# Regional Assessment Committee -The Offshore Wind Option for Nova Scotia

Graham R. Daborn NZA R&D Forum 18 November 2024

# Scotian Shelf Study Area

- A unique, biologically rich and diverse coastal shelf
- Biologically connected to the North and South Atlantic, North, Central and South America (including the Arctic) and Europe
- V. large economic importance to Nova Scotia & Canada
- Vulnerable to anthropogenic and climate changes.



#### Approach



#### Why Offshore Wind Energy Development in Nova Scotia?

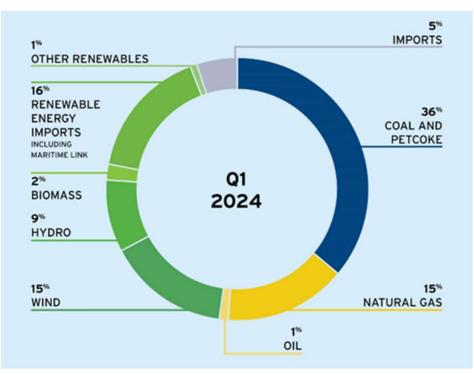


Figure Credit: Nova Scotia Power Our Energy Stats (https://www.nspower.ca/cleanandgreen/clean-energy)

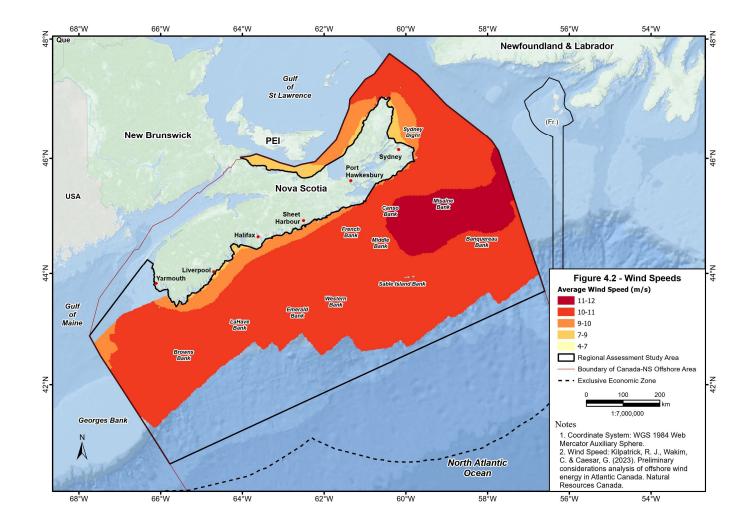
2024 will be world's hottest year on record, EU scientists say By Kate Abnett and Alison Withers

November 7, 20244:52 AM AST

#### The 2024 state of the climate report: Perilous times on planet Earth

*BioScience*, biae087, <u>https://doi.org/10.1093/biosci/biae087</u> **Published:** 08 October 2024

#### Nova Scotia's Offshore Wind Regime



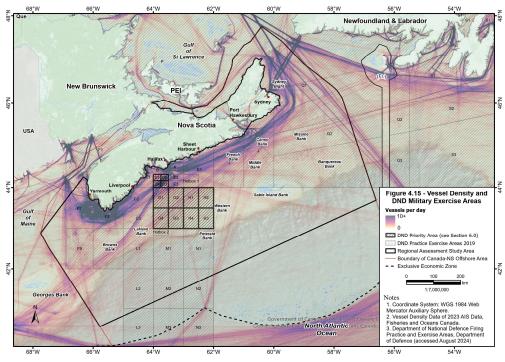
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#### Constraints:

