

Submission on the Offshore Carbon Dioxide Storage in Sub-Seabed Geological Formation Intentions Paper

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Background on Energy NL

Energy NL was founded in 1977 to represent the supply and service sector of the energy industry. Today Energy NL represents over 500 member organizations worldwide which are involved in, or benefit from, the energy industry of Newfoundland and Labrador. Energy NL members are a diverse representation of businesses involved in a range of activities related to both renewable and non-renewable energy development, construction, and operations. This includes, but is not limited to, areas such as direct offshore and onshore supply, health and safety equipment and training, engineering solutions and fabricators, law firms, and human resource agencies.

Introduction

Newfoundland and Labrador is well positioned with the key attributes to participate in offshore carbon storage and thereby make a substantial contribution to real global greenhouse gas reductions.

Consistent with those attributes outlined in the Intentions Paper, these include:

- ideal sub-seabed geological storage capacity;
- offshore expertise, experience, and capacity which can support offshore carbon storage;
- port and offshore infrastructure;
- close proximity to shipping lanes from major emitters in eastern Canada and the United States, which can be a source/supply of carbon.

A clear, concise, and consistent, yet robust regulatory framework is needed to advance offshore CO₂ capture and storage in Newfoundland and Labrador. Energy NL agrees with the rationale outlined in the Intentions Paper and we fully support the development of an appropriate regime for this new energy-related industrial activity. As such, Energy NL is pleased to provide input in response to the March 2025 Intentions Paper released by Natural Resources Canada.

Energy NL Initiatives Related to Carbon Capture and Storage

Energy NL has undertaken some recent initiatives associated with offshore carbon capture and storage, including:

- Energy NL partnered with econext and the Oil and Gas Corporation of Newfoundland and Labrador (OilCo) on the Net Zero Project which researched approaches for Newfoundland and Labrador's offshore oil industry to reach net-zero. Carbon- capture and storage was identified as an option which could contribute considerably towards the industry reaching net-zero and meeting climate change objectives.
- As part of the Net Zero Project, a white paper was researched and written on offshore carbon capture and storage and a workshop was held with a range of industry stakeholders regarding the information and considerations that would be required to advance offshore carbon capture and storage in Newfoundland and Labrador.
- Roadmaps were prepared outlining two specific scenarios for offshore carbon storage in Newfoundland and Labrador: 1) a hub concept which would receive CO₂ from emitters in various locations in eastern Canada and Northeast United States; and 2) an asset-specific roadmap depicting collection of CO₂ from an offshore oil and gas facility for offshore storage.

For each scenario, steps related to legislation, regulation, licencing, impact assessment, detailed engineering, fabrication and commissioning were considered. The findings suggest that the critical path is largely dependent and defined by the legislative and regulatory work with some substantial timeframes required – as much as 15 years for the hub concept; and as much as 11 years for the asset-specific scenario.

- Energy NL is a participating partner in a proposed study titled the “Offshore NL Carbon Storage Hub – Integrated Development Study”. This framework study aims to evaluate the feasibility of developing a regional offshore CCS hub in the Jeanne d’Arc Basin. It brings together subsurface modeling, CO₂ injection planning, marine logistics, infrastructure design, and a techno-economic analysis of both onshore and offshore hub scenarios. If advanced, the project would help build the foundational knowledge needed to support offshore CCS development in Atlantic Canada and inform future regulatory and investment decisions.

Energy NL’s Response to Discussion Questions

Q1. Do you see offshore CO₂ storage as an economic/transition opportunity and what are the limits to helping achieve decarbonization targets?

Yes, we view the development, implementation, and operation of a CO₂ storage project in the Newfoundland and Labrador offshore as a new industrial opportunity which can provide economic and environmental benefits for our province, and supply and service opportunities for Energy NL members. Such a project can facilitate the prevention of carbon from large industrial emitters from entering the atmosphere and can allow Canada and other countries to reach net-zero. Limitations currently exist surrounding an appropriate regulatory regime, including an identified regulator; limited knowledge regarding carbon storage potential in eastern Canada; and limited knowledge and understanding about the technical and financial feasibility of such projects.

Q2. Are onshore sectors (e.g., cement) interested in storing emissions in the offshore area?

Our understanding is that many major industrial projects such as cement plants, will not reach net-zero without the ability to capture carbon and store it. We expect offshore storage to be an important option for hard-to-abate sectors, particularly in areas where onshore storage capacity is limited or not practical and access to marine transport or pipelines can be arranged. Onshore emitters will need to be engaged early in the research and development of offshore carbon capture and storage-related initiatives and benefits for all emitters will need to be identified, considered, and communicated. Energy NL has been approached by some onshore emitters with a particular interest in the initiatives with which we have been involved.

Q3. What sectors could you see benefitting from CO₂ storage in Canada’s offshore area?

Any sector which includes large industrial-type of CO₂ emitters/emissions which are difficult to otherwise abate can directly benefit. Supply and service companies currently involved with, or those that have capacity related to Newfoundland and Labrador’s offshore energy industry are well-positioned to participate in and benefit from this new industrial activity. In essence, any

large industrial-type emitter would benefit from storage in Canada's offshore area and Canada as whole would benefit and make achieving environmental goals such as achieving net zero more attainable.

Q4. Please flag, any potential negative impacts in relation to specific industries or stakeholder groups of offshore CO₂ storage.

