

DOE Forrestal Building Charging Stations

GSA EVSE SHOWCASE EVENT

AUGUST 29, 2023

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UNITED STATES DEPARTMENT OF ENERGY

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Background

In accordance with Executive Order 14057, DOE increased fleet electrification efforts

- -Required installation of additional EV chargers to support the vehicles
- -Added benefit of employee access when not in use by government vehicles

DOE had only 2 aging EV charging units (1 broken, 1 outdated)

- -Devices did not support payment processing for employee use
- -No ability to monitor and report usage for OMB/EPA/Act/EISA/FMR/Etc.
- -ChargePoint EV stations already installed at the DOE Germantown location

Process

Worked closely with NREL on a site assessment and Tiger Team report for the Forrestal Garage including:

- -Possible installation locations and options for scalability based on need
- -Current electrical capacity, equipment and future load analyses
- -Multiple scenarios and cost analyses
- -Networked and non-networked fee estimates

Ultimately, the garage or lot layout and Agency fleet size determines the number of EV charging stations and ports

- -If the chargers are not installed primarily for GOV use, all infrastructure costs must be passed to the employees, significantly increasing charging rates

Buy vs. Lease

▶ Purchase

Pros

- ▶ Own equipment
- ▶ Theoretical lower long-term cost

Cons

- ▶ Larger upfront cost and use of capital expense funds
- ▶ Trade-off of owning old equipment
- ▶ Monitoring, repair, payment processing, etc. for DOE

▶ Lease

Pros

- ▶ Futureproof (equipment upgrade every 3 to 5 years)
- ▶ Lower up-front and use of operating expense funds
- ▶ Installation and configuration included
- ▶ Added services including warranty/repairs, monitoring, payment processing, system upgrades, etc.
- ▶ Allows for re-assessment after 5 years – increase or decrease number of chargers based on fleet size/changing EOs/etc.

Cons

- ▶ Do not own equipment
- ▶ Long-term cost likely to be higher

Best Practices & Other Issues

At the time of our contracting and installation, only ChargePoint offered charging as a service on the BPA (CPaaS)

- Additionally, only one vendor, CarahSoft, offered CPaaS
- As a result, our procurement process was very streamlined

In late summer/early fall of 2022, equipment delivery time was significantly faster than the quoted 10 weeks

- Make-ready infrastructure approvals & completion timeline were the main delays for DOE

ChargePoint chargers require cellular signal to all major carriers

- Ensure your proposed location has strong signal
- DOE installed passive cell boosters to “amplify” the signal in the underground garage

Best Practices & Other Issues (Cont.)

Roll-out was quick and simple using ChargePoint's CPaaS resources, network creation and access control

- Created a network and employees obtain access to chargers through a simple request via the app or website.
- When requesting, employees acknowledge they've read the DOE charging policy and will adhere to set rules and understand pricing, etc.
- We get an e-mail notification of the request and approve/disapprove
- Requiring/approving the connection also makes it easier for us to remove/suspend users, if necessary

Flexbilling option through ChargePoint incurs a fee (10% of total session fee)

- Increasing the electricity cost for employees by a proportionate amount will help off-set



