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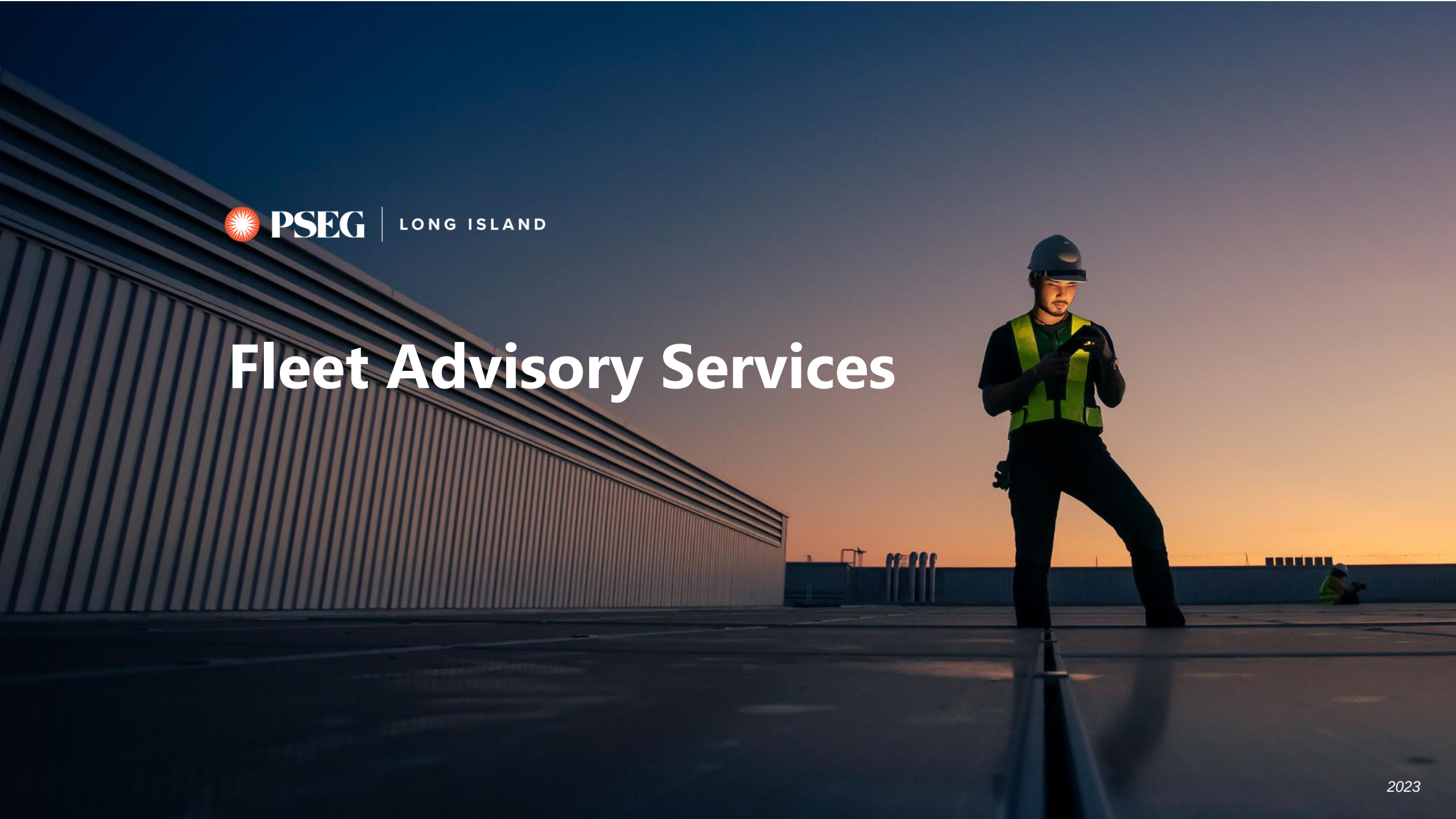
Fleet Advisory Services



2023

Agenda

1. New York State Goals
2. Electric 101
3. PSEGLI EV Efforts for Fleet Electrification
4. Fleet Advisory Services
6. Fleet Make Ready Program
7. Eligible Incentives
8. Structure of Electric Rates
9. How to save on Rates
10. Vehicle-to-Grid V2G and Bi-Directional Charging
11. Next Steps
12. External Programs
13. FAQ
14. Acronyms

New York State Goals

As part of the NY Climate Act, NYS's goal is to have 850,000 EV's on the road by 2025
Long Island's portion is 21% of the goal (tied to vehicle registration) – 178,500 EV's by 2025

New York State's fiscal year 2022-2023 budget established a nation-leading commitment for all new school buses purchased to be zero emission by 2027 and all school buses in operation to be electric by 2035.

