Rural Northern New England EV Toolkit

New Hampshire Energy Efficiency and Sustainable Energy Board

Supported by

The Nature Conservancy

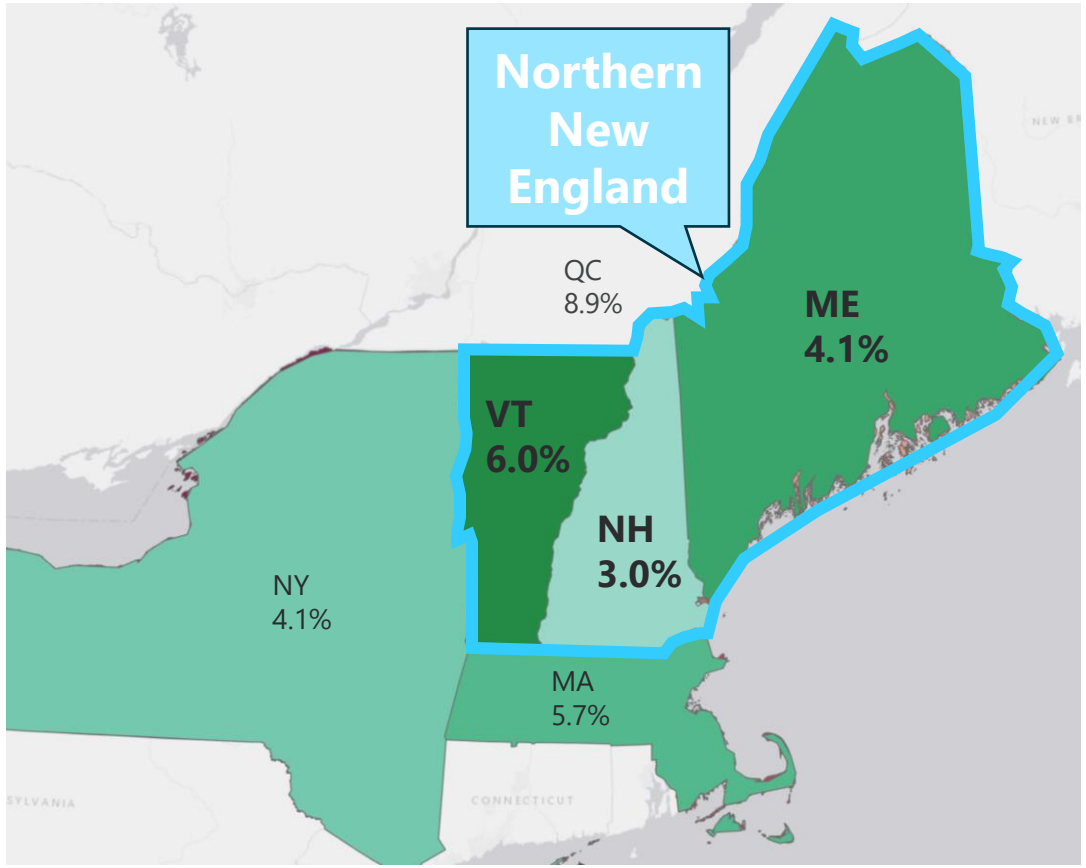
June 17, 2022

Overview

Topics Covered

1. Electric vehicle benefits for rural NNE
2. Barriers to EVs
3. Tools to accelerate EV adoption

EV Market Share of New Vehicle Sales - 2021