As with any new industrial-related process or industry, we can certainly expect some legitimate public/stakeholder questions and uncertainty. The possibility for the proliferation of misinformation also exists. It will be important for governments, and others wishing to advance offshore carbon storage to ensure that accurate information is available, with potential risks and mitigation and prevention measures well understood and articulated.

Early engagement with Indigenous communities for projects is critical, along with engagement with relevant stakeholders such as fisheries.

Q5. Please flag any potential barriers in relation to specific industries or stakeholder groups for offshore CO₂ storage.

Successful offshore carbon storage in Newfoundland and Labrador will require a consistent and concise regulatory regime, with one regulator. Generally, the lack of such a regime is a current barrier. The Canada-Newfoundland Offshore Energy Regulator has the expertise and is best positioned to provide regulatory oversight for offshore carbon collection and storage. Energy NL agrees fully with the positions put forth by the governments of Newfoundland and Labrador and Nova Scotia, as outlined on page 1 of the Intentions Paper, that the existing offshore Accord Acts should be expanded, ensuring that offshore CO₂ storage is jointly managed by the respective provincial governments with the federal government, and the mandates of the offshore regulators expanded to include regulatory responsibility and oversight of offshore collection and offshore storage.

Q6. What key considerations need to be addressed to build a more robust understanding of the CO₂ storage potential specific to the Atlantic, Arctic and Pacific offshore areas?

Additional research regarding offshore storage capacity, in general. In Newfoundland and Labrador, the Oil and Gas Corporation of Newfoundland and Labrador has embarked on [CO₂ storage assessment](#) work on certain areas offshore Newfoundland. Those involved in that research, as well as researchers at Memorial University who are undertaking work on offshore carbon capture and storage, would be well positioned to offer more detailed and itemized suggestions to this question and Energy NL encourages Government of Canada officials to directly engage and connect with these groups/individuals.

Q7. Are there other measures that would be needed to complement success of an offshore CO₂ storage regime?

While more for medium-to-longer term consideration, strong consideration as to how local supply and service companies can prepare for opportunities related to project development, construction, and operations so as to help project developers successfully achieve their project

objectives. More immediately, as the regulatory regime is established, approaches for local benefits need to be considered and incorporated.

Q8. What aspects should be considered in relation to the transportation and storage of CO₂ onshore prior to being permanently sequestered in the offshore?

Technical and financial feasibility of options for both onshore storage via a hub-concept or direct from offshore facility to offshore storage should be considered. Further technology development, particularly related to offshore collection, needs to be advanced to improve capture techniques, capture amounts, safety, and cost effectiveness, to highlight just a few.

Q9. How could a CO₂ storage regime consider Canada's marine conservation goals among other traditional and emerging ocean uses?

With oversight by an experienced regulator, such as those currently regulating offshore energy projects in Atlantic Canada, and appropriate safety and environmental measures, Energy NL's view is that offshore carbon storage can be successfully implemented in our offshore areas with minimal to no impact on marine conservation, similar to other offshore energy-related projects. Various marine and ocean related industries and activities currently co-exist in Atlantic Canada in a successful manner, and offshore carbon storage activities can take place in a similar fashion. Any ongoing or planned processes and consultation regarding marine conservation areas should consider the potential for offshore CO₂ storage.

Q10. What do you consider the environmental risks of CO₂ storage in the offshore? How can these be mitigated?

With appropriate safety and environmental protective measures, Energy NL considers the environmental risks of offshore CO₂ storage to generally be low, and except for aspects of operations which relate to the marine environment, are mostly similar to onshore carbon storage. Energy NL fully supports research to further understand the environmental risks of offshore CO₂ storage and identification of appropriate preventative and mitigative measures.

Q11. What research is needed in this field?

Energy NL views the research of the technical and financial feasibility of onshore and offshore collection and a hub for offshore storage in Newfoundland and Labrador to be of primary importance.

Energy NL is also supporting emerging research initiatives aimed at addressing key knowledge gaps. One such effort, referenced above, involving local industry, academia, and NRCan, is proposed to focus on evaluating CO₂ storage potential offshore NL through integrated modeling and techno-economic analysis. This type of multidisciplinary work is important to advancing a robust understanding of regional feasibility and helping guide long-term CCS development. Energy NL encourages the Government of Canada to support this proposed project.

Q12. How should CO₂ storage interact with coastal communities, other ocean users, and industries?

Energy NL understands the interconnectedness of the ocean economy and feels current and future participants can continue to play a role as they are now in that vital economy and those directly connected/impacted be engaged. While all main impacts should be considered, Energy NL believes that an offshore storage project can be implemented with minimum negative impacts, while at the same time providing local economic, social, and environmental benefits.

Q13. Are there features from other jurisdictions' offshore CO₂ storage regimes that Canada should explore? Are there elements that Canada should avoid?

Norway has been advancing carbon collection and offshore storage projects, with the Norwegian government taking a lead role in many aspects of the developments in that country. The leadership provided by the Government of Norway is a good example of the approach which could be taken, and will need to be taken, to advance such initiatives in Canada. Canada's existing offshore industries have close, long-standing relationships with Norway, and we are certain that both government and industry in that country can provide lessons learned –positive and negative, based on their experiences – that can help establish the foundation of an offshore CO₂ storage regime and industry for Canada.