

Proposed Wind Energy Areas for the Canada-Nova Scotia Offshore

Discussion Paper

Natural Resources Canada
Nova Scotia Department of Energy

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1. Introduction

Canada, with the world's longest coastline, a stable regulatory environment, and decades of experience in offshore energy development, is well-positioned to enter the \$1-trillion global offshore wind market.

Nova Scotia's offshore is particularly promising, with strong winds and favourable underwater conditions – including water depth and geology – to support offshore wind energy projects.

Safely developing offshore wind energy in the Canada-Nova Scotia offshore area can create jobs, attract investment, provide long-term energy security, and help reduce carbon emissions.

To support the development of this emerging industry, the Governments of Canada and Nova Scotia are seeking feedback from communities, Indigenous groups, businesses, and individuals on five proposed **Wind Energy Areas**. Information on how to provide feedback can be found in section 6.

What are Wind Energy Areas?

Wind Energy Areas are large sections of ocean identified as being suitable for potential offshore wind development. Wind Energy Areas help guide ocean users, communities, and developers by clarifying where future offshore wind projects could be built. Identifying Wind Energy Areas is an important step in ensuring Nova Scotia meets its target of issuing licences for up to **5 gigawatts of offshore wind energy by 2030**.

The five proposed Wind Energy Areas are based on the **Potential Development Areas** identified by the independent **Committee for the Regional Assessment of Offshore Wind Development in Nova Scotia** in its **Final Report** and were informed by technical studies, geological surveys, environmental data, fishing activity, and community feedback.

Who manages offshore wind development?

Canada and Nova Scotia jointly manage safe offshore energy development through the Canada-Nova Scotia **Accord Acts**. In 2025, these laws were updated to include offshore renewable energy.

The **Canada-Nova Scotia Offshore Energy Regulator** (the Regulator) is responsible for regulating offshore energy development, in accordance with the Accord Acts.

2. How Locations for Offshore Wind Projects Are Approved: The Land Tenure Process

Before any company can build an offshore wind project, they must obtain a **submerged land licence**. A submerged land licence provides the licence holder with the right to use the seabed for offshore wind development. The [land tenure process](#) describes the steps involved in obtaining a submerged land licence; each step must be completed before advancing to the next.

Public engagement – and formal consultation where there is a duty to consult Indigenous groups – is built into the process to provide multiple opportunities for input and feedback.

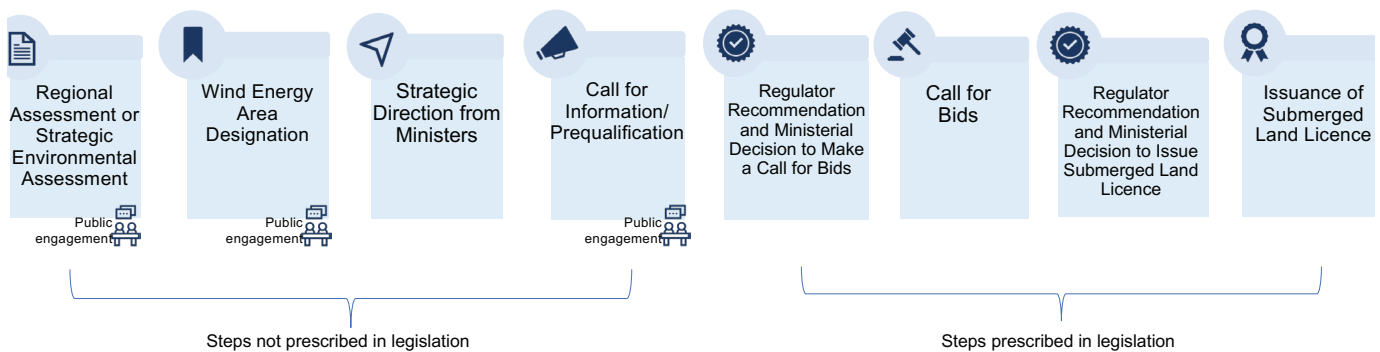


Figure 1: The land tenure process to issue a submerged land licence for offshore wind development.

As shown in the figure above, the designation of Wind Energy Areas is the **second step** in the land tenure process and is informed by public engagement. The designation of Wind Energy Areas by federal and provincial governments is meant to clarify where offshore wind development can take place in the future; it does not mean that development will take place in the area. The location and size of future Call for Bids areas within Wind Energy Areas will be determined during the subsequent steps in the land tenure process.

After the final step, if a company is awarded a submerged land licence through the land tenure process, it will need to seek further environmental and regulatory approvals for each phase of the project before moving forward.

What is a submerged land licence?