GSA Virtual EVSE Showcase

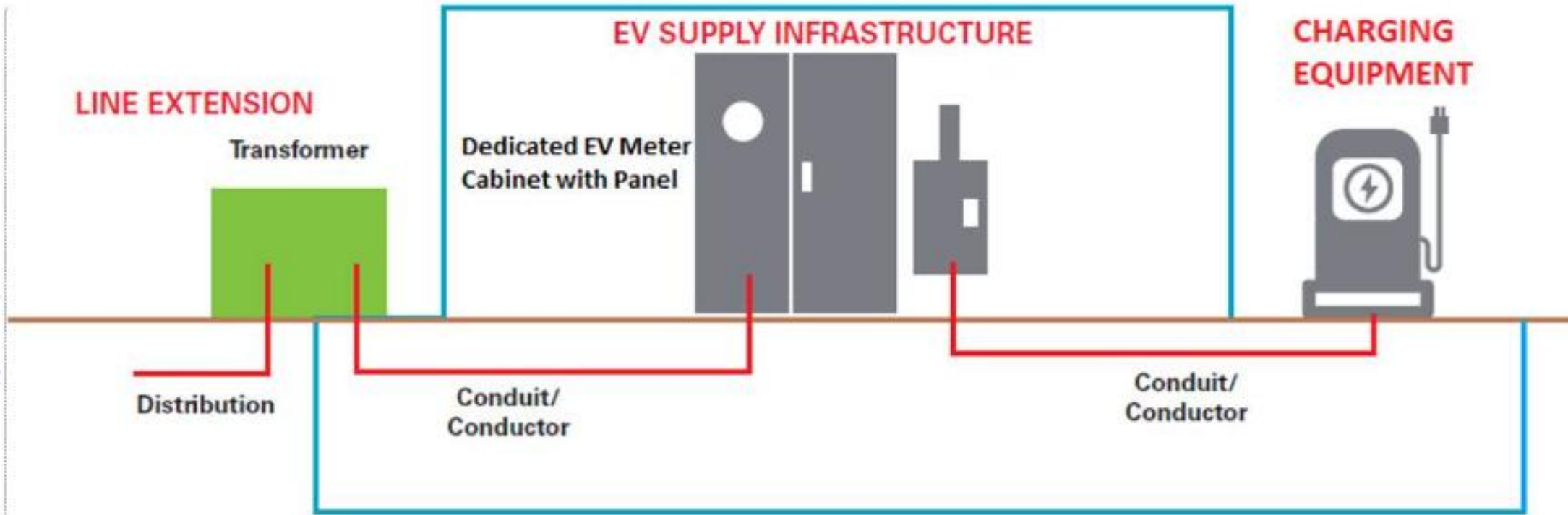
August 29 & 30, 2023

Xcel Energy Electric Vehicle
Infrastructure Incentive
Program

Christie-Anne Edie
Sustainability Program
Manager
GSA Region 8



EV Supply Infrastructure



Unique to fleet and privately operated vehicle charging

<https://co.my.xcelenergy.com/s/business/ev/fleet>



GSA Virtual EVSE Showcase

August 29 & 30, 2023

GSA - New England Region
EVSE - GSA / Utility
Partnerships

Karen Curran
Branch Chief Energy & Utilities
Facilities Management Division
GSA PBS Region 1



Our Process

- R1 team met with Federal Utility POC - to discuss GSA's ZEV goal and EO14057
- Familiarize- Info on Utility Program - published info
- Shared sample Utility Site- Host agreements from with GSA Legal
- Review of GSA Site Assessments (initial infrastructure assessments done - helped identify good candidate bldgs)
- Provided Utility list of our sites in their territory - with potential counts including priorities (counts used P100 requirements)
- Prioritized those - Feasible and meet customer needs

Initial Steps with Utility - Eversource -MA Make Ready

- Completed an application to kick off the process (no commitment or funding needed at this point)
- R1 started with 2 applications for Eversource- MA
- Initiated an initial site visit from approved Eversource contractor
- They provide an incentive proposal
 - Validates EJC (Environmental Justice Community) location
 - Rebates/ Incentives your project would qualify for
- MassEVIP- program - review

GSA- Active Projects - Early Stages- Eversource-MA

T.P. O'Neill FB- Boston- DHS/GSA EV charging stations -

- (67) L2 dual ports stations; 1 L3 DCFC
- Potential incentive \$894,986- customer side infrastructure
- Rebates for L2 charging stations -
- Combination GSA funding and RWA from DHS
- Program covers all infrastructure costs on utility side - 100%
- Program covers customer side infrastructure costs up to \$13,358 per port
- Received incentive offer; Meeting on 8/31 to review estimates - details
- Next steps:
 - Accept/ sign incentive offer - holds the funding - outlines what GSA owes vs what Eversource will cover
 - Provide proof purchase for charging stations - will use GSA BPA
 - Eversource will schedule installation - and final amount of funding
 - Rebates for charging stations will be received after completion

Robust - EV Make Ready programs

Eversource - MA - Make Ready

[MA - Make Ready Process flow](#)

Eversource- CT / United Illuminating - similar

[CT Make Ready PPT](#)

National Grid (parts of MA)

[National Grid PPT](#)

Other New England Utilities:

Mainly offering rebates for stations themselves

Key Differences

Eversource MA- Contractors actually managing the installation of the infrastructure and connection all the way to the chargers

Customer- Pays for stations themselves- may qualify for rebates

Eversource- CT / UI & National Grid

Customer manage entire effort and incentive paid after; more up front funding needed

GSA- Active Projects - Early Stages

Eversource - MA

- Moakley US CTHS- Boston
 - (18) L2 2 port chargers
 - \$240,444 incentive estimate - customer side infrastructure

National Grid

- IRS Andover- Delegated- RWA
 - (4) L2 - dual port charging stations, 1 L3 DCFC
 - Lots of trenching needed; recent flooding in parking lot- re-evaluation on location for chargers

