

# REGIONAL EV STRATEGY MA Vehicle Census and Demand Charge Alternative Program

*Thursday, June 15, 2023*



REGIONAL EV STRATEGY



# Today's Agenda

1:00 – 1:05 (5 minutes)	Welcome & Introductions	Alison Felix, MAPC
1:05 – 1:25 (20 minutes)	Update on MA Vehicle Census	Liz Williams, MassDOT Joaquin Osio-Norgaard, MBTA
1:25 – 1:55 (30 minutes)	Demand Charge Alternative Program	Cody Lezak, National Grid Richard Chin, Eversource
1:55 – 2:00 (5 minutes)	Dealership Engagement Initiative	Mark Scribner, Energy New England
2:00 – 2:25 (25 minutes)	Municipal Updates & Discussion	All Moderator: Julia Nassar, MAPC
2:25-2:30 (5 minutes)	Wrap Up and Next Steps	Alison Felix, MAPC



# Massachusetts Vehicle Census



**National Grid  
Clean Transportation  
Demand Charge Alternative**

**MAPC**

**6/15/23**

**nationalgrid**



# Demand Charge Alternative Program

**Commercial Electric Rates** have the following types of charges: fixed customer charge (\$), demand-based (\$/kW), and volumetric/usage based (\$/kWh)

**Demand-based rates** have been a barrier to the deployment of Public Direct Current Fast Charging (DCFC) due to low utilization and high charger demand (kW). For demand based rates, the delivery charge of an electric bill is mostly based on whatever the highest level of demand is for a site (the demand charge).

**Low utilization** means there are fewer charging sessions to spread out that demand charge.

*In the early days of EV adoption, many sites will have low utilization and will experience high demand charges.*

*The Demand Charge Alternative's structure will ensure that those low utilization sites will experience electric bills that are closer to a higher utilization EV charging site's resultant \$/kWh.*



# Demand Charge Alternative Program

The Demand Charge Alternative Program will support customers in reducing their operating costs of EV chargers by providing a tiered load factor-based discount on their demand charges.

The program will be offered for 10 years and will accept enrollments through 2032.

## Eligibility:

- All new and existing separately metered DCFC and L2 EVSE customers on General Service Demand Rates (G-2 or G-3)
- Eligible customers can enroll anytime during the first 9 years of the program

\*Launching Summer 2023

Load Factor Threshold	Enrollment Years	Demand Charge Discount
None	1	100%
LF <= 5%	2 to 9	100%
5% < LF <= 10%	2 to 9	75%
10% < LF <= 15%	2 to 9	50%
LF > 15%	2 to 9	0%

$$\text{Load Factor} = \frac{\text{Billed Energy in kWh}}{\text{Billed Demand in kW} * \text{Hours in Billing Period}}$$



# Demand Charge Alternative Program

For more information on the Demand Charge Alternative Electric Vehicle Pricing please visit:

- [https://www.nationalgridus.com/media/pdfs/billing-payments/tariffs/mae/meco\\_g2.pdf](https://www.nationalgridus.com/media/pdfs/billing-payments/tariffs/mae/meco_g2.pdf)
- [https://www.nationalgridus.com/media/pdfs/billing-payments/tariffs/mae/meco\\_g3.pdf](https://www.nationalgridus.com/media/pdfs/billing-payments/tariffs/mae/meco_g3.pdf)





# Rates for Electric Vehicle Charging Stations

Presentation to MAPC

June 15, 2023



## Effective January 1, 2023, Rate G-1 (Non-Demand) is available to all general service customers

- New rate offering established in rate case that expands non-demand pricing to customers up to 100 kW
- Eversource offers Rate G-1 with pricing specific to its four legacy service territories – Greater Boston, Cambridge, South Shore/Cape Cod, and Western Massachusetts
- Non-demand price option will have higher per kWh charges in lieu of per kW demand charges
- All Rate G-1 customers in Cambridge and South Shore/Cape Cod will only have a non-demand price
  - Demand charge rate may be elected in Boston and Western MA
  - Customers with high load factors benefit from demand charge rate designs
  - EV stations currently have low load factors because EV traffic is still not large