A submerged land licence gives a company exclusive rights to develop an offshore wind project in a specific area of the ocean. It does not allow immediate construction – projects must first go through environmental and regulatory approvals.

3. Regional Assessment of Offshore Wind

In 2023, the federal Minister of Environment and Climate Change, in collaboration with Natural Resources Canada and the Government of Nova Scotia, appointed a five-member independent committee to conduct a [Regional Assessment of Offshore Wind Development in Nova Scotia](#).

The committee reviewed scientific data, engaged with communities and industries, and recommended areas with strong potential for the development of offshore wind. The committee delivered three key reports:

1. **Interim report (March 23, 2024):**

- Summarized existing information and public engagement so far
- Included maps of potential development areas
- Outlined the process for selecting these areas
- Provided preliminary non-spatial recommendations

2. **Draft final report (October 31, 2024):**

- Analyzed various studies, research, and public feedback
- Incorporated expert opinions
- Identified eight potential development areas, categorized into **Tier 1** and **Tier 2**
- Included recommendations for governments to consider

3. **Final report (January 23, 2025):**

- Confirmed the eight potential development areas for offshore wind development
- Maintained the Tier 1 and Tier 2 classifications (figure 2)

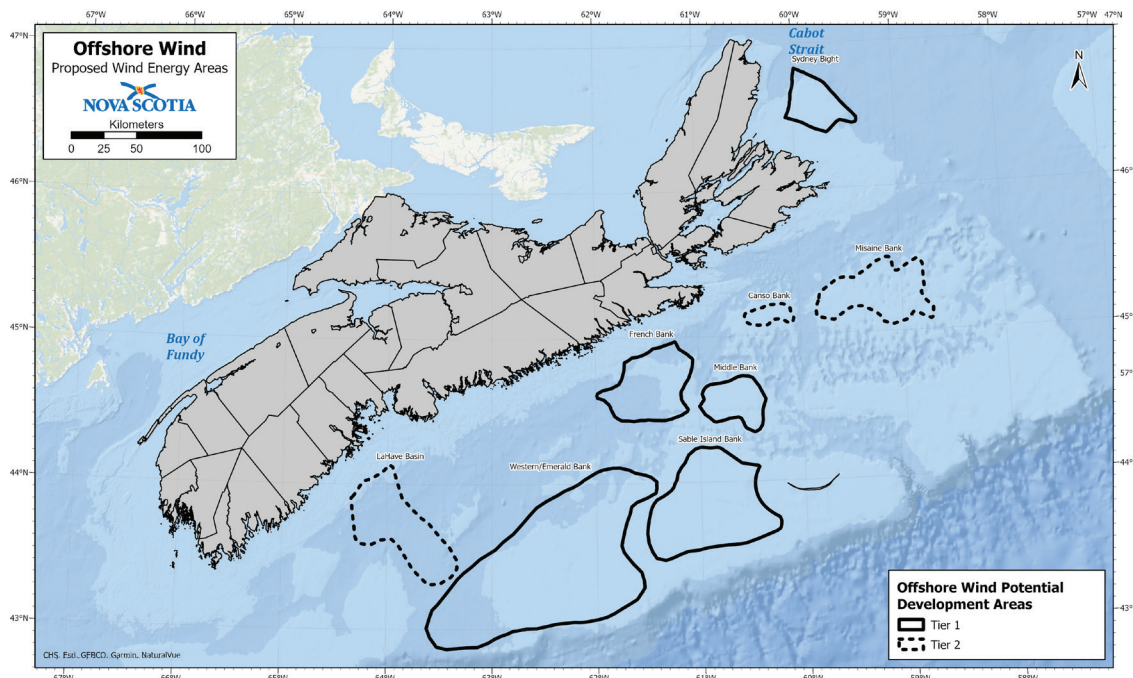


Figure 2: Potential development areas identified by the committee.

As part of its work, the committee identified the eight potential development areas using a **spatial planning process** which included:

1. **Eliminating restricted zones** where wind development may be prohibited
2. **Assessing constraints** such as biological, physical, technical, ecological, and socio-economic factors
3. **Engaging extensively** with Indigenous groups, fishers, the public, government, and industry
4. **Recommending a 25-km buffer** from the coastline and around Sable Island, while acknowledging that exceptions may be considered when necessary

The committee grouped potential development areas into two categories:

- **Tier 1** areas (recommended for **immediate consideration** as Wind Energy Areas), including: French Bank, Middle Bank, Sable Island Bank, Sydney Bight, and Western/Emerald Bank
- **Tier 2** areas (requiring **further review** before consideration as Wind Energy Areas), including: Canso Bank, Misaine Bank, and LaHave Basin

4. Proposed Wind Energy Areas

It is proposed that all five **Tier 1** areas from the committee's final report be designated as Wind Energy Areas, with some changes. As noted by the Regional Assessment committee, there may be circumstances where an incursion into the 25-km coastal buffer may be necessary or sought. As outlined below, the boundaries of two proposed Wind Energy Areas are closer than 25 km from shore.

