



**NOVA SCOTIA
OFFSHORE WIND
R&D FORUM**
NOVEMBER 18, 2024

Program Guide

WELCOME!

“The foundation for a Canadian offshore wind industry is being assembled. The Accord Acts amendments have passed, so an experienced regulator is in place. The draft report of the Regional Assessment of Offshore Wind Development in Nova Scotia has been released for comment. Within it is a recognition of the importance of a collaborative R&D effort.

The timing for the Nova Scotia Offshore Wind R&D Forum is excellent. It’s our first opportunity for researchers and stakeholders to share what we know, and to discuss what we should learn to support a sustainable and inclusive offshore wind industry in Nova Scotia.



So, ask questions and contribute to conversations. Net Zero Atlantic is taking notes for what’s next.”

— Alisdair McLean,
Chief Executive Officer
Net Zero Atlantic

THANK YOU TO OUR SPONSORS

We would like to thank our sponsors for supporting the Nova Scotia Offshore Wind R&D Forum.
Your commitment to advancing offshore wind research and development plays a crucial
role in shaping the future of the industry in Nova Scotia.



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 **wind**
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Forces**



LOCATION

Halifax Marriott
Harbourfront Hotel
1919 Upper Water St,
Halifax, NS B3J 3J5



Networking Reception

Join us for the Networking Reception outside the plenary session room from **4:30 to 6:00 PM**—stick around and connect with other delegates!

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AGENDA AT A GLANCE

Nova Scotia Offshore Wind R&D Forum

November 18, 2024

Halifax Marriott Harbourfront Hotel

7:30 AM - 4:00 PM	Registration (open all day)
7:45 AM	Breakfast
8:00 AM - 8:25 AM	Welcome & Opening Remarks
8:25 AM - 8:50 AM	Keynote Session: Anders Grønbech Jørgensen, Energinet — “Hubs and Spokes as a Next Step in European Collaboration to Integrate Offshore Wind”
9:00 AM - 6:00 AM	Poster Presentations (open all day)
9:00 AM - 10:00 AM	Concurrent Sessions (Technical / Environmental / Policy & Regulatory)
10:00 AM - 10:30 AM	Refreshment Break, Networking & Poster Viewing
10:30 AM - 11:30 AM	Concurrent Sessions (Technical / Environmental / Policy & Regulatory)
11:40 AM - 12:30 PM	Keynote Session: Graham Daborn, Acadia University — “Regional Assessment Committee – The Offshore Wind Option for Nova Scotia”
12:30 PM - 1:30 PM	Buffet Lunch & Networking
1:30 PM - 1:40 PM	Student Posters Award
1:50 PM - 2:50 PM	Concurrent Sessions (Technical / Environmental / Policy & Regulatory)
2:50 PM - 3:15 PM	Refreshment Break, Networking & Poster Viewing
3:15 PM - 4:15 PM	Concurrent Sessions (Technical / Environmental / Policy & Regulatory)
4:30 PM - 6:00 PM	Networking Reception

FORUM SCHEDULE

7:30 AM - 4:00 PM	Registration (<i>open all day</i>)	Plenary Room
7:45 AM	Buffet Breakfast	Plenary Room
8:00 AM - 8:25 AM	Welcome & Opening Remarks <ul style="list-style-type: none"> Alisdair McLean, <i>Chief Executive Officer, Net Zero Atlantic</i> Elder Ann LaBillois, <i>Elder in Residence, Dalhousie University</i> Chuck Maillet, <i>Vice President Nova Scotia, Atlantic Canada Opportunities Agency</i> 	Plenary Room
8:25 AM - 8:50 AM	Keynote Session: Hubs and Spokes as a Next Step in European Collaboration to Integrate Offshore Wind <ul style="list-style-type: none"> Anders Grønbech Jørgensen, <i>Energinet</i> 	Plenary Room
9:00 AM - 6:00 AM	Poster Presentations (<i>open all day</i>)	Exhibition Area
9:00 AM - 10:00 AM	Concurrent Sessions	
	TECHNICAL SESSIONS PLenary ROOM	ENVIRONMENTAL SESSIONS BALLROOM B
	POLICY & REGULATORY SESSIONS BALLROOM C	
9:00 AM - 10:00 AM	OFFSHORE WIND: GRID INTEGRATION Moderator: John Dalton, <i>Power Advisory LLC</i> Speakers: Tershara Matthews, <i>WSP</i> Cornelis Plet, <i>DNV Energy Systems</i> Mahmoud Kiasari, <i>Dalhousie University</i>	OFFSHORE WIND: EFFECTS ON MARINE LIFE Moderator: Anna Redden, <i>Acadia University</i> Speakers: Kaus Raghukumar, <i>Integral Corp</i> Benjamin Williamson, <i>University of Highlands & Islands</i> Caitlin McGarigal, <i>New Jersey Department of Environmental Protection</i> Andrew Gill, <i>Cefas</i>
		SUSTAINING THE SEASCAPE: CONSIDERATIONS FOR THE FISHERIES SECTOR Moderator: Kevin Stokesbury, <i>University of Massachusetts Dartmouth</i> Speakers: Kevin Stokesbury, <i>University of Massachusetts Dartmouth</i> Kris Vascotto, <i>Nova Scotia Fisheries Alliance for Energy Engagement</i> Russell Dmytriw, <i>AWCL</i> Melissa Nevin, <i>Atlantic Policy Congress of First Nations Chiefs</i>
10:00 AM - 10:30 AM	Refreshment Break, Networking & Poster Viewing	Exhibit Hall