New York has signed onto the Advanced Clean Trucks (ACT) rule
The legislation sets a statutory goal for all new light-duty vehicles sold in the Empire State to be zero-emissions by 2035 and all new medium-and heavy-duty vehicles by 2045.

Electric 101

Power (kW): How fast energy is used or transmitted

Power (W) = Voltage (V) x Current (I)

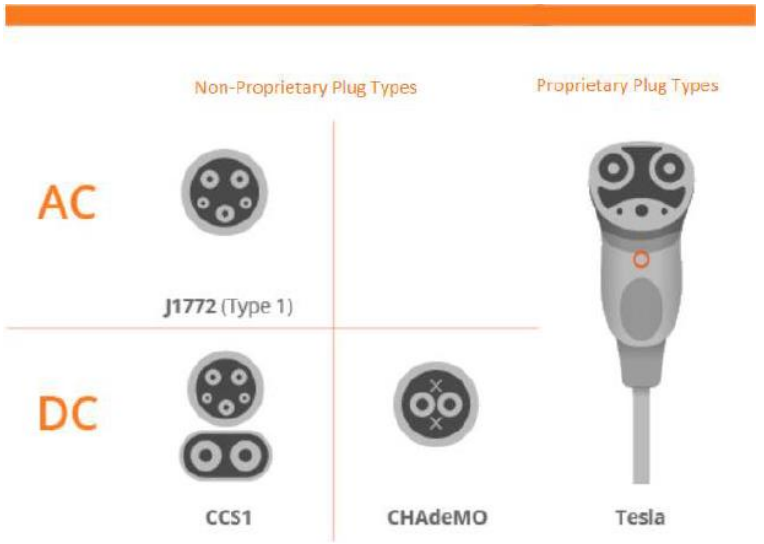
1000 W = 1 kW

Energy (kWh): How much power is used or transmitted over time

Energy (kWh) = Power x Time

Level 2 (240v) → **Single Phase (AC)**

Level 3/DCFC (480v) → **3 Phase (DC)**



Electric School Bus Example

Battery Capacity: 155 kWh

Charging Time:

Level 2 would take:

$$\frac{155\ kWh}{19.2\ kW} = \sim 8.07\ hours$$

Level 3 (DCFC) would take:

$$\frac{155\ kWh}{60\ kW} = \sim 2.58\ hours$$

Vehicle Types

Battery Electric Vehicles (BEV)
Can use Level 1, Level 2 or DCFC
Plug-In Hybrid Electric Vehicles (PHEV)
Mainly only use Level 1 or Level 2
Hybrid Electric Vehicles
These do not plug into anything

PSEG Long Island's EV Efforts for Fleet

Fleet Advisory Services

Work with Fleet Operators to help them get started with their fleet electrification journey by helping with :

- Site and Fleet Assessment
- Rate Comparison; Identify best time to charge fleet(s)
- Bill impact and cost savings
- GHG reductions
- Eligible Program Incentives
- Act as the liaison between the fleet customer and the Utility to help them on their electrification journey and how to get started

Fleet Make Ready Program

- Provide incentives to eligible fleet operators to electrify their fleet
- provide incentives to upgrade infrastructure

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Fleet Advisory Services

Fleet Advisory Services

PSEG Long Island offers the following services for free, available to both Public and Private fleet customers

Fleet Advisory Services Tool

- Select from a catalogue of available EVs
- EVSE (EV Charger) catalogue
- TCO and ROI for selected EV fleet(s)
- Best time to charge based on PSEGLI rates
- Identify eligible incentives
- Potential bill impact and cost savings
- GHG emission reductions

Site Assessment utilizing the EV Hosting Capacity Map
Hosting Capacity Map

Act as the liaison between the fleet customer and the Utility
help them on their electrification journey and how to get started

Fleet Advisory Services Tool

Business Customers | Fleet Owners | Residential Customers

Fleet Advisory Services Tool

For customers that own or maintain a vehicle fleet for their business/organization, PSEG Long Island offers tools, resources, along with available incentives to help transition vehicle fleets to electric.

Start Here

Fleet Advisory Services Efforts to Date

To date, the PSEGLI EV Team has spoken with several public fleets that include school districts, not-for-profits (NFP) as well as private fleets on Long Island to help them get started with their fleet electrification efforts.

We highly encourage you to work with PSEG Long Island as early as possible to let us know your fleet electrification plans

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Fleet Make Ready Program

Fleet Make-Ready Program

The Fleet Make-Ready Program targets fleet customers operating **LDVs**, **MHDVs**, or **both**.

In this program, a fleet is defined as three or more vehicles operated by a non-residential entity with a meter on a commercial tariff, consisting of any vehicle-type or weight-class.

The Fleet Make-Ready Program will focus on who operates the vehicle, not ownership, to allow for the common case where vehicles are financed by one entity and operated by another.

This program is also designed to be technology-agnostic, and supports L2, DCFC, or other EVSE technologies.

