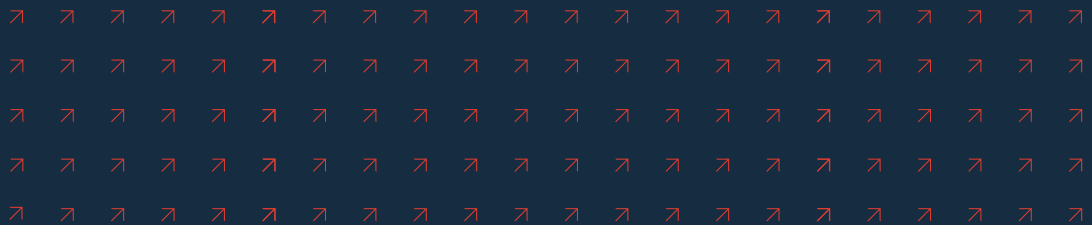




Putting the E in Electric Vehicles

Dawn Neville
Senior Manager Electric Transportation
PSE&G



Common Industry Terms & Concepts

Key EV Acronyms	
BEV	Battery Electric Vehicle
DCFC	Direct Current Fast Charger (Level 3)
ICE	Internal Combustion Engine
LDV	Light-Duty Vehicle
MHDV	Medium/Heavy-Duty Vehicle
PHEV	Plug-In Hybrid Electric Vehicle
PEV	Plug-In Electric Vehicles=BEV+PHEV
SOC	State of Charge (% charge of battery)
ZEV	Zero Emission Vehicle

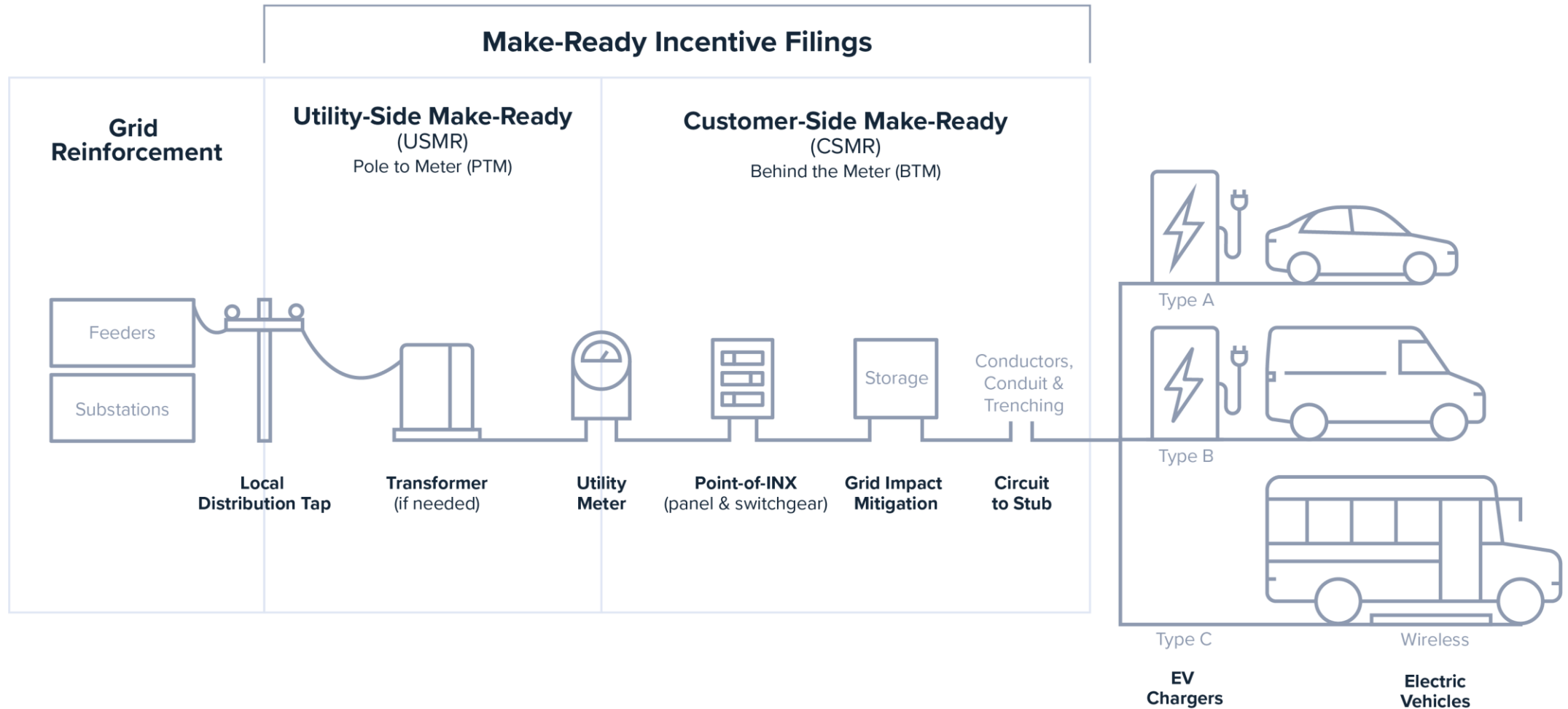
EV Charging Basics				
Charging Level	Speed	kW	Power Details	Range per time charged
Level 1	Trickle	1-2	110 Volts, Alternating Current	~2 miles per hour
Level 2	Fast* <i>Medium</i>	7-19+	240 Volts, Alternating Current	~25 miles per hour
Level 3 - DCFC	Super Fast	30+	Typically, 150kW and climbing Direct Current	~5 miles per minute (to 80% SOC) ~80% charged in 15-20 minutes
* Industry-accepted vernacular, takes ~3 to 4 hours to reach full charge				