FORUM SCHEDULE

	Concurrent Sessions		
	TECHNICAL SESSIONS PLENARY ROOM	ENVIRONMENTAL SESSIONS BALLROOM B	POLICY & REGULATORY SESSIONS BALLROOM C
10:30 AM - 11:30 AM	METOCEAN DATA: COLLECTION AND USE Moderator: Thomas Levy, <i>Natural Resources Canada</i> Speakers: Will Perrie, <i>Bedford Institute of Oceanography</i> Lukas Swan, <i>Dalhousie University</i>	FROM COLLISION AVOIDANCE TO HABITAT IMPACT: ASSESSING THE POTENTIAL AFFECTS OF OFFSHORE WIND ON BIRD AND BAT POPULATIONS Moderator: Phil Taylor, <i>Acadia University</i> Speakers: Stephanie Avery-Gomm, <i>Environment and Climate Change Canada</i> Paul Knaga, <i>Environment and Climate Change Canada, Canadian Wildlife Services</i> Kate Williams, <i>Center for Research on Offshore Wind and the Environment (CROWE), Biodiversity Institute</i>	EMERGING BEST PRACTICES IN EDUCATION & SOCIAL ACCEPTANCE Moderator: Scott Skinner, <i>Clean Foundation</i> Speakers: Jennifer MacNeil, <i>Cape Breton Partnership</i> Kat Mataya, <i>COVE</i> John Colton, <i>Acadia University</i> Kelsey White and Zach Sabeau <i>The Confederacy of Mainland Mi'kmaq</i> <i>*NOTE: This session ends at 11:40</i>
11:40 AM - 12:30 PM	Keynote Session: Regional Assessment Committee – The Offshore Wind Option for Nova Scotia • Graham Daborn, <i>Acadia University</i>		Plenary Room
12:30 PM - 1:30 PM	Buffet Lunch & Networking		Plenary Room
1:30 PM - 1:40 PM	Student Posters Award		Plenary Room

