

COMMUNITY-BASED PLANNING & DESIGN FOR THE ELECTRIFICATION OF TRANSPORT SYSTEMS IN RURAL MUNICIPALITIES

Low Carbon Communities Program,
Nova Scotia Department of Energy

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Interactive Workshop #1 – May 16th, 2025 | Halifax Central Library



What We Heard:

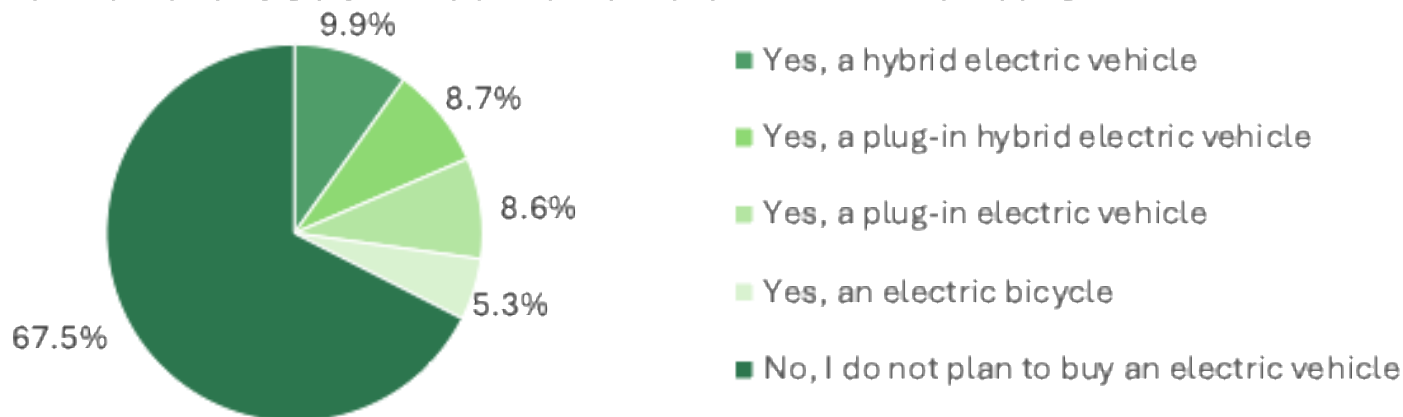
Nova Scotia Travel Activity Survey (2023)



8.6%

are interested in purchasing a plug-in electric vehicle within the next 5 years

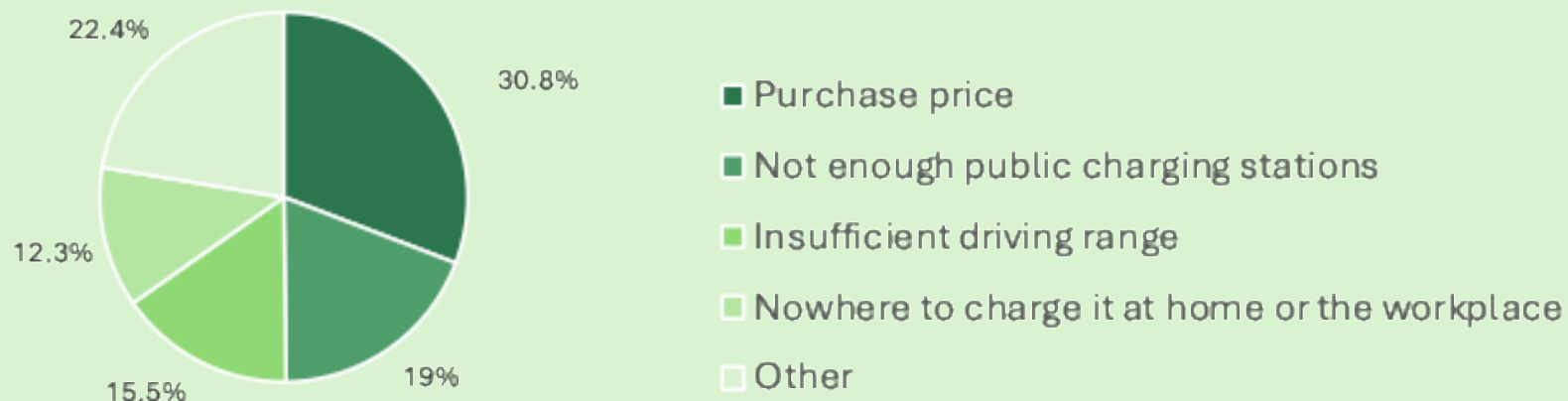
Intention to Purchase an Electric Vehicle within Five Years



19%

identified 'not enough public charging stations' as a barrier for EV ownership

Reasons for Not Owning an Electric Vehicle



What We Heard:

Community Partners & Stakeholders (Nov 2023/June 2024)

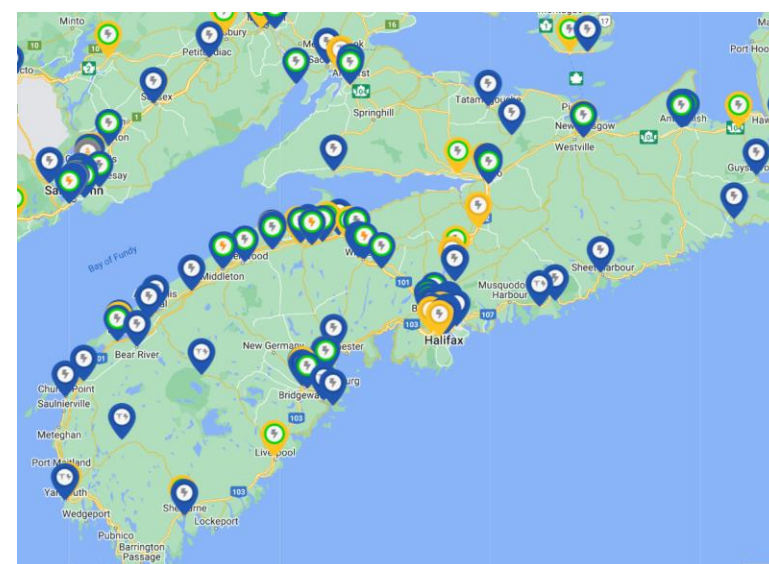


EV challenges:

- Lack of 'electrification strategies' and guidelines thereof
- Reliability of charging stations; Responsibility – Who should own chargers and maintain them? Location – Where should chargers be located? Communication with public– Where they are located and how to use them?
- Availability between rural communities
- What are the strategies for public transport, given supply chain issues?

Interesting/Key Ideas:

- What are the critical strategies to promote EV in rural municipalities? How do we integrate newer transport infrastructure with surrounding built environment in rural communities?
- How to design EV charging infrastructure to promote local economy, tourism?



Project Overview



Project Goal & Objectives

Co-develop community-based strategy template and design frameworks to help electrify transport systems across rural Nova Scotian communities.

Objective #1

Co-develop a "strategy template" for electrification of transportation systems in rural municipalities including public transportation

Objective #2

Develop micro-level design concepts to plan, design and locate public charging stations for specific communities of interest (e.g. Town of Yarmouth)

Objective #3

Generate shareable knowledge for communities in Nova Scotia



Project Overview



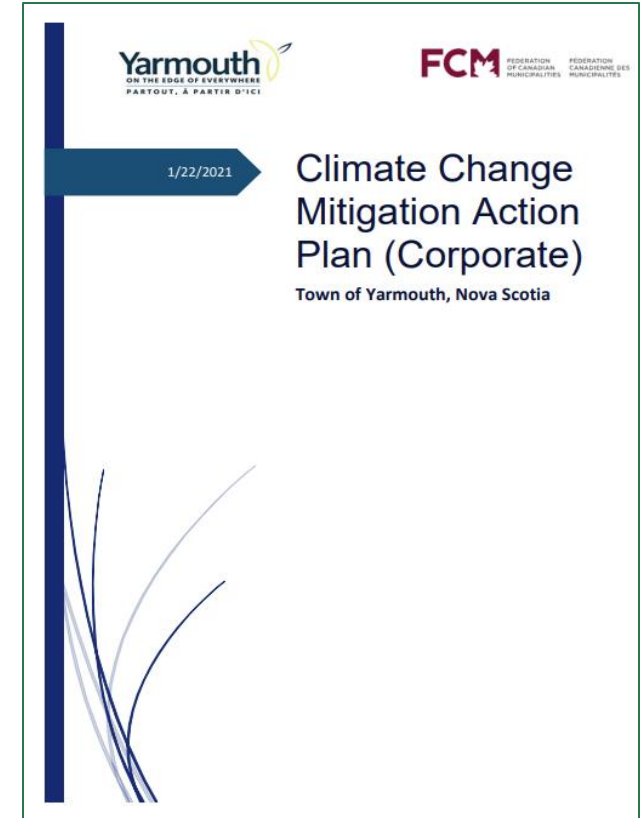
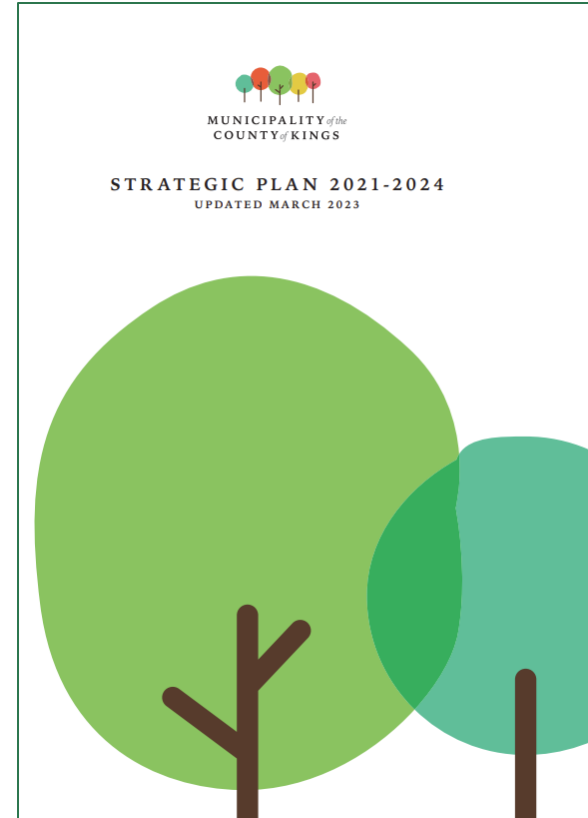
Project Process

Research & Planning

- Review of plans, strategy and design documents across Canada
- Multiple case studies to help create strategies and a design framework

Workshops/Focus Groups

- We will conduct up to three stakeholder workshops/focus groups at Dalhousie University and in partner communities



Sample of Plans Mentioning EVs in Rural NS

- County of Kings' *Strategic Plan*
- Town of Yarmouth's *Climate Change Mitigation Action Plan (Corporate)*