Every EV mile is 70% cleaner than an ICE mile

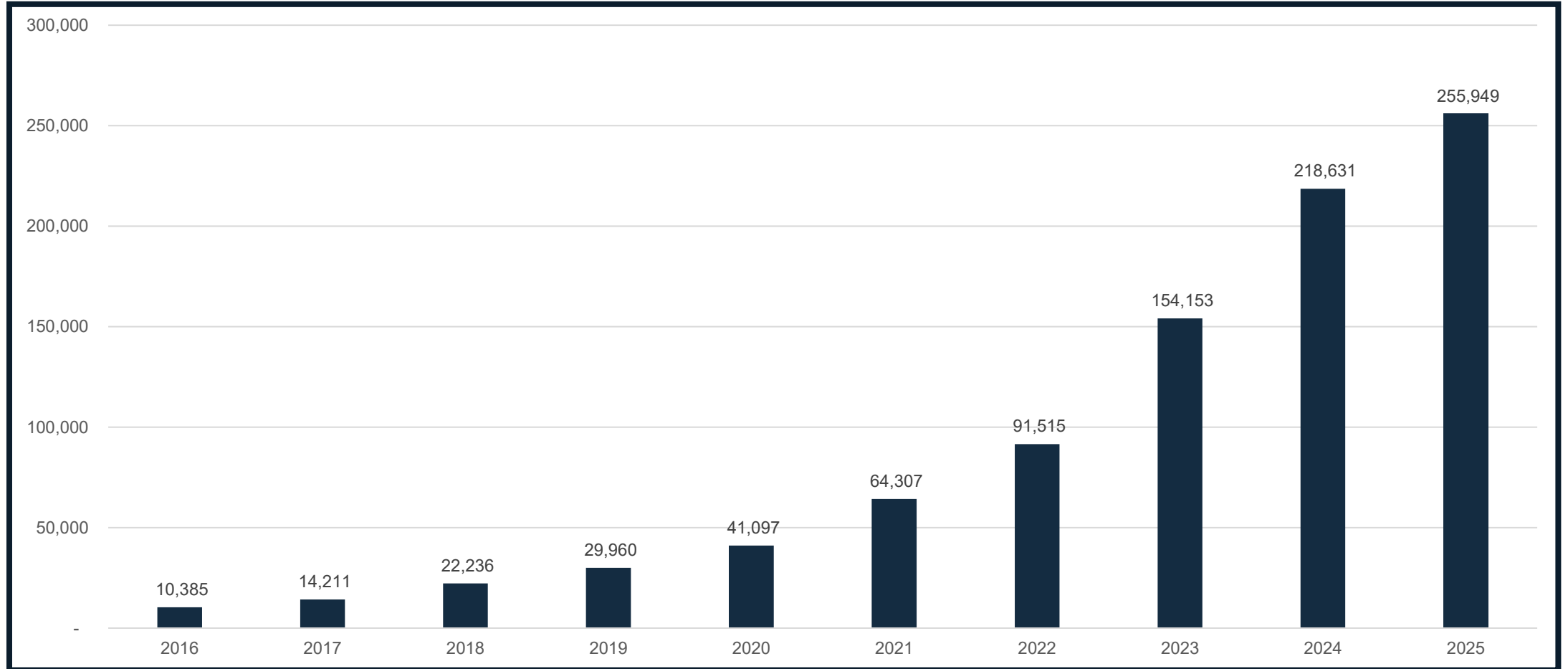
- PEVs are roughly 2x more efficient at converting primary energy into motion
- PEVs do not consume electricity when idling
- PEVs use re-generative braking
- PEVs require minimal maintenance with ~40% lower costs