Tier 2 areas will not be considered right now. This decision may be revisited after 2030, as Nova Scotia reviews its progress towards a goal of licencing up to 5 gigawatts of offshore wind by that date.

A **key consideration** in selecting the Wind Energy Areas below is choosing areas where offshore wind projects are safe and technically feasible. Other critical features include:

- Large enough to meet Nova Scotia's offshore wind energy goals
- Informed by input from federal and provincial authorities, Indigenous groups, fishers, developers, stakeholders, and the committee
- Contiguous areas to allow shared infrastructure (e.g., transmission cables) and other project efficiencies
- Located where there will be less impact on other ocean users, and where conflicts can be avoided or mitigated

Additional reports used to inform the selection process can be found in **Annex A**.

The proposed Wind Energy Areas are as follows:

Proposed Wind Energy Areas				
Tier	Area	Technology	Size	Change*
1	French Bank	floating	3421 km ²	566 km ² added
1	Middle Bank	fixed + floating	2289 km ²	844 km ² added
1	Sable Island Bank	fixed + floating	5850 km ²	no change
1	Sydney Bight	fixed + floating	1691 km ²	256 km ² added
1	Western/Emerald Bank	floating	6334 km ²	6836 km ² removed
Removed from consideration				
2	Canso Bank	none	430 km ²	removed
2	Misaine Bank	none	2830 km ²	removed
2	LaHave Basin	none	3450 km ²	removed

*Increase or decrease in area (km²) from the Tier 1 and 2 potential development areas listed in the committee's final report.

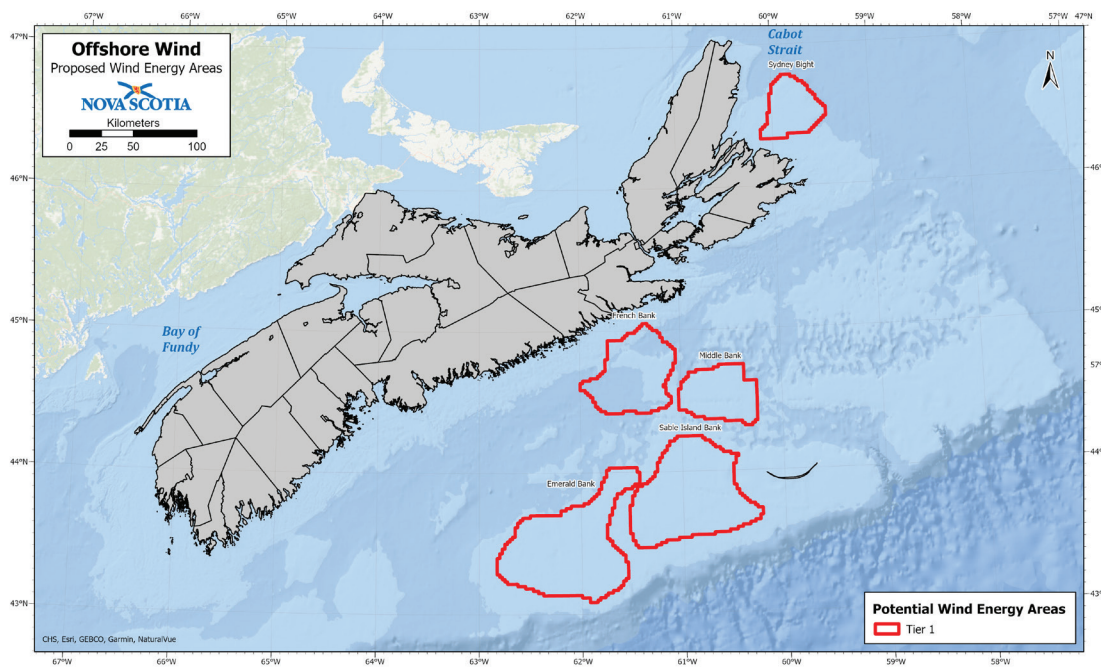


Figure 3: Proposed Wind Energy Areas

Fixed vs. Floating Offshore Wind

- **Fixed-bottom turbines** are anchored to the seabed and are ideal for shallow waters.
- **Floating turbines** rest on floating platforms, allowing wind projects to be built in deeper waters.

