

# Transportation Electrification in Vermont

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VECAN CONFERENCE – DECEMBER 14, 2022

Drive  
Electric  
Vermont

# About Drive Electric Vermont

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- Drive Electric Vermont is a public-private partnership established in 2012 by VEIC and the State of Vermont
- VEIC also operates Efficiency Vermont
- Working to advance transportation electrification through:
  - Stakeholder coordination
  - Policy engagement
  - Consumer education & outreach
  - Infrastructure development



<https://www.driveelectricvt.com/>



<https://www.encyvermont.com/>

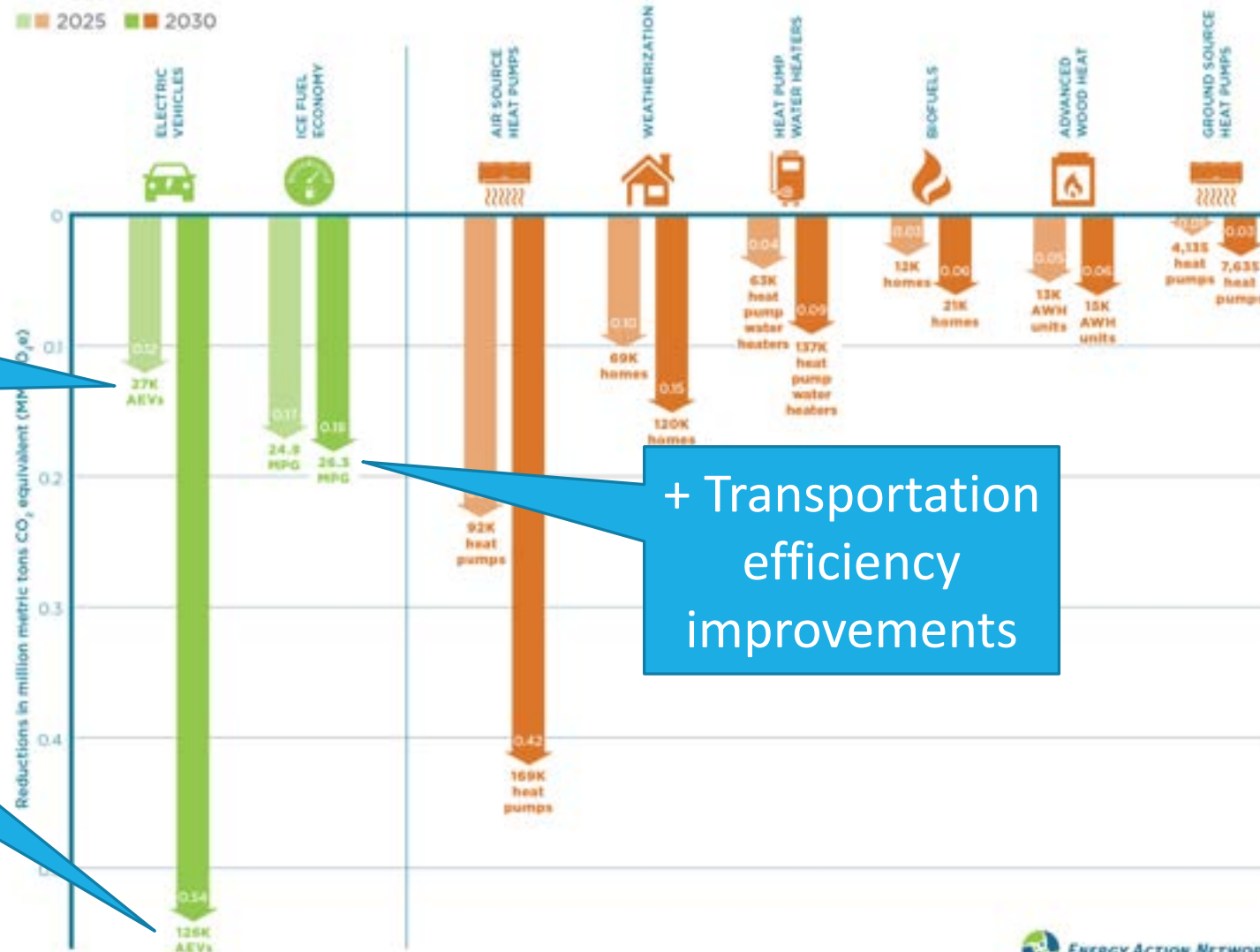
# Why Go Electric?