Eligibility

The Fleet Make-Ready Program will have both a Public Fleets Offering and a Public Transportation Offering

Public Fleets Offering
Provides incentives to support public entities through their fleet electrification journey.

Applicants must be a local government unit, counties, municipalities, not-for-profit organizations, and public schools/universities

Fleet vehicles must be operated by a public entity, or operated under contract to a public entity, and the vehicle may be used for any purpose.

Public Transport Offering
Aims to support entities providing public transportation services.

Applicants must be a fleet operator providing transportation services to the public, such as transit, school, and public commuter and shuttle bus operators.

Both for-profit and public entities that provide public transportation services are eligible to participate

Ride-hailing or car-sharing services are not eligible to participate in this program

Eligible customers that can participate in the Fleet Make Ready Program, can also participate in the EV Make Ready Program assuming the scopes are different from one another.

Make Ready Infrastructure

Utility Side Make Ready (USMR)

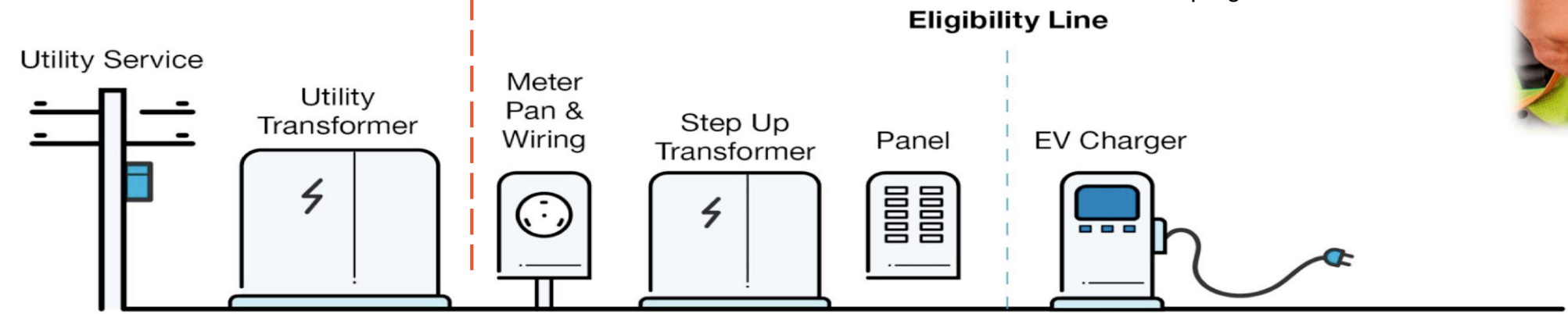
Determined by PSEG LI when customer submits a Load Letter

Customer Side Make Ready (CSMR)

Developer will determine the cost from the meter up to the charger

EV Charger

Customer is responsible for any ineligible components however, might be able to qualify through other programs



Eligible for Make-Ready Incentives

- Customers may be required to pay for grid upgrades in excess of utility's design requirements

Utility Side Make Ready (USMR)

- Panel
- Conduit
- Trenching
- Wiring

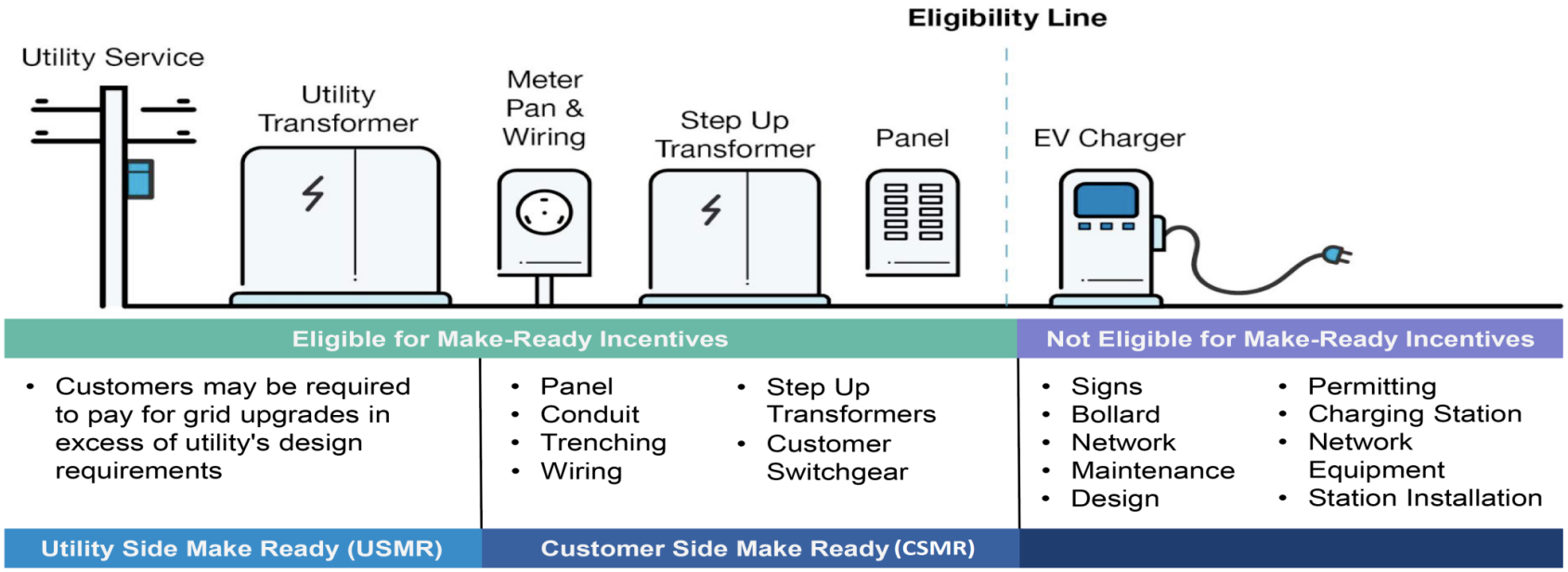
Customer Side Make Ready (CSMR)