4.1 French Bank Proposed Wind Energy Area

The proposed French Bank Wind Energy Area is roughly 33 km from the community of Goldboro and 65 km from the port of Sheet Harbour – both communities could help service local offshore wind development. A detailed description of the area is available in the committee's [Final Report](#) on page 266.

It is proposed that the potential development area be expanded to include the entire French Bank and additional areas suitable for floating offshore wind development; the proposed expansion also allows for the inclusion of a landward area within the 25-km coastal buffer.

Currently, the entire French Bank potential development area has water depths greater than 70m, making it only suitable for floating wind turbines.

Expanding the area:

- Adds a section within the 25-km buffer that has low vessel traffic, minimizing conflict (figures 4 and 5)

- Maintains a distance of approximately 15 km from shore at its nearest point
- Includes all areas with suitable conditions for offshore wind development
- Provides more flexibility for future project planning, ensuring that bidding and licencing areas can adapt to social, environmental, and economic factors

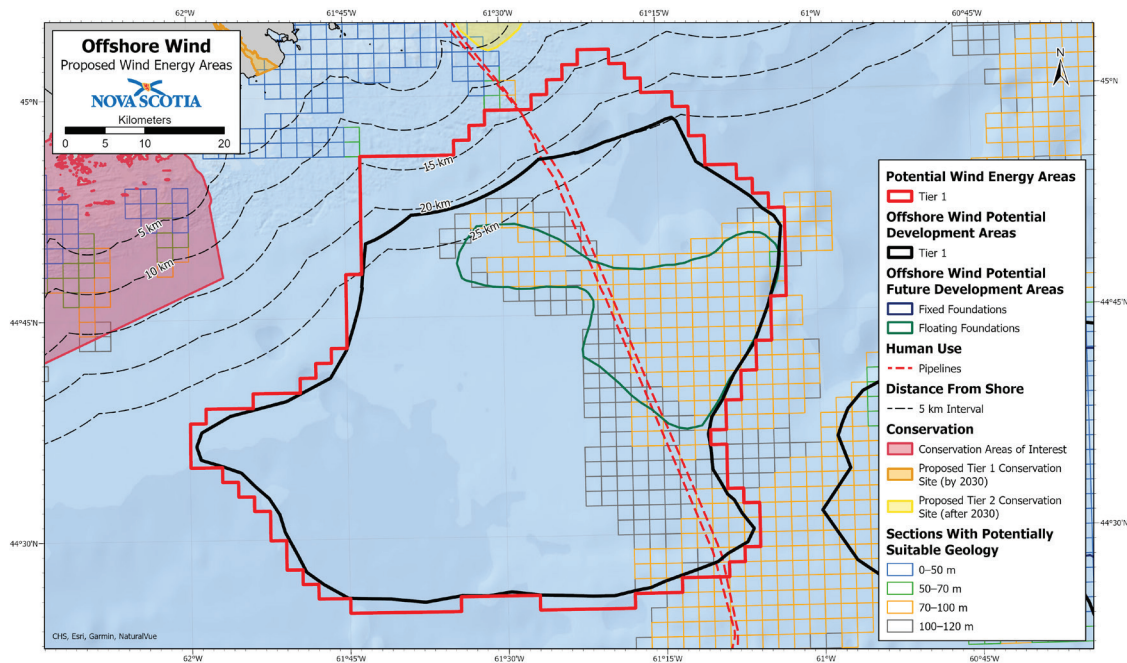


Figure 4: French Bank Proposed Wind Energy Area

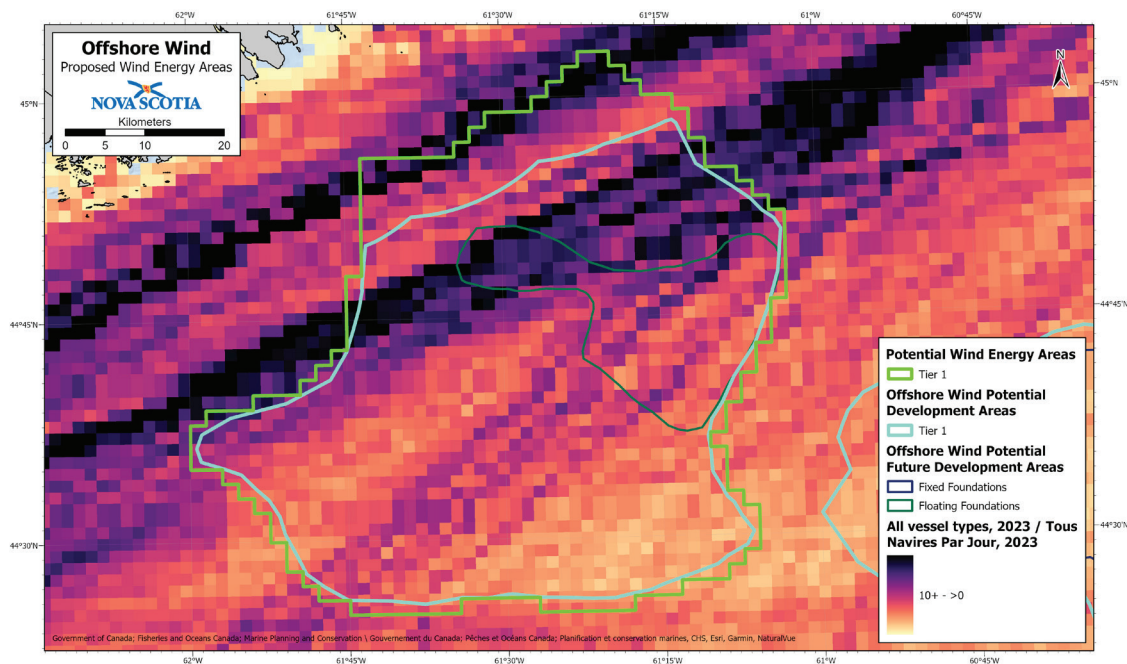


Figure 5: Frequency of vessel traffic near the proposed French Bank Wind Energy Area

