Municipal Fleet Electrification Feasibility Study for the Municipality of the County of Colchester

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Interactive Workshop—November 20, 2025 | Colchester, NS

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Electrification of Transport Systems

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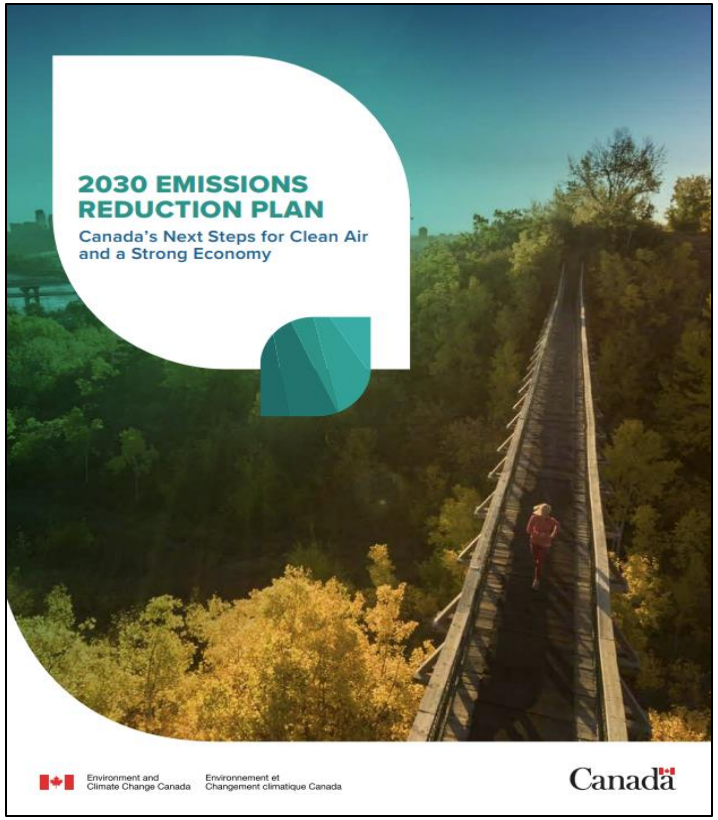
Net-Zero Emissions by 2050

In 2019, the transportation sector emitted 186 Mt of CO2 (**25% of Canada's total GHG emissions**)

Target: 100% of new light-duty vehicles sales to be zero-emissions by 2035

Government Investments

- $1.7 billion to extend the Incentives for Zero-Emission Vehicles Program (iZEV) for light-duty vehicles for three years.
- $400 million in additional funding for ZEV charging stations, adding 50,000 ZEV chargers
- 547.5 million for a purchase incentive program for MHDVs
- **$2.2 million** to support Greening Government fleet electrification commitments



Source: Government of Canada, *2030 Emissions Reduction Plan*

Nova Scotia Travel Activity Survey, 2023

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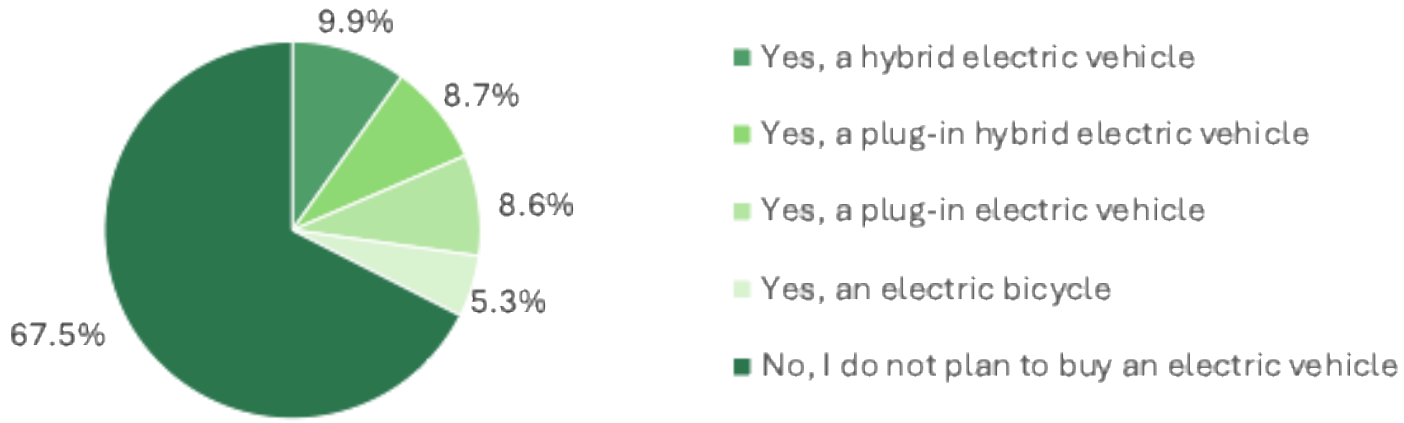
8.6%