- Reduce emissions
- Great performance
- Quiet
- Savings

**It's time for  
a better drive.**



# Vermont Emission Reduction Pathways



27,000 EVs by 2025

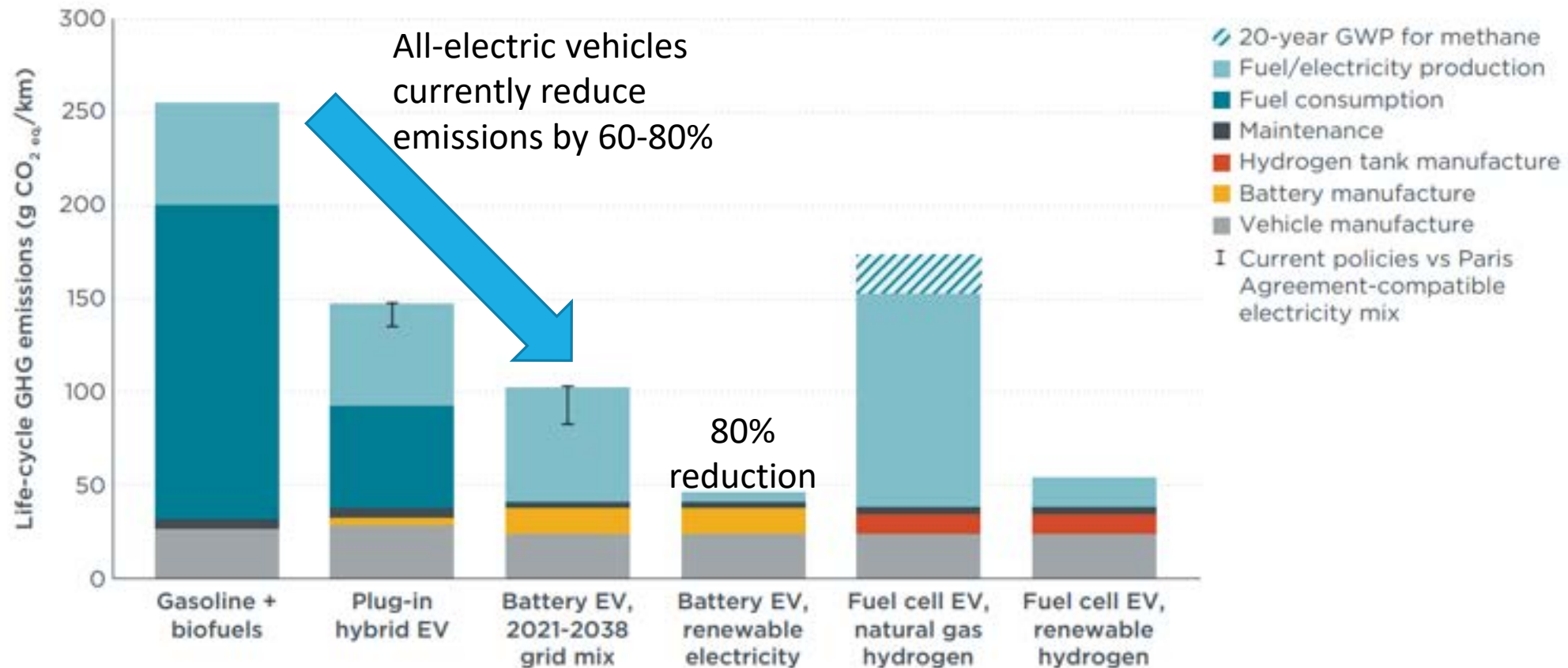
126,000 EVs by 2030

+ Transportation efficiency improvements

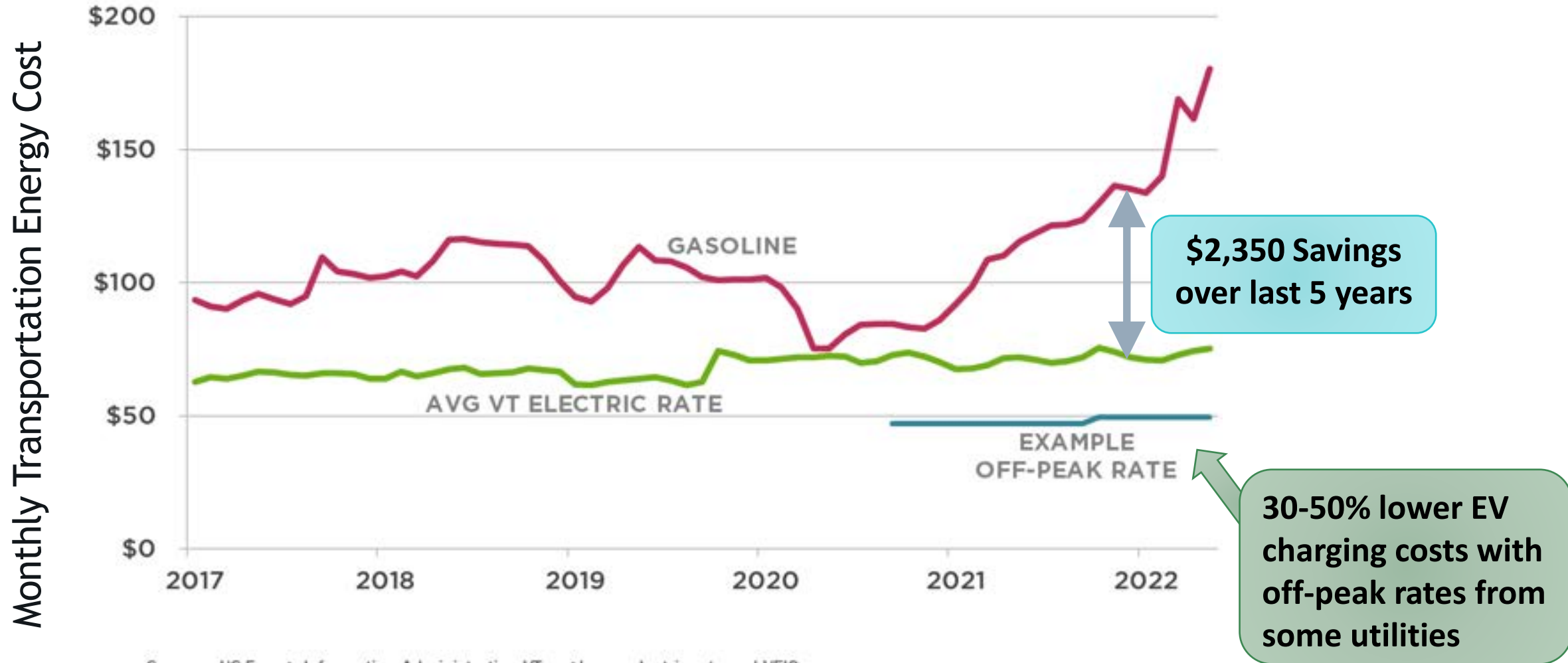
# EV Emission Reductions

Reducing vehicle travel is the most efficient way to address transportation emissions

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



# Monthly Energy Cost Comparison



Sources: US Energy Information Administration VT avg home electric rate and VEIC  
Assumptions: 25 mpg gasoline vehicle; 3 mile per kWh EV; 1,000 miles per month



# Drive Electric EV Model Explorer

## Plug-in Cars Available in Vermont

Vehicle Type:  Electric Range<sup>1</sup>:  All Wheel Drive:  Base MSRP:  Number of Seats:  Vermont Incentive:

Filters for vehicle characteristics

**Audi e-tron**




All Electric (SUV)  
Electric Range: 204 miles

**Chevrolet Bolt**




All Electric (Crossover)  
Electric Range: 259 miles  
Vermont Incentive Eligible

**Hyundai Kona Electric**



All Electric (Crossover)  
Electric Range: 258 miles  
Vermont Incentive Eligible

**Hyundai Kona Electric**



All Electric (Crossover)  
Electric Range: 258 miles  
Vermont Incentive Eligible

**Total Range:** 258 miles  
**Battery Size:** 64  
**Seats:** 5  
**Cargo:** 19.2 ft<sup>3</sup>  
**Base MSRP:** \$36,950  
**Federal Tax Credit Amount:** \$7,500  
**Standard Monthly Lease:** \$329  
**Lease Down Payment:** \$3,899  
[Manufacturer Website](#)

**Jaguar I-Pace**



All Electric (SUV)  
Electric Range: 234 miles

**Kia Niro EV**



All Electric (Crossover)  
Electric Range: 239 miles  
Vermont Incentive Eligible