- Step Up Transformers
- Customer Switchgear

Not Eligible for Make-Ready Incentives

- Signs
- Bollard
- Network
- Maintenance
- Design
- Permitting
- Charging Station
- Network Equipment
- Station Installation

Eligible Incentives



Coverage	USMR	CSMR
Public Fleets	100%	0%
Public Transportation	100%	50% (DAC) 20% (Non-DAC)

The Fleet Make Ready Program anticipates that most locations such as bus depots or municipal buildings which typically do not have large electrical services, will require extensive infrastructure upgrades to support the fleets that would be electrified.

Incentive Caps

- $400,000 for projects with capacity less than 1MW
- Up to $1.4M for projects with capacity over 1MW

Fleet Make-Ready Program Estimated Enrolled Projects

Table 4-5 shows the total number of projects estimated to be enrolled, respectively, by year and project type. These estimates are not tied to the number of ports enrolled, while it will be tracked through this program.

Table 4-5. Fleet Make-Ready Program Estimated Enrolled Projects

Project Type	2024	2025	2026	2027	2028	Total
Public Fleets	**4**	**8**	**14**	**26**	**37**	**89**
Small/Medium (<1,000 kW)	3	6	11	21	30	71
Large (>1,000 kW)	1	2	3	5	7	18
Public Transportation	**4**	**7**	**11**	**12**	**12**	**46**
Small/Medium (<1,000 kW)	1	2	3	4	4	14
Large (>1,000 kW)	3	5	8	8	8	32
Total	**8**	**15**	**25**	**38**	**49**	**135**

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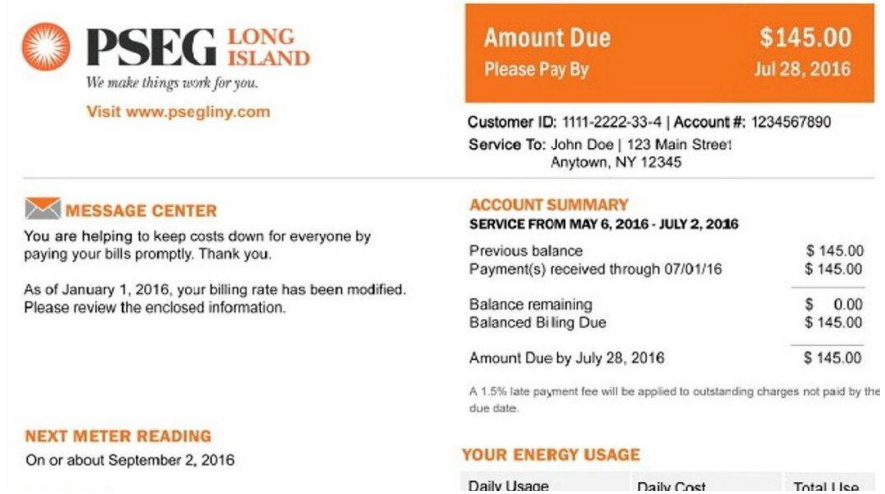
Structure of Electric Rates

The Structure of Electric Rates

Service Charge ($/day)
Energy Charge ($/kWh) } Delivery and System Charge
Demand Charge ($/kW) }
Power Supply Charge ($/kWh)
Taxes & Additional Fees (depends on fee type)



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We make things work for you.
Visit www.psegliny.com

Amount Due $145.00
Please Pay By Jul 28, 2016

Customer ID: 1111-2222-33-4 | Account #: 1234567890
Service To: John Doe | 123 Main Street
Anytown, NY 12345

MESSAGE CENTER
You are helping to keep costs down for everyone by paying your bills promptly. Thank you.