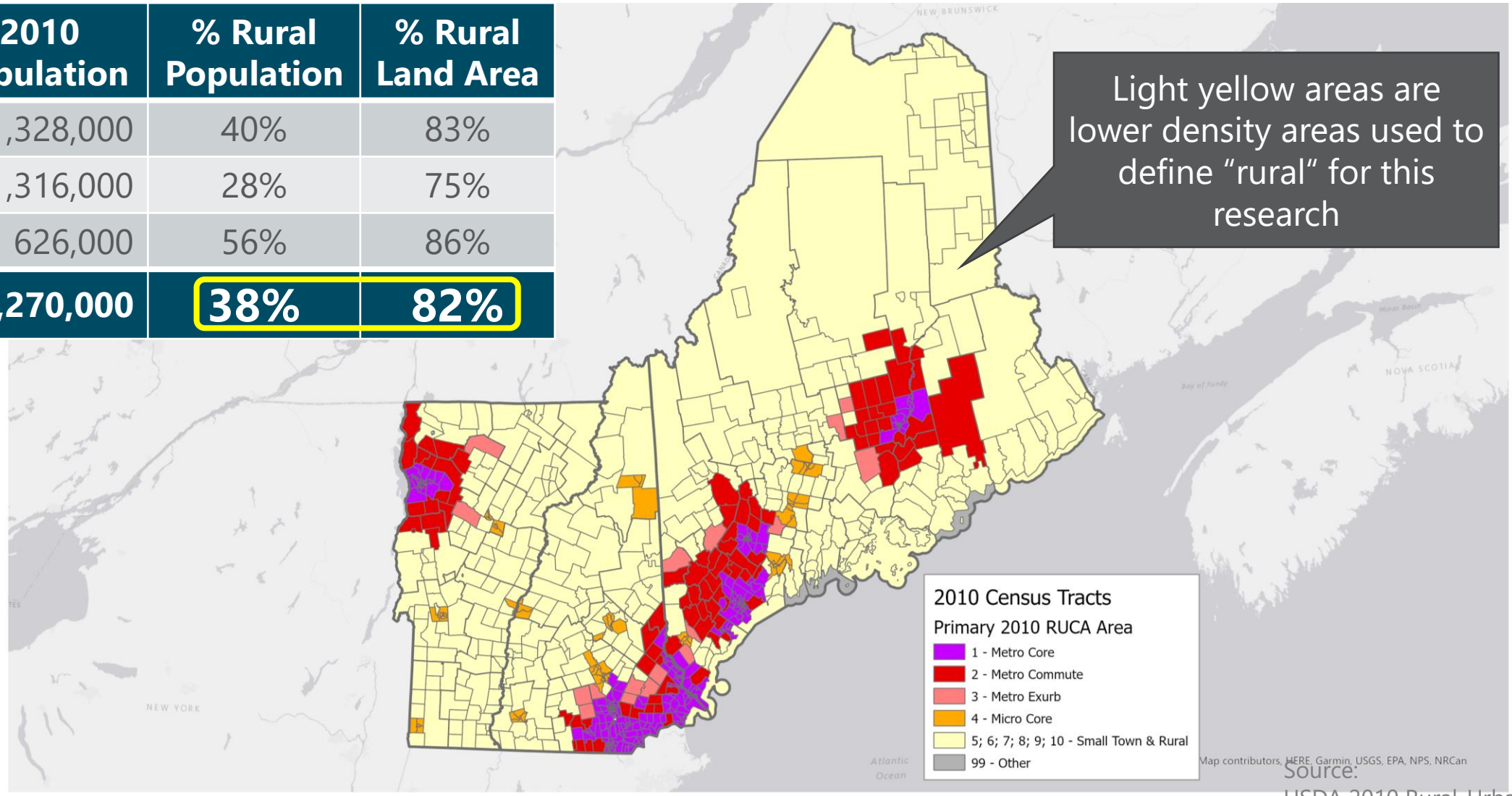


https://www.autosinnovate.org/resources/electric-vehicle-sales-dashboard

Sources:
Alliance for Automotive Innovation, 2022
Statistics Canada, 2022

NNE Rural Population

State	2010 Population	% Rural Population	% Rural Land Area
ME	1,328,000	40%	83%
NH	1,316,000	28%	75%
VT	626,000	56%	86%
Total	**3,270,000**	**38%**	**82%**