**Nissan Leaf Plus**



All Electric (Hatchback)  
Electric Range: 226 miles  
Vermont Incentive Eligible

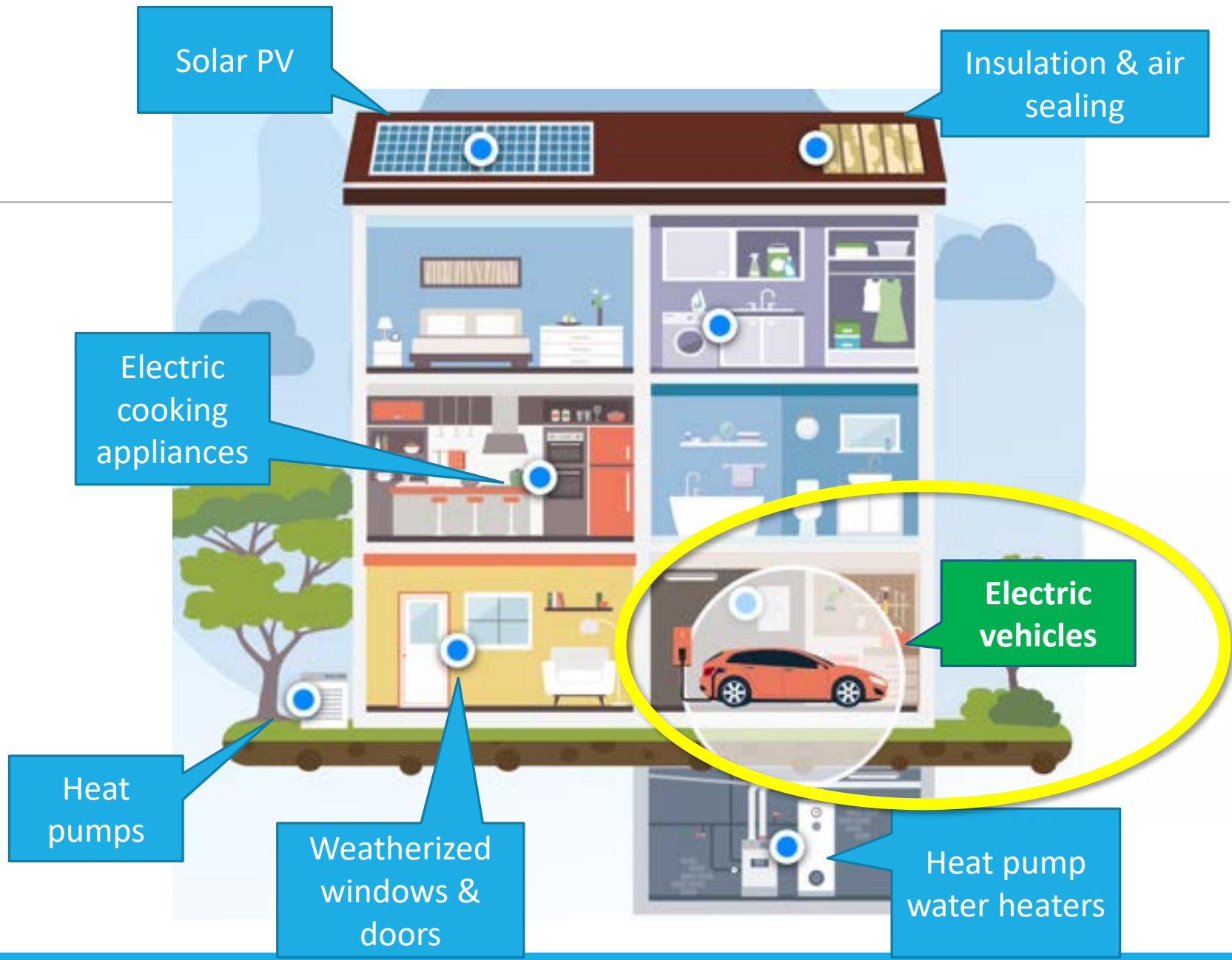
[www.DriveElectricVT.com](http://www.DriveElectricVT.com)

# Combined Purchase Incentive Example

	<i>New 2022 Nissan LEAF Plus 226 Mile Range</i>	
	Standard Incentive	< \$50k Income Incentive
Starting Price	\$32,400	\$32,400
Federal Tax Credit	-\$7,500	-\$7,500
State EV Incentive	-\$2,500	-\$4,000
State Replace Your Ride		-\$3,000
Utility Incentive (varies)	-\$1,500	-\$2,500
Price after Incentives	\$20,900	\$15,400



# Inflation Reduction Act



# IRA Incentive Calculator



The Inflation Reduction Act provides thousands of dollars for households to go electric.