As of January 1, 2016, your billing rate has been modified. Please review the enclosed information.

ACCOUNT SUMMARY
SERVICE FROM MAY 6, 2016 - JULY 2, 2016

Previous balance	$ 145.00
Payment(s) received through 07/01/16	$ 145.00
Balance remaining	$ 0.00
Balanced Billing Due	$ 145.00
Amount Due by July 28, 2016	$ 145.00

A 1.5% late payment fee will be applied to outstanding charges not paid by the due date.

NEXT METER READING
On or about September 2, 2016

YOUR ENERGY USAGE
Daily Usage | Daily Cost | Total Use

1. **Service Charge** - Generally a fixed monthly cost, and covers the utility's expenses in providing a meter, reading the meter every month, billing, and maintenance of service connections
2. **Energy Charge** - Cost to deliver electricity, and cover the utility's operating and maintenance expenses
3. **Power Supply Charge-** The cost of electricity; this includes the cost to purchase fuel (e.g. oil, gas, renewables) used to produce electricity locally, or to purchase electricity from neighboring ISO's
4. **Demand Charge** - The demand charge is based on the peak power over a small interval of time (measured in kW) used by the customer in the month
5. **Taxes and Fees-** There are several elements of the bill that PSEGLI customers are responsible for and depend on what county the customer resides in

Commercial Tariff Based on Demands (kW)

If your business uses	PSEG Long Island would assign Rate	The alternate optional rate Code(s) is
Less than 7 kW	280	288*
		292
Between 7 kW and 145 kW	281	291
		294
		282
More than 145 kW	285	284
* Rate 288 is closed to new customers and those already on another rate.		

Source: Electric Rate Information - PSEG Long Island (psegliny.com)

Most Fleets that transition over to electric will fall under rate(s) 281, 285 or its alternative optional rates

Electric Bill Example

Calculate the September bill for this facility given the following meter information (and the previous page's info) Assume the PSC is $0.10555/kWh:

Actual Demand: 475 kW (assume this occurred during peak hours)

Consumption:

150,000 kWh (Off-Peak)

50,000 kWh (Peak)

25,000kWh (Intermediate)

Assume we ignore taxes and fees, as well as demand ratchet clause

Service Charge: 30 days x $10.43/day -> **$312.90**
Meter Charge: 30 days x $7.56/day -> **$226.80**
Demand Charge: 475 kW x $24.36/kW -> **$11,571.00**
Energy Charge: 150,000 kWh x 0.0034 -> **$510.00**
50,000 kWh x 0.0327 -> **$1635.00**
25,000 kWh x 0.0210 -> **$525.00**
Power Supply Charge: 225,000 x $0.10555/kWh -> **$23,748.75**

September Bill: $38,529.45

How to Save on Rates

Time of Use rates (TOU) are a great way to save on your electric bill, charging your Fleet during off-peak hours

Varying commercial rates have a time-of-use component to them with varying off-peak hours

Super-Off-Peak (Everyday, 11 PM – 6 AM) - $

Off-Peak (All hours outside SOP and Peak) - $$

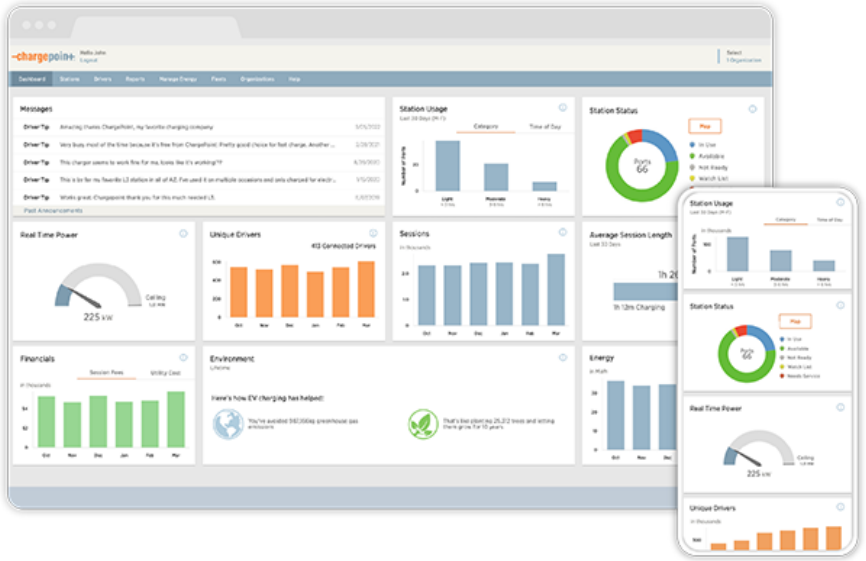
Peak (Weekdays, 3 PM – 7 PM) - $$$

EV Phase-In Rate

- Rate designed around EV Charging Stations and Fleet Charging
- Based on Load Factor
- Will be made available H1 2025