4.2 Middle Bank Proposed Wind Energy Area

The proposed Middle Bank Wind Energy Area is located roughly 60 km from shore at its closest point and roughly 120 km from the port of Port Hawkesbury. A detailed description of the area is available in the committee's [Final Report](#) on page 257.

It is proposed that the Middle Bank potential development area be expanded to include a southeastern portion of the bank. Based on available data, this area has suitable water depths and surface geology for offshore wind development.

Expanding the proposed area:

- Increases the chances of successful project development, supporting the sustainable growth of Nova Scotia's offshore wind sector and helping the province meet its wind energy targets
- Allows for greater flexibility in addressing social, physical, environmental, and economic factors when planning projects
- Provides more options for future bidding processes, licence areas, and project designs, given the increase in area with shallower water depths

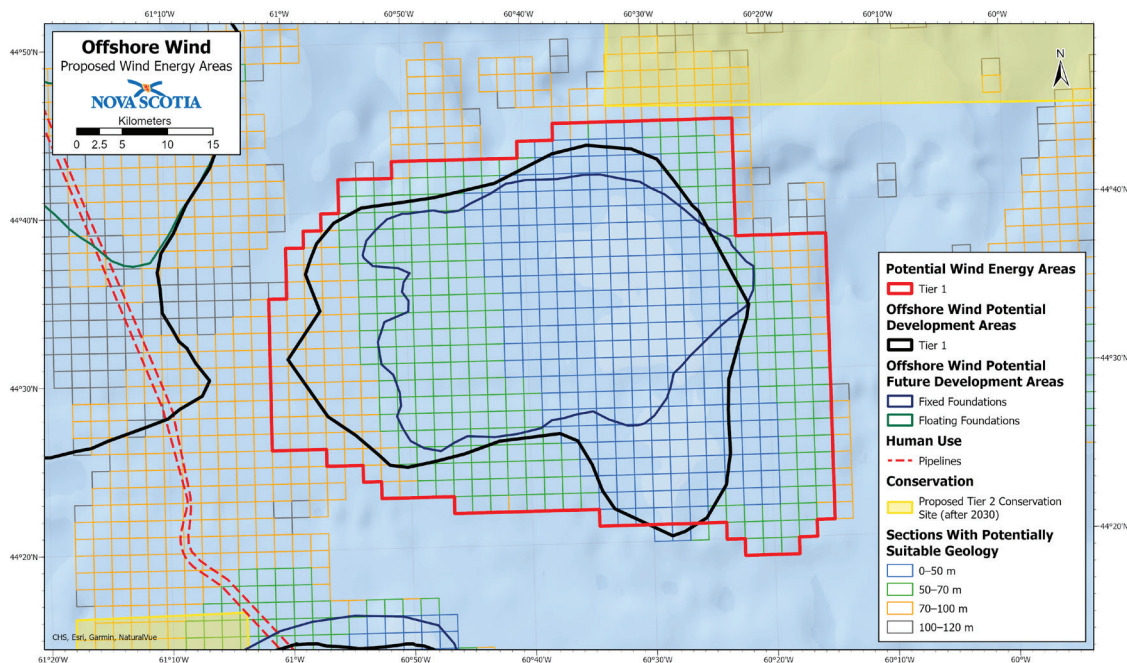


Figure 6: Middle Bank Proposed Wind Energy Area

4.3 Sable Island Bank Proposed Wind Energy Area

The proposed Sable Island Bank Wind Energy Area is a large area far from shore – roughly 110 km at its closest point. A detailed description of the area is available in the committee's [Final Report](#) on page 273.