#### Water Depths

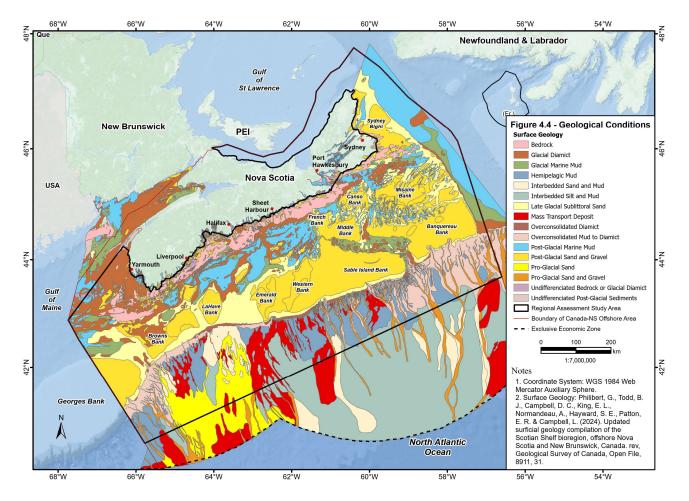
#### 68°W 66°W 64°W 62°W 60°V 56°W 54°W Newfoundland & Labrador Gulf of St Lawrence New Brunswick PEI Nova Scotia USA Sheet Figure 4.3 - Water Depth Water Depth Classes 0-20 m Gulf of Maine 20-30 m 30-60 m 60-120 m 120-2000 m 2000+ m Regional Assessment Study Area Boundary of Canada-NS Offshore Area - Exclusive Economic Zone 100 200 1:7,000,000 Georges Notes Notes 1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere. 2. Water Depth Classes: Kilpatrick, R. J., Wakim, C. & Caesar, G. (2023). Preliminary considerations analysis of North Atlantic Ocean offshore wind energy in Atlantic Canada Natural Resources Canada. 56°W 62°W 58°W 54°W 68°W 66°W 64°W 60°W

# Marine Traffic & DND Exercise Areas



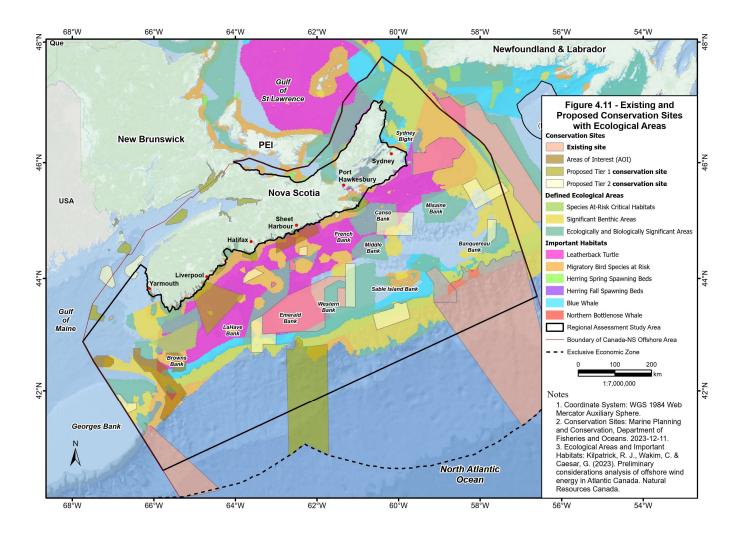
#### Constraint:

#### **Geological Setting**



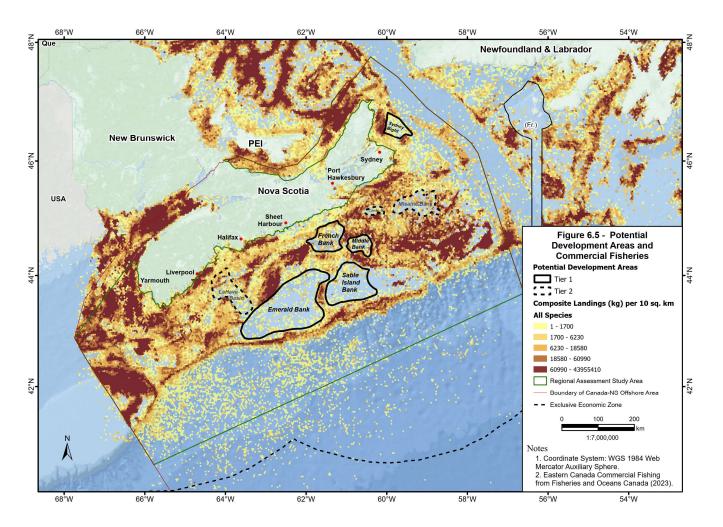
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#### Constraint: Conservation Areas & Important Habitats

