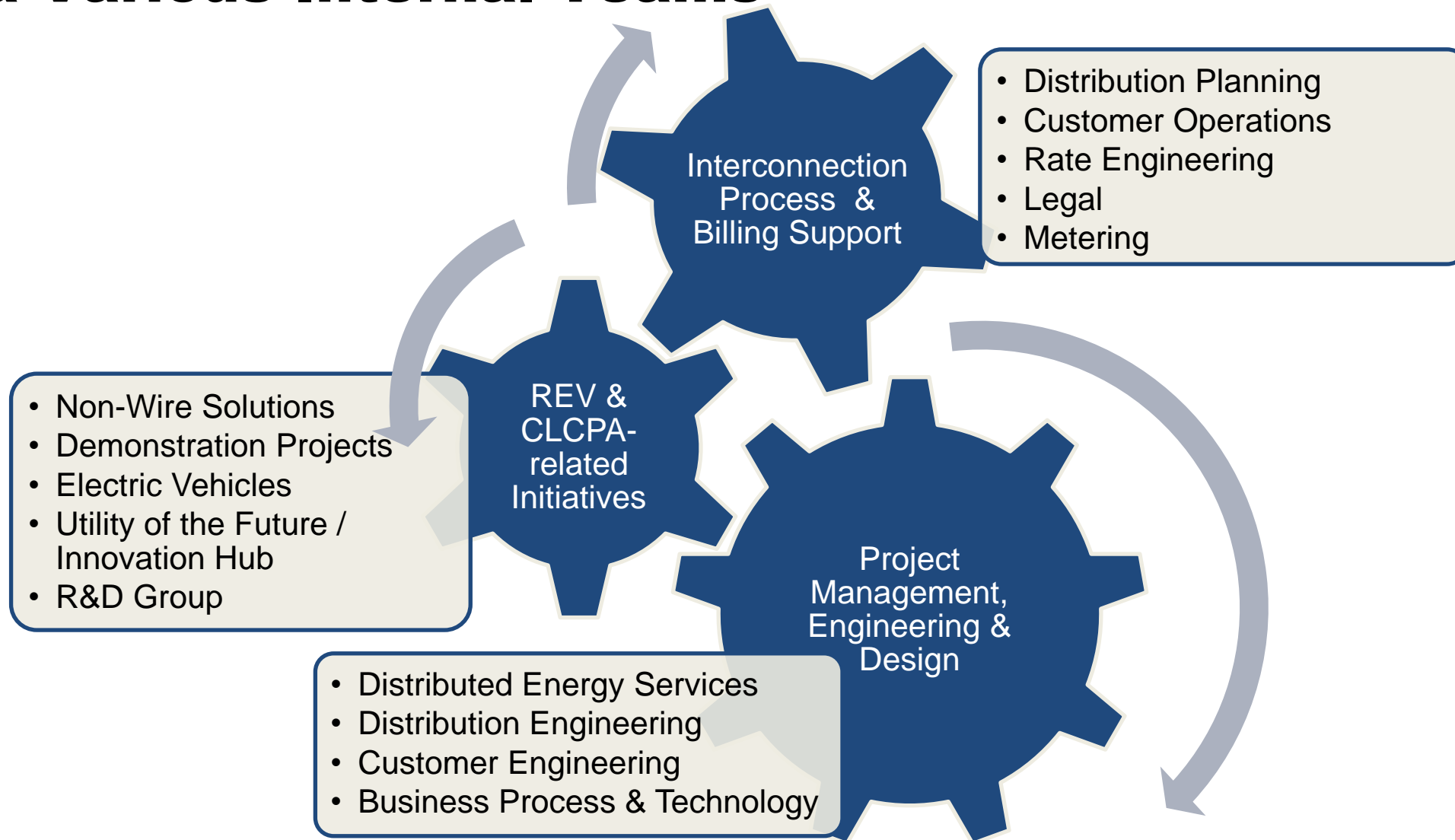




CUNY 2022 Solar + Storage Installer Workshop

3/31/2022

Con Edison Supports Interconnection via Various Internal Teams



CUNY– Agenda for Con Edison Showcase



Non-Wires Solutions – Energy Storage Incentives



Demand Response Program Participation



NYC Electric Vehicle (EV) Program



EV Interconnection Process



Customer Operations Update for Solar and Storage

Visit our website @ www.coned.com/dg or contact dgexpert@coned.com for any DER related questions.



Non-Wires Solutions

March 31, 2022



Current CECONY Non-Wires Solutions (“NWS”)

NWS are portfolios of demand-side reduction projects designed to cost effectively defer or eliminate electric system capacity upgrades while helping to meet REV/CLCPA goals

NWS has been integrated into our utility capital planning process, with new projects assessed as capacity expansion needs arise

Active Portfolios

Brooklyn Queens Demand Management Program

- Designed to defer new Gateway Substation
- Brownsville #1 and #2 138kV Supply
- Commenced in 2014 and extended in 2018

Newtown

- Designed to defer transfer from Newtown to North Queens
- Commenced in 2019 for deferral from 2021 to 2025

Closed Portfolios

Water Street

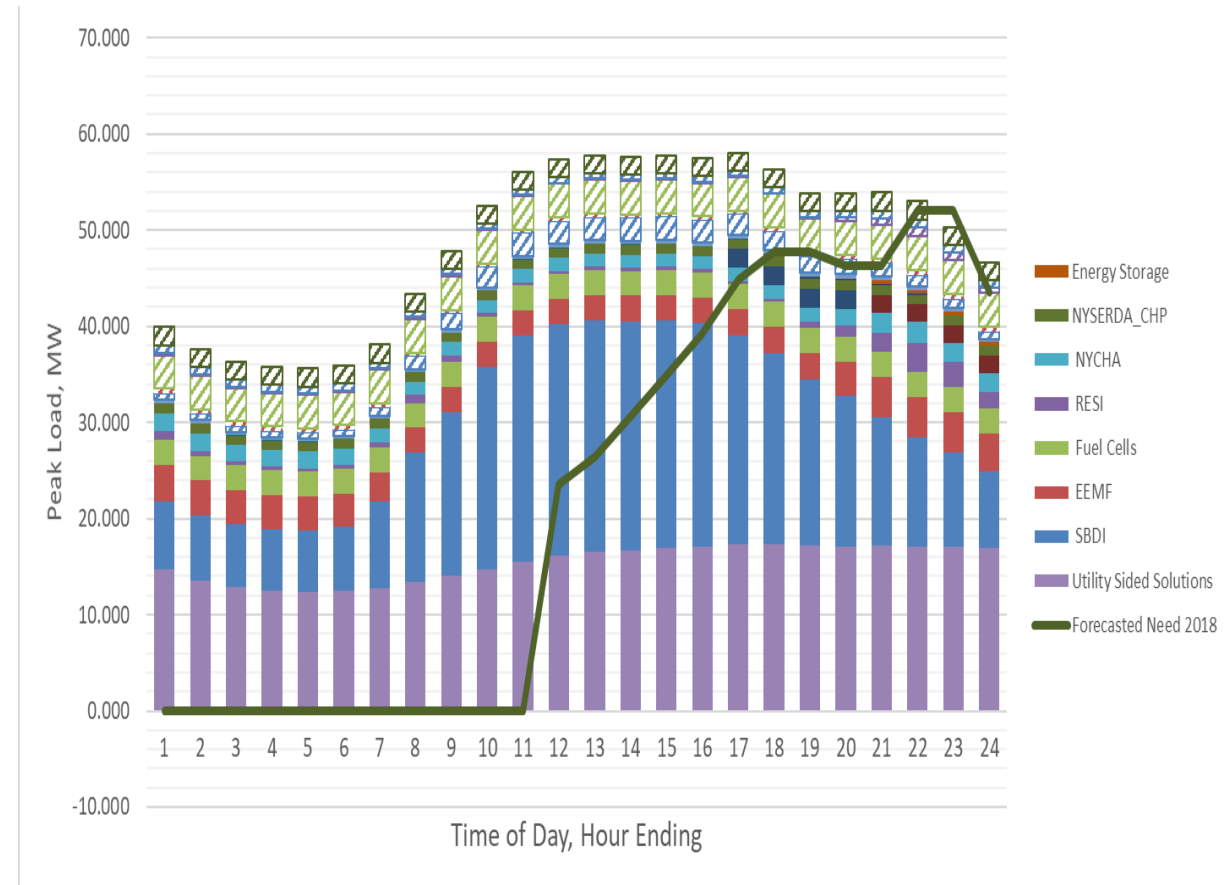
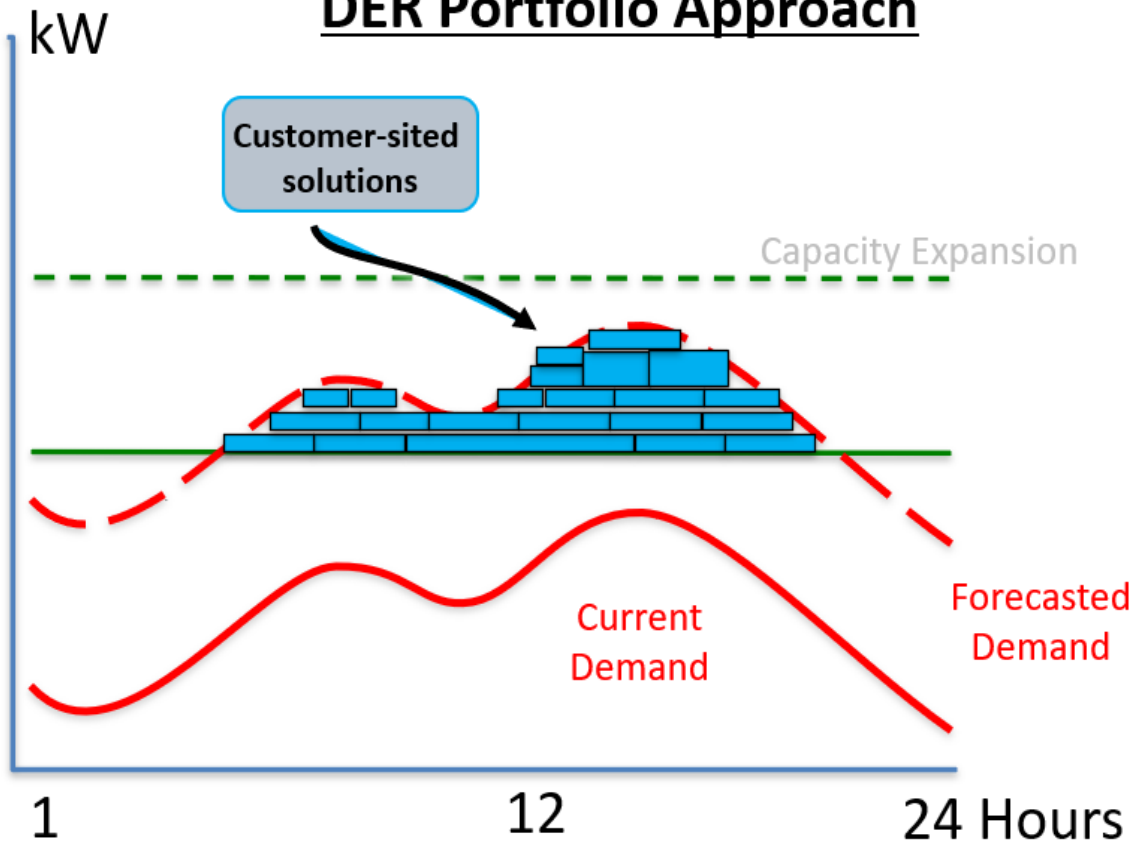
- Eliminated a cooling and reconductoring projects at Water Street, Plymouth Street, and Farragut Supply Stations
- Commenced in 2018 for reductions needed for 2019 through 2021