How much will you get?

**TRY OUR CALCULATOR!**

REWIRING AMERICA

<https://www.rewiringamerica.org/app/ira-calculator>

**Household Electrification Incentives**  
All the savings you may be eligible for!

### Upfront Discounts

ITEM	AMOUNT	TIMELINE	More Info >
Electric Panel	\$4,000	Mid 2023	More Info >
Electric Stove	\$840	Mid 2023	More Info >
Electric Wiring	\$2,500	Mid 2023	More Info >
Heat Pump Water Heater	\$1,750	Mid 2023	More Info >
Heat Pump Air Conditioner/Heater	\$8,000	Mid 2023	More Info >
Heat Pump Clothes Dryer	\$840	Mid 2023	More Info >
Weatherization	\$1,600	Mid 2023	More Info >
Whole Home Energy Reduction	\$4,000	Mid 2023	More Info >

### Tax Credits

ITEM	AMOUNT	TIMELINE	More Info >
Battery Storage Installation	30%	2023	More Info >
Geothermal Heating Installation	30%	Available Now!	More Info >
Electric Panel	\$600	2023	More Info >
Electric Vehicle Charger	\$1,000	2023	More Info >
New Electric Vehicle	\$7,500	2023	More Info >
Used Electric Vehicle	\$4,000	2023	More Info >
Heat Pump Air Conditioner/Heater	\$2,000	2023	More Info >
Heat Pump Water Heater	\$2,000	2023	More Info >
Rooftop Solar Installation	30%	Available Now!	More Info >
Weatherization	\$1,200	2023	More Info >

# IRA EV Provisions - Current

- Federal Clean Vehicle Tax Credit

## Through end of 2022

- Up to \$7,500 available for new EV purchases *if final assembly occurs in North America*
- Must have had a binding purchase agreement in place by 8/16 to be grandfathered if vehicle not on the list



- ✓ Audi Q5
- ✓ BMW 330e
- ✓ BMW X5
- ✓ Chrysler Pacifica PHEV
- ✓ Ford Escape PHEV
- ✓ Ford F Series
- ✓ Ford Mustang MACH E
- ✓ Ford Transit Van
- ✓ Jeep Grand Cherokee PHEV
- ✓ Jeep Wrangler PHEV
- ✓ Lincoln Aviator PHEV
- ✓ Lincoln Corsair Plug-in
- ✓ Lucid Air
- ✓ Mercedes EQS SUV
- ✓ Nissan Leaf
- ✓ Rivian EDV
- ✓ Rivian R1S
- ✓ Rivian R1T
- ✓ Volvo S60
- ✓ VW ID.4 (if made in TN)

# IRA EV Provisions – 2023+

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## New EVs Starting January 1, 2023

- All-electric or PHEV with battery of at least 7 kWh
- A vehicle is eligible for one-half of the total credit (\$3,750) if the vehicle has **battery components** that are manufactured or assembled in North America.
- To be eligible for the other \$3,750, a vehicle must have **critical minerals** that were extracted or processed in the U.S. or countries with which the U.S. has a free trade agreement, or use critical minerals that were recycled in North America.
- New EV price caps: cars under \$55,000; SUVs, vans, and pickup trucks under \$80,000
- Tesla and GM vehicles could be eligible again if EV model(s) can meet above requirements
- New EV income caps: \$150,000 for single filers, \$225,000 for head of household and \$300,000 for joint filers