# Small EV stations with low traffic struggled with high demand charges

Boston Rate G-2 (July 2022)			
	<u>Price</u>	<u>Billing Quantity</u>	<u>Charge</u>
Customer	\$18.00	1	\$18.00
Demand (> 10 kW)	\$53.38	40 kW	\$2,135.20
Energy - Step 1	\$0.05933	1,800 kWh	\$106.79
Energy - Step 2	\$0.04433	0	\$0.00
Energy – Step 3	\$0.04081	0	\$0.00
Basic Service (Illustrative)	\$0.15000	1,800 kWh	\$270.00
<b>Total</b>			<b>\$2,529.99</b>
<b>Avg. Rate per kWh</b>			<b>\$1.41</b>

- Assumption of 5% load factor and 50 kW demand in this example
- For comparison, \$3.50 per gallon of gas is equivalent to about \$0.40/kWh based on current EV fuel efficiencies

# New G-1 rate without a demand charge should provide EV stations with significant relief

Boston Rate G-1 (Non-Demand) (July 2023)			
	<u>Price</u>	<u>Billing Quantity</u>	<u>Charge</u>
Customer	\$15.00	1	\$15.00
Energy	\$0.11341	1,800 kWh	\$204.14
Basic Service (Illustrative)	\$0.15000	1,800 kWh	\$270.00
<b>Total</b>			<b>\$489.14</b>
<b>Avg. Rate per kWh</b>			<b>\$0.27</b>

- Assumption of 5% load factor and 50 kW demand in this example
- Average price at 27 cents/kWh is equivalent to about \$2.40 per gallon of gasoline

## Effective July 1, 2023, Rate EV-2 will be made available to stand-alone EV charging stations

- Rate EV-2 will consist of four load factor brackets
  - 0%  $\leq$  LF  $\leq$  5%
  - 5%  $<$  LF  $\leq$  10%
  - 10%  $<$  LF  $\leq$  15%
  - 15%  $<$  LF
- Load factor is based on the average monthly load factor
  - Calculated as Billed kWh / (Billed kW \* 24 hours \* Billing Days)
  - 12 months of data is needed; new customers with less than 12 months of data default to the smallest load factor bracket
  - Load factor is assessed annually in June
- Smallest load factor bracket has no demand charges and a higher energy rate (per kWh)
- Demand charges increase with each successive load factor bracket while the energy charge decreases
- Available to customers with demand greater than 100 kW
- Rate EV-2 is term limited and will only be available through June 30, 2033

## Like the small stations, larger EV stations with low traffic also struggled with demand charges

Boston Rate T-2 (July 2022)			
	<u>Price</u>	<u>Billing Quantity</u>	<u>Charge</u>
Customer	\$160.00	1	\$160.00
Demand	\$33.99	400 kW	\$13,596.00
Energy	\$0.02787	14,400 kWh	\$401.33
Basic Service (Illustrative)	\$0.15000	14,400 kWh	\$2,160.00
<b>Total</b>			<b>\$16,317.33</b>
<b>Avg. Rate per kWh</b>			<b>\$1.13</b>

- Assumption of 5% load factor and 400 kW demand in this example

# Rate EV-2 will provide relief and allow stations to build up traffic

Boston Rate EV-2 (July 2023)			
	<u>Price</u>	<u>Billing Quantity</u>	<u>Charge</u>
Customer	\$225.04	1	\$225.04
Demand	\$0.00	400 kW	\$0.00
Energy	\$0.08079	14,400 kWh	\$1,163.38
Basic Service (Illustrative)	\$0.15000	14,400 kWh	\$2,160.00
<b>Total</b>			<b>\$3,548.22</b>
<b>Avg. Rate per kWh</b>			<b>\$0.25</b>

- Assumption of 5% load factor and 400 kW demand in this example

# At higher load factors, demand charges become a smaller portion of the bill

Boston Rate T-2 (July 2022)			
	Price	Billing Quantity	Charge
Customer	\$160.00	1	\$160.00
Demand	\$33.99	400 kW	\$13,596.00
Energy	\$0.02787	86,400 kWh	\$2,407.97
Basic Service (Illustrative)	\$0.15000	86,400 kWh	\$12,960.00
<b>Total</b>			<b>\$29,123.97</b>
<b>Avg. Rate per kWh</b>			<b>\$0.34</b>