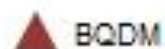
Portfolio Development

Utilize a portfolio-based approach of customer-sided solutions to reduce risk, meet peak demand and meet operational needs of the system

DER Portfolio Approach



Current and Future EE/DER Programs



BQDM



Water Street



Newtown

In Market

Expected to Continue

Technology	Customer Segment	Portfolio	2016-2019	2020-2021	2022+
Energy Efficiency	Residential 1-4 EE Direct Install	▲ ●	<div><div></div></div>		
	Multi-Family EE Adder	▲ ● ■	<div><div></div></div>		▲ ■
	Small-Business EE Adder	▲ ● ■	<div><div></div></div>		▲ ■
	Commercial & Industrial EE Adder	▲ ● ■		<div><div></div></div>	▲ ■
	Public Partnerships (DCAS, NYCHA, NYPA)	▲ ● ■	<div><div></div></div>		▲ ■
Energy Storage	Commercial & Industrial, Multi-Family, Residential	▲ ● ■	<div><div></div></div>		▲ ■
Combined Heat & Power	Commercial & Hospitals	▲	<div><div></div></div>		▲
Fuel Cells	Commercial, Multi-Family & Hospitals	▲ ●	<div><div></div></div>		▲

Residential



Multi-Family



Small Business



C&I



Fuel Cells/CHP



Energy Storage



Energy Storage

NWS procures grid connected or load following battery energy storage to support local distribution system needs during the hottest times in the summer

Customer Services

- Demand charge reduction and facility/local system peak demand shaving
- Resiliency and back-up power applications when paired with alternative generation sources (solar/fuel cells)
- Retail energy arbitrage

System Needs

- Focus on “customer-sided” solutions
- Meter configuration site specific, both front “FTM” or behind the meter “BTM” accepted
- Minimum 4-hour system duration, though dynamic discharge or longer duration may be needed in future years
- Interconnection in accordance with NYS Standard Interconnection Review
 - Must be interconnected to the reliability standard of the area of the site

Energy Storage

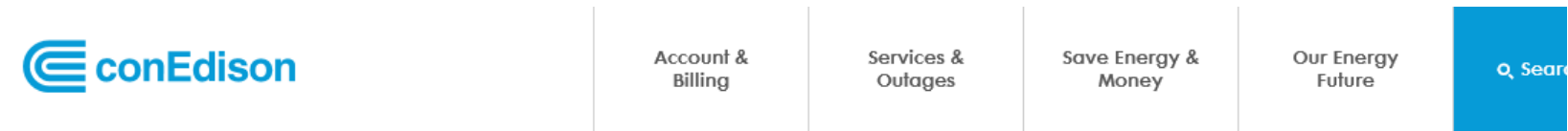
NWS contracts for first dispatch rights with 21h notice on event days during the summer that can span from May-September over a 10-year performance contracts

Revenue Structure

- NWS Direct Payment Structure:
 - 50% incentive payment at Operational Date
 - 5% annually for each Summer period
- Must meet NWS dispatch requirements before any other arrangement with the customer or applicable revenue markets
- Maximize current and future ESS revenue streams
 - Share revenue streams from NYISO market participation 75% to Con Edison, 25% to the Vendor
 - Current contract obligation helps buy-down costs to Con Edison customer
- Not eligible for Con Ed's Demand Response/Direct Load Control incentives while under contract

Stay Informed on Upcoming Solicitations

Non-Wires Opportunities



Non-wires solutions have the potential to reduce customers’ electric bills, improve reliability, and defer capital infrastructure. We’ve identified several opportunities to create such change.

Current Opportunities

Projects	Current Status	Documents
Primary Feeder Relief - Chelsea	Project deferred due to decrease in the projected load	Project Description
Parkchester No. 1 Cooling Project	Project deferred due to decrease in the projected load	Project Description
Newtown Transformer Installation Project	No longer accepting proposals	RFP
Primary Feeder Relief - Williamsburg	No longer accepting proposals	RFP
Water Street Cooling Project	No longer accepting proposals	RFP
Plymouth Street Cooling Project	No longer accepting proposals	RFP

Lindsay O’Neill-Caffrey

Program Manager, Non-Wires Solutions

Coned.com/neighborhood

DSM@coned.com

Demand Response
Demandresponse@coned.com

CUNY Workshop

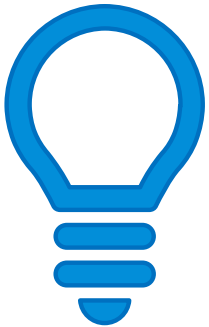
How Do Customers Provide Load Relief?

Curtailment and Generation

- Load Reduction
 - HVAC
 - Lighting
 - Unnecessary Equipment
 - Elevator Banks
 - Production Lines
- Distributed Generation
 - Gas-Fired
 - Diesel (conditional)
 - Batteries

Eligibility Requirements

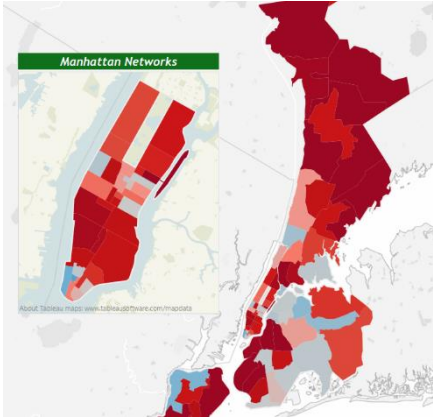
Metering & Minimum Pledge



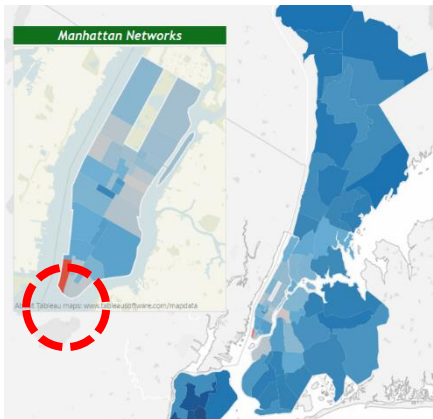
- Customer must have a legacy interval meter or an AMI meter
 - Large customers get an interval meter at no cost
 - In the past small customers had to pay for interval meter installation
- Customers with AMI meters are eligible to participate
- Minimum of 50kW as direct participant or by working with an approved Aggregator

Demand Response

CSRP/DLRP



- Commercial System Relief Program (CSRP)
 - System wide activation
 - Day-Ahead Forecast $\geq 92\%$ of summer peak
 - Day Ahead TV ≥ 84 degrees



- Distribution Load Relief Program (DLRP)
 - Dispatched by network
 - Next Contingency → Condition Yellow
 - Active Voltage Reduction