Canadian Strategies to Support EVs



	Ontario	British Columbia
Entire Province	<ul style="list-style-type: none"> • Funding to Increase EV Charging Stations <ul style="list-style-type: none"> ○ EVCharge ON Program • Access to High Occupancy Lanes (via green license plate) regardless of the number of passengers 	<ul style="list-style-type: none"> • Funding to Increase EV Charging Stations <ul style="list-style-type: none"> ○ Clean BC Go Electric Public Charger Program • Access to High Occupancy Lanes (via vehicle decal) regardless of the number of passengers • Rebates for passenger vehicle, fleets, heavy duty vehicles, and e-bikes
Urban	<ul style="list-style-type: none"> • Electrify Municipal Fleets (blend of EV+ hybrid) <ul style="list-style-type: none"> ○ E.g. Hybrid + EVs in Toronto and Waterloo • Electrify Public Transportation <ul style="list-style-type: none"> ○ E.g. 60 e-buses in Toronto • Increase EV Chargers on City-Owned Land <ul style="list-style-type: none"> ○ E.g. Toronto and Ottawa support this approach 	<ul style="list-style-type: none"> • Electrify Municipal Fleets (blend of EV + hybrid) <ul style="list-style-type: none"> ○ E.g. Hybrid + EV fleets in Vancouver and Victoria • Electrify Public Transportation <ul style="list-style-type: none"> ○ E.g. 15 electric buses in Vancouver • Increase EV Chargers on City-Owned Land <ul style="list-style-type: none"> ○ E.g. Vancouver and Nanaimo support this approach
Rural	<ul style="list-style-type: none"> • Creating a Network of EV stations <ul style="list-style-type: none"> ○ E.g. 12 EV charging stations (Level 2 + 3 chargers) to be built in the Owen Sound region 	<ul style="list-style-type: none"> • Creating a Network of EV stations <ul style="list-style-type: none"> ○ E.g. 3 regional districts around Kootenay added 40 Level 2 chargers

NS Strategies for EV Chargers

Urban

- Extensive network of public Level 2 & Level 3 in city centres. These chargers are often found in community centres and parking lots



Level 2 EV Chargers in the Halifax Seaport Parking Lot

Rural

- Fewer charging stations, but there is a growing network along highways and near community hubs



Level 2 EV Charger at Mahone Bay's Fire Hall

NS Strategies for Electric Public Transportation



Urban

- Electrifying municipal fleets, including vehicles, buses, and ferries.
- Support micro-mobility
(e.g. a two-year pilot project for shared e-bikes and scooters is launching in May 2025)

Rural

- Electrify municipal fleets. For regions with public transportation, some municipalities are beginning to electrify their public buses



HRM EV Bus (Healy, 2024)

The governments of Canada, Nova Scotia and Cape Breton Regional Municipality invest in a greener transit facility and new electric buses

From: [Housing, Infrastructure and Communities Canada](#)

News release

Sydney, Nova Scotia, November 15, 2023 — Transit Cape Breton will have new electric buses and an upgraded bus maintenance facility thanks to the combined investment of \$54 million from the Governments of Canada, Nova Scotia and Cape Breton Regional Municipality.

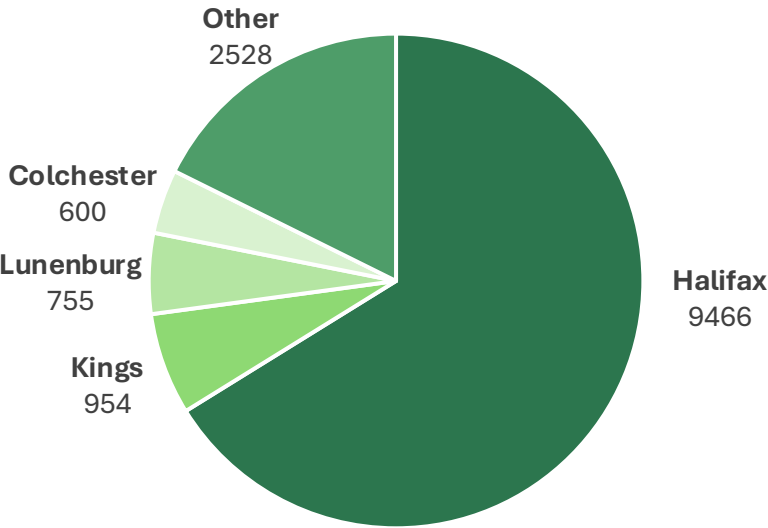
Cape Breton has purchased 6 electric buses (Government of Canada, 2023)