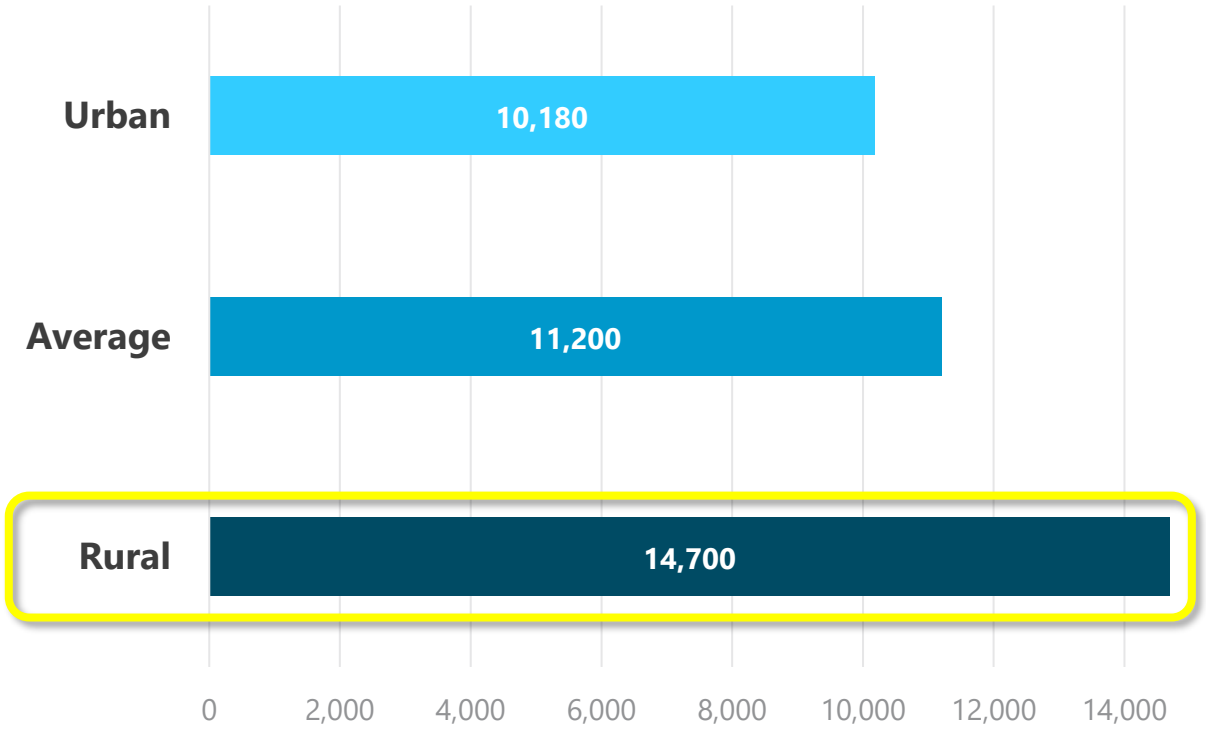


https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes.aspx

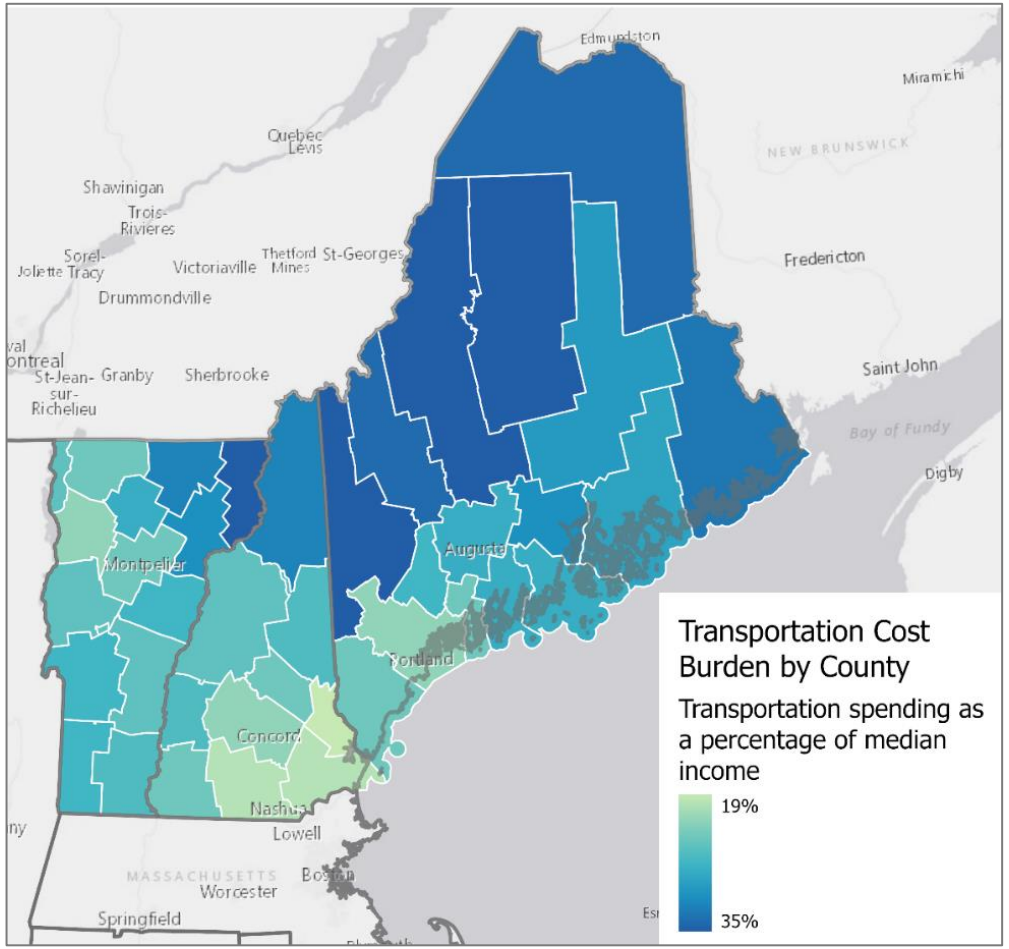
Source:
USDA 2010 Rural-Urban Commuting Area

