



# Emerging Concepts & Technologies Research Program

Annual Report

Funding early-stage research focused on emissions reduction and economic development in New Brunswick.

2024/25



# ACKNOWLEDGEMENTS

The Net Zero Emerging Concepts & Technologies Research Program was developed and led by Net Zero Atlantic and supported with funding from New Brunswick Innovation Fund, Natural Resources Canada – Office of Energy Research and Development, and Mitacs.

**net-zero**  
atlantic

**NBIF**

**mitacs**

Cover Photo: Dr. Barbeau of UNB and her team at Pecks Cove in front of the CO2 sensor tower.

# Table of Contents

↗ <b>Introduction</b>	.....	4
↗ <b>Objectives</b>	.....	5
↗ <b>ECT-NB Program</b>	.....	6
↗ <b>Successful Year</b>	.....	10
↗ <b>Our Team</b>	.....	11





# Introduction to the ECT Research Program

Net Zero Atlantic is a non-profit organization leading applied research to advance Atlantic Canada to a net-zero future. To achieve the region's net-zero goals, we recognize that many solutions need to be invented, proven, and scaled up to commercial availability. These solutions, which will bring critical, emerging technologies from the laboratory to the market may take decades to achieve. Therefore, Net Zero Atlantic has developed a program titled the Emerging Concept and Technologies (ECT) Research Program that provides funding to early-stage research and development in New Brunswick.

**The Program will** invest in research focused on new technologies and practices to help New Brunswick meet its net-zero target.

## The ECT Research Program selects projects through two funding streams:

**Stream 1** – Conceptual, early-stage genesis of novel technologies/concepts in New Brunswick. The award value is up to a maximum of \$50,000 for a duration of 12 months for project execution.

**Stream 2** – Evaluating technologies/concepts developed in other jurisdictions for suitability and adoption in New Brunswick. The Award value is up to a maximum of \$150,000 for a duration of 18 months for project execution.

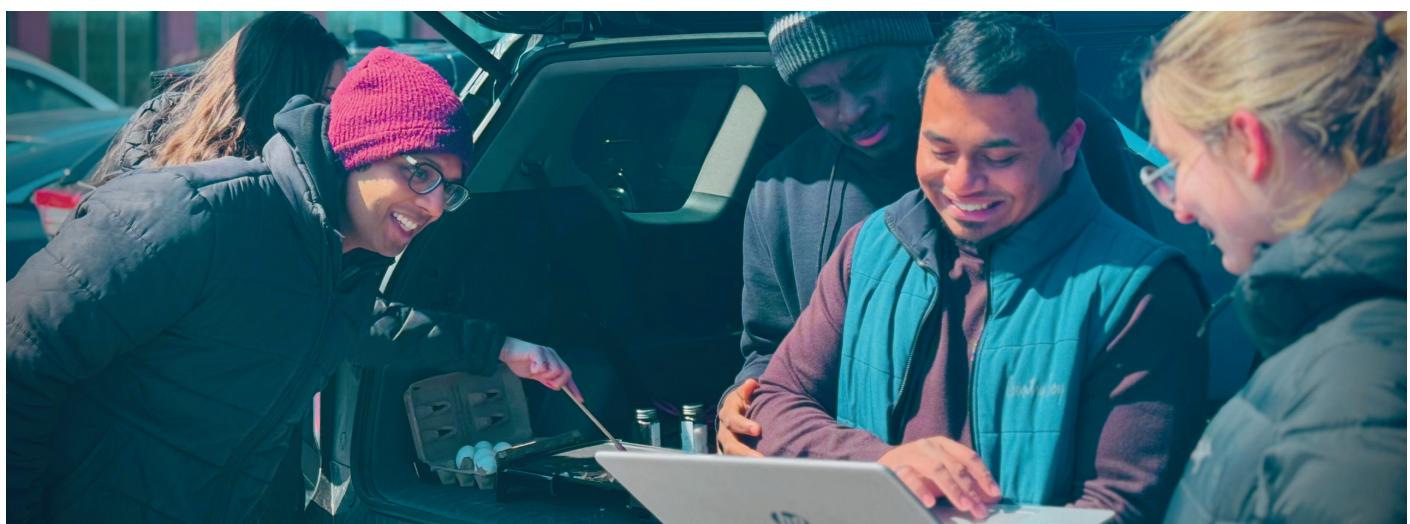


Photo: Shivam Saxena and his team demonstrating V2X technology. In this scenario, vehicle to portable electric grill.



# Objectives



## IDENTIFY KNOWLEDGE GAPS

Identify knowledge gaps to eliminate or offset the hard to abate GHG emissions (post 2030).



## TECHNOLOGIES & APPROACHES

Advance promising technologies and approaches that can address the gaps to net zero.



## COLLABORATIVE RESEARCH

Encourage collaborative research among Atlantic Canadian universities and community colleges, Indigenous-led institutions, and the private sector.