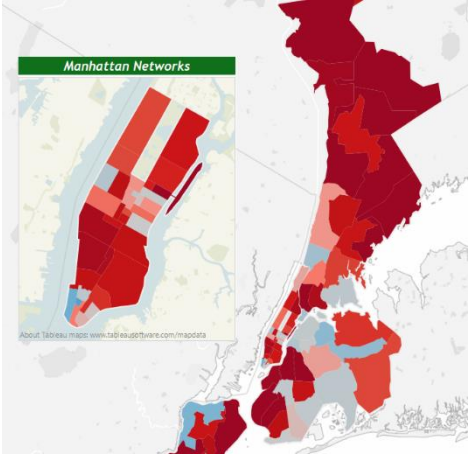
Term- and Auto-DLM Overview

Long Term Contracts for DR Resources

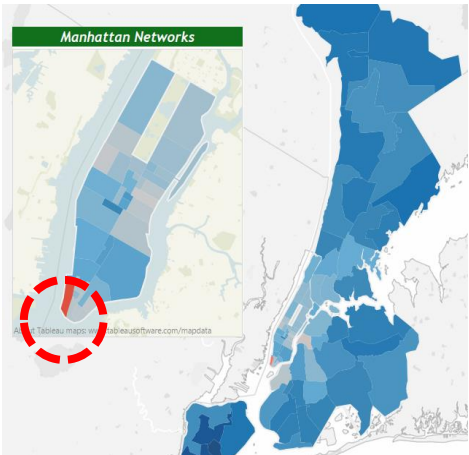
- Long term DR contracts (3 – 5 years)
 - Aggregations (Network, load relief amount, annual per kW incentive rate, program type)
 - Higher performance requirements
- Competitively procured long term contracts vs. yearly enrolled Rider T programs
- Contracts are awarded through a Request for Proposal (RFP) process
- Participants can seek 3-5 year contracts
- Capability Period for both programs is May 1 through September 30
- Bidders provide a single per kW Incentive Rate for each bid which determines annual per kW compensation

Term- and Auto-DLM

Program Overview



- Term – DLM
 - Day ahead peak shaving (Similar to CSRP)
 - System wide activation
 - Day-Ahead Forecast $\geq 88\%$ of summer peak



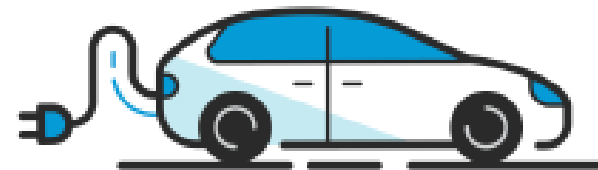
- Auto – DLM
 - Peak shaving and contingency
 - System wide and/or one or several networks
 - 10 min. notifications



EV Light-Duty PowerReady Program

Program Overview
CUNY

EVMRP@coned.com

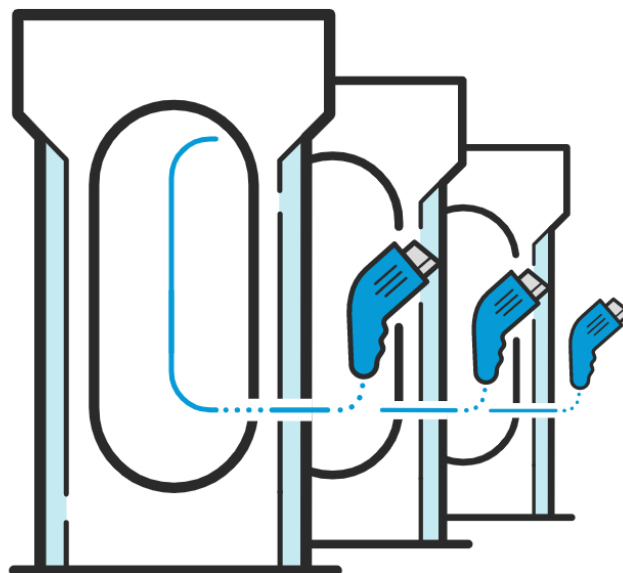


Con Edison Light-Duty PowerReady Program Overview

As Authorized in NY PSC July 16, 2020 Order

PowerReady (Make-Ready) Program Funding

- \$234M in incentive funds for customer and utility side work to provide service to L2 and DCFC chargers in NYC and Westchester



5-Year Program Start Date: July 16, 2020

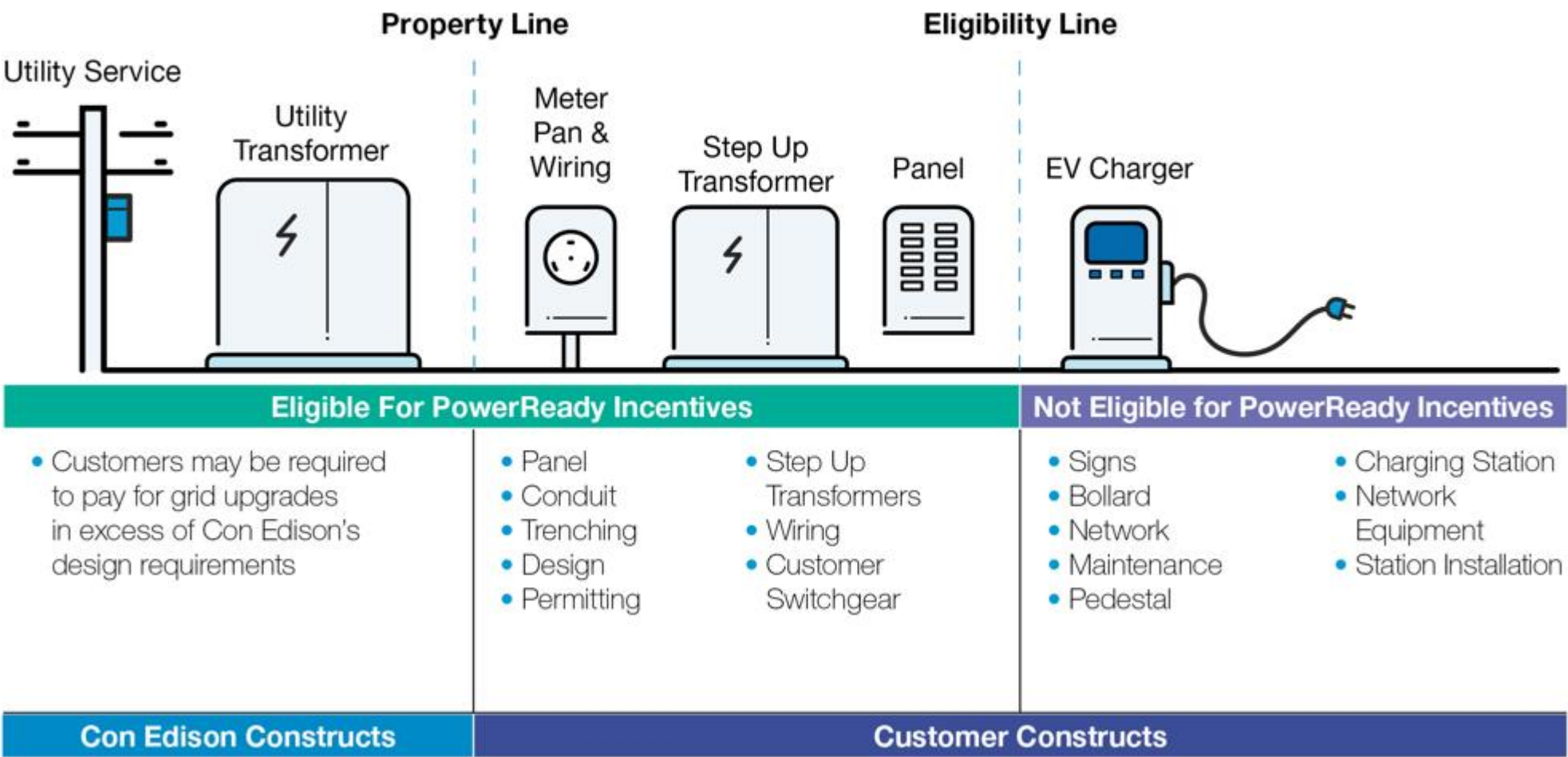
- Any project not under construction as of that date is eligible

Program Plug Goals (2025)

- 18,539 L2 plugs
- 457 DCFC plugs

Con Edison's PowerReady Program provides incentives for utility-side and customer-side work

What's Eligible?