Rural New England Driver Characteristics

New England Annual Vehicle Miles Traveled per Driver

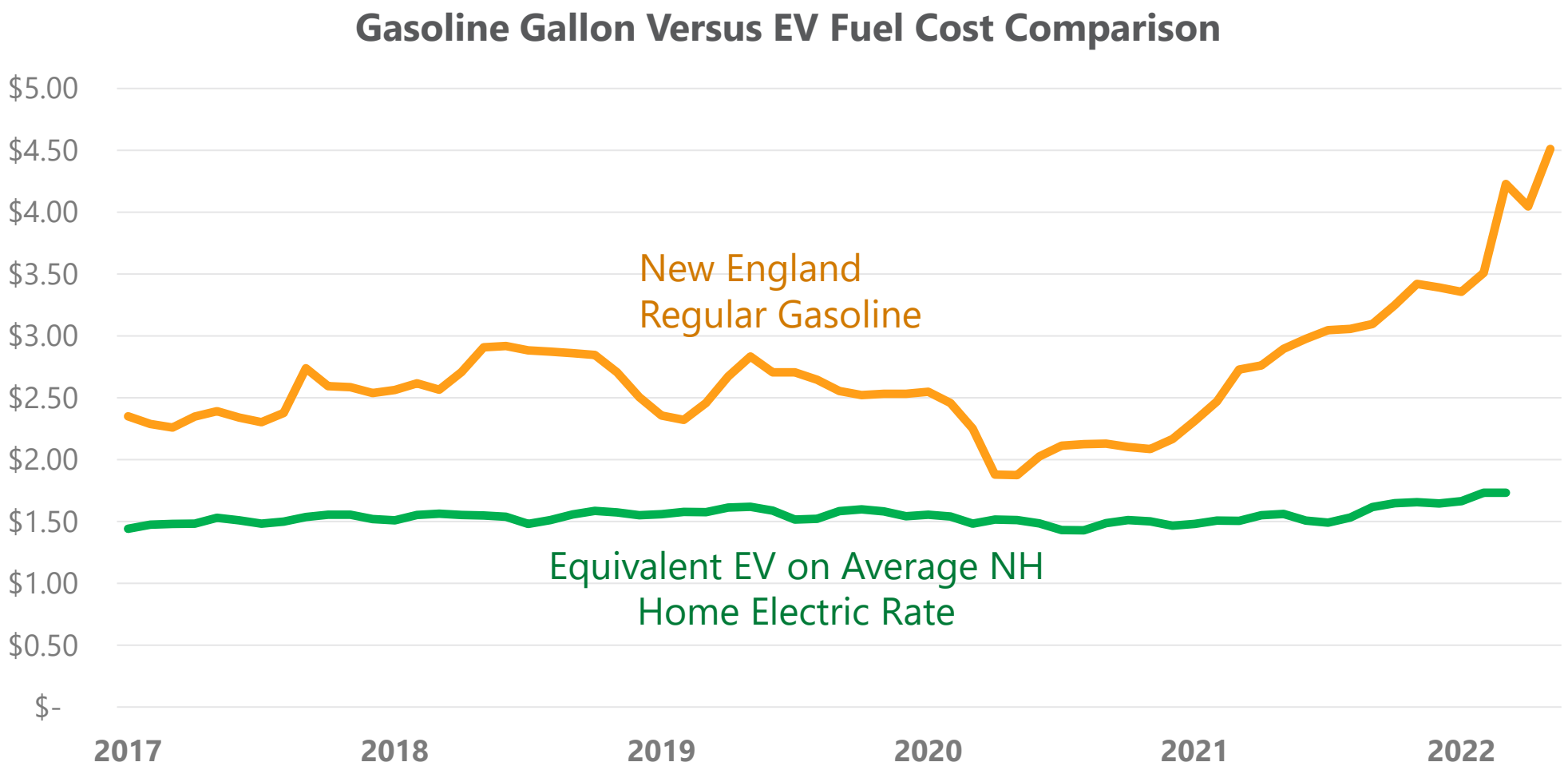


Source:
NHTS, 2017



Source:
CNT, 2017

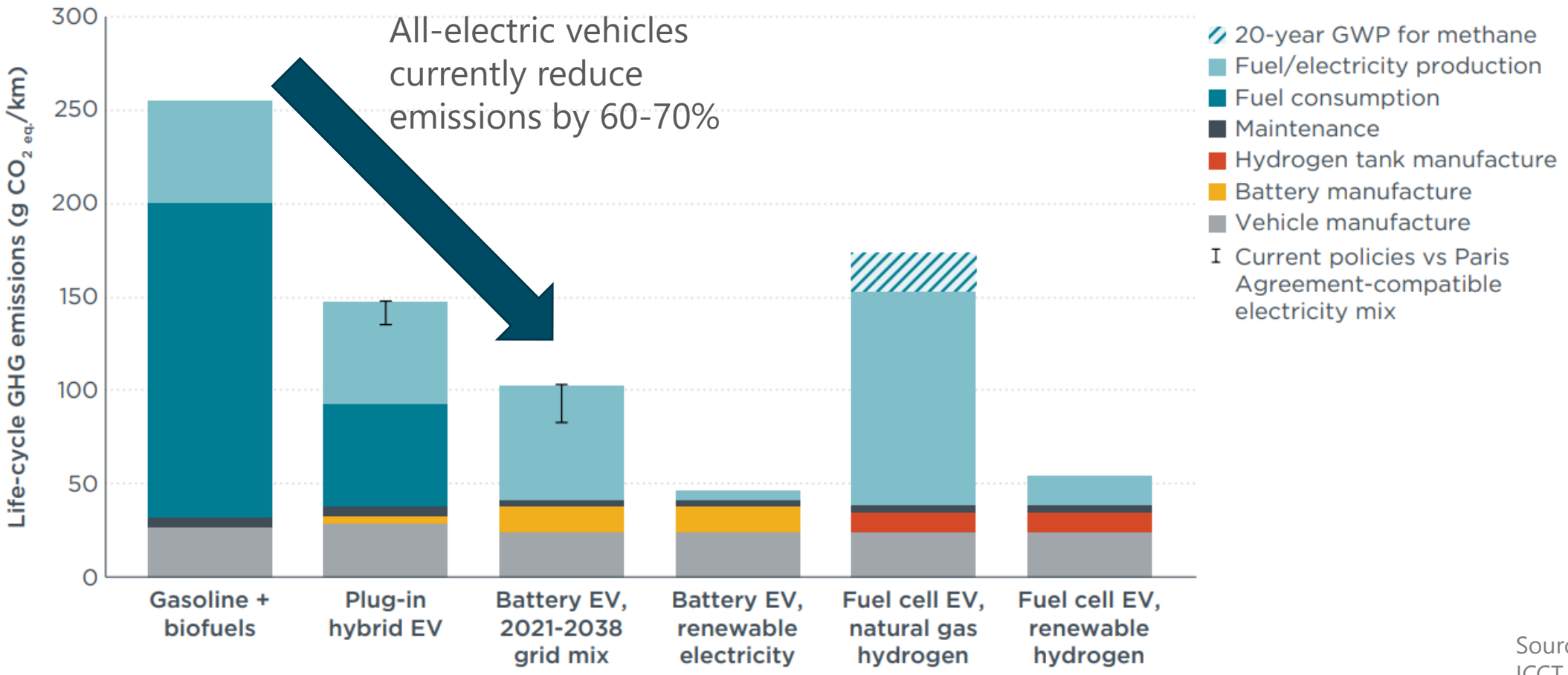
EV Benefit – Cost Savings



Source:
US EIA/VEIC, 2022

EV Benefit – Emission Reductions

2021 **Life-cycle GHG emissions** of passenger cars registered in the United States



Source:
ICCT, 2021

https://theicct.org/publication/a-global-comparison-of-the-life-cycle-greenhouse-gas-emissions-of-combustion-engine-and-electric-passenger-cars/

Stakeholder Interview Perspectives

- Varied thoughts on EVs, including enthusiasm, concern related to practicality in rural environments, and cultural barriers
- Top barriers included upfront cost, range for long rural travel, driving performance in poor conditions, and **access to inventory** and servicing options.