EV Make-Ready

Utility-Side vs. Customer-Side

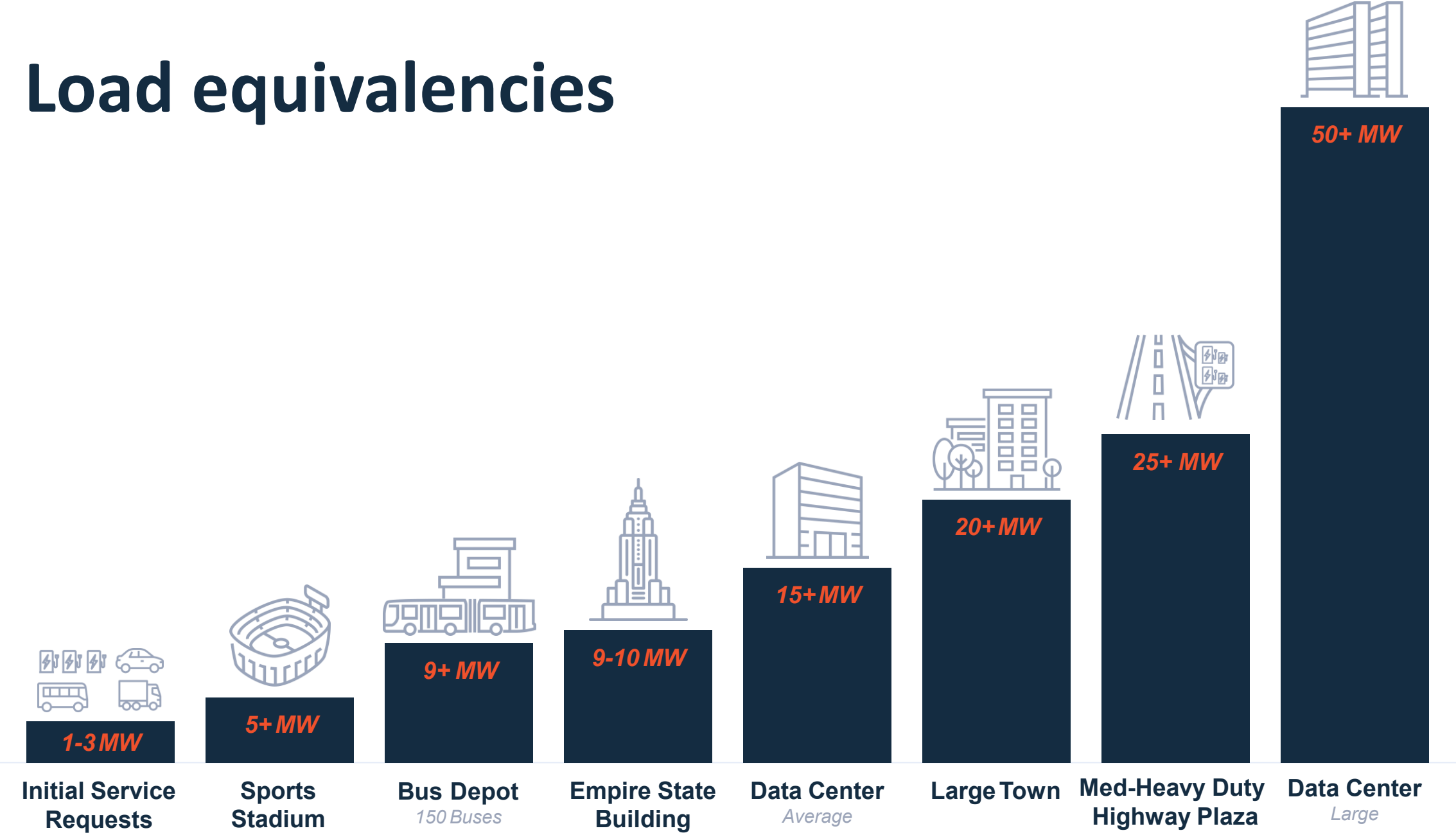


EV Registration in NJ



While the growth rate has slowed
EV adoption in New Jersey continues to grow

Load equivalencies



New Jersey Electric Distribution Companies

EDC	Acronym
Atlantic City Electric <i>An Exelon Company</i>	ACE
Jersey Central Power & Light <i>A FirstEnergy Company</i>	JCP&L
Rockland Electric Company	RECO
Public Service Electric & Gas	PSE&G



Electrifying Your Fleet?

What To Consider When Talking To Your Utility

There are several important factors to consider when electrifying your fleet. Talking to your utility early and often can eliminate several potential pitfalls down the road as you progress through your electrification journey.

1. Utility Service Upgrade

- a. Adding EV charging infrastructure may require your utility to upgrade its facilities to support the new power requirements
- b. Typically, you need to fill out a New Service Request for a service upgrade for a new or existing meter
- c. Before beginning your project, please contact your utility for the service upgrade

2. Choosing The Right Charging Infrastructure For Your Fleet

- a. It is critical to know the average daily mileage the vehicles will need for your business operations and the available time(s) the vehicle can recharge
- b. Start with your vehicle manufacturer to estimate your EV's energy consumption
- c. Talk to the utility's EV team or charging champion

3. Electric Rates and EV Charging Impacts