There are software solutions that help fleet operators control and manage their fleet(s) charging needs

Managed Charging Software



Varying commercial rates have a time-of-use component to them

Super-Off-Peak (Everyday, 11 PM – 6 AM) - $
Off-Peak (All hours outside SOP and Peak) - $$
Peak (Weekdays, 3 PM – 7 PM) - $$$

- Depending on the duty cycle of your fleets, you may be able to schedule most of your charging during Off-Peak and Super Off-Peak hours which can yield the most savings
- Ensuring that these vehicles are charging during these Off-Peak hours, there are **software solutions** that help fleet operators **control** and **manage** their fleet(s) charging needs
  - It will determine optimal timeframes for your fleet to charge to improve operating costs
- Demand Management software may help with **limiting how much power is drawn** to help lower service requirements and potentially reduce demand charges

Vehicle-to-Grid (V2G) and Bi-Directional Charging

Value of Distributed Energy Resources (VDER)

VDER, commonly referred to as the Value Stack, compensates for energy created by **Distributed Energy Resources (DER)** inclusive of battery storage and **vehicle-to-grid (V2G)**. Compensation under the Value Stack is based on actual DER benefits.

The Value Stack consists of five components:
Energy Value, Capacity Value, Environmental Value, Demand Reduction Value and Locational System Relief Value

Demand Reduction Value (DRV)

One of the components in the Value Stack is the **Demand Reduction Value (DRV)**. The DRV is determined by how much a project reduces the utility's future needs to make grid upgrades. The compensation **($/kWh)** for the DRV component is locked in for 10 years and is currently set at **$0.338/kWh for hourly**

DRV hours are pre-scheduled and occur only from **June 1 to August 31, every Monday through Friday, 2 p.m. to 7 p.m., excluding holidays, which equates to 65 days or roughly 325 hours annually**. Owners can schedule their EV to be available to discharge to the grid based on the pre-scheduled DRV contracted hours in order to maximize their compensation.