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

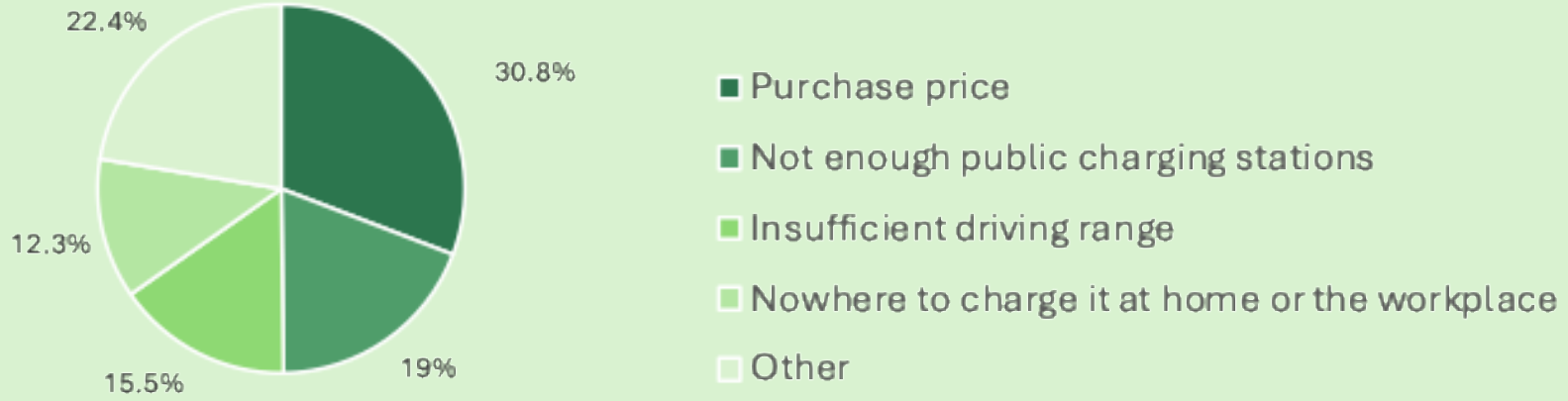
Intention to Purchase an Electric Vehicle within Five Years



19%

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

Reasons for Not Owning an Electric Vehicle



Registered EV in NS

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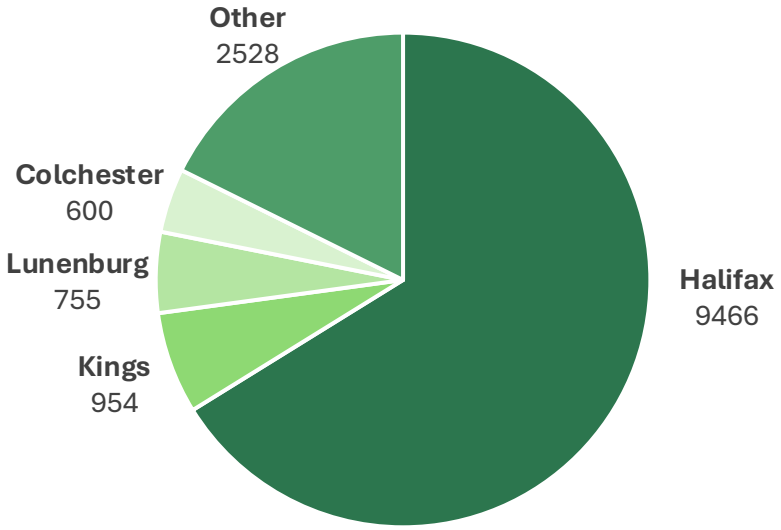
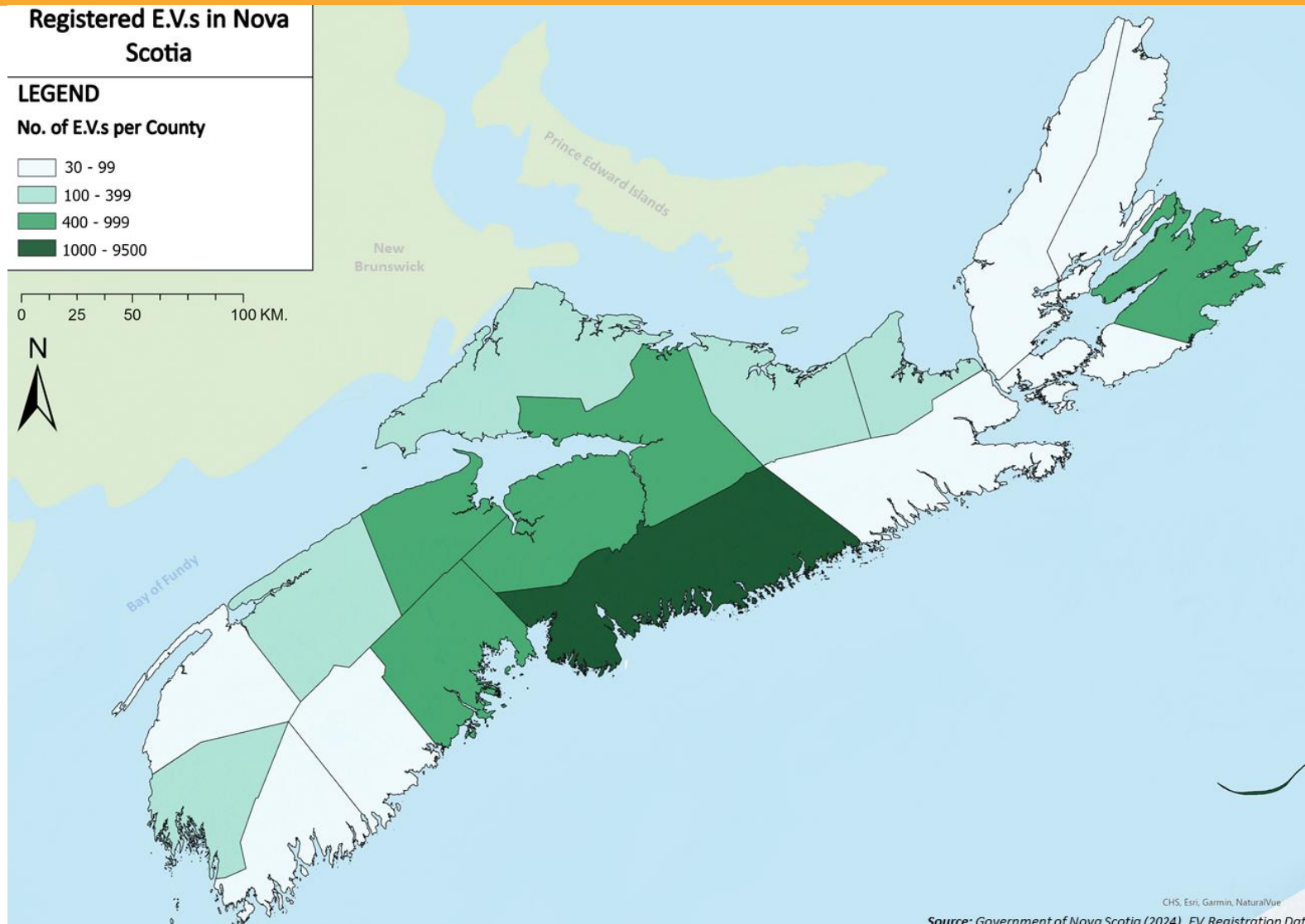
14,303 *Registered EVs*