PowerReady Eligible Equipment

PowerReady Eligible Equipment	Ineligible Equipment
Distribution Network	Charging Station
Transformers	Network Equipment
Meter	Station Installation
Conductors	Signs
Panel	Lighting/Lighting Column
Boring	Rectifier
Trenching	Bollards
Conduit	Maintenance Fees
Permitting	Assoc. Fees
Design Costs	Retractor Pole
Project Management	Shipping Costs
Sidewalk Excavation and Restoration	Charger Pedestal/Concrete Pads
Customer Requested Outages	Sales Tax & GRT
Transformer Concrete Pads	

List is not exhaustive and subject to change

Level 2 Chargers vs. DC Fast Chargers

	Level 2 Charging Station	DCFC Charging Station
Current / Voltage	AC / 240 V	DC / 480 V
Plug (Connector) Types	J1772, Tesla	SAE Combo (CCS); CHAdeMO; Tesla
Miles of Range per Hour	~25 (for 7 kW)	100+ depending on power
Time to Charge (depends on range of vehicle)	6-8 hours	30 minutes
Best Applications	Multifamily, C&I, workplace charging, locations with dwell time of an hour +	Short stops, highway routes, dedicated fast charging hubs
Minimum # of plugs that can receive rebate	2	2
Maximum # of plugs that can receive rebate	No maximum	11+ will have to go through additional eligibility review

Note: All statistics above vary based on charger kW, car battery size and operations

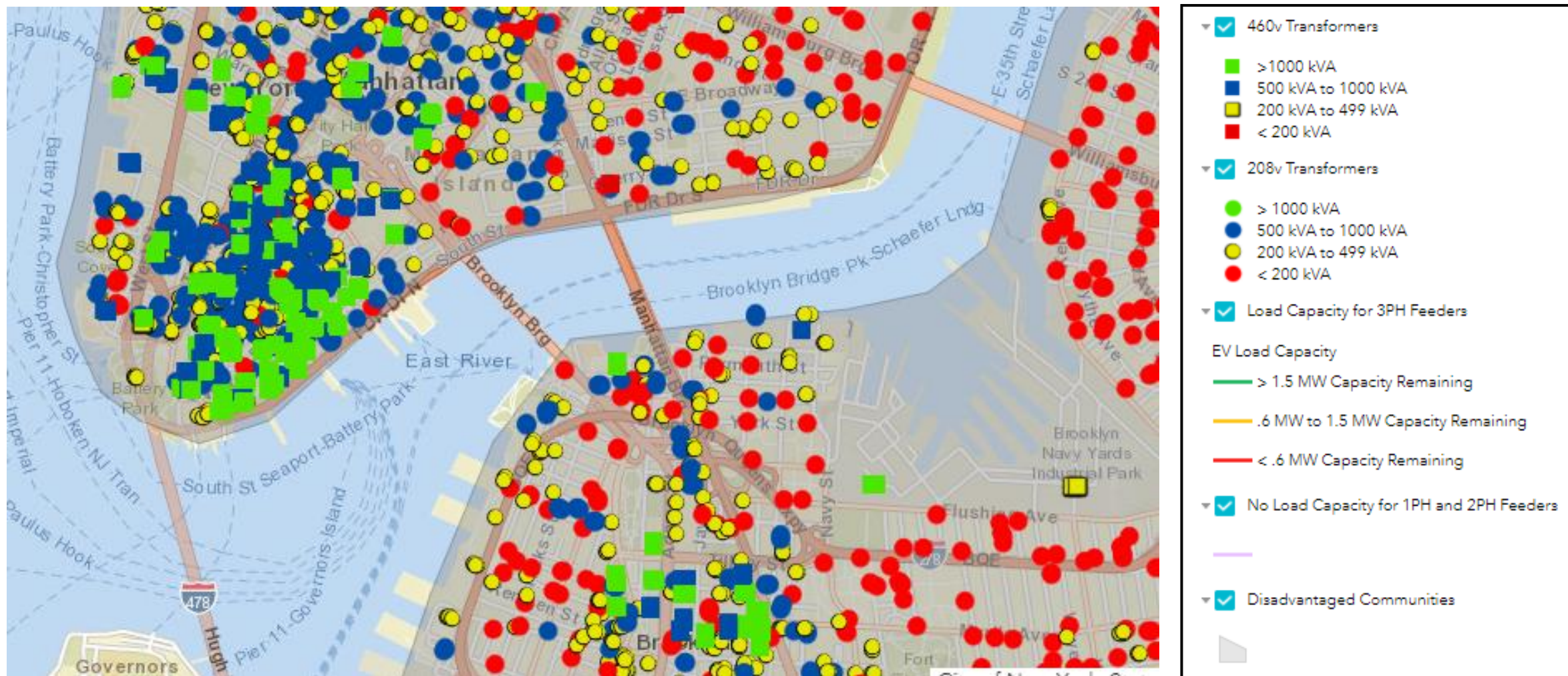
The tiered incentive structure provides ‘up to’ a certain level of incentive based on various criteria

	Non-Publicly Accessible Sites	Publicly Accessible Sites
Proprietary Plugs (e.g., CHAdeMo, Tesla)	Up to 50%	Up to 50%
Non-Proprietary Plugs (e.g., SAE J, CCS)	Up to 50%	Up to 90%
Non-Proprietary & Proprietary Plugs Collocated (Equal Number of Plugs)	Up to 50%	Up to 90%

Incentive dollars will be capped, additional incentives may be available for Disadvantaged Communities

Publicly accessible is defined as free access to charging station by electric vehicle owners during hours that customers/tenants have access. Municipal parking exempt from free access requirement.

Participant Support Tools: EV load capacity maps show network transformer capacity, voltage, and feeder headroom



Additional eligibility requirements to participate in PowerReady

Approved Contractor

- **Customer-side work** must be completed by an Approved Contractor
- To become an Approved Contractor, interested entities must complete and submit a **Participating Contractor Application**, available at jointutilitiesofny.org

Participant Application Submittal

- Any customer-side party (e.g., **developer, site host, approved contractor**) can submit the Participant application
- The Participant that **signs the program agreement** takes on reporting and other responsibilities

Station Size

- Station sizes must be a **minimum of 2 plugs**
- If the demand of your DCFC charging station is over 2 MWs you will need to go through energy services to determine if its eligible for the program. Energy services will determine eligibility on a case-by-case basis.
- If you're installing more than 10 DCFC plugs at a single site, the number of plugs eligible for incentives may be capped at 10 plugs. Please contact EVMRP@coned.com for more information.

Approved Contractor Network

Application requirements include:

- Company name and contact information
- Check box certifying that your company is registered and maintains credentials necessary to do business in NYS.
- Check box certifying that your company holds all appropriate licenses and certifications to perform EV charging station installs.
- Identify utility service territories your company provides services in.

Apply to Approved Contractor network and be listed on Joint Utilities Program website.

Benefits of Joining:

- Project leads
- Specialized training
- Monthly installer calls
- Marketing Support

You can search the Approved Contractor Network by “Service Provided”



Service Areas

- ☐ Central Hudson
- ☒ Con Edison
- ☐ National Grid
- ☐ NYSEG
- ☐ RG&E
- ☐ Orange & Rockland

Services Provided

- ☐ Manufacturing/ Distribution
- ☐ Engineering
- ☐ Electrical
- ☐ Construction
- ☐ Turnkey EVSE Developer
- ☐ Owner/Operator
- ☐ Other

Name	Email	Phone
+ ChargePoint	kira.costanza@chargepoint.com	270-246-3188
+ A.J. Contracting of NY LLC	augustjr@ajcontractingny.com	914-667-8500
+ AAA EV CHARGING SOLUTIONS	find@solution.energy	518-691-3119
+ Abbott Energy, Inc.	dfarrow@abbottenergy.com	866-252-3739
+ ABM Electrical & Lighting Services	paul.dilollo@abm.com	646-629-1335
+ Absolute Electrical Contracting	eifill@absoluteelectric.com	646-208-1704
+ Accord Contracting and Management Corp.	liam@accordcontracting.com	2122901777
+ Accord Power	info@accordpowerinc.com	718-321-8820
+ Adco Electrical Corporation	rocchipinti@adcoonline.com	917-445-2004

There are operational requirements for Participants

DCFC Plug Operating Requirements

- DCFC plugs **must be operational 95 percent of the time** (annually)
- DCFC charging **stations must be operational 99 percent of the time (annually)**, with a minimum of 50 percent of the plugs considered to be “up” at all times

Operation Period

- All charging stations in the EV PowerReady Program must **operate for a minimum of five years**
- **Quarterly reporting** on charging station operations required for the following 5 years

Ownership Changes

- **Ownership of EV charging stations may change** or stations may be upgraded during the five year term, as long as the number of plugs and the capacity of the station does not decrease, and the site continues to meet all performance and reporting obligations of the Program

The EV PowerReady Program has a five-year quarterly reporting requirement

The Joint Utilities are finalizing contracting with the 3rd-party consultant and expect to be reaching out to Participants with completed projects this year.

Data Type	Plug and Charging Session	Financial Information	Utility Energy and Billing
Who Provides Data	Participant to 3 rd -party consultant	Participant to 3 rd -party consultant	Utility
Data Requirements	<ul style="list-style-type: none"> • Number of sessions daily • Start and stop times of each charge • The amount of time each vehicle is plugged in per session • Peak kW per charging session • kWh per charging session • Plug outage information 	<ul style="list-style-type: none"> • Infrastructure and equipment costs • Fee structure (e.g., cost per kWh, cost per session) • Charging revenues derived • Operating costs, which should separate energy-related costs and non-energy related costs 	Utility system and billing information for each EV charging station, including: <ul style="list-style-type: none"> • 15-minute interval data • Load profiles for charging stations for the top ten annual demand days • Utility bills, which should differentiate by delivery service-related costs and energy-related costs

Each PowerReady participant will be required to share data with the Joint Utilities and Department of Public Service on a quarterly basis. Failure to meet this requirement will result in ineligibility for PowerReady incentives and potential claw back of payments received.

PowerReady incentives can be layered with other NY State incentive offerings

SmartCharge NY

- Enrolled vehicles can receive a **\$/kWh incentive and a monthly incentive** during summer months for charging off-peak
- Open to light-, medium-, and heavy-duty vehicles charging in the Con Edison territory

Business Incentive Rate (BIR)

- Provides **reduced energy rates** (~35% rate reduction) for publicly accessible fast charging stations with a minimum capacity of 100kW
- Available through the end of 2025 for up to 30MW of EV charging.