- a. The power rating of your charger(s) will directly influence your monthly utility bill
- b. The cost of electricity depends on the fleet, charging profile, and how you manage it
- c. Your utility can help you understand more about the impacts of electrical demand

Utility Contact Lists by Topic

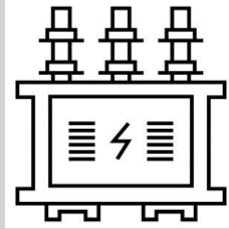
Utility	Utility Service Upgrade	Utility-Specific EV Team	Electric Rates and EV Charging Bill Impacts
ACE	Visit Service Requests page or call the appropriate local engineering office for your location at: Cape May: 609-463-3823 Glassboro District: 856-863-7906 Pleasantville District: 609-645-4667 Winslow District: 856-753-2808	For general Evsmart program questions email: Evsmart-ACE@ICF.com - or - Email: Evsmart-ace@atlanticcityelectric.com	Email: Evsmart-ace@atlanticcityelectric.com
JCP&L	Visit: Establish or Upgrade Service - or - Call: 1-800-662-3115	Visit: New Jersey EV Driven (firstenergycorp.com)	Email: NJEVDriven@firstenergycorp.com
RECO	Visit: Project Center - Building and Service Upgrades Orange & Rockland [oru.com]	Email: ChargerReady@oru.com	Email: evrates@oru.com
PSE&G	Visit: Upgrades and New Installations	Email (<i>for new customers only</i> *): PSEG-Electric.Vehicles@pseg.com <i>*If you have an established point of contact, please email them directly.</i>	Email (<i>for new customers only</i> *): PSEG-Electric.Vehicles@pseg.com <i>*If you have an established point of contact, please email them directly.</i>

