Investor-Owned Utility Electric Vehicle (“EV”) Charging Infrastructure Programs: 2023 Annual Reports Summary

EVICC Meeting

August 7, 2024

Agenda

- Review of Department of Public Utilities ("DPU") approved EV program offerings
- Summary of 2023 annual reports
  - Eversource Annual Report, D.P.U. 24-42, Exh. ES-ST-1
  - Eversource Evaluation Report, D.P.U. 24-42, Exh. ES-ST-3
  - National Grid Annual and Evaluation Reports, D.P.U 24-64, Exh. NG-MMJG-1
  - Unitil Annual Report, D.P.U. 21-92, filed 5/15/2024
- Summary of lessons learned

EV Program Overview

Eversource, National Grid, and Unitil's EV charging infrastructure programs include:

- Make-ready incentives & electric vehicle service equipment ("EVSE") rebates for Level 2 chargers ("L2") & direct current fast chargers ("DCFC")
  - Public segment
  - Residential segment (1-4 units)
- Eversource and National Grid also offer:
  - Multi-unit dwelling ("MUD") segment
  - Workplace segment
  - Fleet segment rebates (light-duty for Eversource; light-, medium-, and heavy-duty for National Grid) and fleet advisory services
- Eversource offers an equity pilot (make-ready/EVSE rebates for medium and heavy-duty fleets in environmental justice communities ("EJCs")) and up to 5 DCFC hubs in EJCs
- National Grid offers: (1) a pilot program on co-location of DCFC and solar/storage facilities; (2) Level 1 charger make-ready incentives; and (3) a residential and fleet off-peak charging rebate program
- Unitil offers a residential EV time-of-use ("TOU") rate
- All companies offer a demand charge alternative ("DCA") rate

Make-Ready Infrastructure Rebates

Utility Company	Utility-Side	Customer-Side Public, Workplace, Residential 5+ Units	Customer-Side Residential 1-4 Units	Customer-Side Fleet Segment
Eversource	100%	Up to 150% of average costs (not exceeding actual costs, case-by-case)	100% of actual costs (up to a cap)	Up to 150% of average costs (not exceeding actual costs, case-by-case)
National Grid	100%	Up to 150% of average costs (not exceeding actual costs, case-by-case)	100% of actual costs (up to a cap)	Up to 100% of average costs (not exceeding actual costs)
Unitil	100%	Up to 100% of average costs (not exceeding actual costs)	100% of actual costs (up to a cap)	N/A

EVSE Rebates

Eversource and National Grid provide a sliding scale of EVSE rebates for publicly accessible* public and workplace, MUD, and fleet sites:

Site Location	EVSE Rebate Percentage
Low-Income EJC	100%
Other EJC (Race, Language, Race + Income Criteria)	75%
Publicly Accessible (Non-EJC)	50%

*EVSE rebates are limited to publicly accessible sites that meet the MassEVIP definition of publicly accessible (i.e., open to the public for a minimum of 12 hours per day, 7 days per week).

Residential customers in 1-4-unit dwellings enrolled in the companies' respective low-income discount rates and in their respective managed charging programs or EV TOU rates are eligible to receive 100% EVSE rebates.

Residential Sector

Company	Residential Make-Ready Ports, Planned	Residential Make-Ready Ports, Actual	MUD Make-Ready Ports, Planned	MUD Make-Ready Ports, Actual	Low-Income EVSE Ports, Actual
Eversource	4,000	1,300 (-67%)	543	162 (-70%)	19
National Grid	3,011	774 (-74%)	560	85 (-85%)	12 (-96%)
Unitil	--	0	n/a	n/a	0

As of December 2023:

- Eversource spent $2.2M of its planned $13.2M residential sector budget for 2023.
- National Grid spent $2.5M of its planned $11.6M residential sector budget for 2023.
- Unitil did not have any residential sector expenditures of its planned budget for 2023.