DCFC Per Plug Incentive (PPI)

Provides **annual incentive per plug** through 2025 for publicly accessible DC Fast Chargers that meet the following requirements:

- Charger connection with a minimum output of 50kW
- Charger uses a standard non-proprietary plug, or a proprietary plug that is co-located with at least two non-proprietary plugs

Future Proofing

- PowerReady can provide additional incentives for future proofing – **building out infrastructure to handle chargers being installed in the future**

Eligibility criteria

Include # chargers to be installed in future or desired additional power

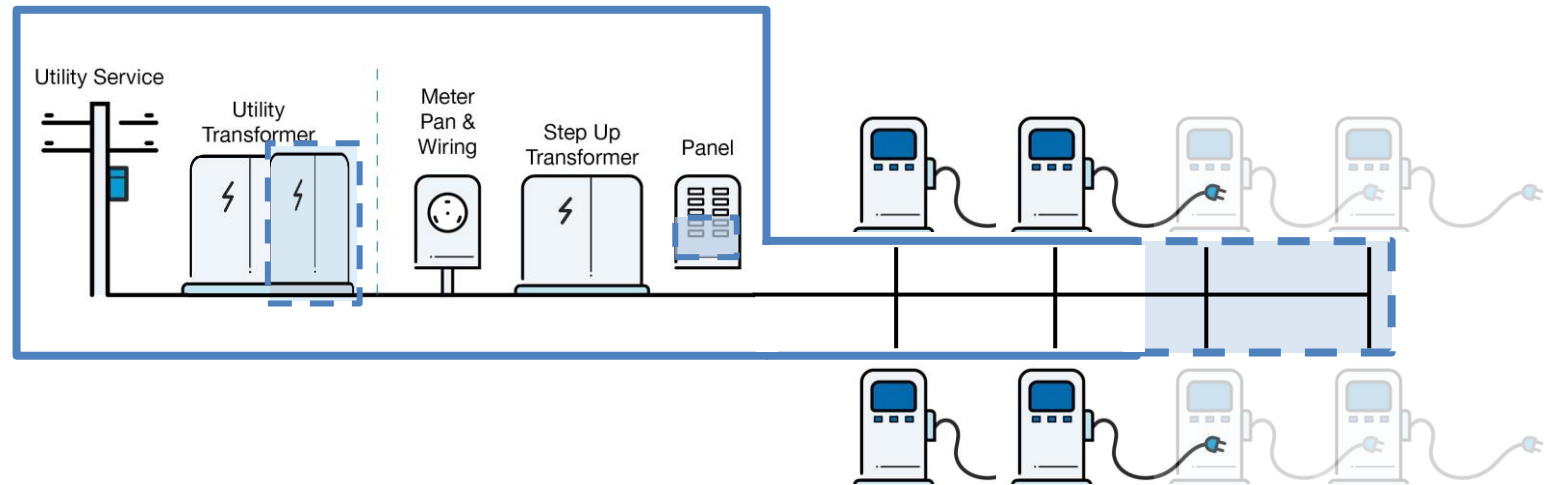
Confirm availability of sufficient parking spaces to accommodate

Eligible future proofing dollars are capped at 10% of Make Ready costs

Example

Eligible Make Ready costs:
\$100,000

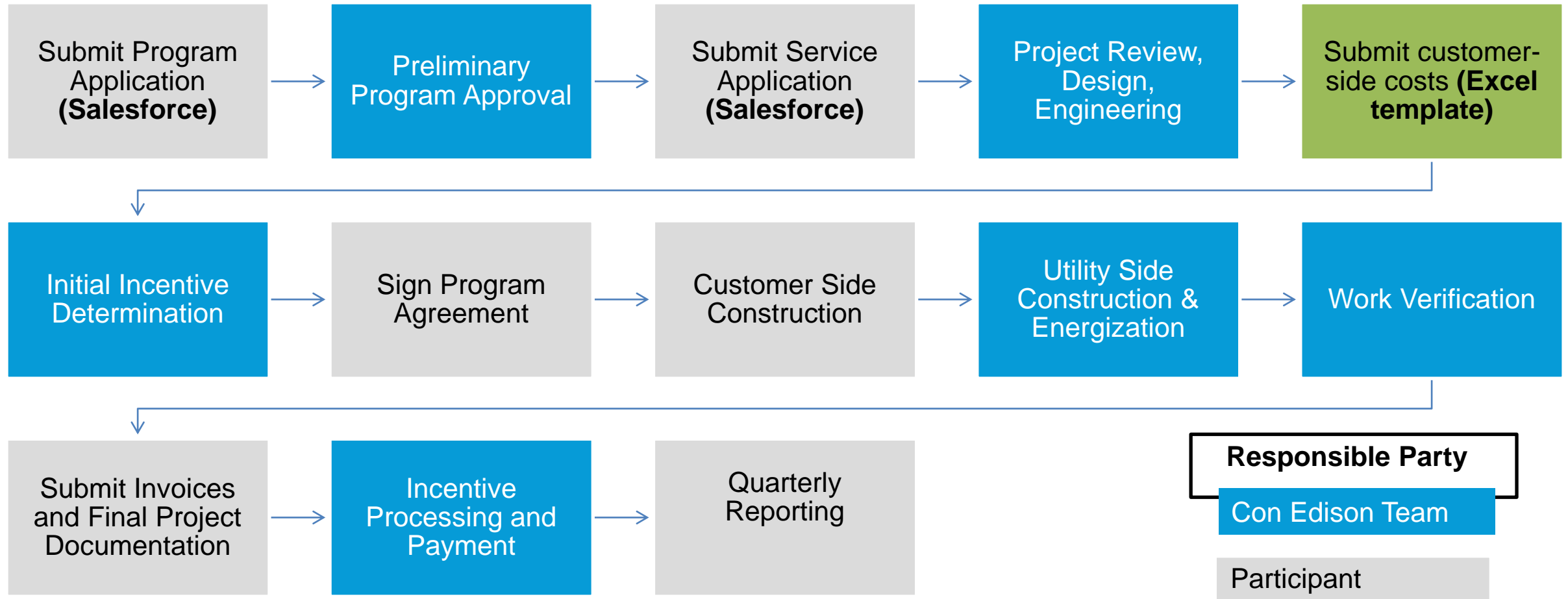
Maximum Future Proofing incentive
\$ 10,000



Note: Submit two quotes – one with and one without the future-proofing plan so the team can appropriately assess the additional costs

PowerReady Process & Estimated Timeline

Con Edison timelines assume that Participant has submitted correct and complete technical and program documentation.



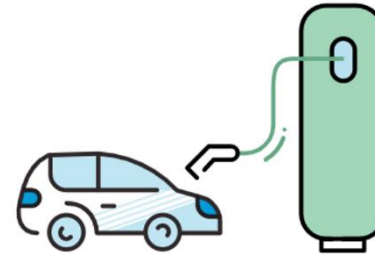
Program Resources

Resource	Details
ConEdison PowerReady Website	Incentive website including program information and resources
PowerReady FAQs	Program Frequently Asked Questions
Disadvantaged Community Map	Look up your address to determine if you are in the DAC zone
Register – PowerReady Program Portal	Register for the PowerReady Program Portal
Apply Now – PowerReady Program Portal	Apply for the PowerReady Program Portal
PowerReady Program Portal Directions	Step by step directions to apply to the program
Approved Contractor List	List of charger installers approved to participate in PowerReady
Participant Guide	Includes program specifics, such as eligibility criteria and requirements.
EV Rates Webinar Replay	Video reviewing rate options for EV developers and customers.
EVMRP@coned.com	Reach out with any program questions or to start your project

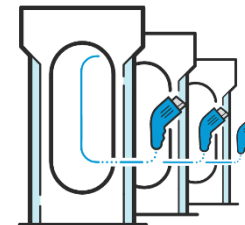
• Lead the Charge!



Forecasts indicate EVs will be responsible for 1/3rd of all car sales by 2025



EV Drivers save over \$500 and 72 lbs of CO2 on average, a year vs. gas drivers



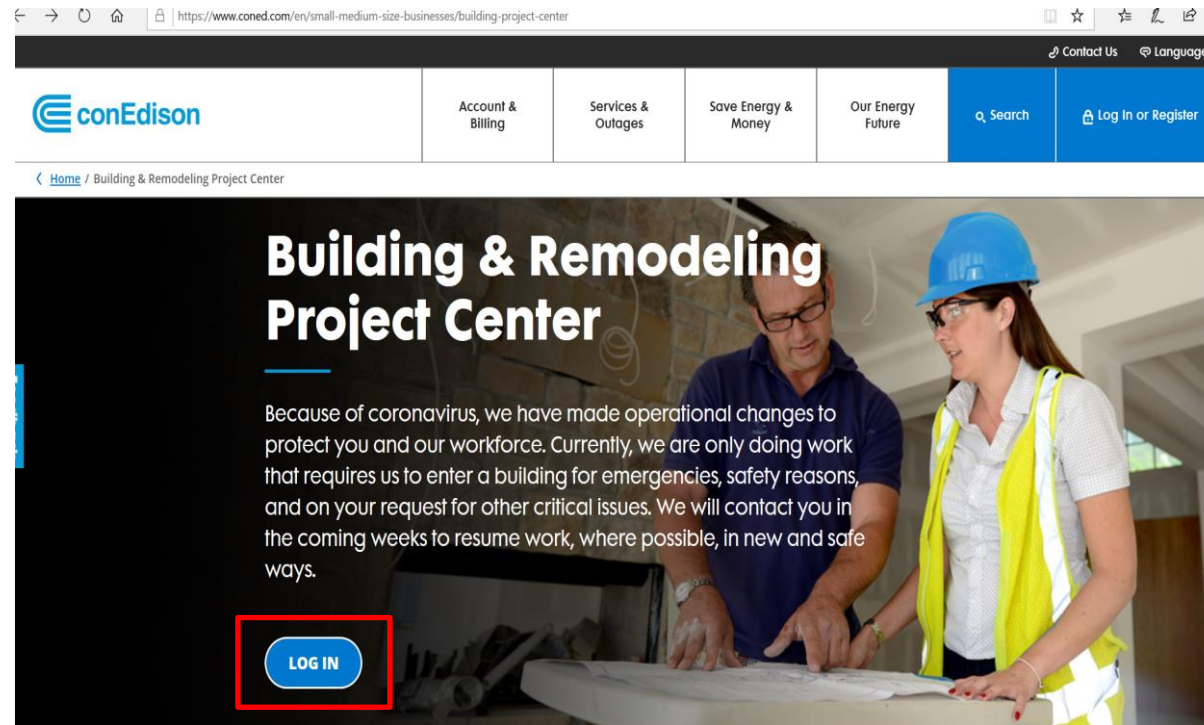
Studies have shown EV charging stations increased average EV driver dwell time by 50 minutes