## INTELLECTUAL PROPERTY

Generate intellectual property that has the potential to address global demands for low-carbon solutions.



## ATTRACTING INVESTMENT

Foster thematic research networks that attract investment.



## Program in FY24/25



**\$740k+**

Dollars awarded FY24/25



**34**

Proposals received FY24/25



**9**

Projects awarded

## Program to Date



**\$1.14M**

Total dollars awarded



**2**

Open Research Calls



**49**

Total Proposals received



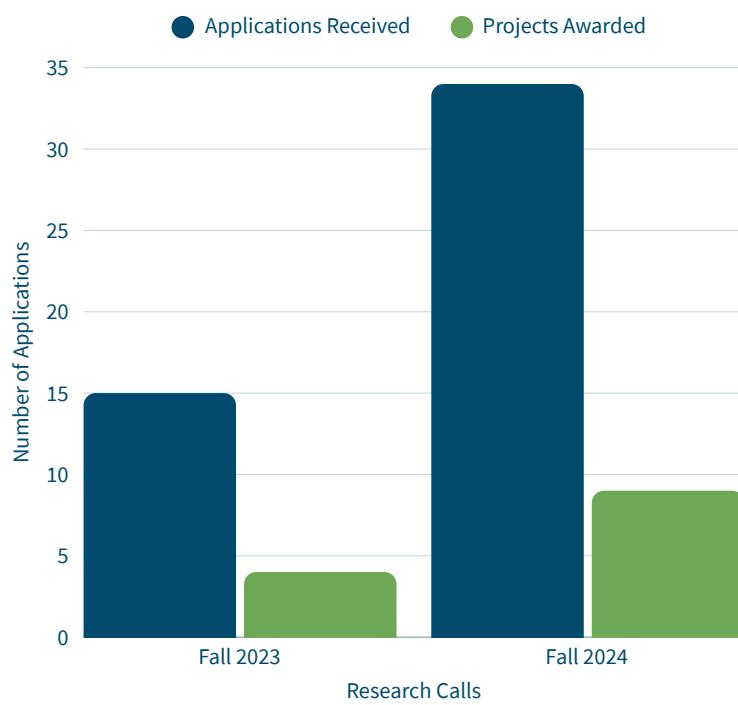
**13**

Projects awarded



# Call Summaries

## ECT-NB Applicants vs Awards



Two (2) open research calls have been held for the ECT-NB program to date. NZA in partnership with NBIF was excited to grow the program from \$400K in available project funds in 2023 to \$765K in 2024, almost doubling the investments from NBIF and OERD. With this increased investment and outreach momentum in the second year, applications to the ECT-NB program more than doubled, from 15 in 2023 to 34 in 2024.

Eligible applicants must be located in NB and working on innovative concepts in one of the ECT-NB Priority Research Themes, with the ambition of going to market in the future.

The investments in the ECT-NB research projects have unlocked an additional one and a half million dollars, (\$1.5M) in leveraged funds, contributing to a total value in excess of two and a half million dollars (\$2.5M+).

Research Call	ECT Dollars Awarded (CAD\$)	Leveraged Dollars (CAD\$)
Fall 2023	\$397,500	\$605,950
Fall 2024	\$743,182	\$919,150
Total	\$1,140,682	\$1,525,100

ECT ANNUAL REPORT 2024/25



# Priority Research Themes

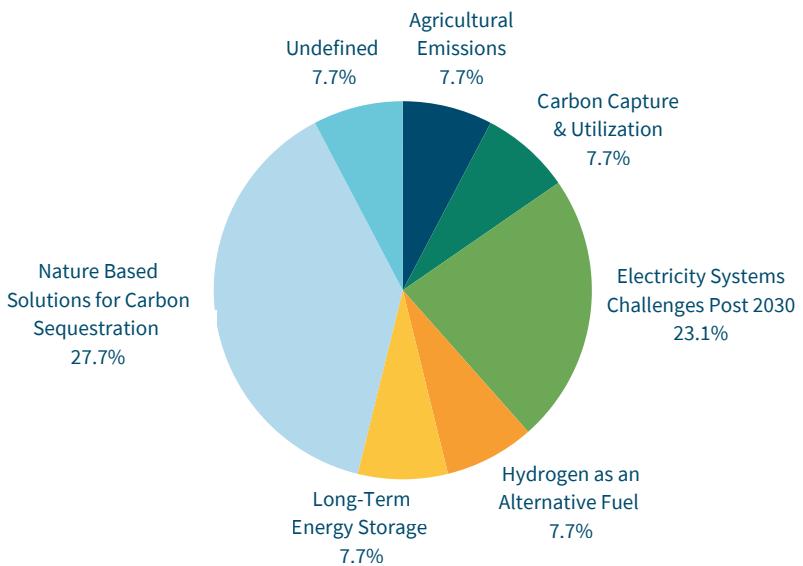
Before each open research call, the ECT team works with a Research Management Committee to select the priority research themes (PRT). Themes are based on the priorities of New Brunswick and Net Zero Atlantic's analysis of research needs.