Public and Workplace Sector

Company	Public L2 Ports	Public DCFC Ports	Public ports in EJCs	Workplace L2 Ports	Workplace DCFC Ports	Workplace ports in EJCs
Eversource	320	10	73%	60	0	80%
National Grid	54	6	87%	22	0	45%
Unitil	0	0	--	n/a	n/a	n/a

As of December 2023:

- Eversource reports a combined public, workplace, and fleet variance of -70% for ports installed.
  - Eversource spent $10.7M of its planned $28.4M public, workplace, and fleet sector budget.
- National Grid reports a combined public and workplace variance of -97% for ports deployed.
  - National Grid spent $0.9M of its planned $11.5M public and workplace sector budget.
- Unitil did not have any public sector expenditures.

Fleet Sector

Company	Fleet L2 Ports	Fleet DCFC Ports	Fleet ports in EJCs	Fleet Assessments Completed	Est. Fleet EVs Supported
Eversource	63	2	100%	0	140
National Grid	2	2	100%	83	3

As of December 2023:

- Eversource reports a combined public, workplace, and fleet variance of -70% for ports installed.
  - Eversource spent $10.7M of its planned $28.4M public, workplace, and fleet sector budget.
- National Grid reports a -8% variance for fleet assessments completed and a -97% variance in fleet ports deployed.
  - National Grid spent $0.6M of its planned $5.2M fleet sector budget.

Managed Charging, EV TOU Rate, & DCA Rates

- Eversource has 35 customers enrolled in its DCA rates as of March 2024.
- National Grid has 5,160 vehicles enrolled in its off-peak charging rebate program as of December 2023.
  - 80% of charging in the program occurred off-peak, with 66% of sessions initiated in the off-peak period.
- National Grid has 18 customers enrolled in its DCA rates.
  - The associated discounts for these customer accounts totaled $371,364 in 2023.
- Unitil has no customers enrolled in its residential EV TOU rate.
- Unitil has one customer enrolled in its DCA rates.

