Utility Open House for Federal Customers: Pacific Gas & Electric

April 24, 2024 | 10:00 AM – 2:30 PM PDT

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This Training Offers IACET CEUs

How to obtain your CEUs:

1. Visit the Whole Building Design Guide (WBDG) at wbdg.org to log in or create an account
2. Enroll in the training
3. Attend the training in full
4. Return to your WBDG account's Enrolled courses
5. Select the training's "Proceed to Course" button
6. Complete an assessment
7. Submit a training evaluation
8. Download your certificate.

What's an IACET CEU?

An International Association for Continuing Education and Training (IACET) continuing education unit (CEU) is a unit of credit equal to 10 hours of participation in an accredited program designed for professionals with certificates or licenses to practice various professions.

Agenda

10:00 AM (PDT)	Welcome and Opening Remarks
10:20 AM	Grid-Interactive Efficient Buildings, Demand Response and Time-Variable Pricing
11:10 AM	Carbon Pollution-Free Electricity
11:45 AM	Fleet Electrification
12:20 PM	Break
12:50 PM	Resilience
1:25 PM	Utility Energy Service Contracts (UESC)
2:00 PM	Utilizing General Services Administration (GSA) Areawide Contracts
2:20 PM	Final Q&A, Resources and Next Steps
2:30 PM	Adjourn

FEMP Welcome

Mary Sotos
Director, Federal Energy Management Program
U.S. Department of Energy

Federal Goals Lead to Electrification

Energy Act of 2020

- Use performance contracting to address at least 50% of cost-effective ECMs identified in facility audits (w/in 2 years)

Executive Order 14057

- Net zero federal operations by 2050
- 100% net zero buildings, zero-emission fleets, 100% carbon pollution-free electricity by 2030

Utility Partnerships

Federal Building Performance Standard

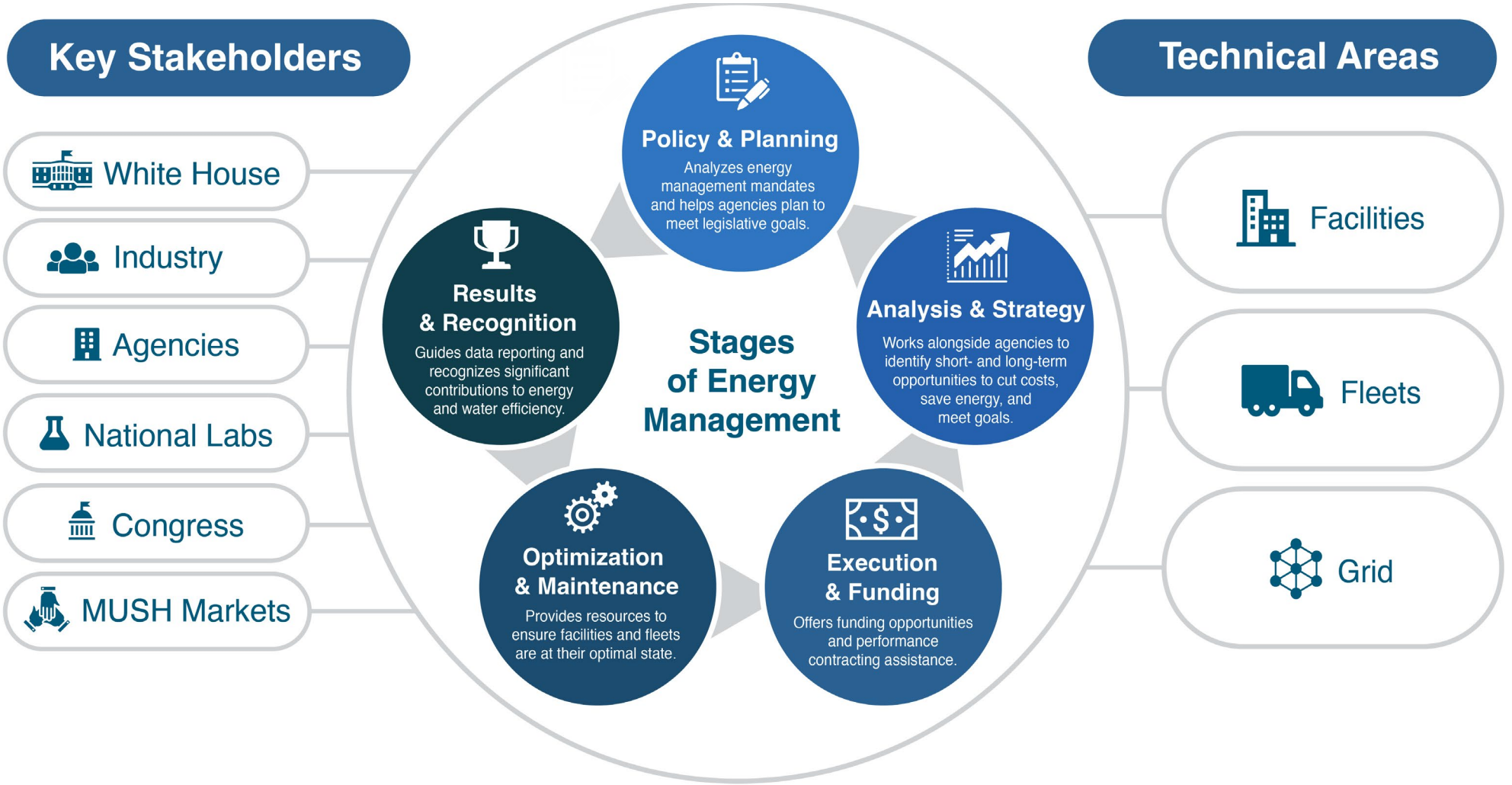
- Support achievement of net-zero emissions for federal building portfolio
- Zero scope 1 emissions from on-site fossil fuel use in 30% of federal buildings by 2030