- Incentives and hands-on experience with EVs were seen as keys to increasing EV ownership.
- **Unique opportunities for plug-in hybrids versus battery electric models.**
- **Fleet EVs may be a key driver for adoption due to economics.**

Issues Identified

- Upfront cost
- **Charging availability**
- Range
- **Consumer knowledge**
- Winter driving
- Vehicle types
- **Local inventory**
- Access to maintenance
- Materials and energy

Policy Tools

- Zero Emission Vehicle Regulations
- EV Purchase Incentives
- Rural EV Charging Equity Policies
- Building Code EV Requirements
- EV Materials Sourcing and Recycling

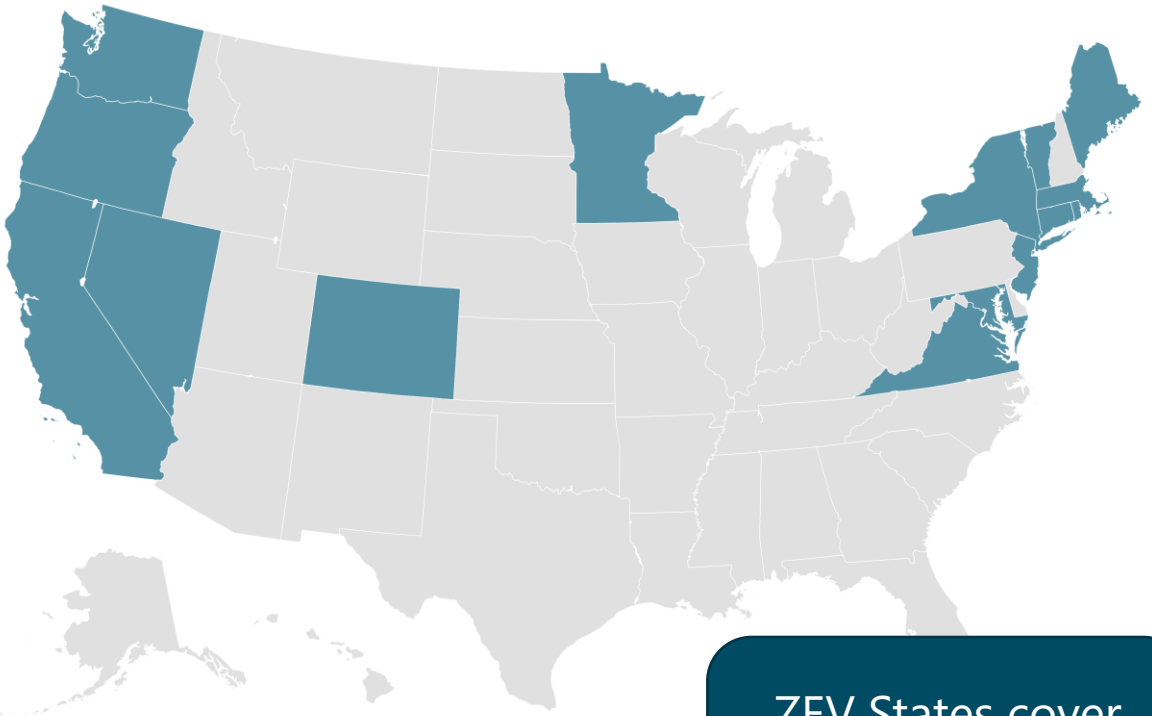
Maine EV Incentive Example

	New 2022 Nissan LEAF Plus 226 Mile Range	
	Standard Incentive	Lower Income Incentive
Starting Price	$32,400	$32,400
Federal Tax Credit	-$7,500	-$7,500
State Incentive	-$2,000	-$5,500
Price after Incentives	$22,900	$19,400