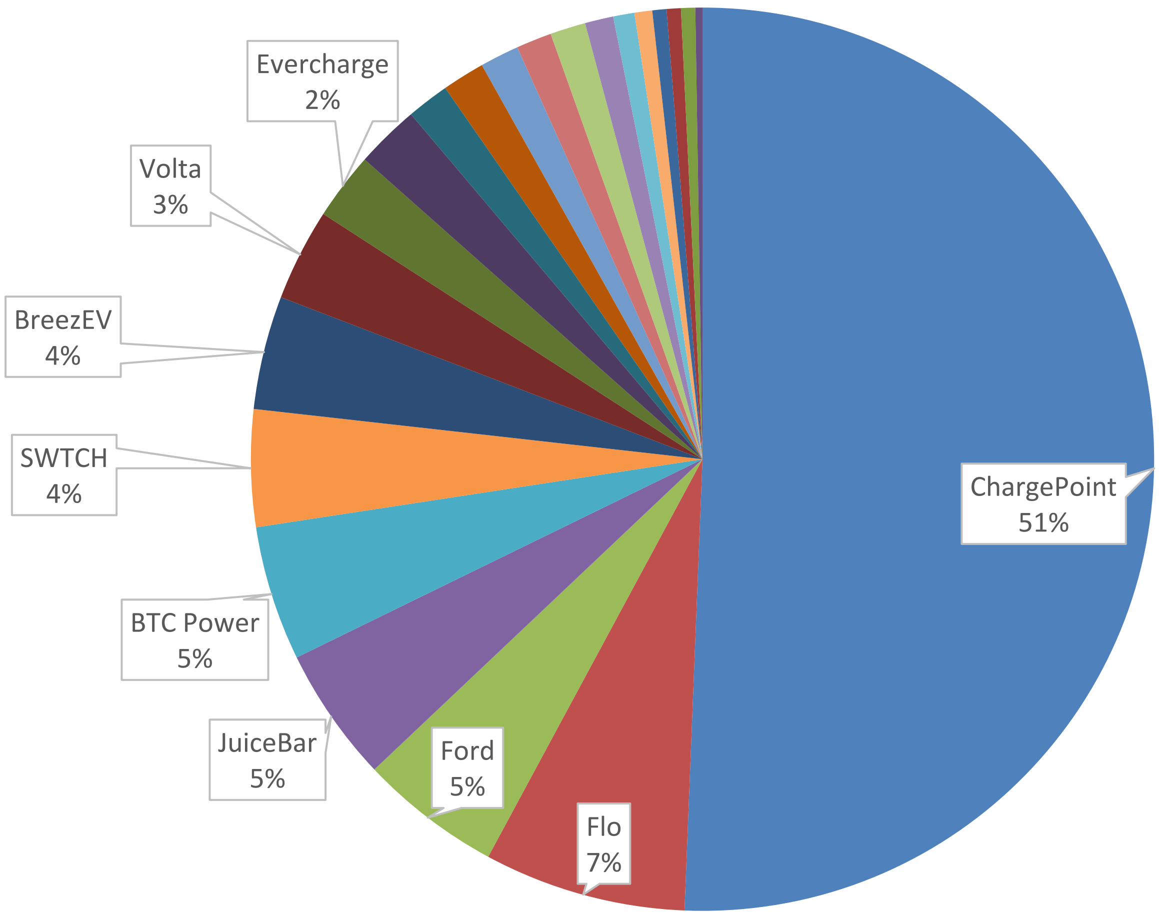
Third-Party Funding

- In 2022, the Department directed the Companies to require customers to apply for MassEVIP and other state or federal funding to the extent that it is available within a 1–2-month period and aligned with the Companies’ EV program offerings.
  - Outside funding must be applied to the total make-ready, EVSE, and/or networking incentives