Electric Vehicle (EV) Interconnection Process

Suzanne Koch

Project Application:

- Apply Service Request via Project Center
- Apply EV Make Ready Program via Salesforce



Required Documents:

- Make Ready Program Application Review Letter
- Letter of Authorization
- Site Plan
- One Line Diagram
- Load Letter
- EV Charging Station Equipment Cut Sheet

Project Review and Service Determination

- Energy Services reviews the Service Request
- Engineering performs the Service Determination study
 - Existing Service Adequate
 - No Additional Work
 - Request Additional Meters
 - Request a New POE
 - Service Not Adequate:
 - Reinforce Existing Service
 - Request New Service

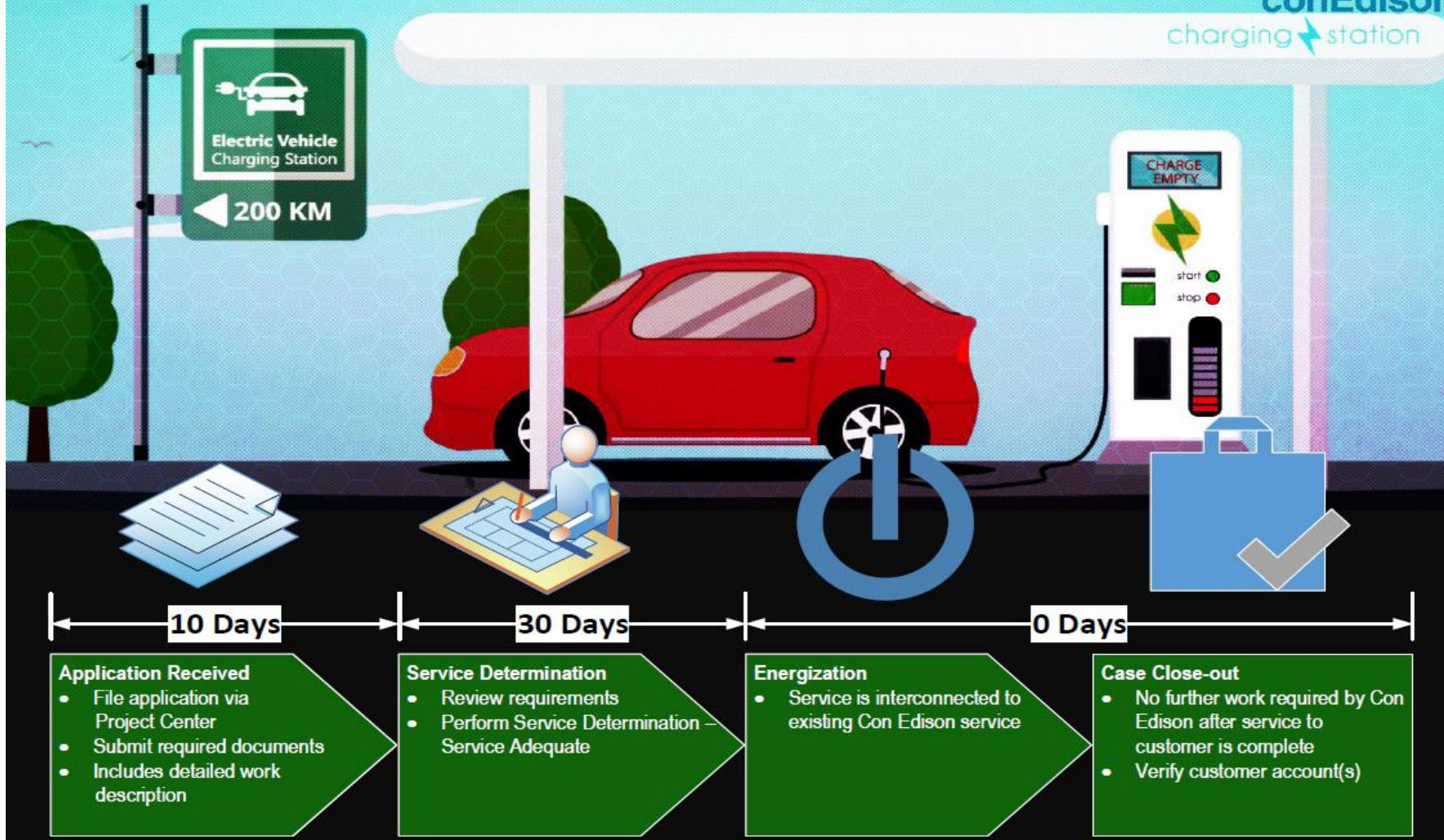
Electric Vehicle Customer Project Flow

Service Adequate



conEdison

charging station



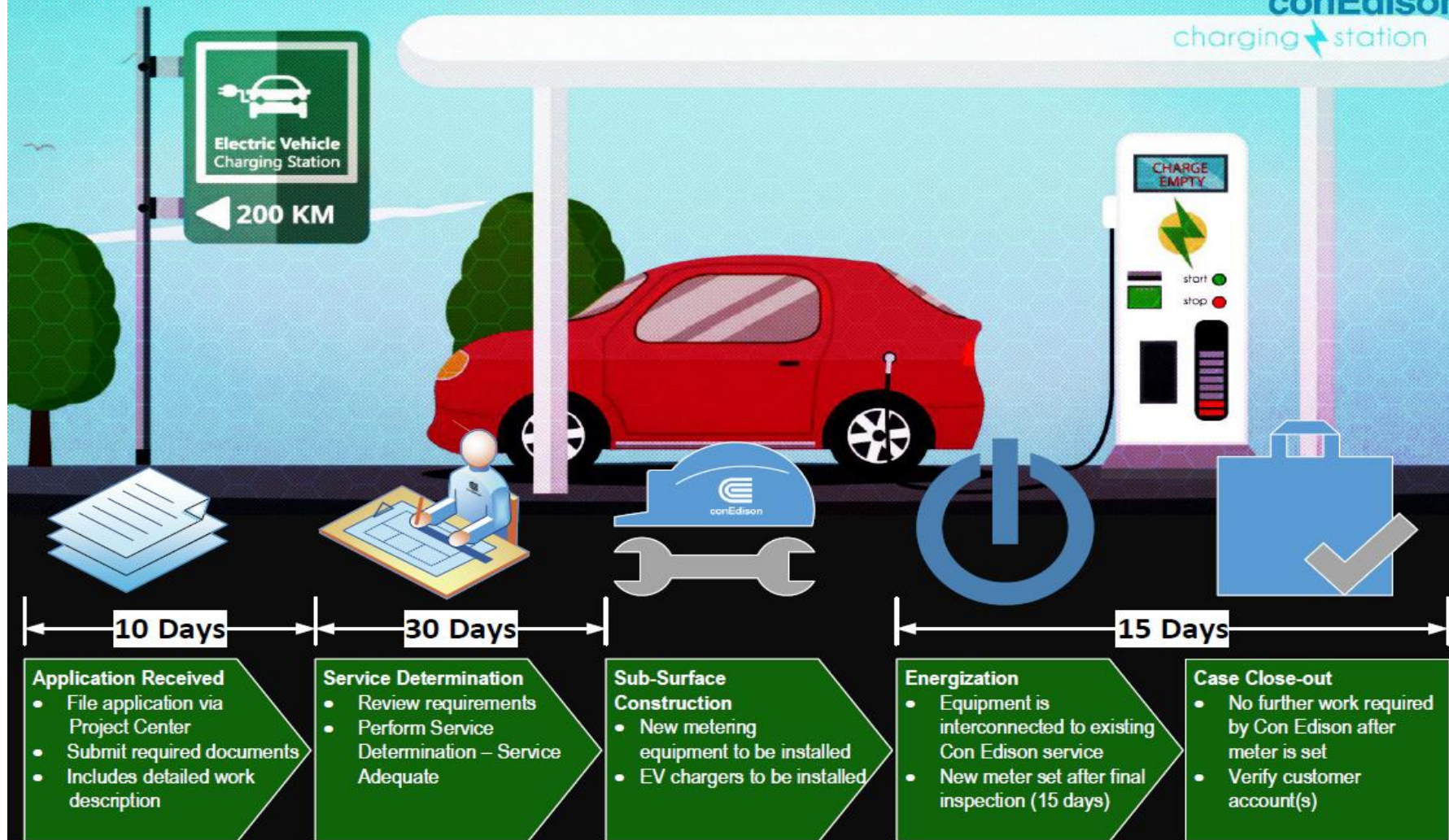
Electric Vehicle Customer Project Flow

Service Adequate – New Meter



conEdison

charging station



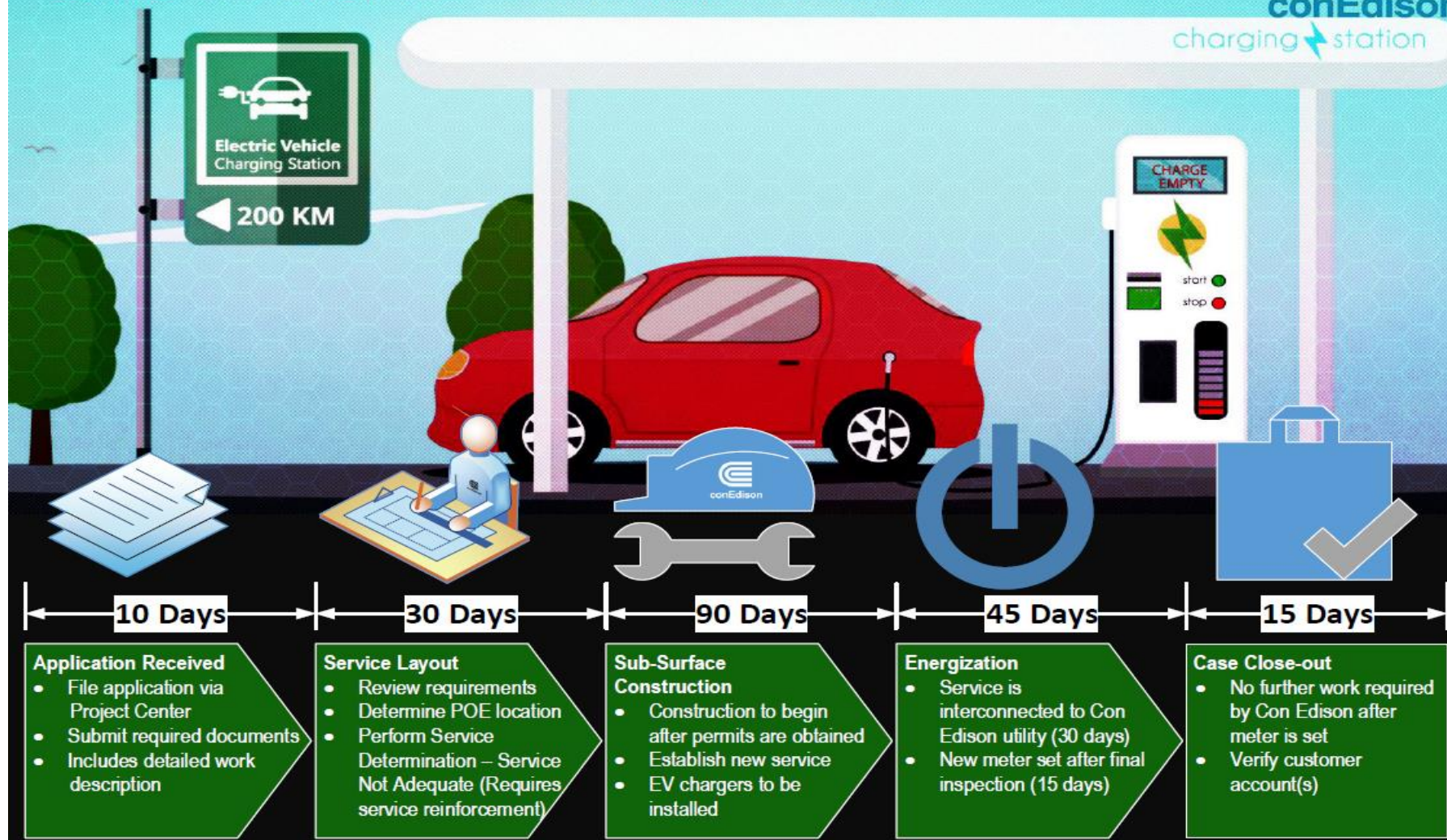
Electric Vehicle Customer Project Flow

Service Not Adequate – Service Reinforcement