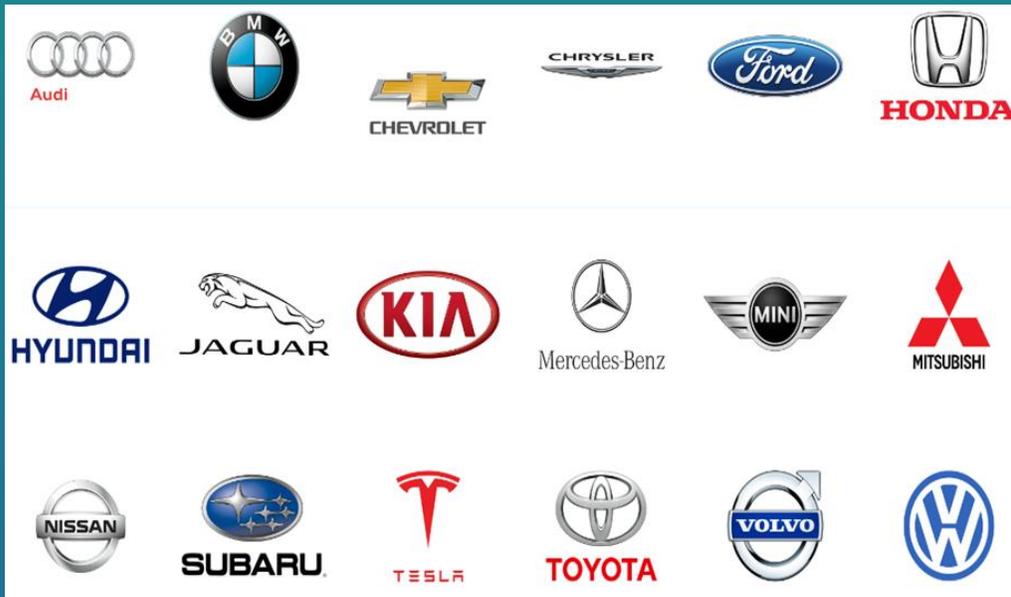
- Assumption of 30% load factor and 400 kW demand in this example
- Compared to the same station at a 5% load factor, the average per kWh rate declines from \$1.13 to \$0.34 under 2022 rates
- 34 cents/kWh is comparable to \$3.00 per gallon at the pump

## At higher load factors, Rate EV-2 is still advantageous but the gap with the otherwise applicable rate narrows

Boston Rate EV-2 (July 2023)			
	Price	Billing Quantity	Charge
Customer	\$225.04	1	\$225.04
Demand	\$12.18	400 kW	\$4,872.00
Energy	\$0.05191	86,400 kWh	\$4,485.02
Basic Service (Illustrative)	\$0.15000	86,400 kWh	\$12,960.00
<b>Total</b>			<b>\$22,542.06</b>
<b>Avg. Rate per kWh</b>			<b>\$0.26</b>

- Assumption of 30% load factor and 400 kW demand in this example
- EV-2, at an average of 26 cents/kWh, brings pricing below current gas prices
- Savings are provided through continuation of a non-demand transmission charge under EV-2

# ENE EV Dealership Programs & MOR-EV Rebate Program Support



## MOR-EV

Massachusetts Offers Rebates for Electric Vehicles

## *Our ENE Drives Electric Team*



*Mark Scribner  
Associate Director,  
Transportation Electrification*



*Ray Stetkiewicz  
Electric Vehicle Support  
Specialist*



*Kayla Tavares  
Outreach & Marketing  
Specialist*



*Eric Desrosiers  
Program Support Specialist:  
EV Charging Infrastructure*

*We've grown!*

Jeff Manning, Dealership Outreach & Training Specialist (PT)

John Fitzmaurice, Dealership Outreach & Training Specialist (PT)