that a customer is eligible to receive through the EV programs.
- Eversource states that customers received $536,729 in third-party funding that was deducted from their rebate awards.
- National Grid states that customers received $261,431 in third-party funding that was deducted from their rebate awards.

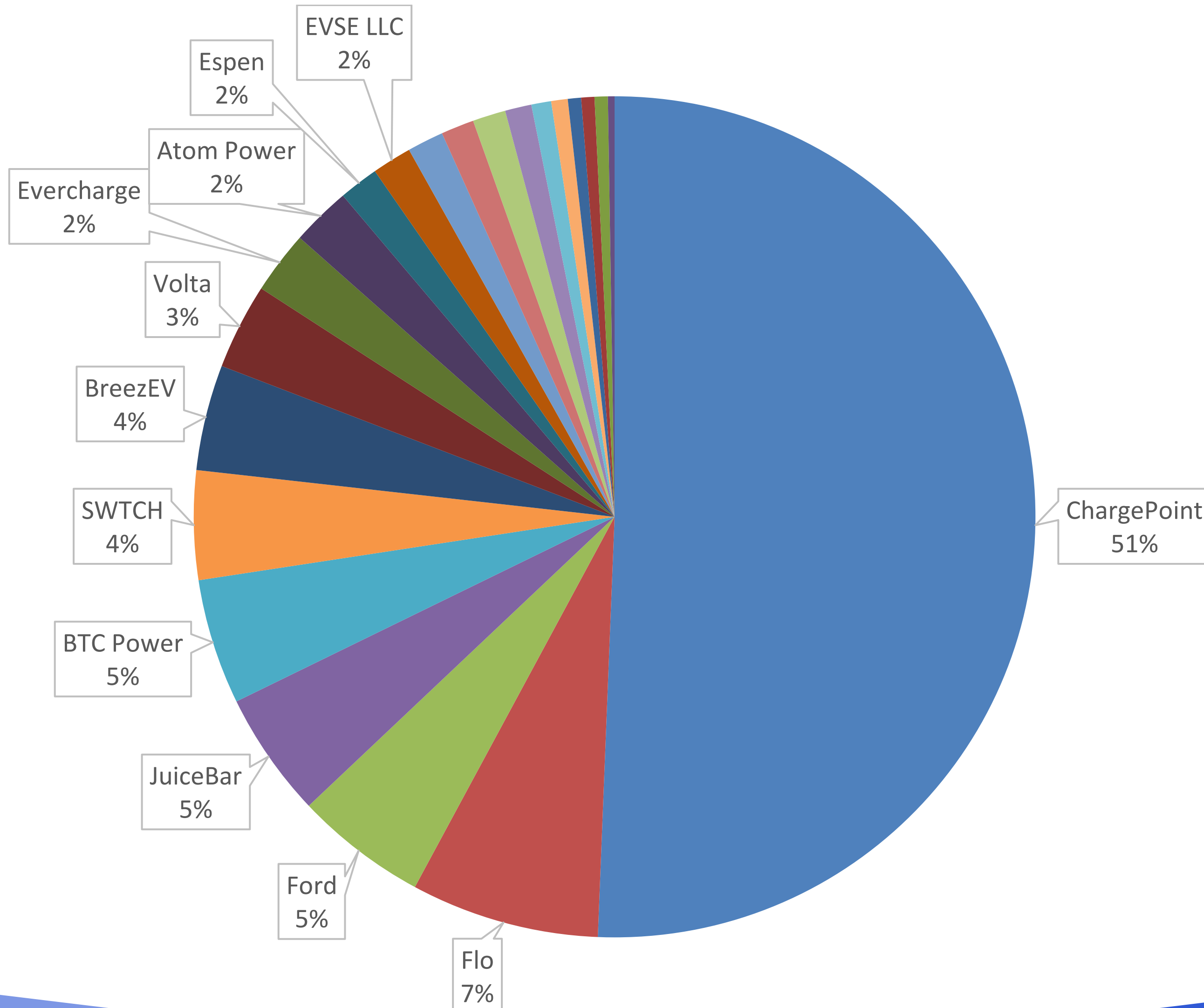
Relevant Findings on Third-Party Funding