Number of Electric Vehicles per County





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

NS EV Charging Stations

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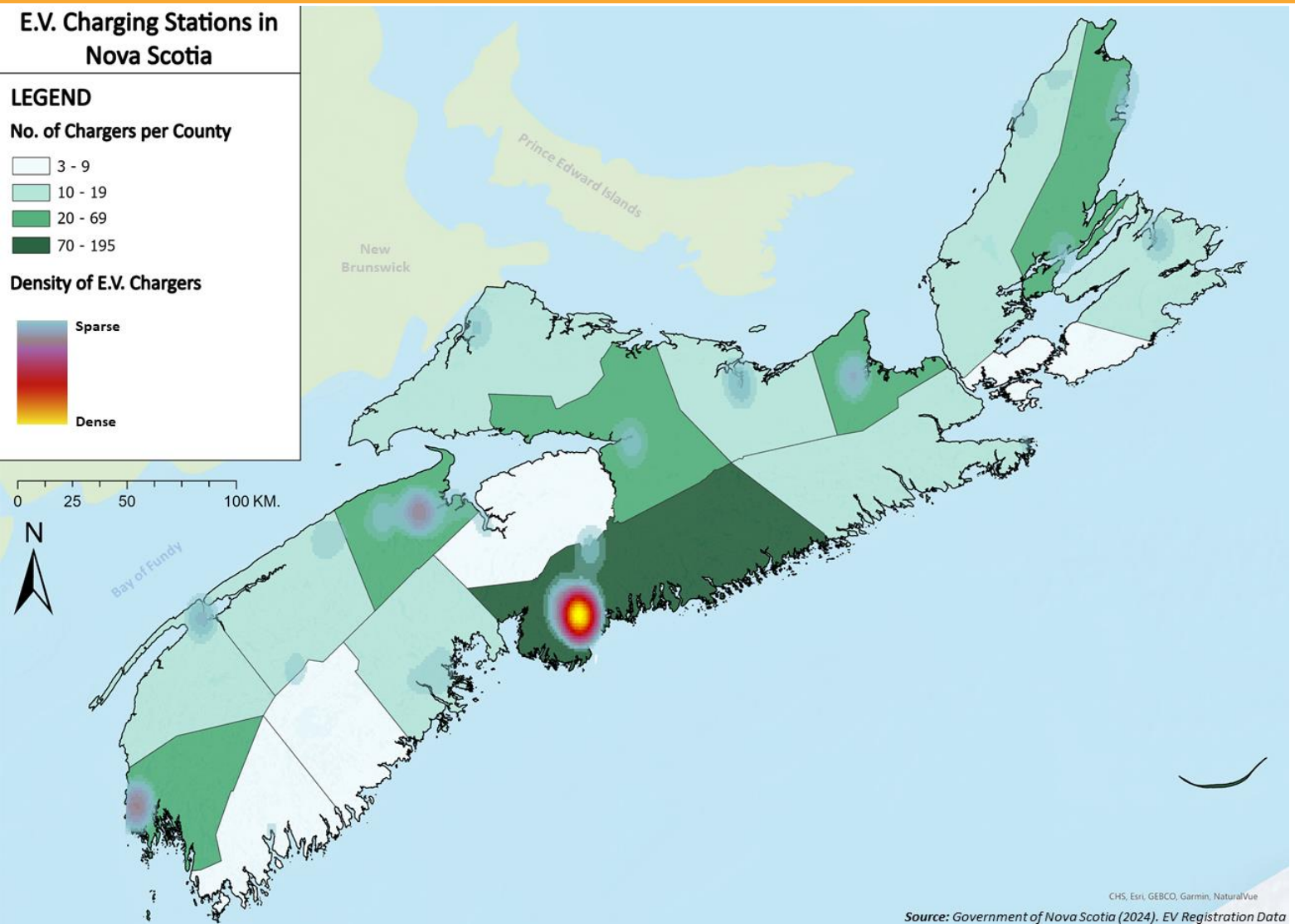
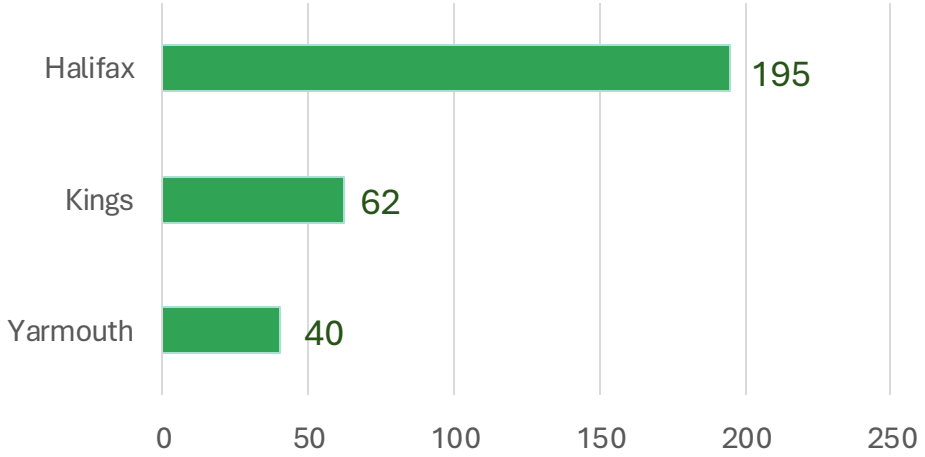


243 *EV Charging Stations*

523 *EV Charging Ports*

Counties with Most EV Chargers



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

Community Consultation:

Stakeholder Workshop in Halifax (June 2024)

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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

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?

Community Consultation:

Stakeholder Workshop in Yarmouth (July 2025)

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EV Challenges