FORUM SCHEDULE

1:50 PM - 2:50 PM	Concurrent Sessions		
	TECHNICAL SESSIONS PLENARY ROOM	ENVIRONMENTAL SESSIONS BALLROOM B	
	THE ROLE OF GEOSCIENCE IN OFFSHORE WIND PROJECTS Moderator: Tim Bachiu, <i>Net Zero Atlantic</i> Speakers: Matteo Niccoli, <i>Canada-Nova Scotia Offshore Petroleum Board</i> Jordan Eamer, <i>Natural Resources Canada / Geological Survey of Canada</i> Grant Wach, <i>Dalhousie University</i>	MARINE SPATIAL PLANNING: MINIMIZING IMPACTS WITH OTHER OCEAN USERS Moderator: Kiera Walsh, <i>Net Zero Atlantic</i> Speakers: Karl Hanke, <i>Baird and Associates</i> Ian Stewart, <i>University of King's College</i> Elizabeth Nagel, <i>Fisheries & Oceans Canada</i>	
2:50 PM - 3:15 PM	Refreshment Break, Networking & Poster Viewing		Exhibition Area
3:15 PM - 4:15 PM	Concurrent Sessions		
	TECHNICAL SESSIONS PLENARY ROOM	ENVIRONMENTAL SESSIONS BALLROOM B	POLICY & REGULATORY SESSIONS BALLROOM C
	FLOATING OFFSHORE WIND: THE NEW FRONTIER IN RENEWABLE ENERGY Moderator: Anne-Marie Belliveau, <i>Projectable Consulting</i> Speakers: Saverio Ventrelli, <i>Siemens Energy</i> Jean-Robert Fournier, <i>SBM Offshore</i> Mohammad Mahdi Aziminia, <i>Condition Monitoring Center, Sharif University of Technology</i>	OFFSHORE WIND: INTERACTIONS WITH INVERTEBRATES, MAMMALS AND TURTLES Moderator: Sarah Thomas, <i>DP Energy</i> Speakers: Robert Lennox, <i>Ocean Tracking Network</i> Hilary Moors-Murphy, <i>Fisheries & Oceans Canada</i>	ENABLING MEASURES AND STRATEGIES FOR FUTURE DEVELOPMENT Moderator: Mohammad Ali Raza, <i>Cox & Palmer</i> Speakers: Martin Thomsen, <i>Richmond County</i> Courtney Wall and Katy Macdonald, <i>Stantec Consulting</i> Blair MacDougall, <i>Waterford Energy Services Inc</i>
4:30 PM - 6:00 PM	Networking Reception		Plenary Room

KEYNOTE SESSIONS

KEYNOTE SESSION:

Hubs and Spokes as a Next Step in European Collaboration to Integrate Offshore Wind

Anders Grønbech Jørgensen
Chief Programme Manager, Energinet

The European Union is determined to meet its obligations under the Paris Agreement. To do so, the EU is aiming at developing 300 GW of offshore wind production before 2050. The North Sea Wind Power Hub Programme investigated how to develop and integrate such massive amounts of energy and concluded that it is possible through integrated and modular hubs-and-spokes systems. The hubs collect the energy, connect production and consumption across national borders and convert electricity to hydrogen based on market signals. Intensified international collaboration is crucial to realize this vision.



KEYNOTE SESSION:

Regional Assessment Committee — The Offshore Wind Option for Nova Scotia

Graham Daborn
Research Associate, Acadia University

Presentation Description: A five-member independent committee, well supported by a seven-member Secretariat, began to examine the feasibility and acceptability of large-scale capture of wind energy in offshore regions of Nova Scotia in April 2023. The Committee was tasked with providing information, knowledge and analyses regarding future offshore wind development activities in the Study Area and the potential effects, to inform and improve future planning, licencing and impact assessment processes for offshore wind activities in a way that helps protect the environment and health, social and economic conditions and creates opportunities for sustainable economic development. After extensive engagement with the public, Indigenous communities, government agencies, fishers, academics and industry representatives, the Committee identified 8 potential development areas that might accommodate offshore wind farms and have the least conflict with other important activities such as fishing, conservation, etc.

The Draft Final Report also included 34 recommendations for the Ministers to consider regarding offshore wind development in Nova Scotia.



CONCURRENT SESSIONS

During the forum, delegates can participate in four-time blocks of concurrent sessions, each featuring three themes:



You have the flexibility to engage with sessions within a single theme or explore a mix across themes. Each session will consist of a series of presentations, concluding with a Q&A segment to foster discussion and inquiry.

TECHNICAL SESSIONS

9:00 AM – 10:00 AM (Plenary Room)

Offshore Wind: Grid Integration



MODERATOR

John Dalton
Power Advisory



Tershara Matthews
WSP

“Starting with the
End in Mind”



Cornelius Plet
DNV Energy Systems

“HVDC and the Link Between
Power Transmission and
Lease Area Sizing”



Mahmoud Kiasari
Dalhousie University

“Grid Integration and
Pathways to Market for
Renewable Energy:
Leveraging AI and
Machine Learning”

10:30 AM – 11:30 AM (Plenary Room)

Metocean Data: Collection and Use



MODERATOR

Thomas Levy
*Natural Resources
Canada*



William Perrie
*Bedford Institute of
Oceanography*
“Estimating the Offshore
Wind Resources off Nova
Scotia”



Lucas Swam
Dalhousie University
“Nova Scotia Offshore Wind
Farm Site Considerations:
Resource, Seasonality, and
Integration”

TECHNICAL SESSIONS

1:50 PM – 2:50 PM (Plenary Room)