## Used EV incentives start on Jan 1, 2023

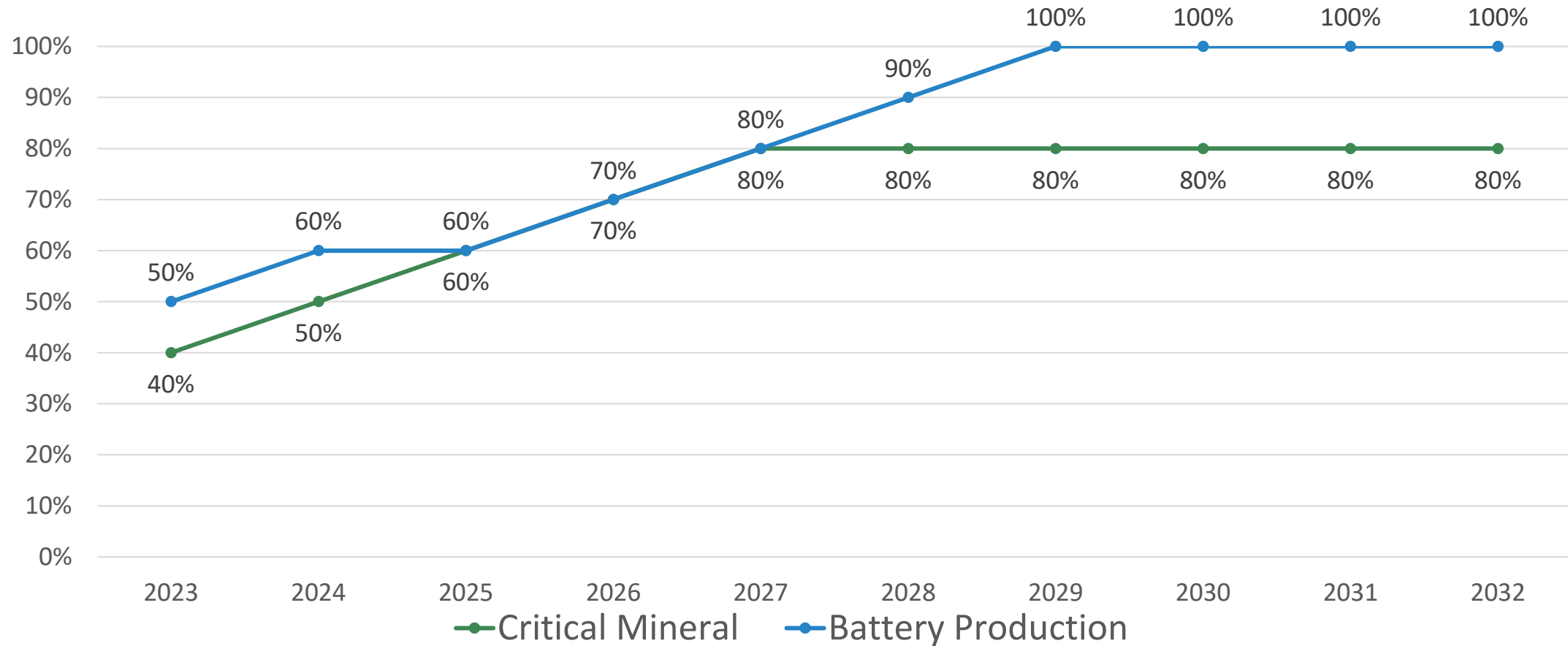
- 30% of purchase price, up to \$4,000
- Used EV price cap: \$25,000
- Vehicle at least 2 years old and has not received a used credit previously
- Used EV income caps: \$75,000 for single filers, \$112,500 for head of household and \$150,000 for joint filers
- Consumer must not have had used EV credit in last 3 years

# IRA EV Credit Considerations

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- Purchaser claims on income taxes
  - If leasing, then leasing company gets the credit and will usually pass through the value in reduced lease costs
  - Dealer pass-through program to start in Jan 2024
- Still does not carry-over into future years

# New EV Mineral and Battery Production Requirements





# IRA Commercial Vehicle Credit

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- Credit equal to the lesser of 30% of the price, or the incremental cost of such vehicle
- The incremental cost of any qualified commercial clean vehicle is an amount equal to the excess of the purchase price for such vehicle over such price of a comparable vehicle
- The amounts shall not exceed \$7,500 in the case of a vehicle which has a gross vehicle weight rating of less than 14,000 pounds, and \$40,000 in the case of a vehicle more than 14,000 pounds
- Tax-exempt entities may qualify to receive direct payments

# IRA EV Charging Tax Credit

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- Extended through end of 2022, new requirements in 2023
- Commercial property - 30% of the cost, not to exceed \$100,000
- Consumers – 30%, up to \$1,000
- Bi-directional charging equipment included
- Eligible fueling equipment must be installed in locations that meet the following census tract requirements:
  - A population census tract where the poverty rate is at least 20%; or
  - Metropolitan and non-metropolitan area census tract where the median family income is less than 80% of the state medium family income level.
  - Eligible projects must also meet apprenticeships and prevailing wage requirements