State of EVs in NS: Registered EVs

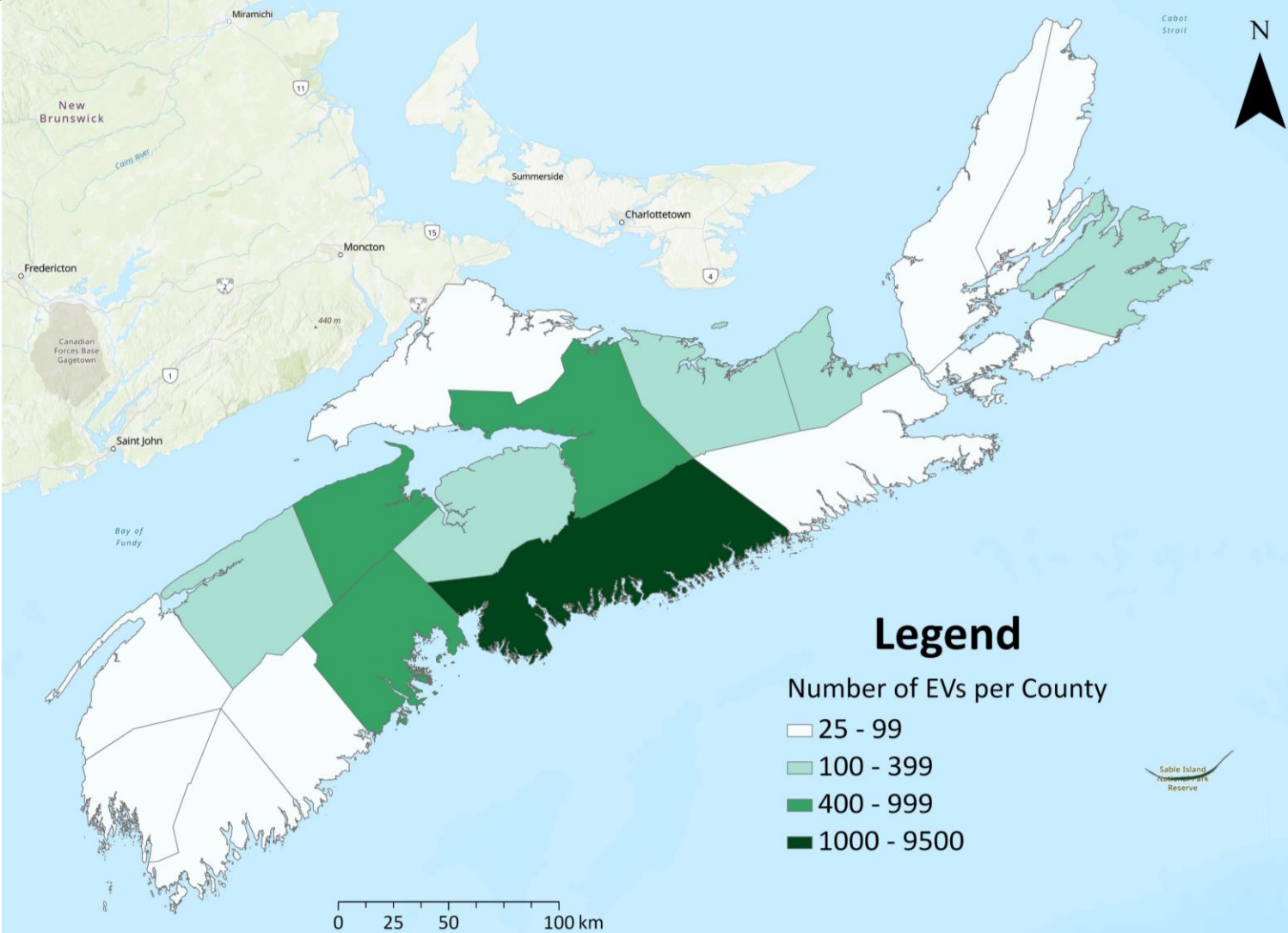


14,303 Registered EVs

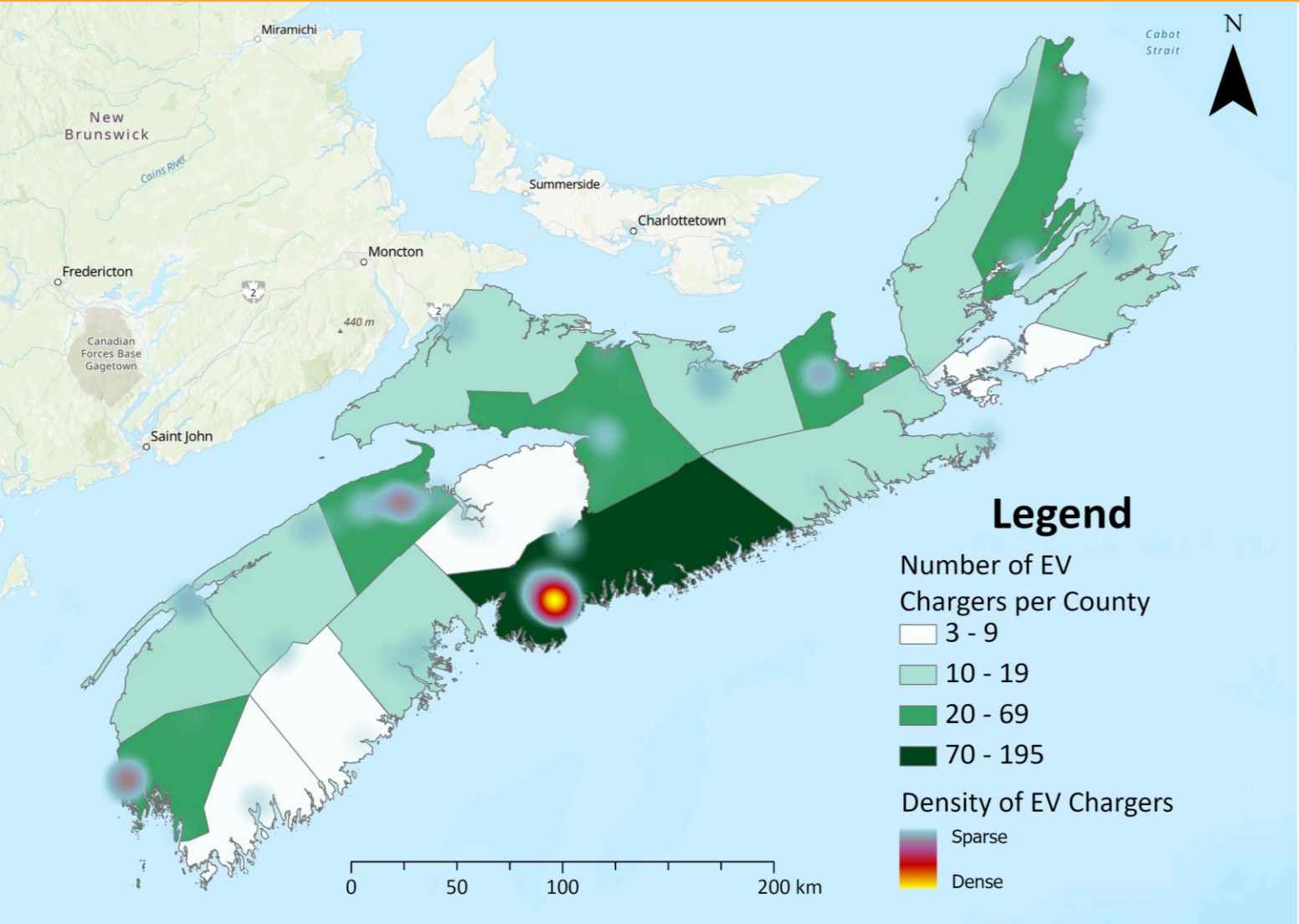
Number of Electric Vehicles per County



Government of Nova Scotia (2024). EV Registration Data.