The Role of Geoscience in Offshore Wind Projects



MODERATOR

Tim Bachiu
Net Zero Atlantic



Matteo Niccoli

*Canada-Nova Scotia Offshore
Petroleum Board*

“Geoscience Data Curation and
Interpretation for Offshore Wind
at the Canada-Nova Scotia
Offshore Petroleum Board”



Jordan Eamer

Geological Survey of Canada

“Recent Geological Data
Collection and Preliminary
Interpretations in Support of
Offshore Wind Decision
Making on the Scotian Shelf”



Grant Wach

*Dalhousie University &
Maurice Dusseault
University of Waterloo*

“Energy Storage to
Support Atlantic Canada’s
Offshore Wind Plans”

3:15 PM – 4:15 PM (Plenary Room)

Floating Offshore Wind: The New Frontier in Renewable Energy



MODERATOR

Anne-Marie Belliveau
Projectable Consulting



Saverio Ventrelli

Siemens Energy

“Offshore Floating Wind: Battery
Energy Storage System Support-
ing the Decarbonization, the
Bankability, and Lowering the
OPEX of the Assets”



Jean-Robert Fournier

SBM Offshore

“Floating Offshore Wind:
Positioning Port in the
Value Chain for Seamless
Execution”



Mohammad Mahdi

Aziminia

University of Iran

“Predictive Maintenance
Scheme for Offshore Wind
Turbine Using Digital Twin
Model”

ENVIRONMENTAL SESSIONS

9:00 AM – 10:00 AM (Ballroom B)

Offshore Wind: Effects on Marine Life



MODERATOR

Anna Redden
Acadia University



Kaus Raghukumar
Integral Corp

“Towards more accurate sound source verification for offshore wind environmental permitting”



Benjamin Williamson
University of Highlands & Islands

“PELAGIO: Physics-to-ecosystem Level Assessment of Impacts of Offshore Wind Farms”



Caitlin McGarigal
New Jersey Department of Environmental Protection

“A State’s Approach to Developing a Regional Offshore Wind Research and Monitoring Program for Habitat, Wildlife and Fisheries in the Mid-Atlantic”



Andrew Gill
Cefas

“Ecological Considerations for Assessing Environmental Impacts on Fisheries Species”

10:30 AM – 11:30 aM (Ballroom B)

From Collision Avoidance to Habitat Impact: Assessing the Potential Effects of Offshore Wind on Bird and Bat Populations



MODERATOR

Phil Taylor
Acadia University



Stephanie Avery-Gomm
Environment and Climate Change Canada

“Framework for Assessing the Cumulative Effects of Offshore Wind Energy Development and Other Pressures on AeroFauna in Atlantic Canada”



Paul Knaga
Environment and Climate Change Canada, Canadian Wildlife Services

“Assessing the Vulnerability of Offshore AeroFauna to the Emerging Offshore Wind Energy Industry in Atlantic Canada”



Kate Williams
CROWE, Biodiversity Institute

“Mitigating Impacts to Birds and Bats from Offshore Wind Development: Available Evidence and Data Gaps”

ENVIRONMENTAL SESSIONS

1:50 PM – 2:50 PM (Ballroom B)

Marine Spatial Planning: Minimizing Impacts with Other Ocean Users



MODERATOR

Kiera Walsh
Net Zero Atlantic



Karl Hanke
Baird and Associates
“Navigation Impacts due to Offshore Wind Developments: Modelling of Collision and Allision Incident Frequencies”



Ian Stewart
University of King's College

“Recent Research on Policy and Regulatory Approaches Supporting Co-Existence in Support of Nova Scotia's Offshore Wind Development”



Christopher Milley
Dalhousie University



Elizabeth Nagel
Fisheries and Oceans Canada

“Marine Spatial Planning Decision Support for Offshore Wind Planning”

3:15 PM – 4:15 PM (Ballroom B)

Offshore Wind: Interactions with Invertebrates, Mammals and Turtles



MODERATOR

Sarah Thomas
DP Energy



Robert Lennox
Ocean Tracking Network
“The Potential of Tracking Aquatic Animals to Support Sustainable Progress in Marine Renewables”



Hilary Moors-Murphy
Fisheries & Oceans Canada
“Cetaceans of the Scotian Shelf and DFO Maritimes Region's Long-Term Passive Acoustic Monitoring Program”



Daphne Munroe
Rutgers University
“Shellfish Fisheries and Offshore Wind: Modeling the Potential Interactions and Surveying Resource Changes”