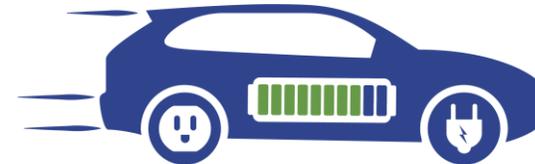
Marty Poutry, EVents & Program Support (PT)

# About ENE's Public Power EV Programs

- Engagement, support & incentive programs serving 12 MLP\* territories
- EV Advisor “Help Desk”, including support for commercial inquiries
- Outreach and marketing for programs services and incentives
- Event management; Community outreach; **Dealership engagement**
- Commercial charging and fleet electrification advisory services



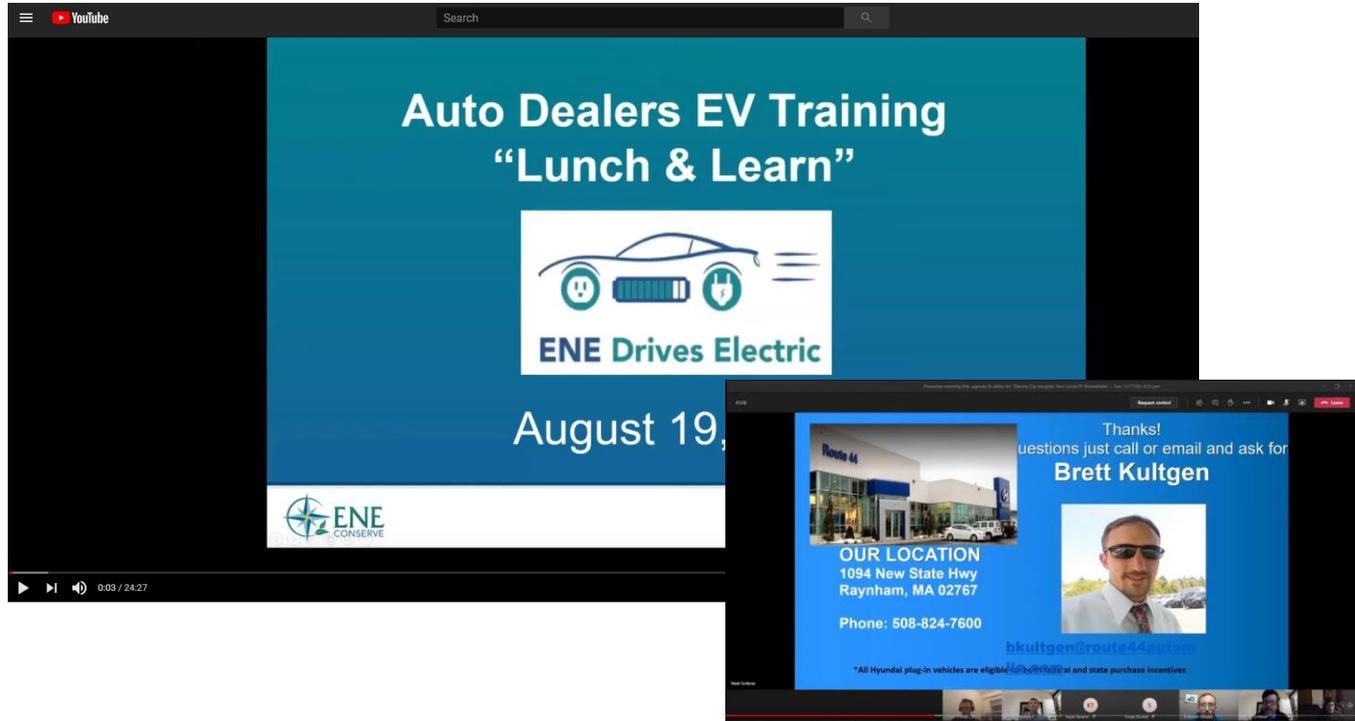
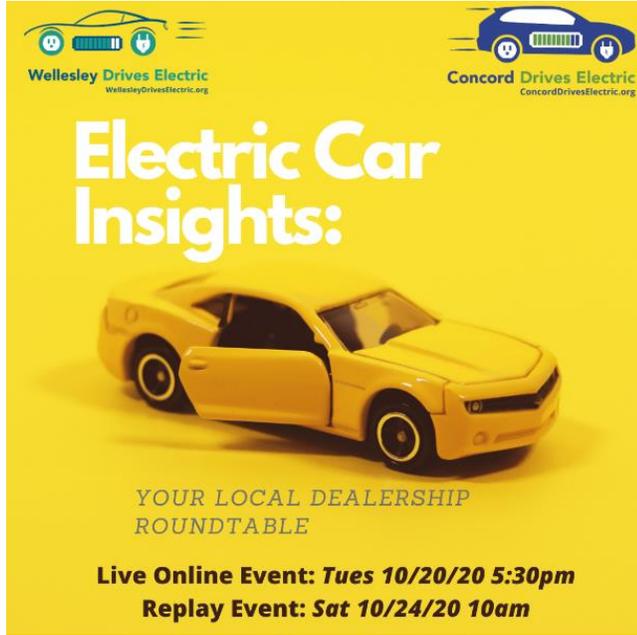
Braintree Drives Electric