- Financial constraints in smaller municipalities. Local governments with limited budgets often lack the capital to fund large-scale EV infrastructure
- Access to reliable and widespread charging networks to ensure long-distance travel and rural adoption
- High upfront costs and extended return-on-investment timelines discourage adoption, particularly among low-income households

Interesting/Key Ideas

- Strengthen programs that reduce upfront costs of greener vehicles through subsidies, tax breaks, and government assistance
- Foster partnerships with neighbouring municipalities to coordinate electrification efforts and support long-term community-wide improvements

Municipal Fleet Electrification

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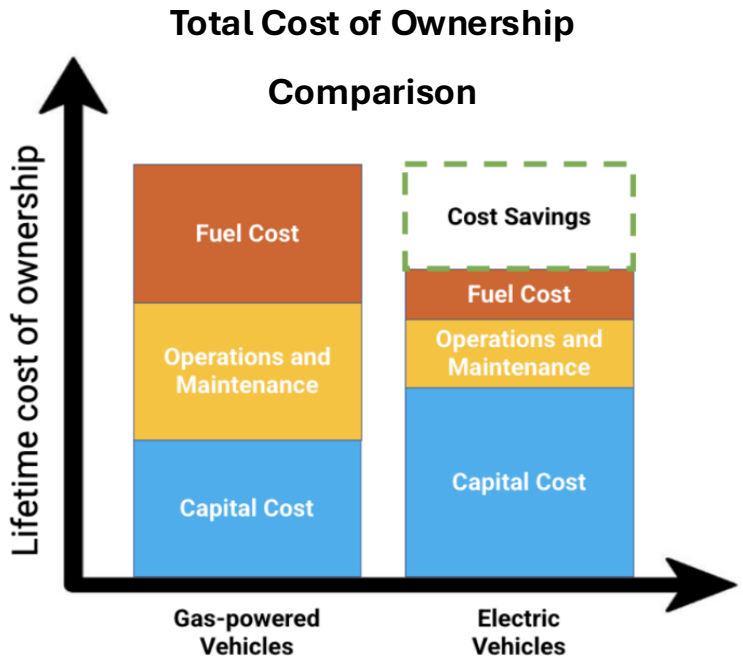
Technology Improvement