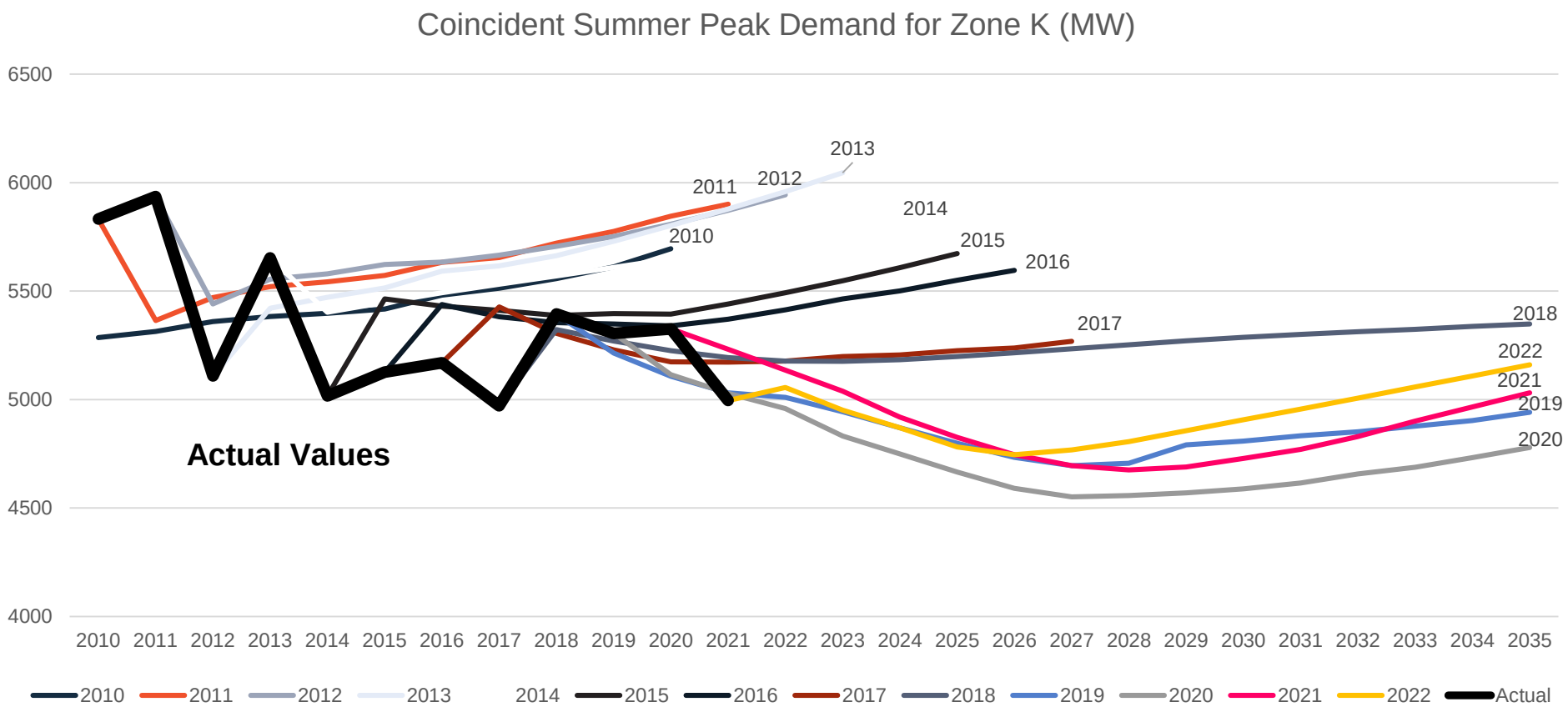
Demand Response Programs

For fleets that install a standalone battery storage system, instead of receiving the DRV component under VDER, customers may choose to participate in the **PSEG Long Island Battery Storage Rewards program**

Battery storage customers may choose to participate in one of our demand response programs called **Commercial System Relief Program (CSRP)** and **Distribution Load Relief Program (DLRP)**. The goal of these programs is to reduce peak demand drawn from the grid on hot summer days during high demand hours and to compensate participants for reducing electricity. This pays an incentive to customers who discharge their battery to the grid or to their site during high demand.

Preparing the Grid for the Influx of EV's

- PSEG LI takes into consideration the influx of EV's as part of its annual load forecasting
- We are constantly improving and upgrading the grid infrastructure
- The peak demand on Long Island occurs during the summer months; typically between 3-7pm
- Year over year trends show that peak demand has decreased and even with the influx of EV's, we do not anticipate the peak demand to increase compared to previous years actuals
- The vast majority of charging EV's will occur during Off-Peak hours which is past our peak hour



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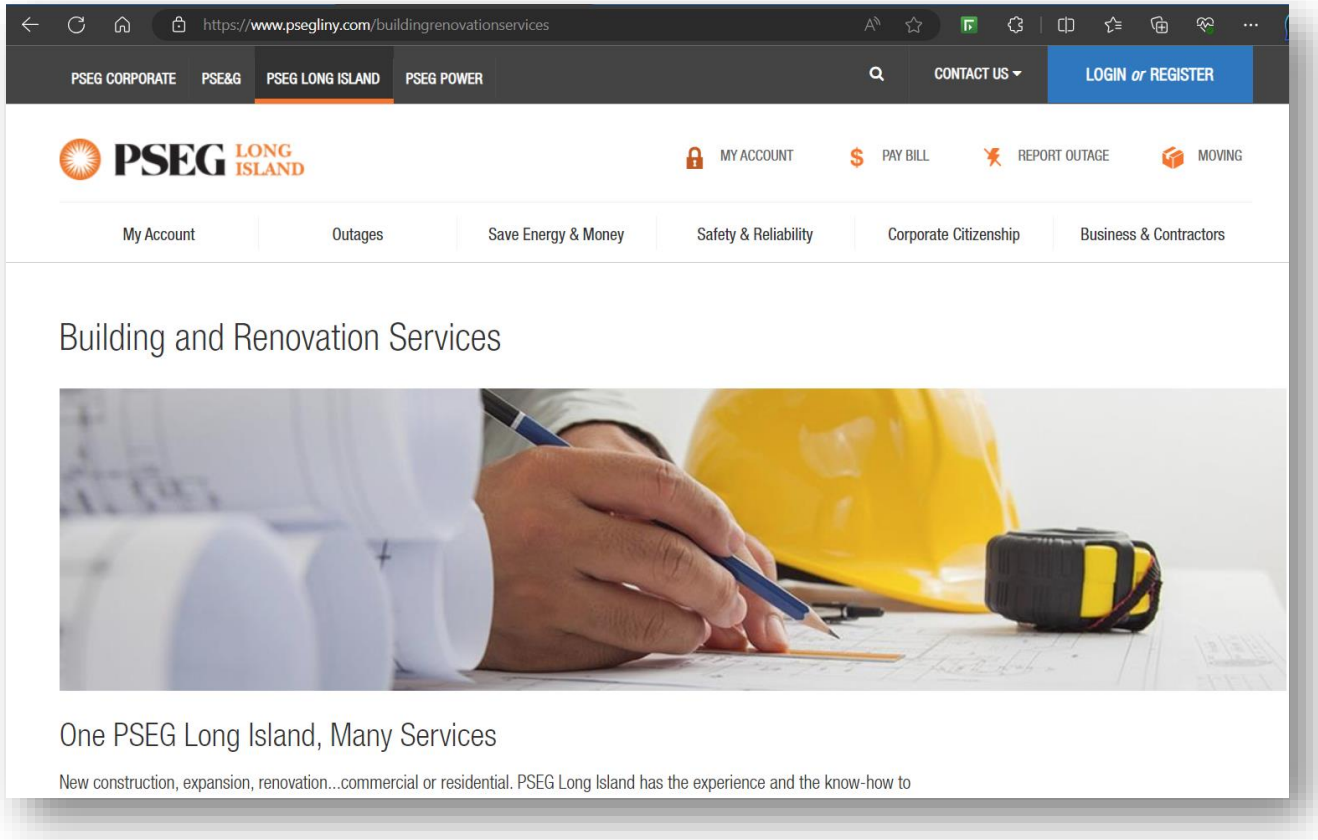
Next Steps

