE EFFECTS

The scope of the SEA will include an assessment of how potential residual effects from oil and gas activities, under various development scenarios, are likely to interact cumulatively with residual effects from other projects and activities conducted or expected to be conducted in or adjacent to the SEA Area of Focus.

Assessment of potential cumulative effects to include:

- Cumulative effects mechanisms;
- Potential mitigation measures and planning considerations for cumulative effects; and
- Likelihood of residual cumulative effects.

ASSESSMENT OF TRANSBOUNDARY EFFECTS

The scope of the SEA will include an assessment of how oil and gas activities, under various development scenarios, are likely to interact with VECs and VSECs in neighbouring jurisdictions.[11]

[11] Waters within adjacent jurisdictions refer to those within the Nunavut Settlement Area, outside of the Nunavut Settlement Area but still within Canadian jurisdiction, and within Greenland.

Assessment of potential transboundary effects to include:

- Relevant international agreements (e.g., the Agreement between the Government of Canada and the Government of the Kingdom of Denmark for Cooperation Relating to the Marine Environment (Treaty E101887));
- Transboundary effect mechanisms;
- Potential additional mitigation measures for transboundary effects; and
- Likelihood of residual transboundary effects.

ANY OTHER RELEVANT MATTERS

The scope of the SEA will include any other matters that the NIRB considers relevant, including:

- Technical innovations previously tested and untested in the Arctic (e.g., oil detection methods below snow and ice); and
- Discussion of similar resource development projects in other jurisdictions, specifically noting the experiences of other Arctic jurisdictions with oil and gas development, including the Inuvialuit Settlement Region, Eastern Canada, Greenland, and Alaska.