POLICY & REGULATORY SESSIONS

9:00 AM – 10:00 AM (Ballroom C)

Sustaining the Seascape: Considerations for the Fisheries Sector



MODERATOR
Kevin Stokesbury
*University of
Massachusetts
Dartmouth*



Kevin Stokesbury
*University of
Massachusetts
Dartmouth*

“Anticipating the Winds of Change: A baseline assessment of Northeastern US Continental Shelf Surficial Substrates”



Kris Vascotto
*Nova Scotia Fisheries
Alliance for Energy
Engagement*

“Perspectives of the Seafood Sector in Gainful Co-Existence”



Melissa Nevin
*Atlantic Policy
Congress of First
Nations Chiefs*

“Offshore Wind and First Nations Fisheries”



Russell Dmytriw
AWCL

“Approaches to Fisheries Compensation in Nova Scotia”

10:30 AM – 11:40 AM (Ballroom C)

Emerging Best Practices in Education and Social Acceptance



MODERATOR
Scott Skinner
Clear Foundation



Jennifer MacNeil
Cape Breton Partnership

“Navigating an Emerging Offshore Wind Industry with Communities in Unama’ki — Cape Breton Through Two-Way Knowledge Sharing”



Kat Mataya
COVE

“Harnessing Offshore Wind Education: The Pathway from Learning to Leading”



John Colton
Acadia University

“Advancing Community Engagement Practices in MRE Development”



**Kelsey White and
Zach Sabeau**
*The Confederacy of
Mainland Mi’kmaq*

“Inclusive Mi’kmaq Engagement for Mainland Mi’kmaq Communities”

POLICY & REGULATORY SESSIONS

3:15 PM – 4:15 PM (Ballroom C)

Enabling Measures and Strategies for Future Development



MODERATOR

Mohammad
Ali Raza
Cox & Palmer



Martin Thomsen
Richmond County

“Offshore Wind Centre
of Excellence —
Opportunities Appraisal
and Business Case:
Interim Report”



Courtney Wall and Katy Macdonald
Stantec Consulting

“An Assessment of the Current State
of Policy to Enable Offshore Wind
Development in Atlantic Canada”



Blair MacDougall
*Waterford Energy
Services Inc*

“A Technical
Assessment — Offshore
Wind in Nova Scotia”

POSTER PRESENTATIONS

Join us in the foyer area to explore today's research and development in offshore wind, showcasing outstanding projects from both local and global perspectives.

Genevieve Philibert

Geological Survey of Canada
Geological Suitability of Eastern
Canada's Offshore for Marine
Renewable Infrastructure

Pierre-Arnaud Desiage

Geological Survey of Canada
Is the Surface Sediment
Composition a Threat for the
Development of Offshore Wind
Energy on the Scotian Shelf:
Preliminary Results and Future
Projects

Jordan Eamer

GSC
Recent Geological Data Collection
and Preliminary Interpretations in
Support of Offshore Wind Energy
Decision Making on the Scotian
Shelf

Stephanie Avery-Gomm

*Environment and Climate Change
Canada*
Mitigating Impacts to Birds and
Bats from Offshore Wind
Development: Available Evidence
and Data Gaps

Mostafa Mostafavi Sani

Dalhousie University
The Investigation of Wind Turbine
Implication in Decarbonizing
Remote Communities in Canada:
An Optimization Framework with
Economic, Environmental, and
Social Objectives

Abdulhadi Ayyad

*Independent Researcher / Utrecht
University*
Quantifying the Possible
Contribution from Offshore
Floating PV to the Electricity Supply
of Atlantic Canada

Mohammad Masoumiasl

University of Iran
Optimizing Power System
Integration of Double-fed Induction
Generator Wind Turbines and HFCs:
A Multi-Objective Framework

Kory Melchoir

Dalhousie University
Developing an Energy Management
System Based on Machine Learning
Forecasting of Renewable Energy
Systems

Adango Miadonye

Cape Breton University
Feasibility Study of Offshore Wind
Installation in Nova Scotia with
Emphasis on Cape Breton Island

Tamara Wilson

Dalhousie University
Monitoring Offshore Ocean
Currents Using High-frequency
Radar

Adam Comeau

Dalhousie University
Glider Based Ocean Sampling in
Atlantic Canada

Shiva Talebi

Dalhousie University
Enhancing Renewable Energy
Integration through Multi-Objective
Optimization

Nicholas Legge

Dalhousie University
Modelling the impact of Long-
Duration Energy Storage for Nova
Scotia's Wind Energy Transition

Jacob Thompson

*Wiwasolvent Total Primary Energy
Solutions*
Nova Scotia's Hourly and Climate
Wind Data, Energy Storage,
Hydrogen, and Approaching 100%
Renewable Energy Using Wind-
Water-Solar with EnergyPLAN

STUDENT POSTER COMPETITION

Come and check out the student posters who have been selected for the competition. Explore their research topics related to offshore wind.