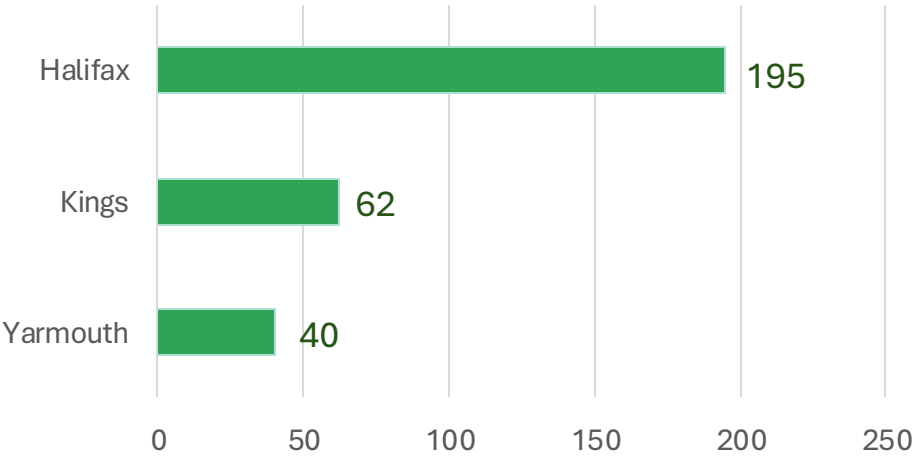
NS EV Charging Stations



243 EV Charging Stations

523 EV Charging Ports

Counties with Most EV Chargers



Government of Nova Scotia (2024). EV Registration Data.