- Advancing technology and lower costs
  - **Battery improvements** have significantly increased travel range, with EVs now capable of over 400km on a single charge (**3 times more** from 2011)
  - Automakers are rapidly expanding EV offerings, introducing new light-, medium-, and heavy-duty models each year to meet diverse fleet needs

Financial Savings

- While upfront costs remain higher, EVs deliver substantial **long-term savings**, with fueling and maintenance costs up to **50% lower** than gas-powered vehicles.
  - Up to **68%** reduction in fuel costs
  - Up to **37%** reduction in maintenance costs



mayorsinnovation.org

Carbon-Free Colchester

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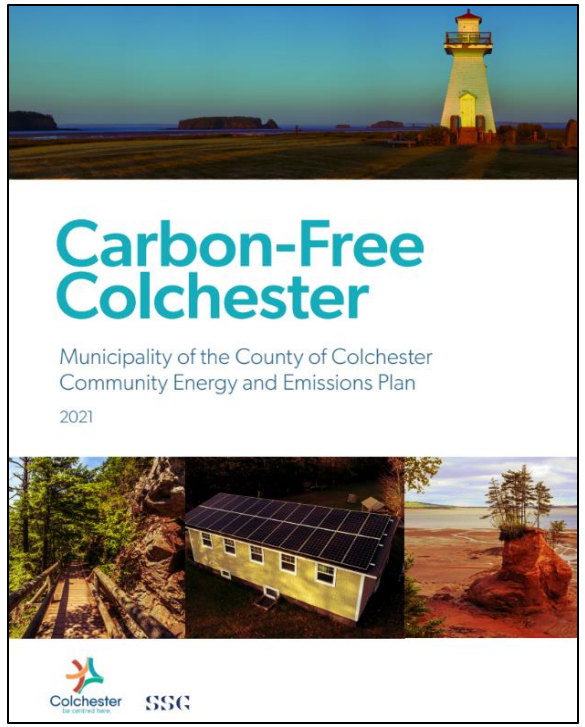
Path to Net-Zero Emission by 2050

Goal: Transition to renewable energy and reduce municipal greenhouse gas emissions

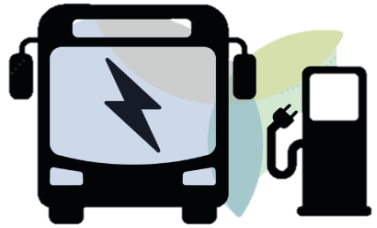
Why: Transportation is Colchester's **2nd largest emitter (22%)**



Transportation Actions

- Through improved vehicle efficiency and electrification
- Municipal fleet 100% electric by 2035
- All on-road vehicles electric/zero-emissions by 2040
- 70% of off-road vehicles electric by 2040

By 2040, cumulative savings will significantly outweigh the cost – delivering over $2.23 billion in net benefits.



Colchester Feasibility Study – Work Plan

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Project Goals & Objectives

Objective: To conduct a feasibility study for electrifying the municipal fleet of Colchester

1. Jurisdictional Scan
Conduct a jurisdictional scan and best practice analysis for municipal fleet electrification projects across North America

2. Stakeholder Workshop
Engage with stakeholders to identify benefits, challenges and opportunities for municipal fleet electrification in the Municipality of the County of Colchester.

3. Municipal Fleet Inventory Assessment
Establish baseline conditions and assess Colchester's current municipal fleet inventory, including the type and number of vehicles, vehicle conditions, usage, fuel consumption, and GHG emissions.

4. Technical & Financial Feasibility Assessment
Assess the technical and financial feasibility, as well as the environmental, social and economic impacts of fleet electrification in the Municipality of the County of Colchester.

5. Municipal Fleet Conversion Recommendations
Recommend a possible fleet conversion strategy, including downsizing/rightsizing and electrified fleet and charging infrastructure to support the needs of the Municipality of the County of Colchester.

Fleet Electrification – Technical Considerations

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Criteria	Questions to Consider	Rules of Thumb
Daily driving needs (range, size)	Are viable electric models available?	Vehicles driving less than ~250 km per day are easier to electrify given commonly available battery sizes.
Duty cycle/charging windows	Will AC charging suffice? Can vehicles share chargers?	Windows of 8-plus hours help enable lower-power charging feasibility, sharing of chargers, and cost savings.
Parking location and charging access	Is it easy to charge during off hours?	Vehicles parked in dedicated garage or lot are much easier to provide with charging.
Special requirements	Is the vehicle used for pursuit or medical response?	Operational requirements for these vehicles generally make them a lower priority for electrification.
Replacement schedule	How many years until retirement of existing vehicles?	Vehicles at or near retirement age can be replaced with lower sunk costs and/or limited resale concerns.
Fuel and Maintenance	Is there an opportunity to replace the biggest gas guzzlers?	Electrifying the least efficient ICE vehicles provides the largest fuel savings.