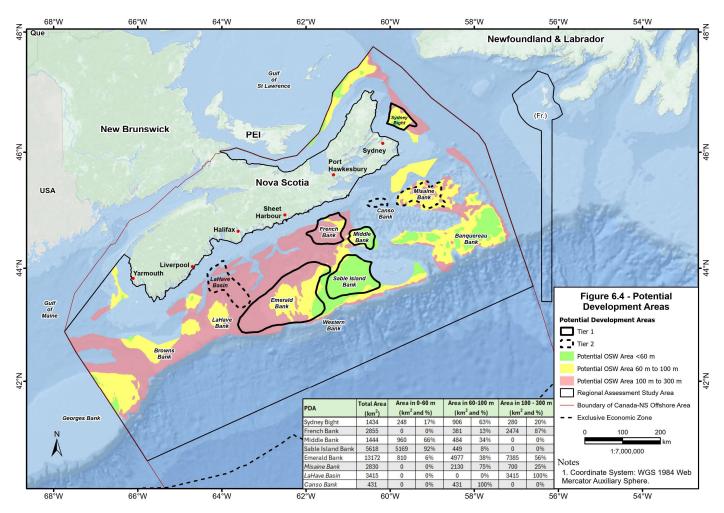


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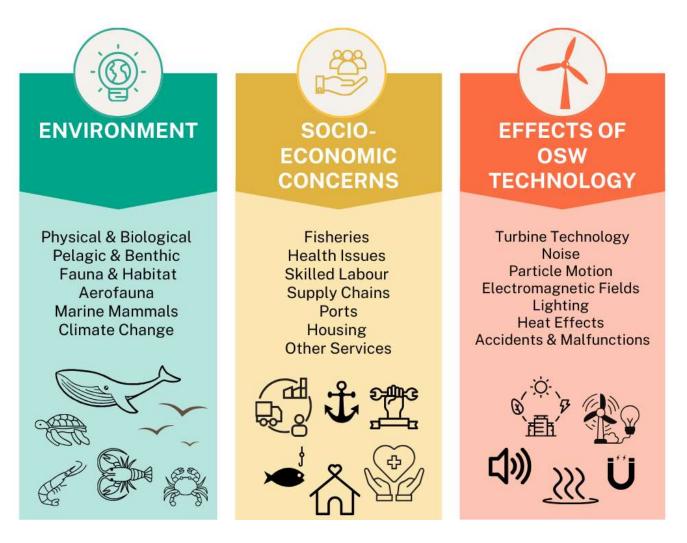
Constraint: Commercial Fisheries and PDAs

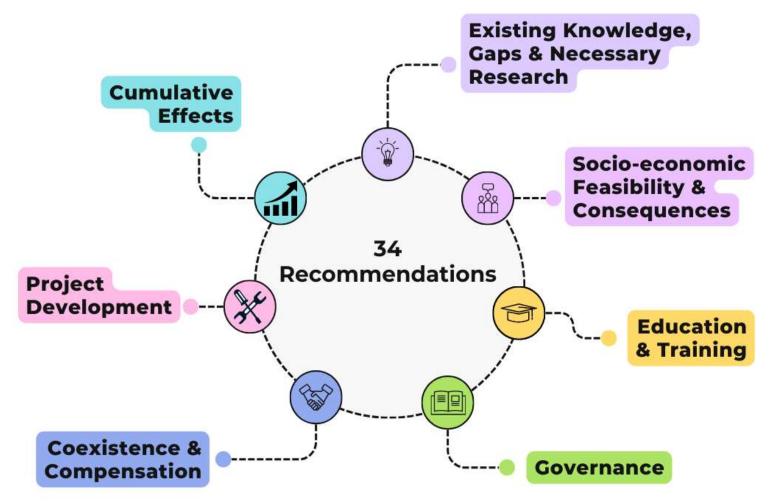


#### Potential Development Areas (PDAs)



#### Data & Knowledge Gaps





#### Recommendations

#### Theme 1: Existing Knowledge, Gaps and Necessary Research

T1-1, 3 & 6	Develop a Scotian Shelf Collaborative Research Initiative (SSCRI) & Create a shared repository of data and sources & Support for development of environmental and analysis of data within the RA Study Area	
T1-2 & 5	Fund Mi'kmaw Ecological Knowledge Studies (MEKS) & Provide funding to Mi'kmaw organizations for research on adaptive management	Photo credit: Apoqnmatulti'k.
T1-4	Provide support for ongoing research in federal departments on modelling and marine spatial planning	
T1-7	Open discussions with the State of Maine to contribute to and develop a mutually supportive research agenda associated with their proposed floating OSW test site	
T1-8	Establish Participant Funding to last at least five years	