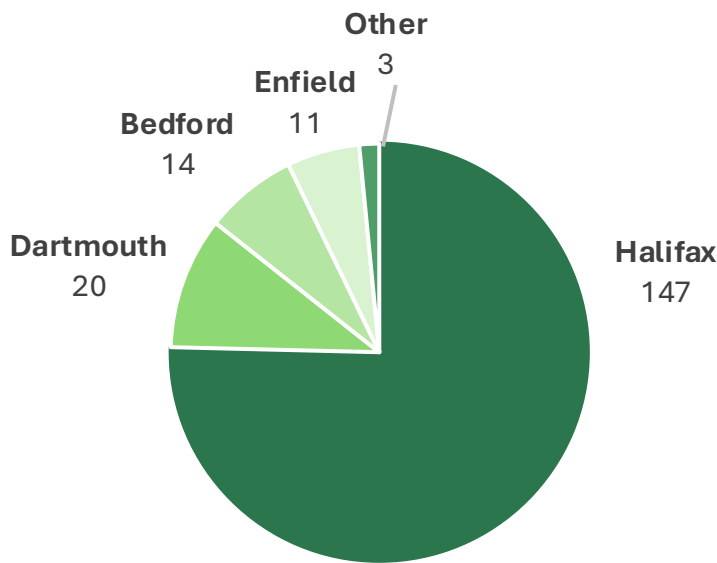
EV Chargers in Halifax Region



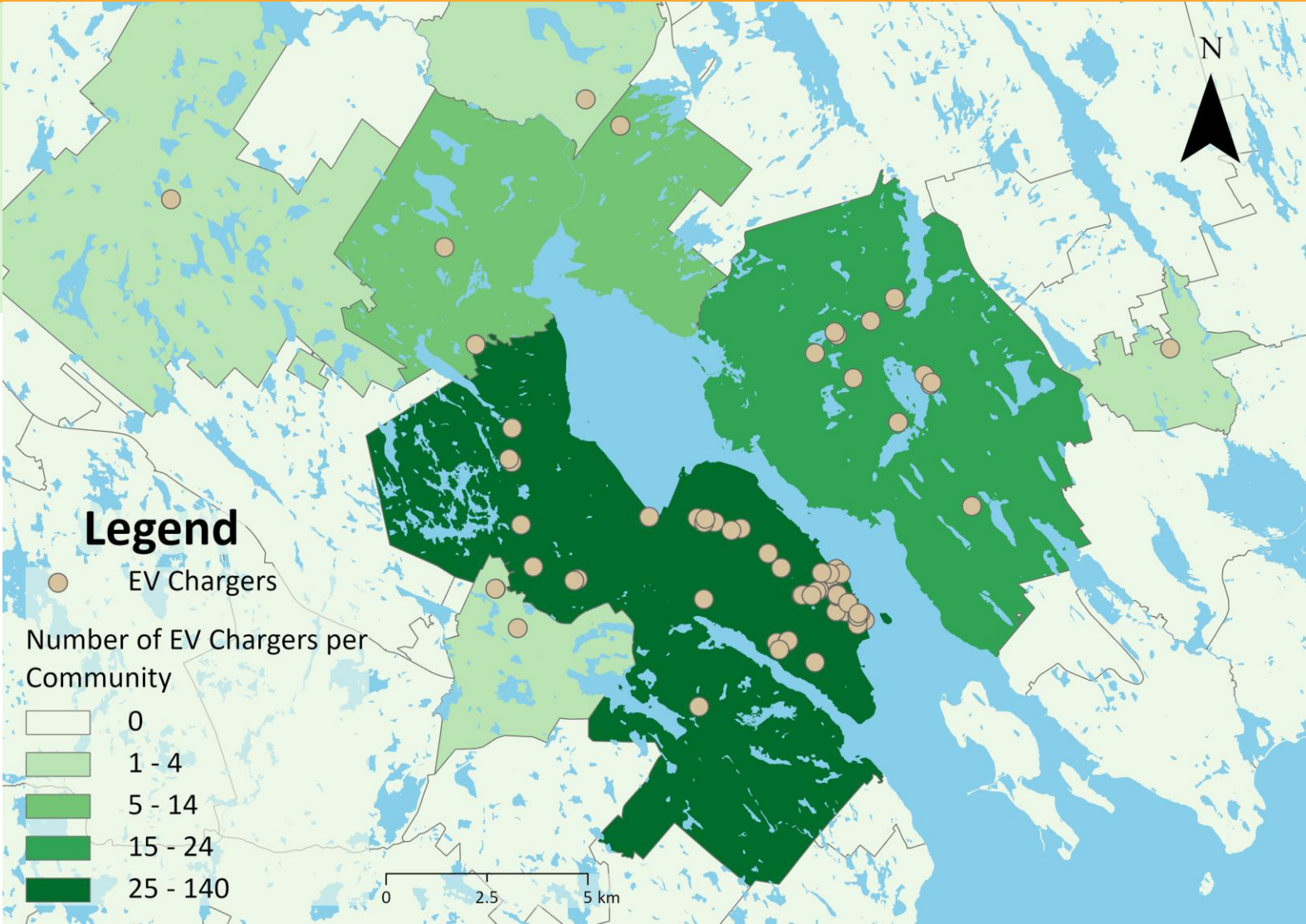
Number of EV Chargers

HRM **195**

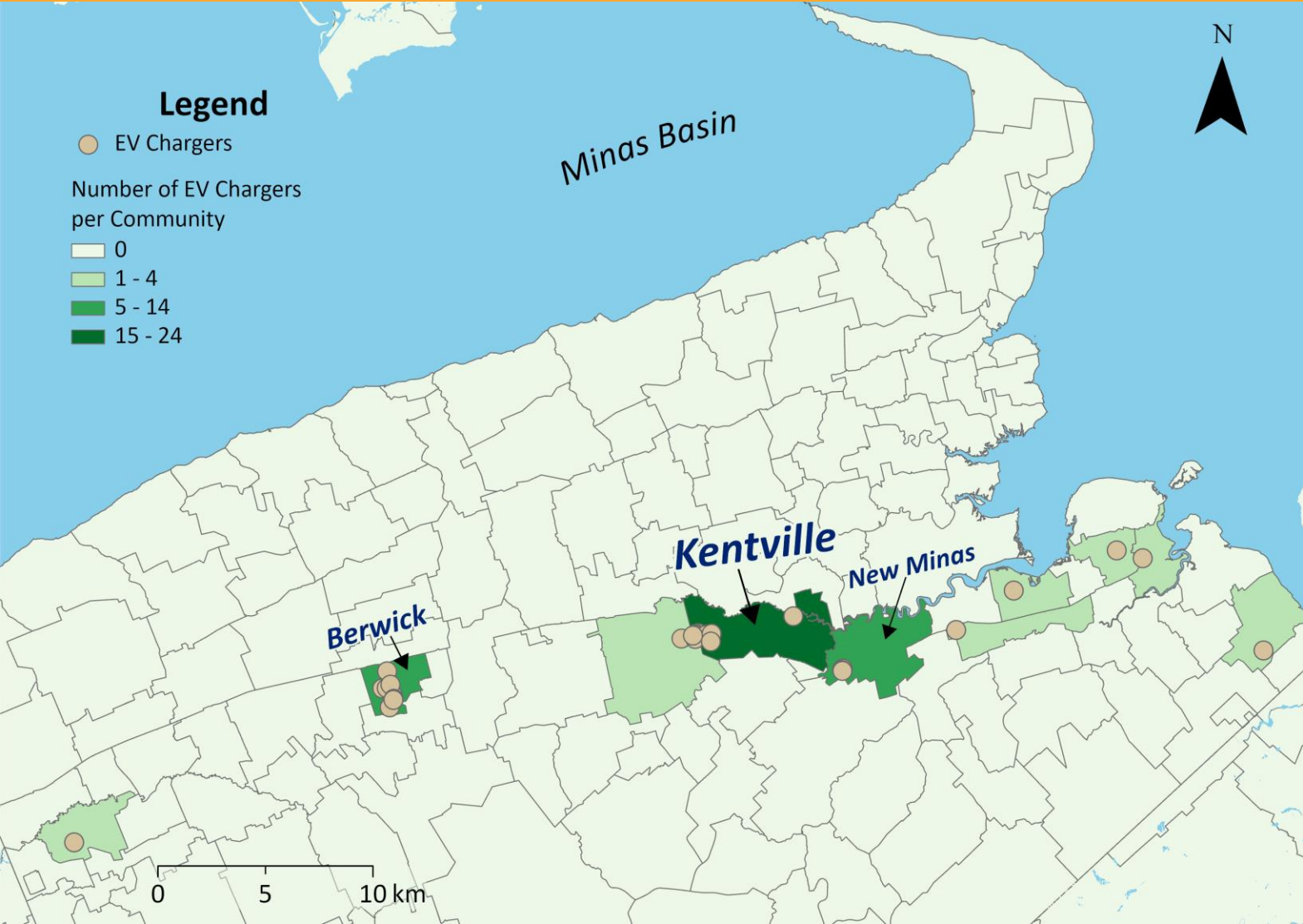
Number of EV Chargers per Community



Government of Nova Scotia (2024). *EV Registration Data.*



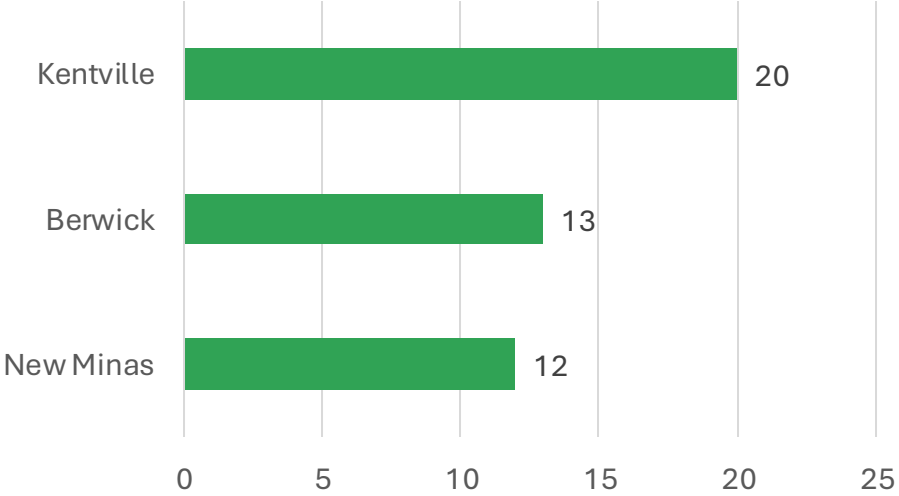
EV Chargers in Kings County



Number of EV Chargers

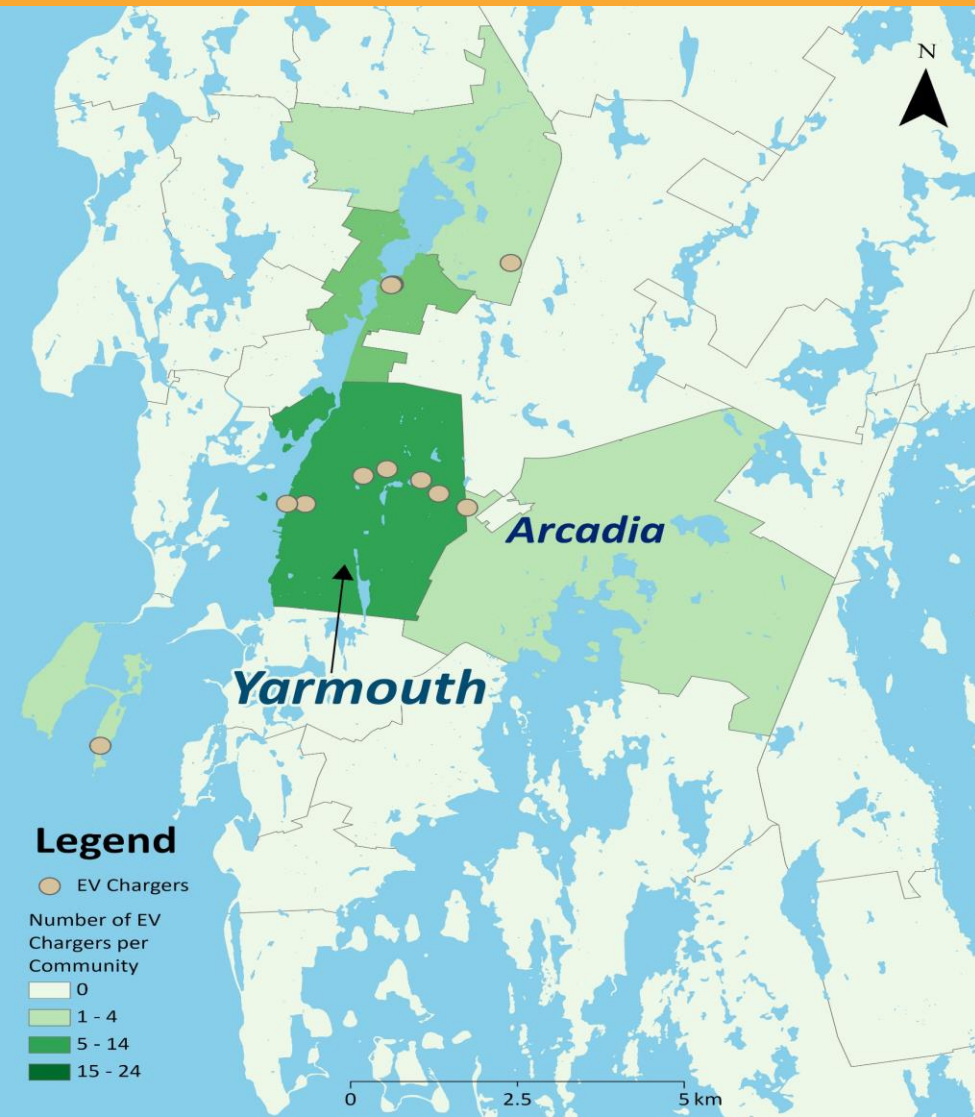
KINGS COUNTY 62

Communities with Most EV Chargers in Kings County



Government of Nova Scotia (2024). *EV Registration Data.*

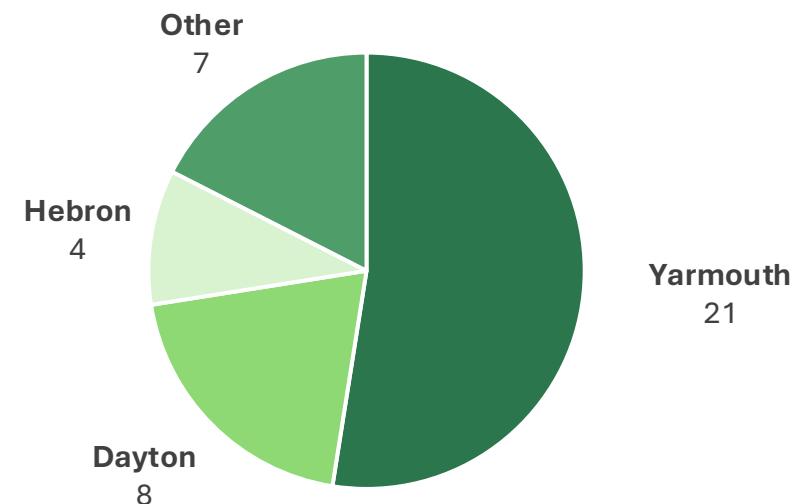
EV Chargers in Yarmouth County



Number of EV Chargers

YARMOUTH COUNTY 40

Number of EV Chargers by Community



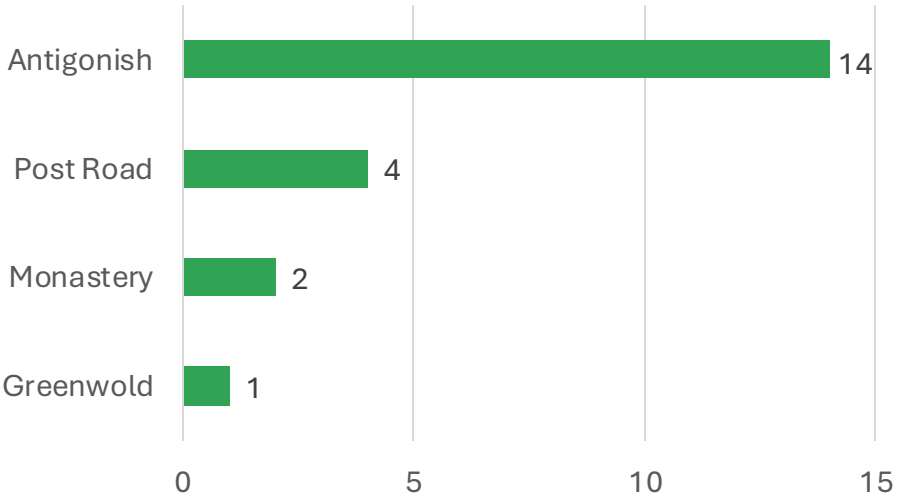
EV Chargers in Antigonish County



Number of EV Chargers

ANTIGONISH COUNTY 21

EV Chargers in Antigonish County



Government of Nova Scotia (2024). EV Registration Data.



1

Session #1:

How Can We Develop Electrification Strategies for Rural Nova Scotia Municipalities? (45 minutes)

- 2 Individual Activities; 1 Group Activity

Break with Refreshments (20 min)

2

Session #2:

Laying the Foundation for Community-Based Electrification Strategies (50 minutes)

- 2 Group Activities; Report back
- Building the RESAlliance; Workshop Evaluation

How Can We Develop Electrification Strategies for Rural Nova Scotia Municipalities? (45 minutes)

ACTIVITY

#1

[INDIVIDUAL] Draw a picture of yourself driving, charging, or watching an electric vehicle in your community. (10 minutes)

How Can We Develop Electrification Strategies for Rural Nova Scotia Municipalities? (45 minutes)

ACTIVITY

#2

[GROUP] What are the benefits of electrification of transport systems in rural municipalities? (20-minute discussion)

How Can We Develop Electrification Strategies for Rural Nova Scotia Municipalities? (45 minutes)

ACTIVITY

#3

[INDIVIDUAL] In your opinion, what are the principles that should guide rural electrification strategies in your community? (10 minutes)

Break with Refreshments



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Low Carbon Communities Program, Nova Scotia Dept. Energy



Laying the Foundation for Community-Based Electrification Strategies

(50 minutes)

ACTIVITY

#1

[GROUP] What short term strategies in rural municipalities are necessary to achieve net-zero emissions by 2050? (10-minute discussion)

Laying the Foundation for Community-Based Electrification Strategies

(50 minutes)

ACTIVITY

#2

[GROUP] What long term strategies in rural municipalities are necessary to achieve net-zero emissions by 2050? (10-minute discussion, 10-minute reporting of short- and long-term strategies as a group)

Laying the Foundation for Community-Based Electrification Strategies

(50 minutes)

ACTIVITY

#3

[INDIVIUDAL] Building the RESAlliance? (10 minutes)



THANK YOU

[INDIVIDUALLY] Please complete the workshop evaluation survey
(5 minutes)