Case Studies – Fleet Electrification

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Tucson, AZ

Population: 542,630

Targets

- Transition 100% of the city light-duty vehicle fleet to electric by 2030
- Increase stock of zero emissions battery powered transit to 90% by 2030

Actions

- 5 electric buses, 44 hybrid fleet vehicles, 2 electric fleet vehicles
- Expanding charging network, with more stations along highways
- Rebates for residential EV chargers through Tucson Electric Power

Savings

- Estimated $44 million in savings in Arizona by transitioning to EVs

gillig.com

kvoa.com

Case Studies – Fleet Electrification

Easthampton, MA

Population: 17,508

Target: Net-zero emissions by 2040

Action: Municipal partnership with MoveEV to electrify municipal fleet (122 vehicles). Provide municipal employees with resources to understand EV adoption.

Anticipated Savings

- $360,000 annual savings in municipal fuel spend
- $346,000 annual savings in employee fuel spend
- $13,000,000 annual savings in residential fuel spend

Anticipated GHG Reduced: 600 metric tons of Co2 removed annually

Timeline: 5-10 years

Case Studies – Fleet Electrification

Climate Action Research for Transportation

Kawartha Lakes, ON

Population: 79,247

Target: Fully electric municipal fleet by 2033

Actions: Replace 116 passenger vehicles, 17 EV (12 electric SUVs and 5 electric vans) 17 EV charging ports

Challenges: Geographical size of municipality and the existing charging station network. Obtaining funding for new EV charging infrastructure and network

Anticipated Savings: $24,781 in annual fuel savings from the Fleet Greening Hydrogen Project

GHG Reduced: 54.78 tonnes of CO_2 emissions removed annually

peterboroughexaminer.com

destinationontario.com

Case Studies – Fleet Electrification

Climate Action Research for Transportation

Saskatoon, SK

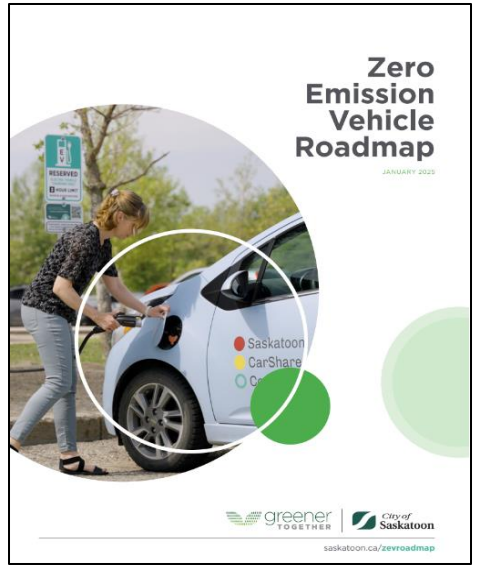
Population: 266,141

Targets:

- 100% electric municipal and transit fleet by 2030
- 30% of all new vehicle sales are electric by 2030 and 90% by 2050
- 50% of all new heavy trucks are zero emissions by 2030, 100% by 2040

Actions: 328 vehicles to be transitioned and replaced from 2026 to 2039

Challenges: Public interest in investment with concerns on cost and limited range. Cold winter climate and battery performance and range.



saskatoon.ca

Case Studies – Fleet Electrification

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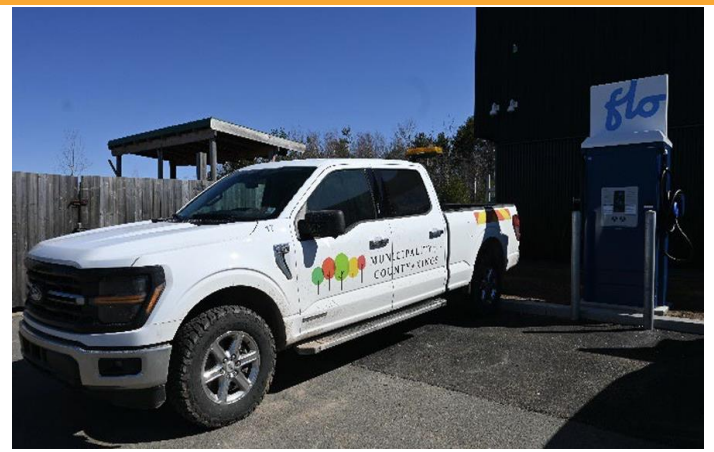
County of Kings, NS

Population: 62,914

Target: Reduce GHG emissions of municipal fleet (24 vehicles) by 50%

Actions: Six new EV charging stations for municipal and public use implemented in April 2025

Funding: Received funding through the Sustainable Communities Challenge Fund



countyofkings.ca

news.novascotia.ca

MUNICIPALITY of the COUNTY of KINGS

Workshop Plan

Workshop: Municipal Fleet Electrification Feasibility Study for Colchester

Session #1:

Guiding Principles for the Electrification of Transportation Systems in the Municipality of Colchester (35 minutes)

- 2 Individual Activities; 1 Group Activity

Break with Refreshments

Session #2:

Laying the Foundation for the Electrification of Municipal Fleet in Colchester (45 minutes)

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

Questions?