Concord Drives Electric

\*MLP: Municipal Light Plant. There are 41 municipally-owned electric companies in Massachusetts.

# Dealership Engagement and Presentations

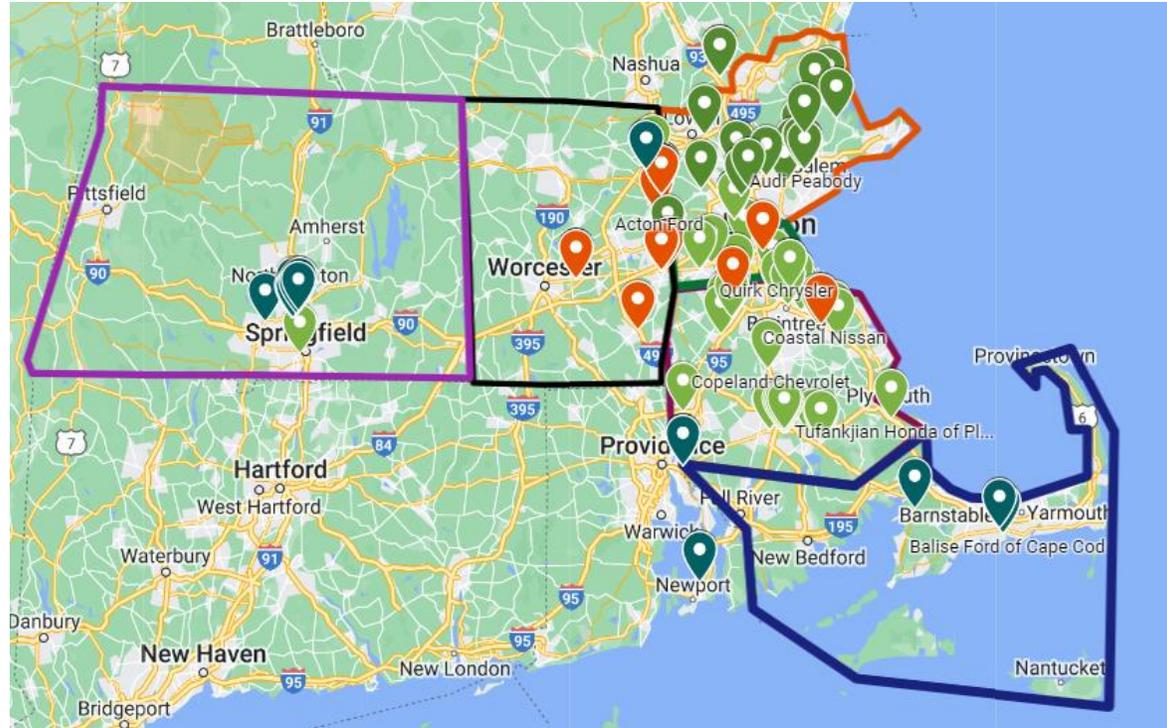


In-person & online training, listening sessions and Q&A events with us and dealerships. Follow-up with optional EV (sales) specialist assessment.