- The DPU’s third-party funding directives had a lesser impact on DCFC projects than L2 projects but still harmed overall participation in the EV programs.
  - Installers interviewed about the Companies’ EV programs reported an initial wave of project cancellations that tapered off after early 2023.
  - The DPU’s third-party funding directives increased project complexity and delayed project completion.
- Demand for DCFCs was more robust than anticipated and the DPU's third-party funding directives did not prevent most customers from moving forward with DCFC projects.
- Despite the DPU’s third-party funding directives, National Grid saw significant overall growth in its Public and Workplace segment project pipeline at the end of 2023 and anticipates strong customer engagement in 2024.
  - National Grid’s current pipeline for DCFC projects is exceeding its projections.
- Customers interviewed about the Companies’ EV programs did not identify the DPU’s third-party funding directives as barriers to participation.

Network Provider Deployment



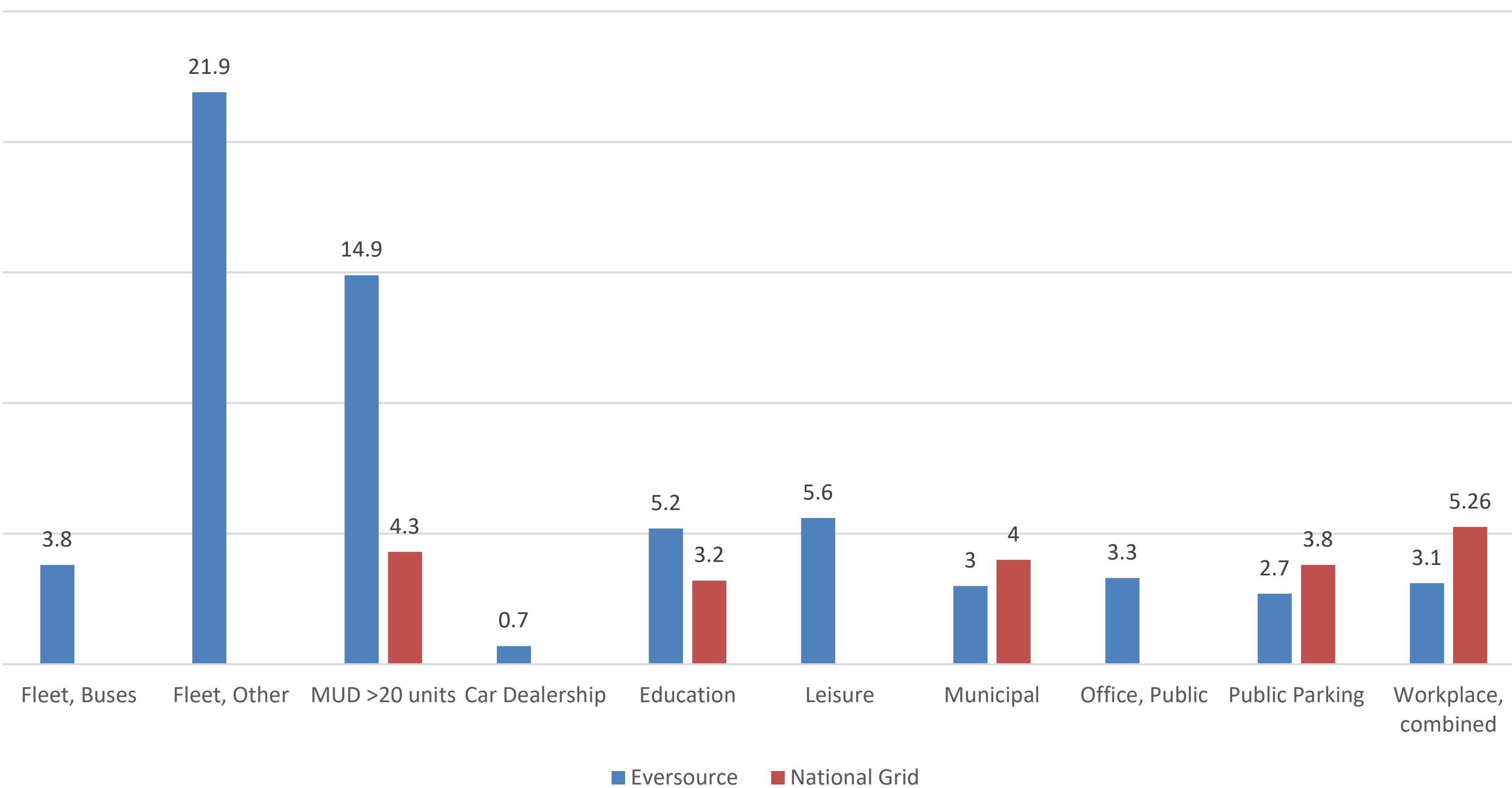
EVSE Manufacturer Deployment

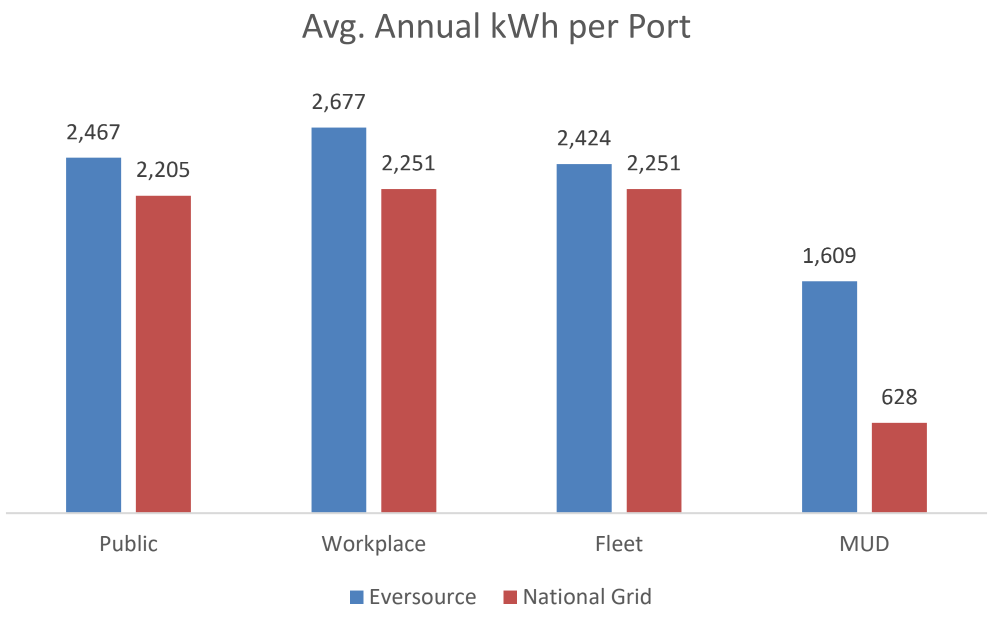


Charging Metrics

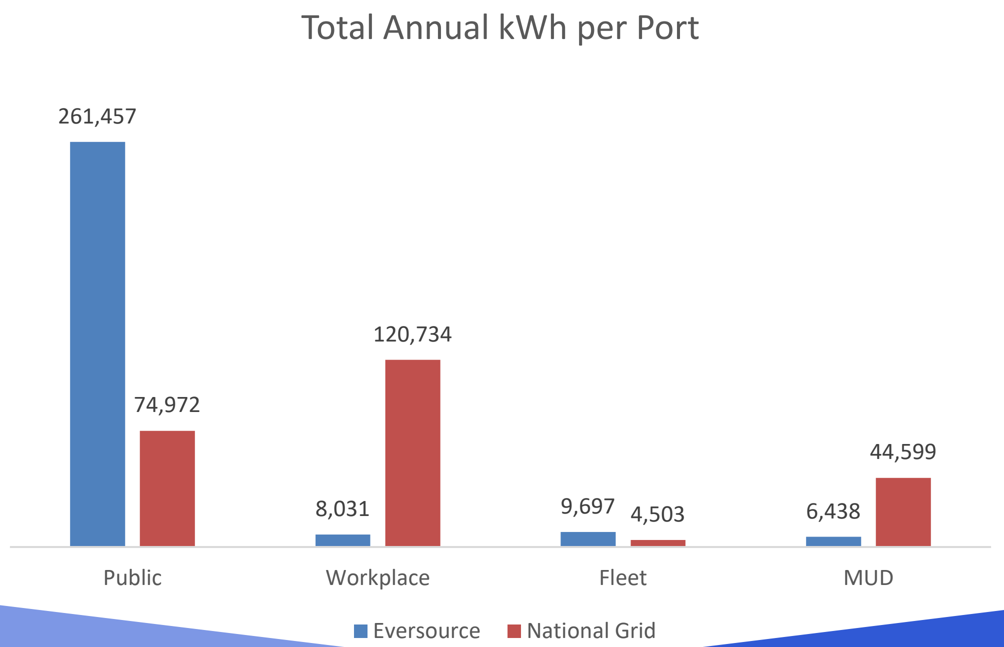
Company	Total annual charging events per port	Avg. weekly charging events per port	On-Peak Charging (% of kWh)	Off-Peak Charging (% of kWh)
Eversource	146	2.8	23%	77%
National Grid	96	1.8	29%	71%
Unitil	--	--	--	--

Avg. Charging Duration (hours)





Avg. Annual kWh per Port
2,467
2,205
2,677
2,251
2,424
2,251
1,609
628
Public
Workplace
Fleet
MUD
Eversource
National Grid



Total Annual kWh per Port
261,457
74,972
8,031
120,734
9,697
4,503
6,438
44,599
Public
Workplace
Fleet
MUD
Eversource
National Grid