#### Theme 2: Socio-economic Feasibility and Consequences

- T2-3 Adopt a regional/national planning approach for the provincial OSW Roadmap
  T2-4 & 7 Initiate socio-economic studies for key communities including disadvantaged & vulnerable groups
  T2-5 & 6 Engage the Departments of Education and Early Childhood Development and Skills,
  - Labour and Immigration in the evolution of the OSW Roadmap & includes consideration of recruitment programs



# Theme 3: Project Development

T3-1	The establishment of a 25 km coastal buffer zone
T3-3(a)-(f)	Development of bid criteria and bidder pre-qualification
T3-5	Requirement for adequate security related to abandonment and decommissioning activities



#### Theme 6: Governance

Т6-4	Consider requiring all vessels to have an approved vessel tracking system
	installed and operating while in the RA Study Area

T6-5 Government departments to review their management and regulatory processes



## **Theme 7: Education and Training**

- T7-1 Nova Scotia Department of Education to work with elementary, middle and high schools, colleges and universities to develop curriculum, educational and training programs related to OSW and other renewables
- T7-2 Nova Scotia Department of Education to develop curriculum for new upskilling, retraining and micro-credential programs to enable the current marine workforce to transition into new roles in support of OSW development



Photo credit: Aberdeen Science Centre.



Photo credit: IQTC.

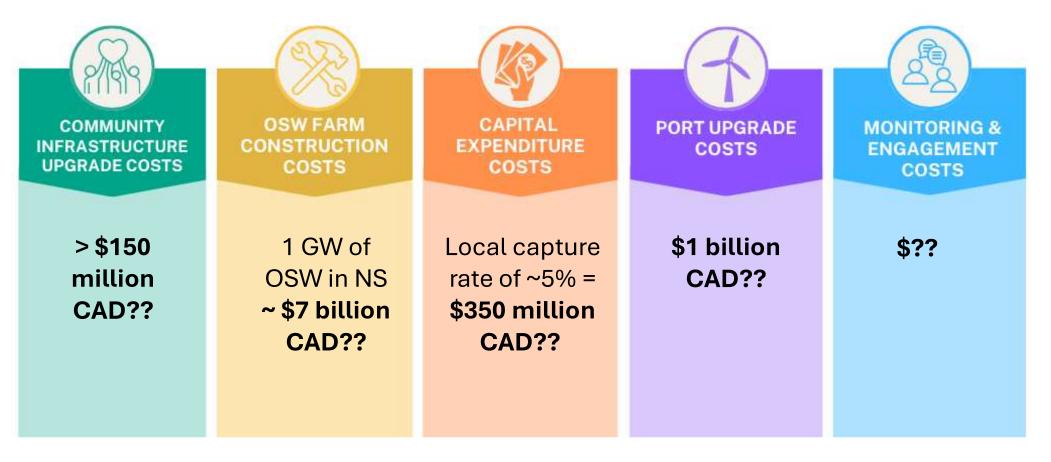
## **Cost of Industry Development**

#### Varies depending on:

- scale and predictability of industry,
- supply chain availability,
- size, location and timing of projects,
- location of ports and their associated upgrades,
- grid connection, among others.



#### Estimations of Development Costs in Nova Scotia



#### **Reality Check!**

"Nova Scotia cannot undertake an OSW project of this magnitude on its own. It is unlikely even the combined resources of Atlantic Canada will be sufficient. Rather, **leveraging this opportunity will require a national-level consolidation of resources** and industry development strategy, as well as an **innovative international trade agreement on OSW with the United States** to facilitate resource sharing along the east coast of North America, from the Chesapeake up through the Gulf of Maine and the Atlantic shores of Nova Scotia."

~ NS RA Committee, Draft Final Report. Pages 295-296

Photo credit: UK Government.



**Final Remarks** 

"The last temptation is the greatest treason: To do the right deed for the wrong reason."

~ T.S. Eliot (*Murder in the Cathedral*)