# Dealership Training and Engagement

Engaged dealerships in “auto-miles” and throughout the state including:

- North Shore
- South Shore
- Metro West
- Norwood
- Raynham
- Holyoke
- New territories in support of the MOR-EV rebate programs



# Dealership Engagement (How we engage)

- Utilizing local utility/municipal connections to build trust with dealerships
- Provide training and sales support and after support to dealer and customer
- “Boots on the ground” – in person as well as phone & email engagement
- OEM Automaker EV representatives help connect us with local dealers
- Offering to co-market utility program rebates, incentives and charging stations
- Offer to provide EV Specialist Certificates for a dealer’s EV sales staff
- Engage dealership with display and/or test drive EVs
  - Share advance sign-up information to entice participation
  - Stay connected/re-confirm as event nears
  - Post-event follow up and connecting with interested customers





**MOR-EV**

Massachusetts Offers Rebates  
for Electric Vehicles

# Changes Announced / TBA

- Rebates for PHEVs phasing out 6/30/23 – up to 90 days after to apply
- Point-of-sale rebate program (launching summer 2023 – exact date TBA)
  - Buyer can get \$3,500 “cash on the hood” applied at the dealership
  - Buyer can still opt for applying online after sale as before
- New MOR-EV programs that will enhance user access to rebates (TBD)

Stay tuned or check the official MOR-EV rebate website for updates!

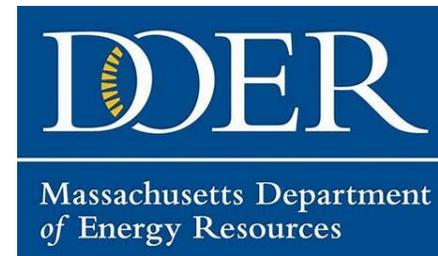
<https://mor-ev.org/>

# How ENE EV will be helping



**MOR-EV**  
Massachusetts Offers Rebates  
for Electric Vehicles

- Recruitment and training of MA auto dealers on how to:
  - Be better and more knowledgeable EV sales champions
  - Use online system to complete point-of-sale rebates (conducted by CSE)
- Collaborating with the state auto dealer association (MSADA), DOER & CSE
  - Meeting regularly to align and support the MOR-EV program changes
  - Reporting back to stakeholders on the status and progress of initiatives



Center for  
Sustainable  
Energy®

# Q & A

For more information on how we can help your organization dEvelop, contact us!



## Energy New England

5 Hampshire St., Suite 100, Mansfield, MA 02048

833-443-8363 | [develop@ene.org](mailto:develop@ene.org) | [www.ene.org/develop](http://www.ene.org/develop)

# Municipal Updates

- Name, pronouns, municipality, and position / role
- One success
- One challenge



# EV Charging Stakeholder Sessions (Marketing and Outreach)

National Grid, Eversource, and Unitil are gathering stakeholder input to enhance their marketing and outreach strategies, reach interested customers, and increase participation in their Massachusetts EV Charging Programs.

## **Public, Workplace, and Fleet Programs**

**Wednesday, June 21, 2023**

**11am-12pm**

[Click here to join the meeting](#)

Meeting ID: 256 820 529 092

Passcode: FgD4hJ

## **Residential Programs**

**Thursday, June 22, 2023**

**11am-12pm**

[Click here to join the meeting](#)

Meeting ID: 231 863 182 278

Passcode: Rb6hNF



# Grant Opportunity

## 2023 Clean School Bus Grant Program

- **US Environmental Protection Agency (EPA) anticipates awarding approximately \$400 million in competitive grant funding to eligible applicants nationwide to procure electric school buses and charging infrastructure.**
- **The program includes two sub programs:**
  - **School District Sub-program - school district and Tribal applicants**
  - **Third-Party Sub-Program – third-party applicants**

**Applications close on August 22, 2023**

**For additional information:**

<https://www.epa.gov/cleanschoolbus/clean-school-bus-program-grants>



# 2023 Schedule

**Thursday, August 17th**

**1:00 – 2:30pm**

*Topics TBD*

If you aren't already on our invite list, please email [afelix@mapc.org](mailto:afelix@mapc.org) to be added for future meetings



**REGIONAL EV STRATEGY**