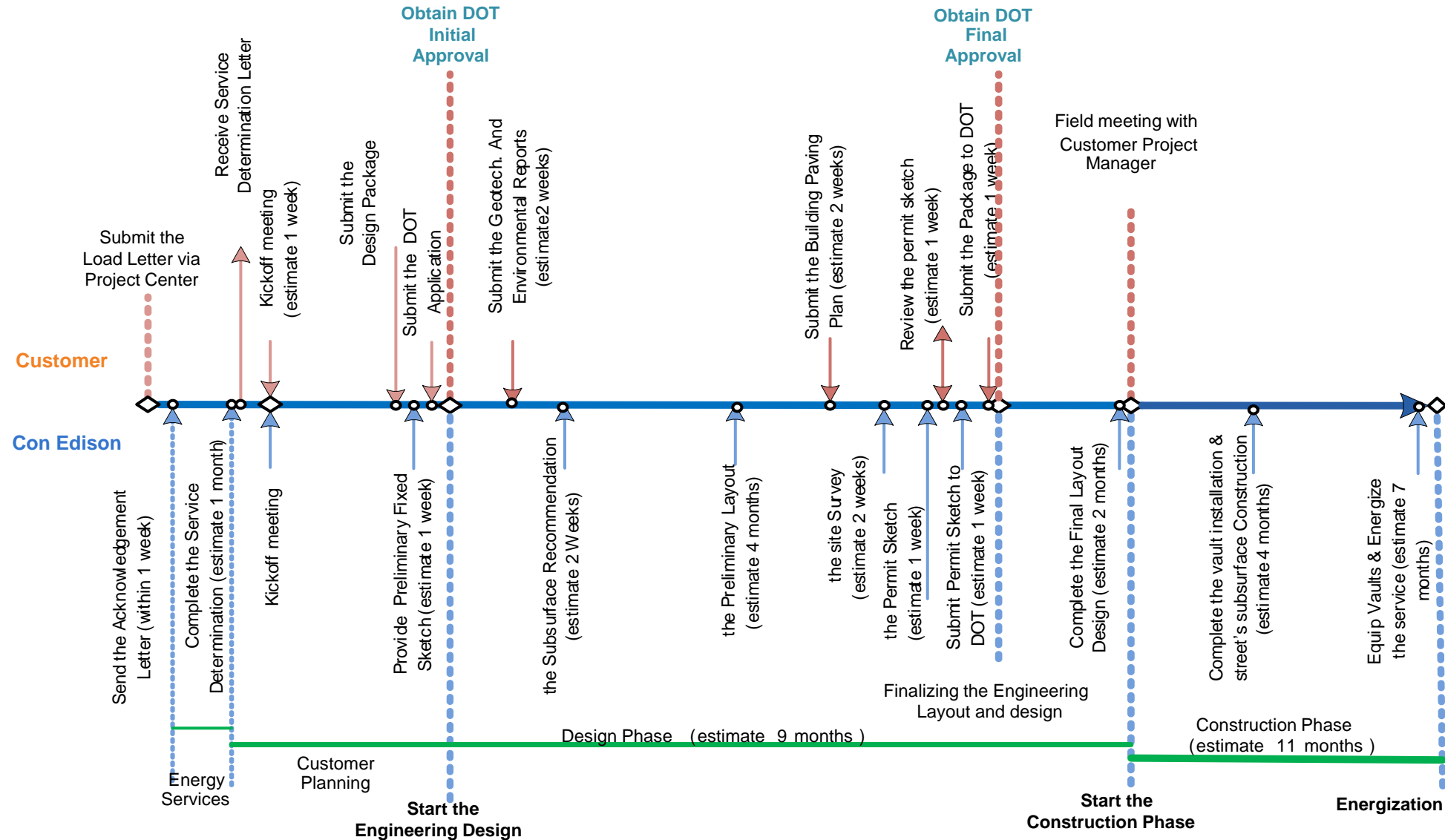


conEdison

charging station



Time Frame: Transformer Vault installation



Additional considerations

- **Load requirements**
 - How much power is needed
 - Load is not proportional
- **Geographic**
 - Embargos (ie: NYC Holiday embargo)
 - Moratoriums (ie: system reliability concerns)
 - Construction complications (ie: high traffic areas may prove challenging for permitting)
- **Environmental**
 - Existing soil conditions
 - Additional permitting requirements

Available References

- **Contact** - vitolor@coned.com
- **Con Edison blue book**
<https://www.coned.com/-/media/files/coned/documents/small-medium-largebusinesses/electricbluebook.pdf?la=en>
- **Con Edison rates and tariffs**
<https://www.coned.com/en/rates-tariffs/rates>
- **Electric vehicle information**
<https://www.coned.com/en/our-energy-future/technology-innovation/electric-vehicles>
- **Electric vehicle make ready program**
<https://www.coned.com/en/our-energy-future/technology-innovation/electricvehicles/power-ready-program>

We are always here to help!!!!