It is proposed that the boundaries of the potential development area be maintained, including the 25-km buffer around Sable Island, a national park reserve.

The Sable Island Bank is a large area with suitable water depths and geology for both fixed-bottom and floating wind technologies. Its size and conditions provide:

- Flexibility for future project planning, allowing for adaptable bidding and licencing options
- The ability to host multiple projects sharing services and infrastructure – the area includes access to a decommissioned pipeline corridor that could be used to connect power cables to shore
- Enough space to support Nova Scotia's offshore wind targets, including potential expansion beyond 2030

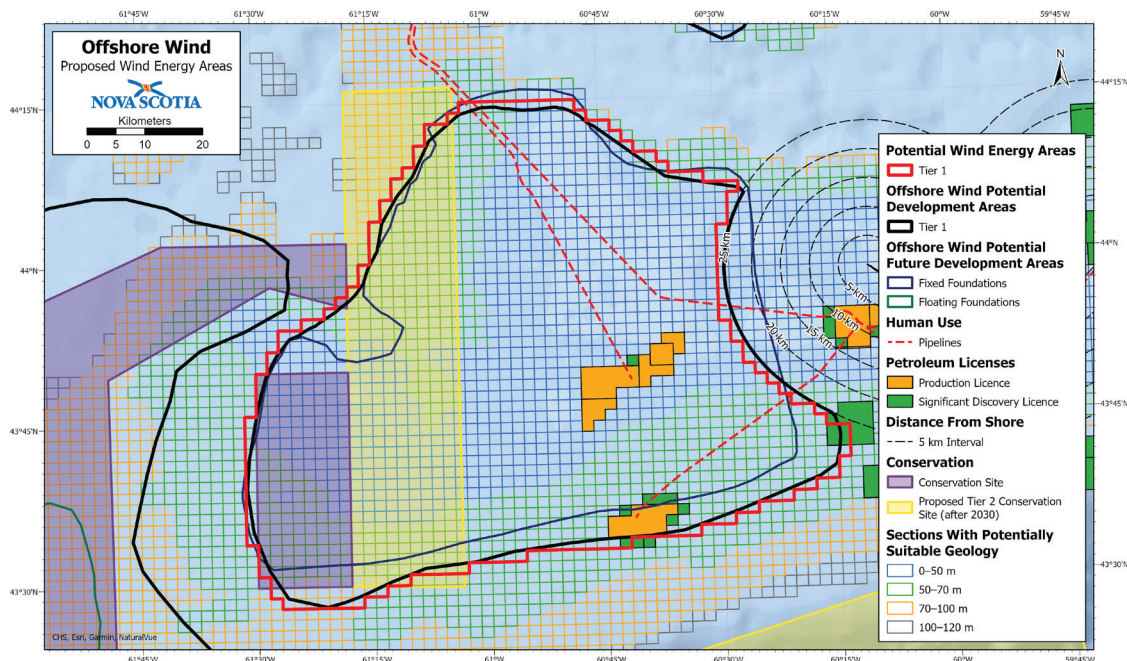


Figure 7: Sable Island Bank Proposed Wind Energy Area

Note: the slightly larger map area is a result of using the Regulator's land division system, which is grid-based.

4.4 Sydney Bight Proposed Wind Energy Area

The proposed Sydney Bight Wind Energy Area is relatively close to shore, existing grid infrastructure, and port facilities along the northeastern coast of Cape Breton. A detailed description of the area is available in the committee's [Final Report](#) on page 248.

It is proposed that the Sydney Bight potential development area be expanded to include a landward area within the 25-km coastal buffer. The expansion would include an area with water depths of less than 50m.

Currently, the Sydney Bight potential development area only includes areas deeper than 50m, which are less suitable for fixed-bottom wind turbines—the most widely used and proven offshore wind technology. Expanding into shallower waters (less than 50m) would allow fixed-bottom offshore wind development to be considered as an option. In addition, bringing the Wind Energy Area closer to shore offers several advantages, including:

- Lower costs for subsea cables, grid connections, construction, and maintenance
- Easier early-stage development and more flexible interconnection options
- Reduced transmission losses by being near existing onshore grid infrastructure

While the expansion would extend into the recommended buffer zone, potential conflicts could be avoided or mitigated through further assessments and project-specific measures.