Lessons Learned: Eversource

- Eversource has experienced an increase in ports per installation from its previous EV program (4.5 ports per project) to its current EV program (6.8 ports per project for its Public and Workplace segment; 10 ports per project for its MUD segment).
  - Increased customer eligibility for EVSE rebates played a significant role.
- Customers chose alternative project sites over installing EV energy management system solutions in locations with constrained distribution capacity.
- There was a significant uptick in customer interest in DCFC installations due to increased customer eligibility for EVSE rebates and the availability of DCA rates.
- NACS (Tesla DCFC) plugs may become standard in the next 1 to 2 years and Eversource will adjust its program requirements accordingly.
- Eversource's EJC fleet pilot program is fully subscribed; Eversource plans to propose a medium- and heavy-duty fleet offering.
- Eversource engaged with stakeholders (both commercial/fleet and residential) about program marketing and outreach and provided high-level findings in its annual report.

Lessons Learned: Eversource Cont.

- More targeted outreach to low-income and EJC customers could help overcome barriers to participation.
  - Study how participants learn about the residential EV charging program and how low-income communities view EV adoption.
  - Some towns (often higher-income) have high EV adoption rates (26% of sales) while other towns do not (0-3% of sales).
- Developing a managed charging program for MUDs will be difficult.
- Coordinating with car dealerships could enhance enrollment in the EV program.
- Eversource held meetings with regional public utility commission staff, non-profits, consultants, and EVSE manufacturers about opportunities and challenges with using EVSE and/or EV telematics in lieu of a separate meter and provided high-level findings in its annual report.

Lessons Learned: National Grid

- L2 incentives are too low for the current market.
  - National Grid plans to update its L2 incentive levels every year based on the previous year's invoices.
- The market has shifted from L2 to DCFC.
  - DCFCs have longer deployment timelines than L2, particularly when the DCFC project requires a new service or a service upgrade.
  - National Grid hired two dedicated staff to manage the interconnection process for DCFC projects.
- In the fleet sector, long vehicle acquisition lead times, annual budget approval processes, and complex charging depot designs can lead to delays in project applications.
  - The fleet advisory service offering provides guidance on vehicle acquisition and annual budgeting and recently started to include preliminary depot designs.

Lessons Learned: National Grid Cont.

- The managed charging vendor has slowly increased its list of eligible EVSE and EV telematics integrations.
  - Maintaining customer interest in the program is important, as compatibility changes over time.
  - National Grid has created an updated “wait list” to assist in this process.
- Issues of owner/tenant coordination, split incentives, and a cost-sharing requirement of $1,000 negatively impacted participation in its MUD segment.
  - National Grid hired a Project Coordinator to help address these issues and increased its marketing efforts.
  - The cost sharing requirement was removed in November 2023.
- MUD site plans were not utilized; the offering may need to be refined.
- National Grid also provided high-level findings in its annual report on opportunities and challenges with using EVSE and/or EV telematics in lieu of a separate meter and stakeholder engagement related to program marketing and outreach.

Lessons Learned: Unitil

- Customers that enroll in Unitil's residential EV program must also enroll in its EV TOU rate, which requires an upfront cost of ~$2,000 for a separate meter.
  - Several interested customers declined to participate in the program due to the upfront meter costs.
  - Unitil is currently evaluating cheaper alternatives and may make changes to its residential program in the future.
- Unitil is evaluating several potential public charging sites but has encountered issues with high upfront EVSE costs, a lengthy public planning process, and issues with the DPU's requirement for chargers to be publicly accessible.
  - Unitil is considering increasing public charger incentives.
  - A pre-project cost incentive and expanding the program to include fleets could reduce barriers to deployment.
  - Unitil created a spreadsheet model to help customers understand when its DCA rates would result in cost savings for them.
- Unitil conducted a baseline EV awareness survey of its customers and shared the results of the survey in its annual report.
- Unitil updated its website to promote its program offerings and developed a marketing plan.
- Unitil also provided high-level findings in its annual report on opportunities and challenges with using EVSE and/or EV telematics in lieu of a separate meter and stakeholder engagement related to program marketing and outreach.