# State of Vermont EV Incentive Incentive Amounts

## 1. New EV Purchase or Lease – up to \$4,000

Tax Filing Status	Adjusted Gross Income (AGI) Limits	State Incentive Amount	
		Plug-in Hybrid Electric Vehicle	All-Electric Vehicle
Individual or Married filing separately	\$50,000 or less	\$3,000	\$4,000
	\$50,001 up to \$100,000	\$1,500	\$2,500
Married filing jointly	\$75,000 or less	\$3,000	\$4,000
	\$75,001 up to \$125,000	\$1,500	\$2,500

As of July 2022, Enhanced incentives comprised 60% of funds and 45% of incentives for new EVs

## 2. Used High Efficiency Vehicle – Income-eligible purchasers can receive 30% of the purchase price, up to \$5,000 through MileageSmart

# Replace Your Ride Scrap and Replace

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1. \$3,000 for a 10+ year old Internal Combustion Engine (ICE) vehicle when combined with the purchase/lease of a New or Used eligible EV
  - The replacement vehicle must have current inspection and be drivable
  - Income eligibility requirements apply
2. Additional clean transportation options eligible, including bike purchases and shared mobility services through a prepaid card

# Electric Utility Incentive Programs

- VT utilities offer EV incentives for new and used EVs
  - Higher incentives for lower income customers
- Many support home charging installations and offer off-peak charging rates

<p><b>Burlington Electric Department</b></p>  <p>Up to <b>\$2,900</b></p> <p>Incentives for the purchase or lease or new or used electric vehicles.</p> <p><a href="#">Learn More</a></p>	<p><b>Green Mountain Power</b></p>  <p>Up to <b>\$2,500</b></p> <p>Incentives for the purchase or lease of new or used all-electric or plug-in hybrid electric vehicles.</p> <p><a href="#">Learn More</a></p>	<p><b>Stowe Electric Department</b></p>  <p>Up to <b>\$1,250</b></p> <p>Incentives for the purchase of new and used all-electric or plug-in hybrid electric vehicles.</p> <p><a href="#">Learn More</a></p>	<p><b>Vermont Electric Coop</b></p>  <p>Up to <b>\$750</b></p> <p>Bill credit for the purchase of a new or used all-electric vehicle.</p> <p><a href="#">Learn More</a></p>	<p><b>VPPSA</b></p>  <p>Up to <b>\$1,400</b></p> <p>Incentives for the purchase of a new or leased all-electric or plug-in hybrid vehicle <b>for customers of 11 municipal electric utilities.</b></p> <p><a href="#">Learn More</a></p>
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# Drive Electric VT Incentive Calculator

## Electric Vehicle Incentive Calculator

*This tool estimates potential incentives for electric vehicle purchases or leases, including those from electric utilities, the State of Vermont and Federal incentives. Not all eligibility factors are accounted for. See the information below and check with incentive sources to confirm your eligibility prior to purchase.*

***This tool is in beta.** This information in this tool is based on the latest information available to Drive Electric Vermont, but actual incentive amounts may vary based on eligibility criteria. Please *let us know* if you encounter any issues using this tool.*

Your Utility	Green Mountain Power	Estimated Utility Incentive: <b>\$1,500 - 2,500*</b>
Vehicle Type	All-Electric (new)	<i>* Bonus of <b>\$1000</b> available to income-qualified purchasers. Check your <i>utility's website</i> to see if you are eligible.</i>
Car Make	Nissan	
Tax Filing Status	Individual filing as single or	Estimated State Incentive: <b>\$4,000</b>
Adjusted Gross Income †	0 - \$50,000	Estimated Federal Incentive: <b>\$7,500</b>
† Adjusted Gross Income can be found on your tax return		Estimated Total Incentive: <b>\$13,000 - 14,000</b>

*Additional automaker or dealership incentives may be available. Check with your dealership to learn more.*

*Trading in your old car? Get an additional \$3,000 through the [Replace Your Ride incentive program](#).*