RWAs- Few discussions and getting started

Our Challenges

- Advanced funding needed for charging stations- rebate doesn't go into same acct
- Aging infrastructure - some existing electrical can't support new loads
- Good data for actual housing of agency vehicles on order
- GSA policies still being tweaked and finalized
- Future of Managed Charging - DR programs
- Resources
- Understanding rate structures / program details around tapping into existing infrastructure vs new service/line tap offering

Key Take-Aways

- Review information about program available online but conversation with utility POC can be great 1st step
- Each Utility program is different
- Discussion point - Ports needed is important distinction vs charging stations
- Funding available - worth pursuing
- Understanding your vehicle inventory - POV vs Fleet is valuable

Eversource- MA - Make Ready Summary

Applicants may be eligible for the following EVSE Rebates:

Sector/ Property Types	Environmental Justice Community (EJC) Criteria	Make Ready Rebate ²	Make Ready Eligibility	EVSE Rebate (Level 2)	EVSE Rebate (DCFC)	EVSE Eligibility	Make Ready Rebate Incentive Caps-Level 2 (customer-side of meter)				
Public/ Workplace Public parking lot, commercial office building, shopping center, etc.	EJC- Income	Utility-Side: up to 100%, not to exceed actual costs	Must apply for available State/ Federal funding if eligible	100% ports 1-10	\$40k per port (50-150 kW), \$80k per port (>150 kW) ³	Must be Publicly Accessible ⁴	Express Retrofit	New Construction			
	EJC- Other			75% ports 1-10			New Service	\$13,358 per port	\$6,700 per port		
	Non-EJC			50% ports 5-10	\$40k per port (>50 kW) ³			No New Service			
	Non EJC- Municipal			50% ports 3-10				\$13,358 per port	\$5,700 per port		
Fleets Company/ municipality owning fleet of light-duty vehicles ¹	EJC- Income			Customer- side: see incentive caps in the table to the right	MUDs: Must be non-deeded parking, unless >20% parking spaces have EVSE installed		100% ports 1-10	N/A	Public fleets only ⁵	Make Ready Rebate Incentive Caps-DCFC (customer-side of meter)	
	EJC- Other						75% ports 1-10			100%	
	Non-EJC						50% ports 5-10				
Multi-Unit Dwellings (MUDs) Multi-unit (5+ units) residential dwelling	EJC- Income						100% ports 1-10			100% ports 1-10	N/A
	EJC- Other	75% ports 1-10	80%								
	Non-EJC	50% ports 1-10									

- Public fleets are understood to be public transit, including school buses, and government-owned fleets
- For the Express Pathway, the customer will be eligible for 100% of the maximum Make Ready incentive and for the Specialized Pathway the customer will be eligible for 80% of the maximum incentive.
- Minimum 100 kW per site, site max EVSE incentive of \$400k
- Must allow the public practical access to, and use of, the parking space and charging station for no less than twelve hours per day, seven days per week. The participant is permitted to charge a parking fee and have parking controls if needed.
- Incentives for medium/heavy-duty fleets are available only for public fleets that operate in Environmental Justice Communities. Please reach out to EV Team for more information.

Eversource- CT - Make Ready Summary

What's covered

	Covered by incentives		Paid for by the customer
	Infrastructure	Electric vehicle supply equipment (EVSE) hardware	Other soft costs
Examples	<ul style="list-style-type: none"> - Conduit & trenching - Oversized panels - Futureproofing - Cost paid to Eversource or UI for new or upgraded electric service - Pads - Permitting, site design and engineering 	<ul style="list-style-type: none"> - Level 2 smart or DC fast charging stations 	<ul style="list-style-type: none"> - Signs - Bollard - Network fees - Maintenance fees - Charger warranty
Paid for by	<p>Eversource and UI reimburse up to 100%</p> <p>Customer responsible for any remainder</p>	<p>Eversource and UI reimburse up to 50%</p> <p>Customer responsible for the remainder</p>	Customer

Eversource- CT - Make Ready Summary

Project process: Electric vehicle charging



1 – Define Scope of Work that includes eligible chargers w/ contractor or design professional



2 – Apply for charger and installation rebates and receive incentive reservation letter