ZEV Regulation

- Requires automakers to sell EVs
- California updating to increase ***new*** light duty vehicle ZEV sales
  - 70% by 2030
  - 100% by 2035
- Extended warranty for PHEVs
- Separate regulation for medium/heavy duty vehicles
- Automakers focus EV efforts in ZEV states: dealer priority, lease incentives, marketing

ZEV States as of June 2022



ZEV States cover 36% of all auto sales in the USA

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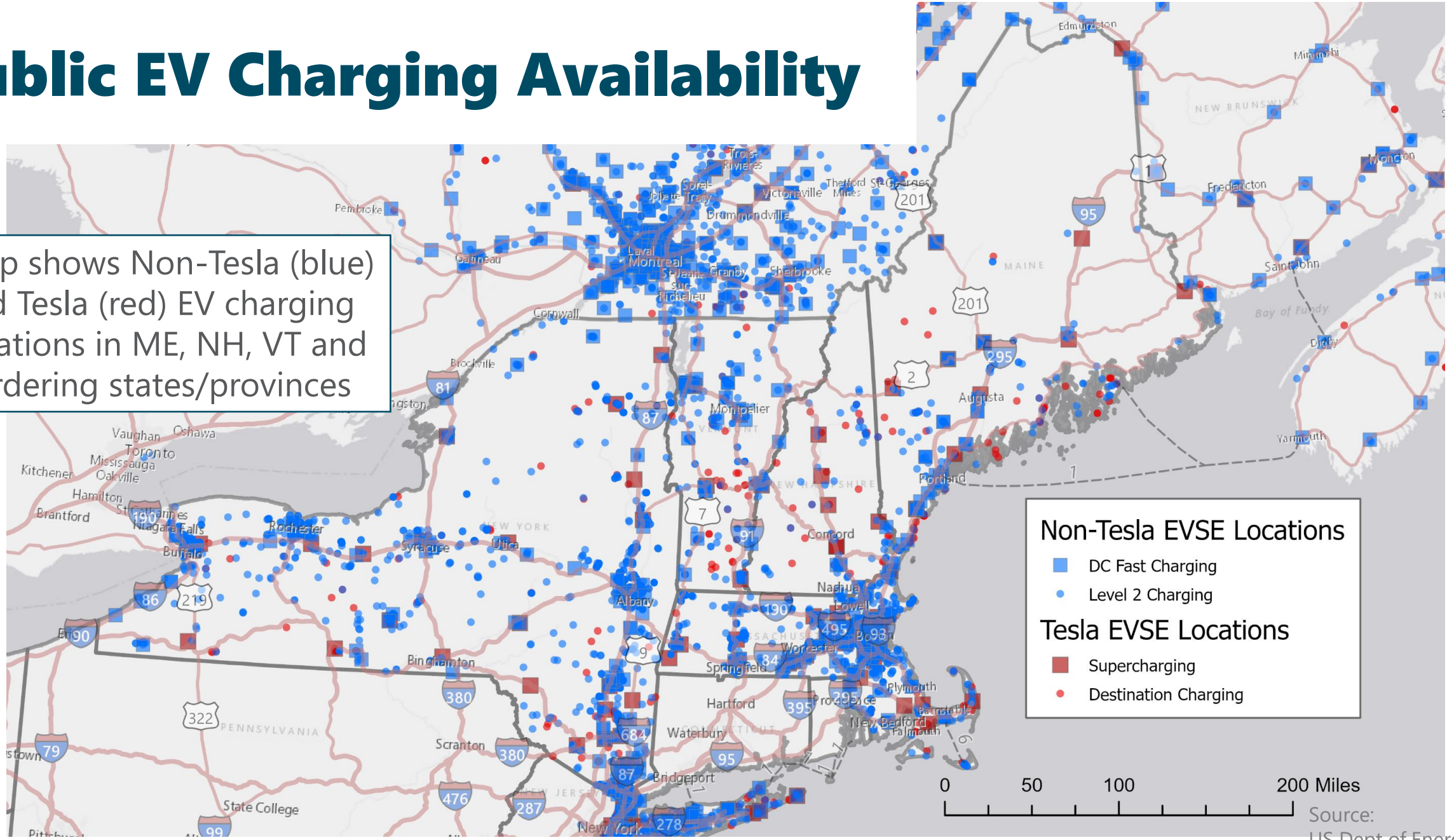
Public EV Charging Availability

Map shows Non-Tesla (blue) and Tesla (red) EV charging locations in ME, NH, VT and bordering states/provinces