THANK YOU

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Workshop Plan

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Session #1:
Municipal Fleet Electrification Feasibility Study for Colchester

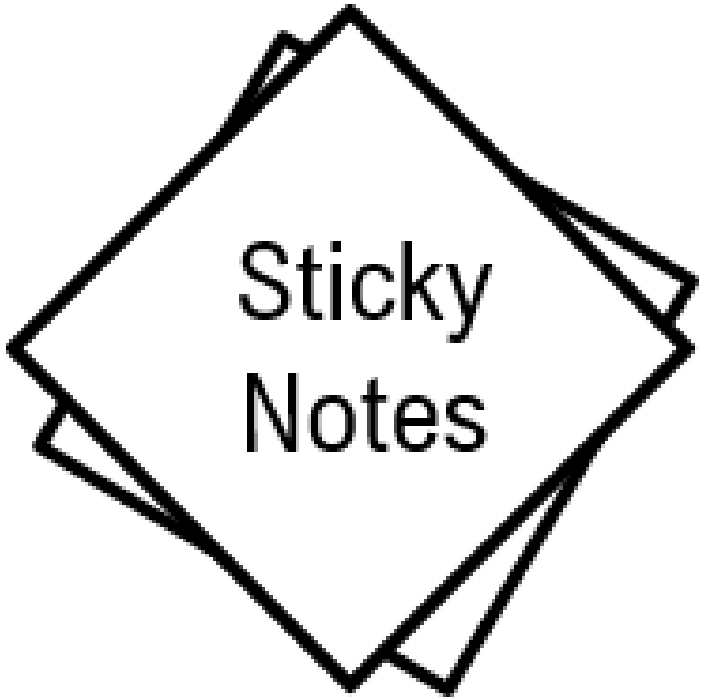
Climate Action Research for Transportation

Guiding Principles for the Electrification of Transportation Systems in the Municipality of Colchester (35 Minutes)

Activity #1:

[Individual] Draw a picture of yourself driving, charging, riding or watching an electric vehicle in your community.

(10 minutes)



Session #1:
Municipal Fleet Electrification Feasibility Study for Colchester

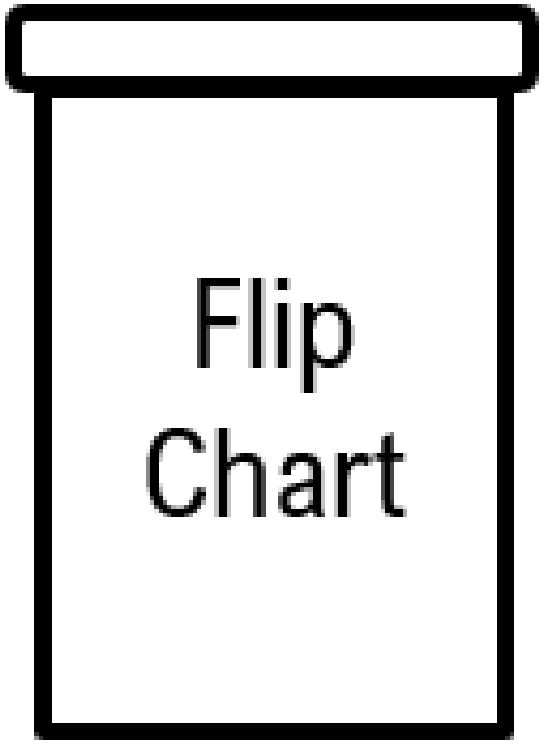
Climate Action Research for Transportation

Guiding Principles for the Electrification of Transportation Systems in the Municipality of Colchester (35 Minutes)

Activity #2:

[Group] What are the benefits of electrification of the municipal fleet in your community?

(10-minute discussion, 10-minute summary writing)