# Charging Equipment

## Level 1 Charging

120V

5 miles range / hr



## Level 2 Charging

240V

10-20 miles / hr



## DC Fast Charging

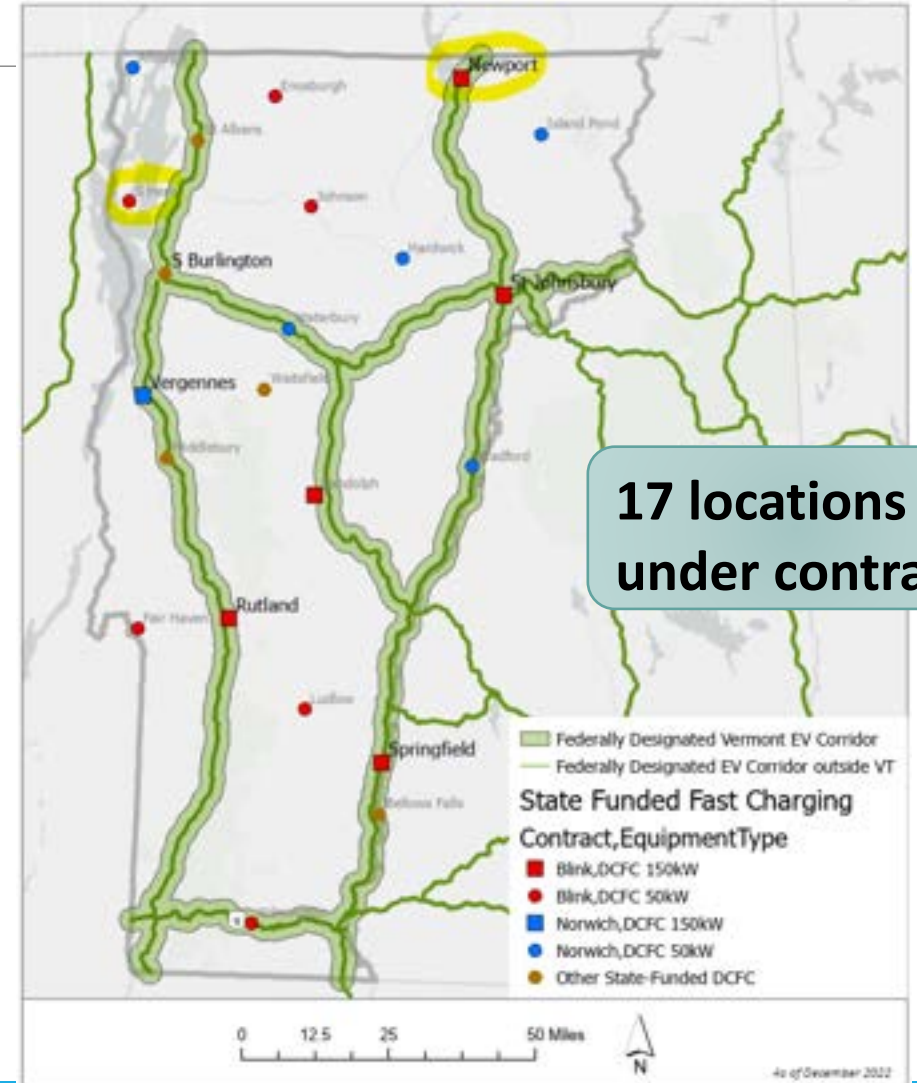
480V

150-1,000 miles / hr



# Vermont Corridors and State Funded Charging

- Vermont has invested over \$3.5 million since 2014
- Recent funding focused on fast charging and multifamily support
- VT ACCD contracted with Blink Charging and Norwich EV to build out 17 locations
- Each location on the map shown will have at least 2 fast chargers
- Once completed, almost nowhere in the state where someone is more than 30 miles to a DCFC
- ACCD currently developing additional funding opportunities for \$7 million in State funds for multifamily, workplace and public attraction EV charging



# Federally Funded Charging

## Federal Alternative Fuel Corridors

- Federal infrastructure bill providing about \$20 million to VT for more fast charging along these corridors
- Four 150kW DCFC every 50 miles along corridors
- VTrans plan approved by federal agencies in September 2022
- Waiting on federal requirements on how funds can be used and then VTrans will develop funding and procurement process



# Discussion

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Community organizations and employers can support transportation electrification

- Fleets
- Charging
- Awareness

Let us know if we can help:

[info@DriveElectricVT.com](mailto:info@DriveElectricVT.com)