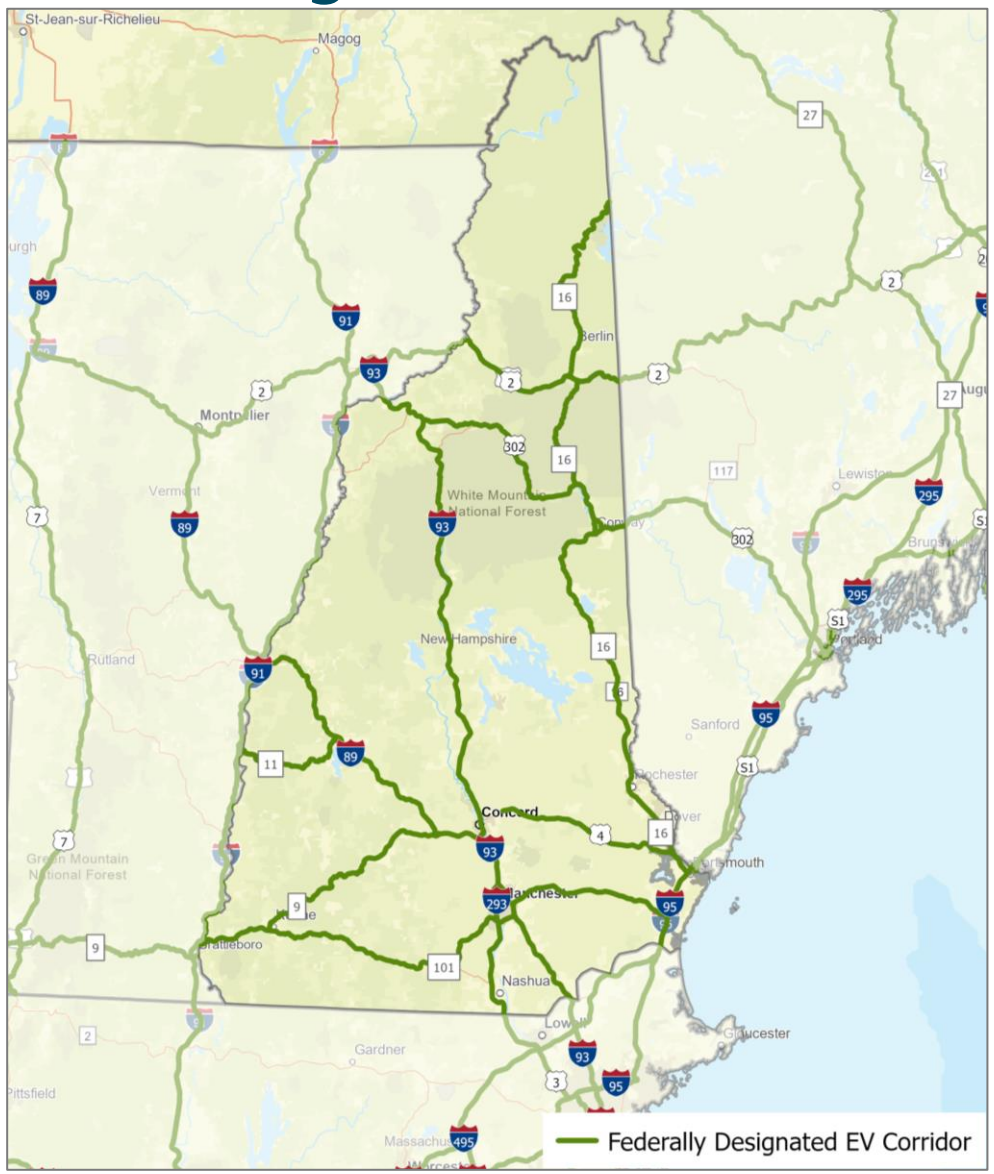
https://afdc.energy.gov/stations

Source: US Dept of Energy, Oct 2021

EV Programs

- EV Stakeholder Convening
  - Drive Electric NH
- EV Charging
  - NH DES-led VW settlement investments
  - Federal National Electric Vehicle Infrastructure (NEVI)
- EV Dealer Support
- Fleet Electrification