Session #1:
Municipal Fleet Electrification Feasibility Study for Colchester

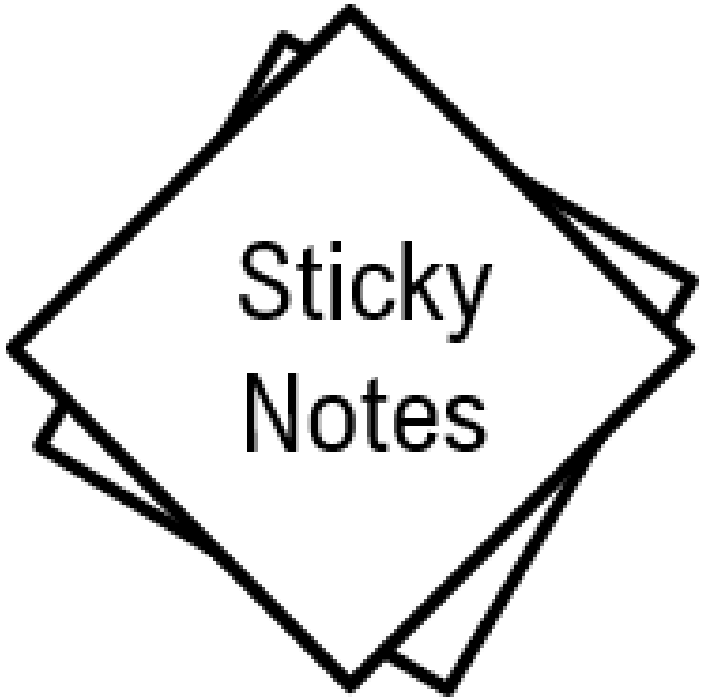
Climate Action Research for Transportation

Guiding Principles for the Electrification of Transportation Systems in the Municipality of Colchester (35 Minutes)

Activity #3:

[Individual] In your opinion, what are the guiding principles for the electrification of municipal fleet in your community?

(5 minutes)



Break with Refreshments

Climate Action Research for Transportation

Municipal Fleet Electrification Feasibility Study for the Municipality of the County of Colchester

(10 minutes)

Session #2:
Municipal Fleet Electrification Feasibility Study for Colchester

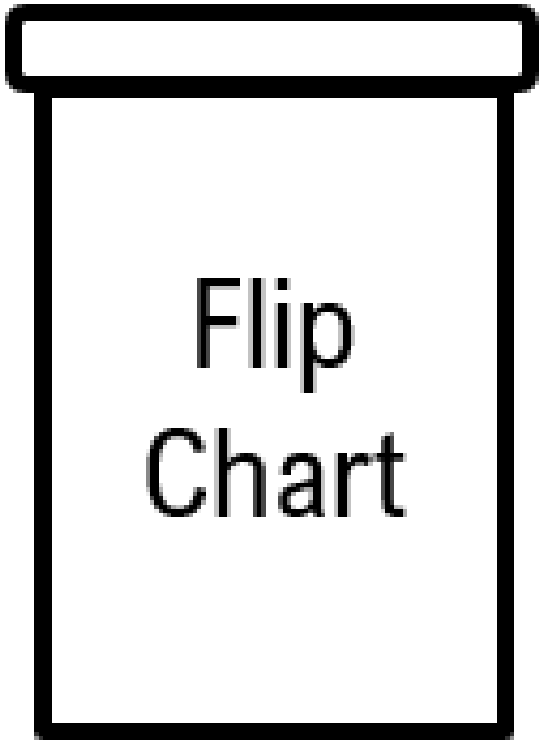
Climate Action Research for Transportation

Laying the Foundation for the Electrification of the Municipal Fleet in Colchester (45 Minutes)

Activity #1:

[Group] What are the challenges of municipal fleet electrification in Colchester?

(10-minute discussion, 10-minute reporting)



Session #2:
Municipal Fleet Electrification Feasibility Study for Colchester

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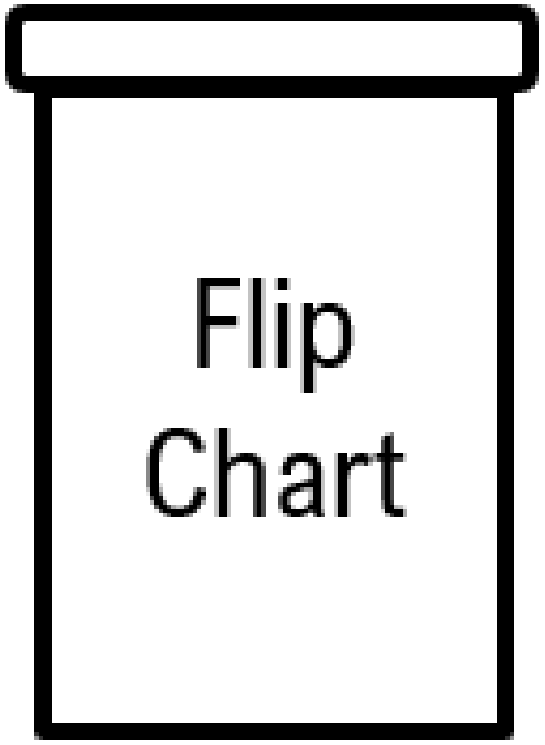
Laying the Foundation for the Electrification of the Municipal Fleet in Colchester (45 Minutes)

Activity #2:

[Group] How would you plan to electrify your municipal fleet?

(10-minute discussion, 10-minute reporting)



Session #2:
Municipal Fleet Electrification Feasibility Study for Colchester

Climate Action Research for Transportation

Laying the Foundation for the Electrification of the Municipal Fleet in Colchester (45 Minutes)

Activity #3:

[Individual] Please complete the workshop evaluation survey

[Group] Building the *RESAlliance*

(5 minutes)

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