Things to start to Consider

- Analyze Current Fleet Mix
- Calculate Total Miles Driven per Vehicle
- Current Maintenance Cost/ Total Cost of Ownership
- Time of Day/Hours used
- Current timeline to start the electrification journey
- How many vehicles are coming up for replacement?
- Speak with a licensed and insured Electrician/Developer that can determine if a service upgrade or new service is required
- **Speak with the utility as early as possible**

Building and Renovation Services (BRS)

- Building Renovation Services (BRS) will take in all load letters submitted and provide a BRS notification number
  - i.e.9-123456
- BRS will assign the notification number to a distribution engineer who will determine if any infrastructure upgrades would be required
- If any upgrades are required, a charge letter may be issued to the customer and our Fleet Make Ready program may cover these costs if eligible



Load Letter
EV Charger

→ PSEG Long Island's Building and Renovation Services (BRS) group will assign the load letter to an engineer in Distribution Design

→ Site Assessment & Engineering Analysis performed. Will determine if any USMR costs associated with project

→ Charge Letter for USMR upgrades

Traditionally paid by customer submitting Load Letter

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External Programs

EPA -Diesel Emissions Reduction Act (DERA)

Environmental Protection Agency (EPA) announced the availability of $115 million in grant funding for projects that cut harmful pollution from the nation's existing fleet of older diesel engines.

To address diesel emissions and protect public health and air quality, EPA is authorized under Diesel Emissions Reduction Act (DERA) to offer funding assistance to accelerate the upgrade, retrofit, and turnover of the legacy diesel fleet.

Eligibility:

- A regional, state or local agency or port authority, which has jurisdiction over transportation or air quality. School districts, municipalities, metropolitan planning organizations cities, and counties are all generally eligible entities under this assistance agreement program to the extent that they fall within this definition.

- A nonprofit organization or institution that:
  a. Represents or provides pollution reduction or educational services to persons or organizations that own or operate diesel fleets; or
  b. Has, as its principal purpose, the promotion of transportation or air quality.

EPA United States Environmental Protection Agency

All application packages need to be submitted electronically to EPA through Grants.gov no later than Friday, December 1, 2023, at 11:59 p.m. (ET) to be considered for funding.

NYSERDA – NYTVIP (NY Truck Voucher Incentive Program)

The New York Truck Voucher Incentive Program (NYTVIP or Program) is a voucher incentive program aimed to accelerate the deployment of **electric trucks** and **buses** (also referred to as EVs) in the **medium- and heavy-duty** vehicle weight classes throughout New York State

Voucher incentives facilitate Fleet adoption of new EV trucks and buses by reducing the upfront prices of these vehicles, which are typically more expensive than comparable diesel vehicles.

Fleet agrees to purchase an eligible vehicle from a vendor/dealer (contractor) qualified to sell that vehicle through the program, and the contractor deducts the value of the voucher from the total sale price.

NEW YORK STATE | NYSERDA

NYSERDA NYTVIP (NY Truck Voucher Incentive Program)

FAQ

How long does it take for the infrastructure to be available for my fleet?

This depends on the available capacity on the feeder and could result in infrastructure upgrades depending on the anticipated loads pertaining to fleets in that area

How much will it cost me on average?

The cost of each project can depend on various factors

Will you do a site visit?

Once a load letter is submitted, PSEG LI will schedule a site visit

What if I plan to stagger my fleet electrification?

PSEG LI Fleet advisory services will be able to guide you with this

Helpful Acronyms

EV	Electric Vehicle
LDV	Light-duty Vehicle(s)
CS-MR	Customer-Side Make-Ready
US-MR	Utility-Side Make-Ready
DCFC	Direct Current Fast Charging
kW	Kilowatt
kWh	Kilowatt Hour
DAC	Disadvantaged Community
L2	Level 2 (EV Chargers)
EPA	Environmental Protection Agency
PHEV	Plug-in Hybrid Electric Vehicle
TOD	Time of Day
TOU	Time of Use
TCO	Total cost of Ownership
NYSERDA	New York State Energy Research and Development Authority

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Thank *you*