Talk to your utility Early and Often

Typical Construction Timelines

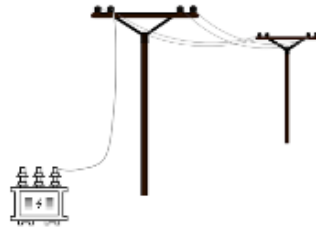
Issues that may impact schedule:

- Supply chain delays
- Site operations
- Easements
- Permitting
- Amperage and load requested
- Distance to available capacity



Distribution
Transformer only

Average*
6 months to 1 Year



Transformer and
capacity

Average*
1 to 3 Years



Distribution
Substation




Average*
5 to 7 Years

**Individual site timelines can vary significantly*

Utility EV Program Comparison

Program Element	ACE	JCP&L	RECO	PSE&G
Total Investment	\$15M	\$28.6M	\$5.88M	\$166M
Residential Smart Charging	\$1.5M	\$5.14M	\$1.0M	\$80M
Mixed Use Commercial L2	\$7.3M	\$8.66M	\$4.42M	\$35M
DCFC Public Charging	\$6M	\$14.84M		\$45M
IT Investment	N/A	N/A	\$0.34M	\$6.2M
Education and Outreach	N/A	N/A	\$0.12M	N/A
O&M Expense	\$5.9M	\$11.24M	\$1.72M	\$39M
Total	\$21M	\$40M	\$7.6M	\$205M
Date Approved	02/14/2021	06/09/2022	10/12/2022	01/27/2021
Program Length	6 Years (thru 2026)	4 Years (2022-2026)	4 Years (2022-2026)	Not Stipulated (~6 years)

PSE&G Electric Vehicle Program

Residential Smart Charging		Level 2 Mixed Use Commercial Charging	Public DC Fast Charging		
Single Family Homes 		Multi-Family, Government & Publicly Accessible 	Travel Corridors & Community Locations 		
\$80M Investment	40,000 chargers	\$35M Investment	875 sites ~3,500 chargers	\$45M Investment	300 sites ~1,200 chargers
Incentives include*: <ul style="list-style-type: none"> Up to \$1,500 toward Customer Side Make-Ready (CSMR) costs associated with the installation of a residential Level 2 charger Up to \$5,000 Utility Side Make-Ready costs for utility service upgrades (if needed) Credit on charging during off-peak periods to help lower your bill 		Incentives include*: <ul style="list-style-type: none"> Up to \$30,000* toward Customer Side Make-Ready (CSMR) costs associated with the installation of commercial Level 2 chargers Up to \$10,000 Utility Side Make-Ready costs for utility service upgrades (if needed) *Note: the incentive is based on the number of chargers installed, offering up to \$7,500 per charger installation for up to four chargers per site	Incentives include*: <ul style="list-style-type: none"> Up to \$100,000** per site for Customer Side Make-Ready (CSMR) costs associated with the installation for DCFC chargers Up to \$50,000 Utility Side Make-Ready costs for utility service upgrades (if needed) Demand Charge Rebates to help lower your electricity bill **Note: the incentive is based on the number of chargers installed, offering up to \$25,000 per charger installation for up to four chargers per site		

Investment
\$166M
~6 Year Program

Development of smart charging infrastructure to facilitate EV adoption across a broad range of customers and segments

Expected Benefits



an electric mile is
70%
 cleaner than an average mile fueled by gasoline

14
 million metric tons of CO₂ avoided through 2035

Mitigation of EV market barriers & reduction in range anxiety

270
 direct clean energy jobs

Advances NJ clean energy and EV goals



Thank
you