Climate Smart Building Initiative

- Establish emissions reduction targets delivered through performance contracting
- Increase on-site clean electricity generation

FEMP Empowers Federal Agencies to Lead By Example

FEMP works with key stakeholders to support all stages of energy management in federal agencies' critical areas



FEMP Support Moves Agencies Forward

Access off-the-shelf resources and request specialized support.

Request Technical Assistance

FEMP's technical experts learn about your needs and provide customized support.

Access Tools

Available tools help collect data, assess resilience, identify opportunities for carbon pollution-free electricity, and much more.

Join a Community

Communities are available for federal employees & industry stakeholders to share lessons learned and drive decision-making.

Apply for Funding & Access Support

$250M in AFFECT funding is available as well as performance contracting support.

Get Recognition

Nominate individuals, projects, and sites for a variety of available federal recognition programs.

Take Training

On-site, in-person, and on-demand FEMP-delivered training supports an informed, capable workforce.

FEMP Tools & Support

- Smart Facility Accelerator
- FEDS Spotlight
- REopt
- ESPC
- Technical Resilience Navigator
- Federal Utility Partnership Working Group
- Re-tuning Trainings
- EVI Locate
- UESC
- CDF Calculator
- Treasure Hunts
- Interagency Task Force
- Federal Energy & Water Management Awards
- Energy Exchange
- AFFECT Funding
- Electricity Procurement Analysis

and much, much more...

FEMP's Goal for Today: Agencies Take Action!

Request a consultation with FEMP or your utility to:

- *Discuss your site's energy goals, challenges, and priorities*
- *Identify program offerings that align with your needs*
- *Sign up for incentives*
- *Connect with subject matter experts to learn more about any of the topics discussed today*

Consultation Request Form

Fill out this *linked survey* or scan the QR code below.

FEMP will connect you with the appropriate party for follow-up, which may include FEMP technical experts, utility POCS, and/or the relevant Utility Lead Agency.