NH Designated EV Corridors



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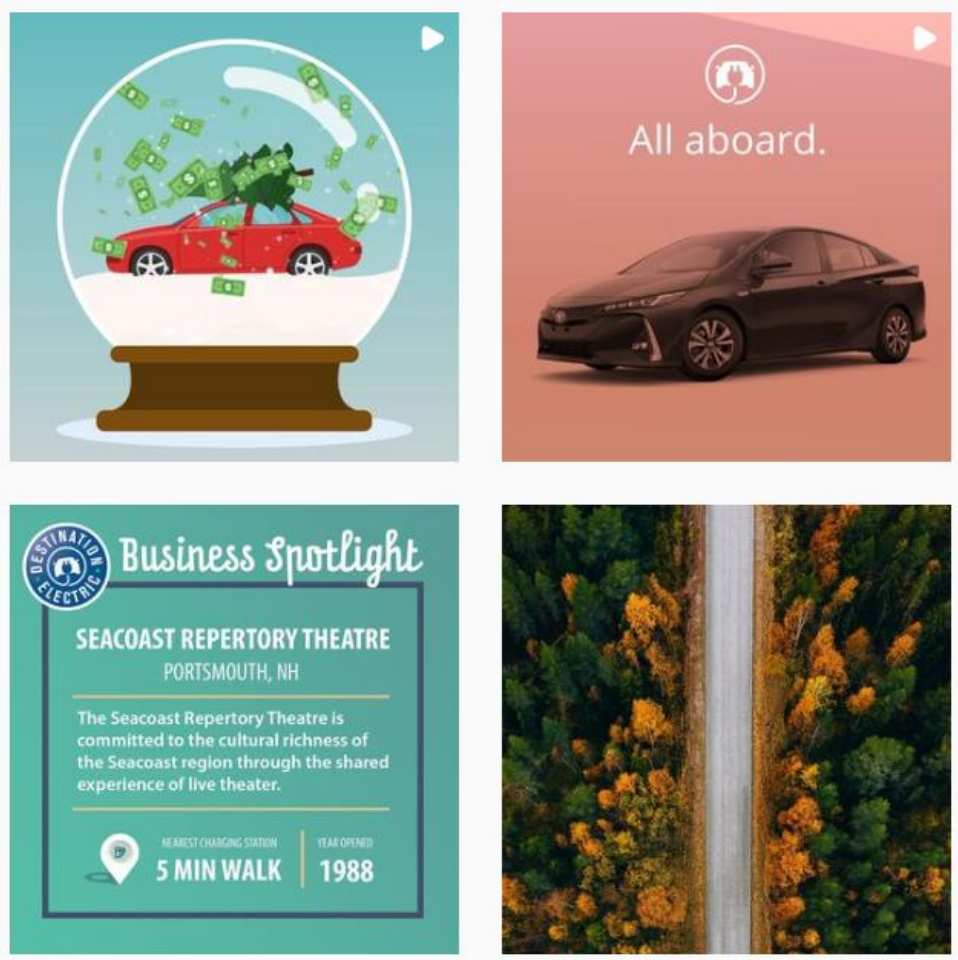
EV Education & Outreach

- EV Marketing Programs
  - Market research
  - Campaigns, including rural area coverage
- EV Events
- Advocacy
  - Environmental organizations
  - Consumer groups
  - Industry

Drive Change. Drive Electric.



https://www.instagram.com/driveelectricus/

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Conclusion

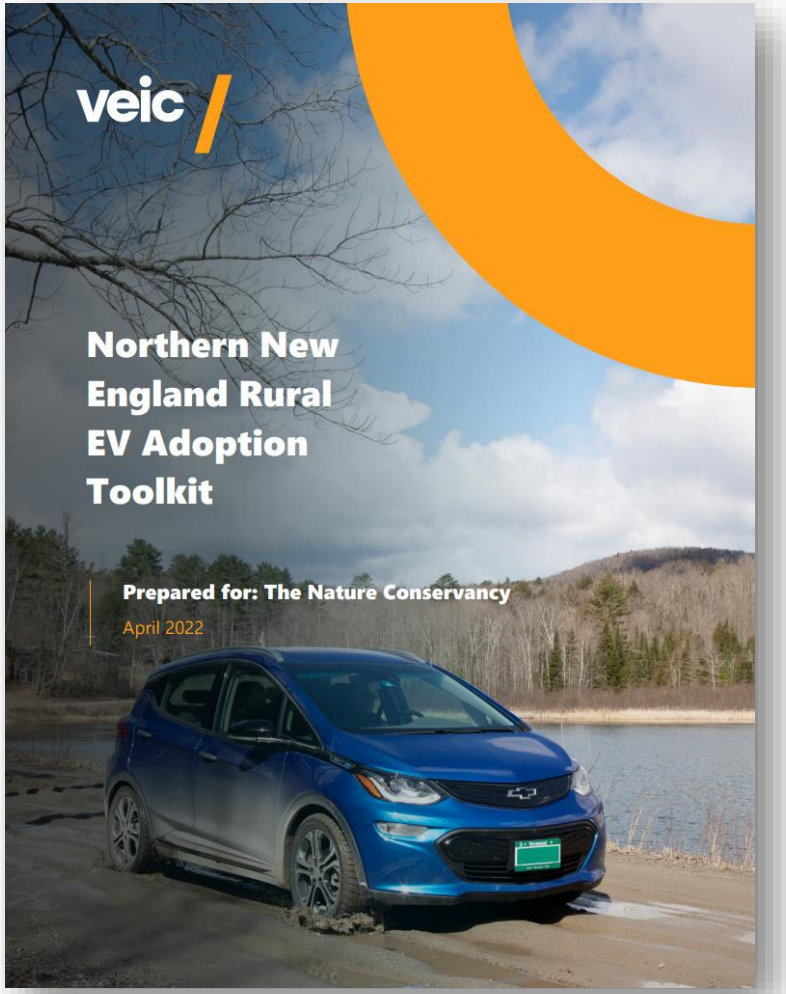
- Rural drivers benefit from EVs
- Significant barriers exist, but can be addressed
- New Hampshire EV adoption is lagging compared to ME and VT
- Toolkit resources may be helpful in spurring adoption

Ford F-150 Lightning EV Pickup Truck

Toolkit Publication

PDF available for download at:

https://www.nature.org/content/dam/tnc/nature/en/documents/TNC_NNE_Rural_EV_Toolkit_April_2022_Final.pdf



About VEIC

VEIC is on a mission to generate the energy solutions the world needs.

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- We serve as an objective partner for our clients as they navigate complex energy challenges
- Every challenge is different, but our commitment is the same: make an impact