Customer Operations Update for Solar & Storage

Raanan Korinow

Project Manager, Customer Operations

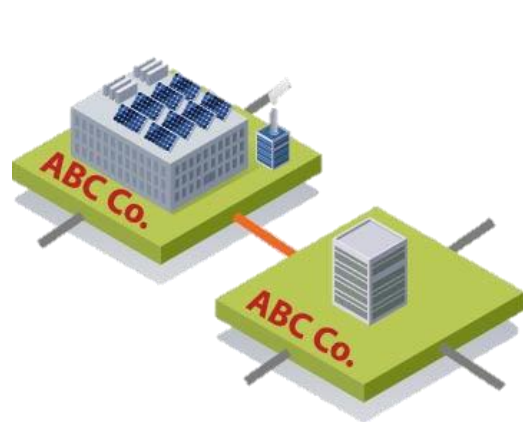
Topics

- New tariffed compensation options for Solar PV, Energy Storage:
 - Remote Crediting
 - CDG Net Crediting
- Customer Benefit Contribution (CBC) charge for mass-market Solar PV customers

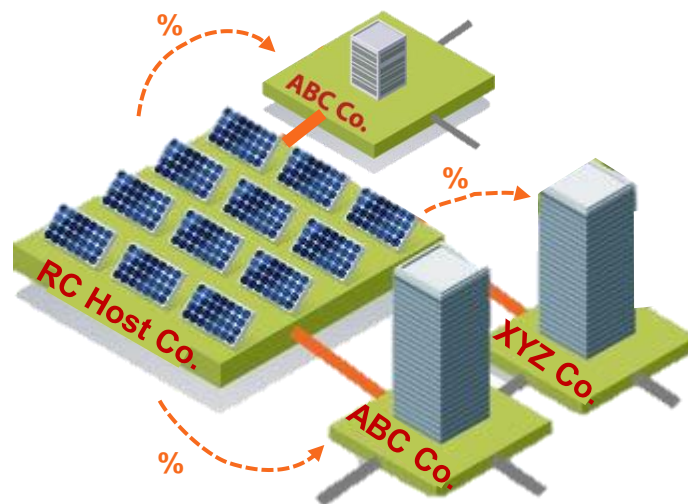
Remote Crediting

- The PSC sunset the Value Stack **Remote Net Metering** (RNM) tariff
- In its place, new “**Remote Crediting**” replacement program is available
- The same Value Stack rates that applied to RNM also apply to Remote Crediting
- The changes took effect September 1, 2021

Major differences between RNM and Remote Crediting



RNM Project



Remote Crediting Project

- Multiple unrelated customers can participate in the same project
- A satellite can now participate with multiple related *and unrelated* hosts
- Credit no longer applied in the order that satellites are billed
- Instead, Host allocates credit to each satellite as a % of the monthly generation by submitting an allocation form to the utility
- Unallocated credit offset's Host account's charges, and remainder can be re-allocated to satellites

Remote Crediting compensation is allocated to subscribers

- Submit Allocation Form (Excel file) with Form G





	RC Customer (designated above)	Con Edison Account Number	Con Edison Account Name	Allocation Percentage
1	ACME Corp.	850320671200012	ACME Headquarters	40.000%
2	ACME Corp.	850320672300003	ACME Warehouse	10.000%
3	Stark Industries	941320332520082	Stark Labs	10.000%
4	Stark Industries	155623447586120	Stark Midtown	10.000%
5	Stark Industries	965201160228540	Stark Helipad	15.000%
6	Wonka Chocolates	923525630310500	Wonka Industries	15.000%
7				
8				

- Allocation can be updated up to monthly, with 30 days' notice

CDG Net Crediting

- Con Edison has implemented “**Net Crediting**” billing for Community Distributed Generation (CDG)
- For projects that opt-in, Utility will collect subscription fees from CDG subscribers and will remit those fees as a payment to CDG Sponsor
 - The fee is a % of credit from the CDG Sponsor; subscriber’s will therefore see a “net credit” on their bill, equal to the gross credit value less the CDG subscription fee
- Simplifies CDG revenue & collections
- Aims to increase LMI participation in CDG by removing credit checks/barriers
- Became effective in 2021

CDG Billing comparison

		Traditional CDG	Net Crediting CDG
	Subscriber acquisition	By CDG Sponsor	By CDG Sponsor
	Valuation	Value Stack rates	Value Stack rates
	Monetization	Bill credits to Subscribers	Partial bill credits to Subscribers + payment to CDG Sponsor
	Subscription cost recovery	CDG Sponsor bills Subscribers	Utility bills Subscriber as a % of the gross credit value

CDG Net Crediting requirements

- Similar requirements as traditional CDG, plus:
 - Must execute a Net Crediting Agreement (contract) with the utility
 - Submit Net Crediting enrollment forms, including allocation & savings rate

	Con Edison Account Number	Con Edison Account Name	Allocation Percentage	Anchor Satellite
1	850320671200012	ACME Headquarters	40.000%	X
2	850320672300003	ACME Warehouse	10.000%	
3	941320332520082	Stark Labs	10.000%	
4	155623447586120	Stark Midtown	10.000%	
5	965201160228540	Stark Helipad	15.000%	
6	923525630310500	Wonka Industries	15.000%	
7				
o				


CDG Savings Rate:

10%

- CDG savings rate applies to all satellites, except for up to 1 anchor satellite
 - Provide ACH banking information
- See coned.com/dg, Guides & Specifications for enrollment documents

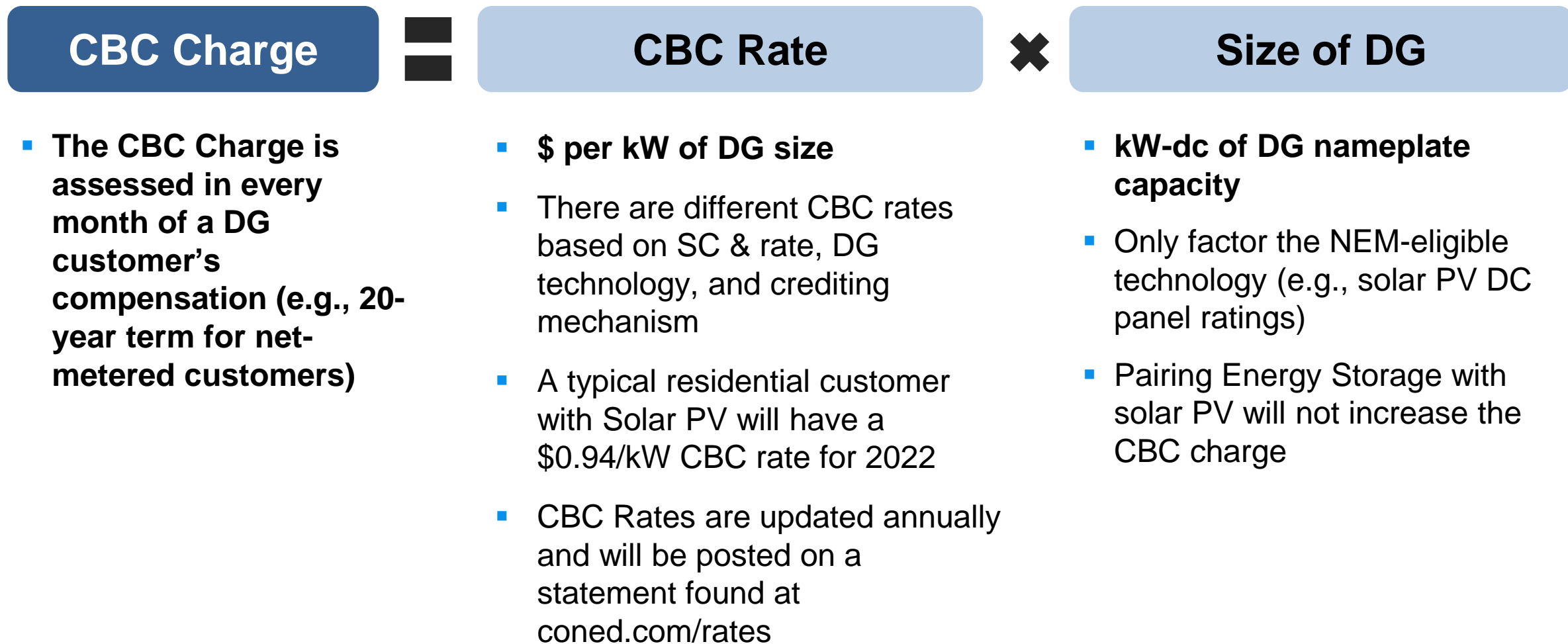
Customer Benefit Contribution (CBC) charge

- In July 2020, the PSC issued its “NEM Successor Order” which applies to all NYS utilities
- Primarily impacts residential & small-commercial Solar PV
- **New monthly charge for mass-market NEM-eligible DG customers *beginning 1/1/2022***
- Surcharge recovers costs of public benefit programs, like Energy Efficiency, bill credits for low-income customers, and NYSERDA funding

	Install DG before 1/1/2022	Install DG on or after 1/1/2022
	Eligible for NEM credits	Eligible for NEM credits with a new non-bypassable “Customer Benefit Contribution” (CBC) monthly charge

- Additionally, NEM-eligible customers on TOU rates to receive monetary crediting

CBC Charge for mass market NEM-eligible customers



Thank you

- Contact us at cdgdevelopers@coned.com