PG&E Opening Remarks

Laura Wetmore
PG&E Sr. Director, Customer Engagement

Grid-Interactive Efficient Buildings (GEB)

Jason Koman
Energy Technology Program Specialist
DOE FEMP

Legislative Drivers

- **Energy Independence and Security Act (EISA) of 2007**
  - Numerous mentions (114 to be exact!) of “smart” (e.g., smart grid technologies, smart consumer devices and appliances, smart services and practices)
- **Energy Act of 2020, Smart Building Acceleration**
  - Requires the Secretary of Energy, as a part of the Better Building Challenge, to develop smart building accelerators to demonstrate innovative policies and approaches to accelerate the transition to smart buildings.
  - Establishes an R&D program focused on building-to-grid integration.
- **E.O. 14057, Catalyzing America’s Clean Energy Industries and Jobs through Federal Sustainability**
  - Guidance for both existing facilities (energy efficiency and deep energy retrofits) and new construction and modernization to implement GEB

What are GEBs?

GEBs incorporate energy efficiency, renewables, energy storage, and load flexibility.

GEBs employ these capabilities to flexibly **reduce, shed, shift, modulate, or generate** electric load as needed.

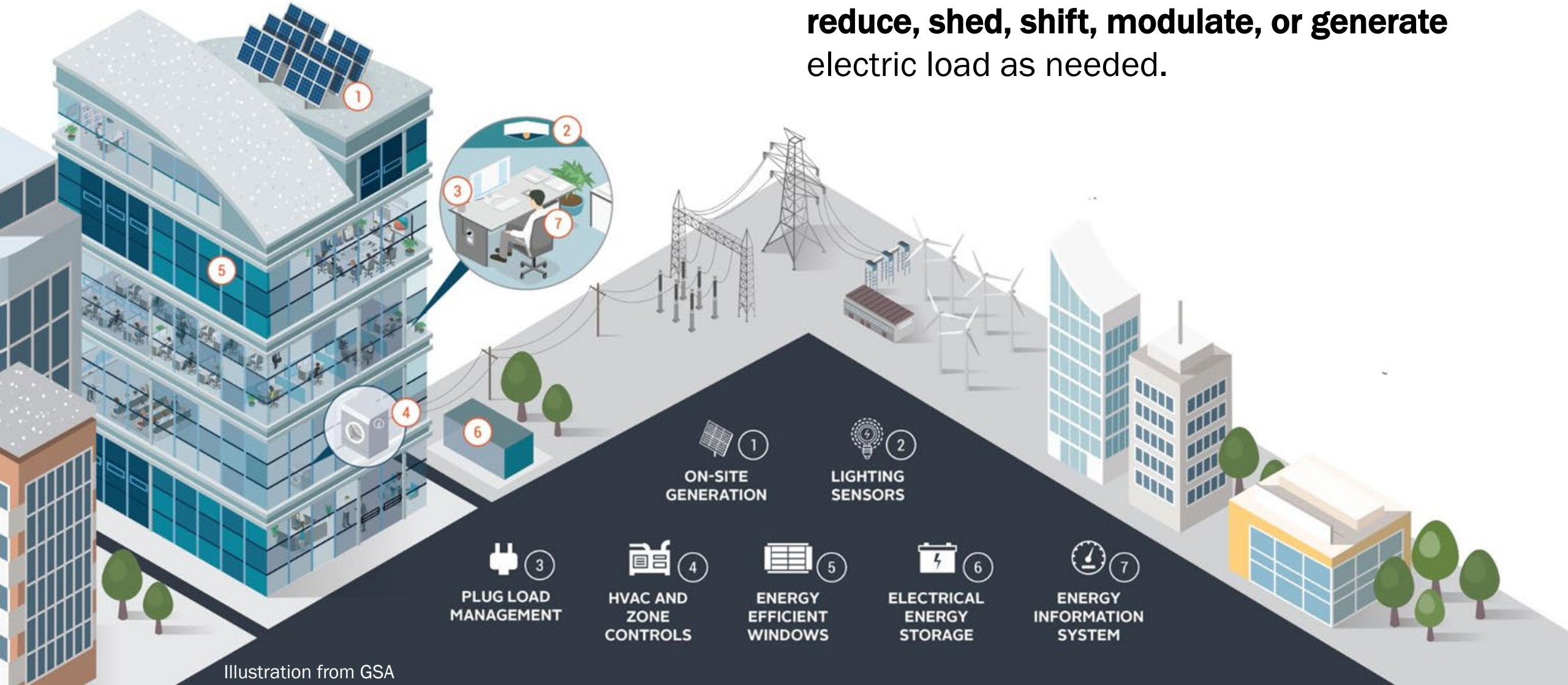


Illustration from GSA

FEMP GEB Program Support

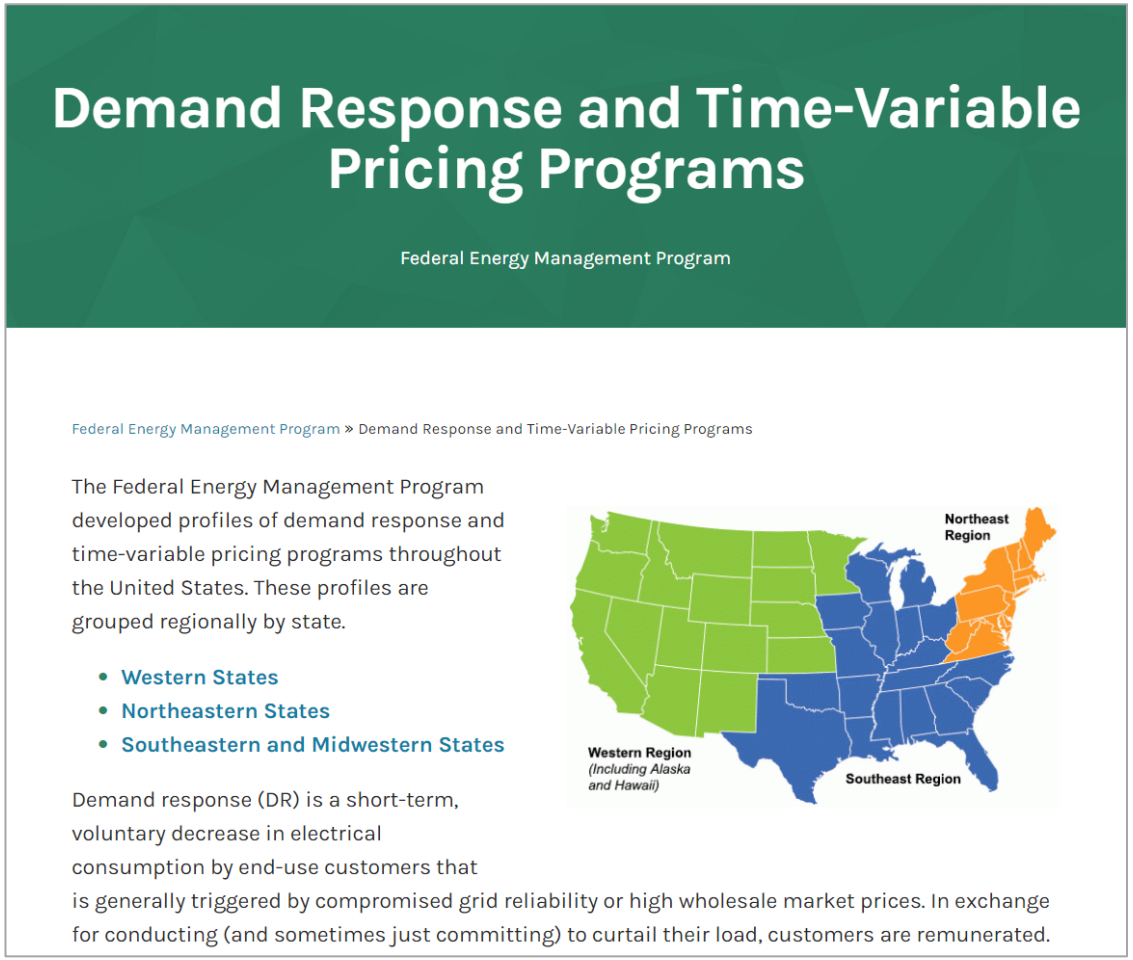
- FEMP's GEB program is available to provide technical assistance and guidance around implementing GEB strategies
  - Technology Insights
  - Financing Guidance
  - Utility Rate and Incentive Considerations
  - Case Studies

GSA Oklahoma City Federal Building Case Study

- Highlights a robust GEB project carried out via an energy savings performance contract (ESPC)
- FEMP's GEB team is available to develop additional cases studies. **Let us help you tell your story!**