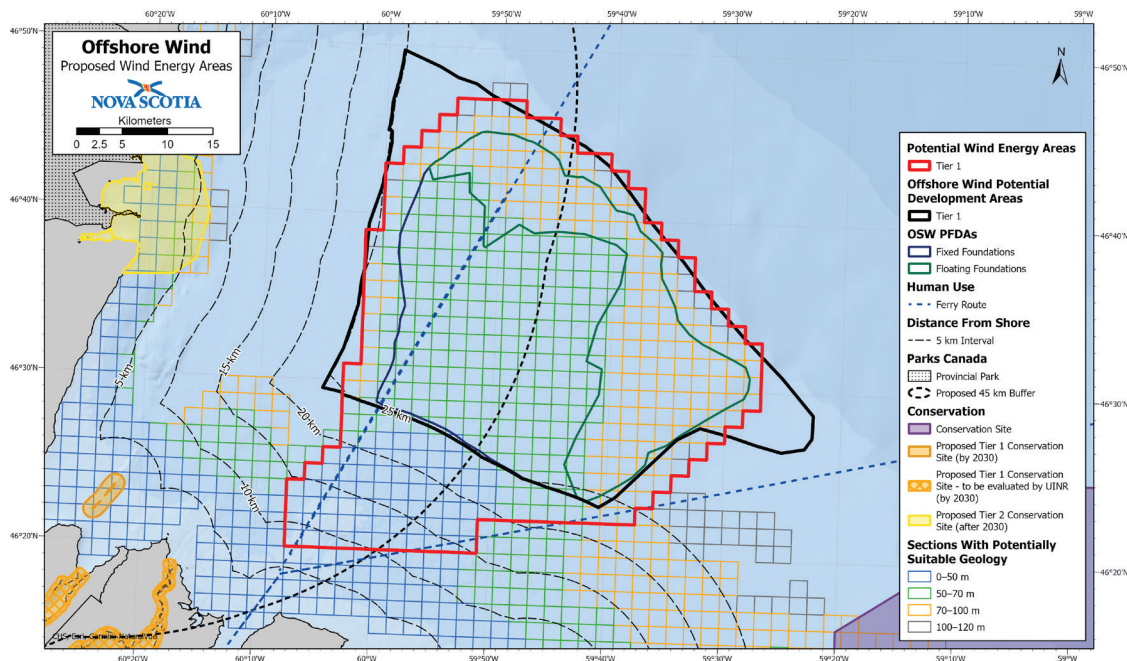


Figure 8: Sydney Bight Proposed Wind Energy Area

4.5 Western/Emerald Bank Proposed Wind Energy Area

The proposed Western/Emerald Bank Wind Energy Area is another large area far from shore – roughly 95 km at its closest point. A detailed description of the area is available in the committee's [Final Report](#) on page 283.

It is proposed that approximately 7000 km² be removed from the potential development area. The proposed Western/Emerald Bank Wind Energy Area would include:

- A contiguous zone with water depths between 50m and 100m
- Geological conditions suitable for floating wind turbines

There are areas of overlap with a Marine Refuge, the Western/Emerald Bank Conservation Area, and a Department of National Defence exercise area, and any future offshore wind development would need to consider and address these overlapping uses.