3 – Install and activate your charger(s) with a contractor

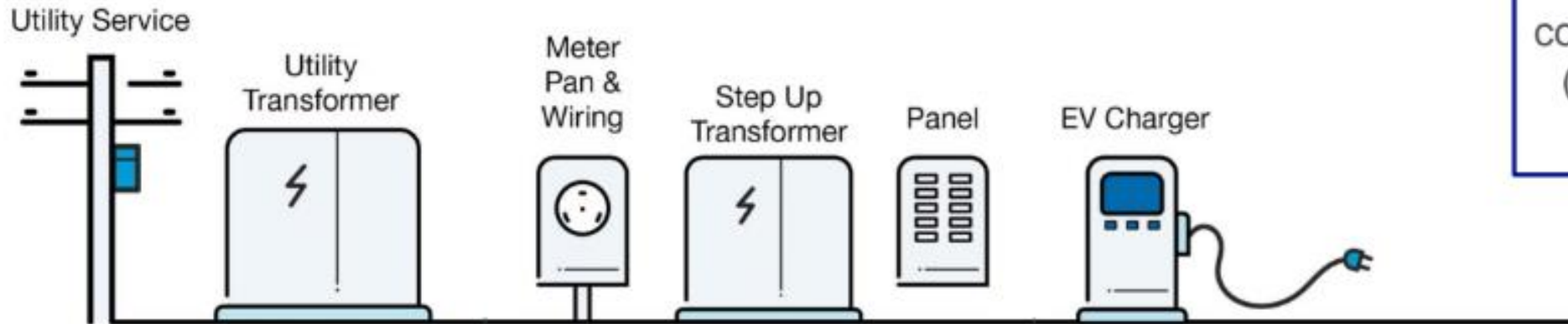


4 - Receive rebates and reduce environmental impacts

National Grid- MA

Make-Ready Summary

What's Eligible?



Applies to all commercial customers (Public, Workplace, MUDs, Fleets)

Eligible for EV Charging Program Incentives			Not Eligible	
<ul style="list-style-type: none"> Customers may be required to pay for grid upgrades in excess of utility's design requirements 	<ul style="list-style-type: none"> Panel Conduit Trenching Design Permitting 	<ul style="list-style-type: none"> Step Up Transformers Wiring Customer Switchgear 	<ul style="list-style-type: none"> Charging Station (public only) Networking (comm. & MUD - public only) 	<ul style="list-style-type: none"> Station Installation Signs Bollard Maintenance
Utility Constructs	Customer Constructs			

National Grid- MA

Fleet EV Charging Program

Charger Type	Customer Segment Eligibility	Utility-side Infrastructure Incentives	Customer-side Infrastructure Incentives	Charger Rebates**	Networking Rebates
Level 2 (L2)	Private Fleets	Up to 100%	Up to 100% (cap per port \$5,700 / \$6,700 if new service)	No Charger Rebate	Not Offered
	Public Fleets (non-EJC)			Up to 50% (cap per port up to \$1,800)	
	Public Fleets (EJC)*			Up to 100% in Income EJC Up to 75% in other EJC (cap per port up to \$3,600 Income/ \$2,700 other EJC)	
DCFC	Private Fleets	Up to 100%	Up to 100% (cap per port 50-149 kW: \$30,000 150+ kW: \$60,000)	No Charger Rebate	Not Offered
	Public Fleets (non-EJC)			Up to 50% (cap per port 50-149 kW: up to \$20,000 150+ kW: up to \$40,000)	
	Public Fleets (EJC)*			Up to 100% (cap per port 50-149 kW: up to \$40,000 150+ kW: up to \$80,000)	

Public fleets are defined as: public transit, including school buses, and government owned fleets.

* EJC eligibility is defined as fleet customers based in an EJC that meets any EJC criteria, including fleets that operate more than 50 percent of the time within census block groups that meet any EJC criteria.

** DCFC charger rebate totals are capped at \$400,000 per site.

Installed chargers must comply with the MA ENERGY STAR requirements (L2) and be qualified by National Grid (L2 & DCFC).

National Grid- MA



STEP
1

Information & Application

Potential program participant reviews program information at ngrid.com/ma-evcharging



STEP
2

Design

Program participant works with contractor and National Grid on charger selection and site design.



STEP
3

Application Review

Participant or Contractor submits application and National Grid reviews eligibility and site information, assessing costs and feasibility.



STEP
4

Construction

National Grid and contractor build EV charging infrastructure to parking space.



STEP
5

Activation

Chargers are installed and activated. Customer provides documentation. National Grid provides payment to customer.

National Grid- MA

Work Request Process

- Apply for new service or upgrade-make sure to note that the work is EV charging station and part of the NG Charging station program.
- Work request is assigned to EV Charging Connections Rep
- Request is sent to the customer for Loads, One Line and site plan or photo
- Loads will be processed, and determination of Planning study by DPAM necessity is accessed and assigned.
- Once EV application is approved it is assigned to design for a site visit.
- Design engineer will write up plans for service and if required an easement process will commence.
- Once design is complete the customer will be sent a service agreement

Questions:

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