Eliza Batchelder

University of Victoria

Navigating the Social Seas: Using Mental Models to Understand Stakeholder Perceptions of Offshore Wind Development in the Gulf of Maine

Mahdi Ghaffari

Dalhousie University

Minimizing the Voltage Regulation to Enhance the Microgrid Stability Using Hybrid Optimization Approaches for Offshore Wind Integration

Mehrnaz Ahmadi

Dalhousie University

Advancing Underwater Communication: Introducing the Filtering Augmented with Adaptive Iterations Model

Firas Marsit

University of West Brittany

Enhancing Coexistence Between Offshore Wind Energy and Fishing: A Regulatory and Policy Challenge

Abdullah Mohammed Atiq

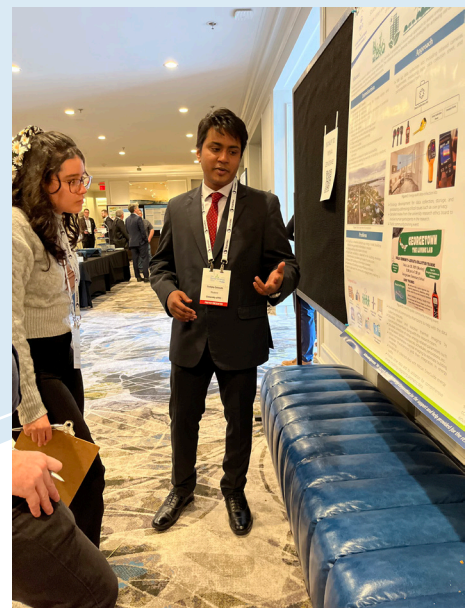
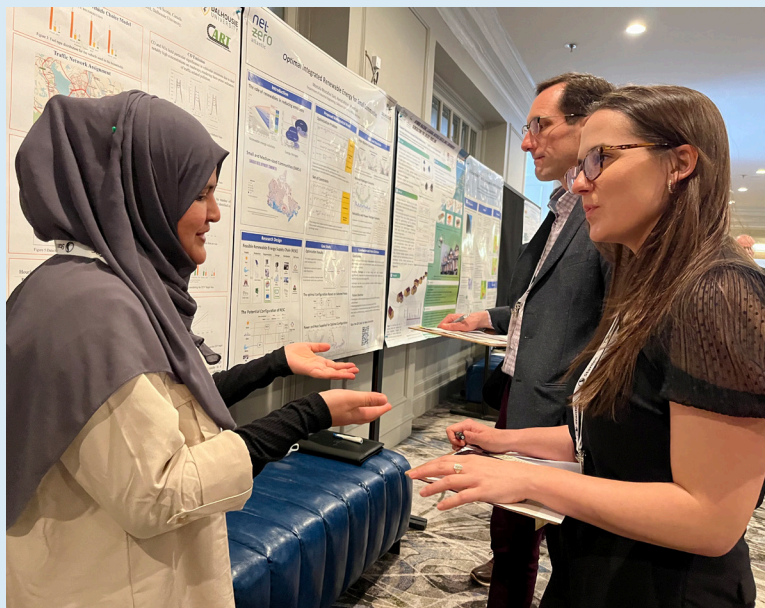
Dalhousie University

Weighing Opportunities and Risks: Creating a Comprehensive Evaluation Framework for Nova Scotia's Offshore Wind Sector

Mostafa Mostafavi Sani

Dalhousie University

The Investigation of Wind Turbine Implication in Decarbonizing Remote Communities in Canada: An Optimization Framework with Economic, Environmental, and Social Objectives





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atlantic

**Thank you for joining us at the
Nova Scotia Offshore Wind R&D Forum**

For more information on our offshore wind research,
please visit our website: **netzeroatlantic.ca**

Or contact us at: **info@netzeroatlantic.ca**