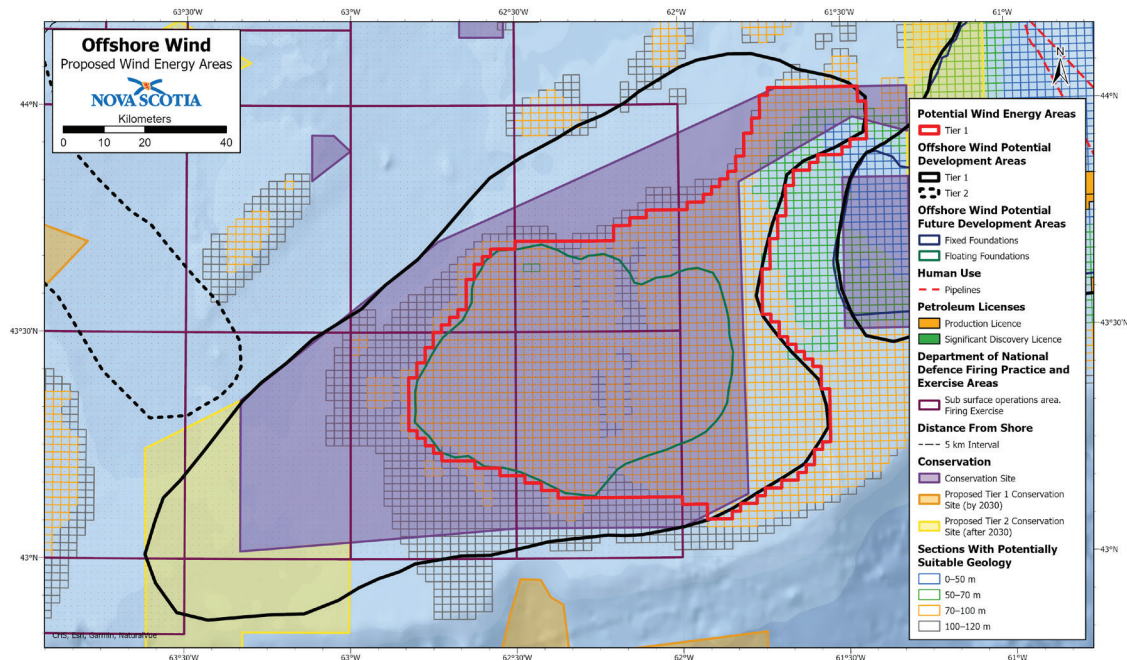


Figure 9: Western/ Emerald Bank Proposed Wind Energy Area

5. Future Wind Energy Areas

The five Wind Energy Areas proposed in this document support Nova Scotia's target to issue submerged land licences for up to five gigawatts of offshore wind energy by 2030.

The Tier 2 areas identified in the committee's final report will not be considered for development at this time. After 2030, more Wind Energy Areas may be considered based on evolving energy needs, environmental research, safety and public input.

Wind Energy Areas will be reviewed as new data becomes available to ensure they continue to support Canada and Nova Scotia's priorities for clean, safe energy and economic growth and respect the marine ecosystem and its users.

6. How to Submit Feedback

Public feedback is welcome and accepted until April 14, 2025.

- **Email:**
marinerenewables@novascotia.ca
- **Mail:**
Nova Scotia Department of Energy
PO Box 2664
Halifax, Nova Scotia, Canada
B3J 3P7

For questions or assistance, please reach out to marinerenewables@novascotia.ca.

Next steps

It is anticipated that Wind Energy Areas will be officially designated in Summer 2025. Additional resources and supporting documents will be available online.

Annex A: Additional Reports and Resources Used to Propose Wind Energy Areas

Aegir

- Study: <https://netzeroatlantic.ca/sites/default/files/2023-04/Value%20Mapping%20Nova%20Scotia%20Offshore%20Wind%20Resources.pdf>

CanmetENERGY-Ottawa

- Jurisdictional Scan: https://publications.gc.ca/collections/collection_2022/rncan-nrcan/M154-136-2020-eng.pdf
- Technology Scan: https://publications.gc.ca/collections/collection_2022/rncan-nrcan/M154-147-2021-eng.pdf
- Preliminary Suitability Analysis: <https://ostrnrcan-dostrnrcan.canada.ca/entities/publication/50233490-2d8b-4fd5-aede-6d8218205e0e>

Department of Fisheries and Oceans

- Marxan with Zones: [Application of Marxan with Zones as a marine spatial planning decision-support tool: a case study for offshore wind planning in Nova Scotia \(dfo-mpo.gc.ca\)](https://www.dfo-mpo.gc.ca/application-of-marxan-with-zones-as-a-marine-spatial-planning-decision-support-tool-a-case-study-for-offshore-wind-planning-in-nova-scotia)

Geological Survey of Canada:

- Eamer, J. B. R., Broom, L. M., Campbell, D. C., Desiagne, P. -A., Greaves, C., Normandeau, A., Philibert, G., Watson, V & Skinner, C. (2024). Recent research in support of a low-carbon economy at the Geological Survey of Canada - Atlantic. Geological Survey of Canada, Open File, 9204. <https://doi.org/10.4095/p4vptgc1s2>
- Eamer, J. B. R., Greaves, C., Maselli, V., King, E. L., Shaw, J., Manning, D., Higgins, J., Hayward, S. E. & Meslin, P. (2024). R/V William Kennedy expedition 2023004: seabed sampling and geophysical surveys – Eastern Shore, Nova Scotia. Geological Survey of Canada, Open File, 9164, 22. <https://doi.org/10.4095/pmt3322>
- Eamer, J. B. R., Greaves, C. & King, E. L. (2023). The science questions underpinning the potential for offshore wind turbines on Atlantic Canada's continental shelves. Geological Survey of Canada, Scientific Presentation, 158. <https://doi.org/10.4095/331697>
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- Eamer, J. B. R., Shaw, J. M., King, E. L. & MacKillop, K. (2020). The inner shelf geology of Atlantic Canada compared with the North Sea and Atlantic United States: insights for Atlantic Canadian offshore wind energy. Continental Shelf Research, 213, 104297, 1-20. <https://doi.org/10.1016/j.csr.2020.104297>
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