There is no quota for project awards within the PRTs. Proposals are awarded on the strength of the applications and alignment with the program. However, a comparison of charts for the PRT breakdown of awards vs. PRT breakdown of applications indicates that the PRT representation in projects selected is proportional to the demand seen in the proposals received.

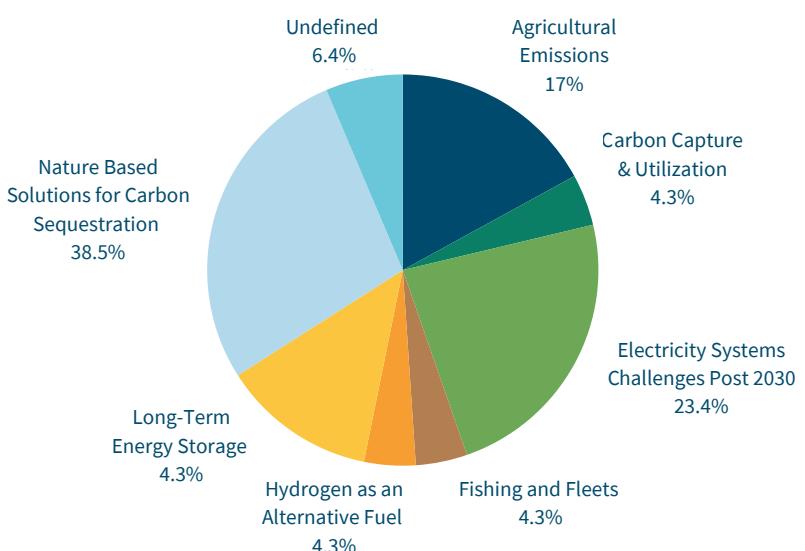
**The top priority research themes**  
represented in the ECT-NB program are:

1. Nature Based Solutions for Carbon Sequestration
2. Electricity System Challenges Post 2030

## PRT Breakdown of Awards



## PRT Breakdown of Applications



# ECT Program: Maritimes

Many of the solutions needed to achieve net-zero emissions goals in Atlantic Canada must be invented, proven, and scaled up to commercial availability. The Emerging Concepts and Technologies (ECT) Research Program is helping to accelerate this process.

New Brunswick is rich in resources and unique research opportunities and will face its own challenges moving to net-zero. ECT-NB provides researchers and early startups access to funds for cultivating net-zero solutions while supporting economic development.

ECT-NB is a part of a bigger program facilitated across the Maritime Provinces. With each research call, the program network expands, raising awareness on funding opportunities, potential interprovincial partnerships and importantly, increasing the spotlight on Maritime made innovations!



The timeline shows the total number of open research calls held to date for all Maritime provinces and the two future calls planned for 2025.



# A Successful Year

The close of FY2024/25 marks the completion of the second year of the ECT program.

In the past year, Net Zero Atlantic was proud to see the program in New Brunswick grow from four (4) to thirteen (13) projects, following a second open research call in the Fall of 2024. The projects leveraged third-party funding, increasing the total ECT-NB program value beyond two and half million dollars (\$2.5M+). This growth can be attributed to increased support from the province of New Brunswick, and increased level of awareness of the ECT program throughout Atlantic Canada. This is reflected in the number of inquiries regarding the next call, and interest in the future of the program.

Outside of the applicant interest, the ECT program has attracted attention from organizations within the innovation and cleantech space, allowing us to expand a network of great value beyond our organization. To mention a few, the ECT program team has established working relationships with Mitacs, Springboard Atlantic, Foresight Canada, and ACOA.

## Next Up

In the next year, 9 projects are expected to be completed in New Brunswick. The ECT Program plans to organize a R&D showcase, celebrating the progress of clean technology research and business development in the province and highlighting this to potential investors and innovators. The R&D showcase event will occur in the second half of FY 2025/26.

*"The importance and long-term impact of investments in early-stage R&D cannot be overstated. The Emerging Concepts and Technologies Research Program has supported over a dozen projects that are providing solutions to problems that are essential to meeting New Brunswick's emissions reductions goals while stimulating economic development. The team and I are excited to see the commercial successes that will be launched from the support of the program." - Tim Bachiu, Director of Research, Net Zero Atlantic*

# Our Team



**Tim Bachiu**

**Research Director**

---

*tbachiu@netzeroatlantic.ca*

**Molly Noseworthy**

**Project Manager**

---

*mnoseworthy@netzeroatlantic.ca*

**Elizabeth Oyekola**

**Project Manager**

---

*eoyekola@netzeroatlantic.ca*