Utility Rate Considerations

- **Demand response programs**
- **Coincident peak demand charges**
- **Virtual power plant/aggregator laws**
- **Minimum billing demand clauses**
- **Time-Variable Pricing**
  - Real-time pricing (RTP)
  - Day-ahead hourly pricing
  - Block-and-index pricing (sometimes called block-and swing pricing)



Demand Response and Time-Variable Pricing Programs

Federal Energy Management Program

Federal Energy Management Program » Demand Response and Time-Variable Pricing Programs

The Federal Energy Management Program developed profiles of demand response and time-variable pricing programs throughout the United States. These profiles are grouped regionally by state.

- Western States
- Northeastern States
- Southeastern and Midwestern States

Demand response (DR) is a short-term, voluntary decrease in electrical consumption by end-use customers that is generally triggered by compromised grid reliability or high wholesale market prices. In exchange for conducting (and sometimes just committing) to curtail their load, customers are remunerated.

https://www.energy.gov/eere/femp/demand-response-and-time-variable-pricing-programs

Utility Offerings and Incentives

Favorable Utility Rates

- High peak demand rates
- Large differences between peak and non-peak energy and demand charges
- Terms of Use (TOU) rates available with high on-peak charges

Incentives

- Prescriptive and customized offerings for efficient building equipment and distributed energy technologies, e.g., lighting, refrigeration equipment, HVAC equipment, smart thermostats, photovoltaics, batteries

Table 6. Illustrative Utility Rate Favorability for GEB

Rate Type	GEB Favorability	Total Energy Charges	Total Demand Charges
Low energy and demand rates	Less	$0.05–0.10/kWh	$5–$10/kW
High demand rate (low energy rate)	More	$0.05–0.10/kWh	$10–$20/kW
High demand rate (high energy rate)	Most	$0.10–$0.20/kWh	$10–$20/kW

https://www.nrel.gov/docs/fy21osti/78190.pdf

Demand Response and Time-Variable Pricing (DR/TVP)

Billie Holecek
Research Associate
Lawrence Berkeley National Lab

What is Demand Response?

Demand response (DR) is a short-term, voluntary decrease in electrical consumption by end-use customers to stabilize the grid, triggered by:

- compromised grid reliability,
- high wholesale market prices, or
- supply/demand imbalance.

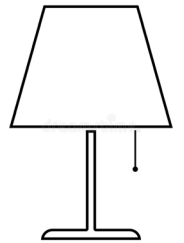
Image Source: DOE (www.energy.gov/oe/demand-response)

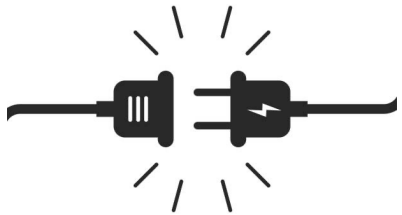
Program Types

- **Formal DR Programs**
  - Run by utilities and independent system operators (ISO)/regional transmission organizations (RTO)
  - Reliability-based and price-based programs
- **“Informal” DR – load management to:**
  - Reduce demand charges
  - Lower electricity costs by optimizing TVP rates

Load Management Techniques (Common Examples)

- **Lighting**
  - Dimming via control
  - “Bi-level” switching: 2 or 3 lit lamps/fixture to 1 or 2
- **Cooling**
  - Raising set points of space or chilled water
  - “Demand-limiting” air handling unit (AHU) fans
- **Plug Load**
  - Notifying employees to minimize lighting and office equipment power (via on-off switch or sleep settings)
- **Miscellaneous**
  - Shut down (and power off) bank of elevators
  - Shut down pool and irrigation pumps





DR/TVP Programs Benefits

Participating in DR/TVP programs can help agencies meet federal goals by:

- Lowering the price of energy consumed
- Enabling greater use of on-site storage and generation
- Reducing carbon emissions during periods of peak demand
- Contributing to federal resilience and grid stability through reduced peak energy consumption

Authorizing Law

Both informal (tariff-based) and formal DR Programs are legal

- 10 USC 2913/2919 (DoD) and 42 USC 8256 (civilian)
  - "Agencies are authorized and encouraged to participate in programs to increase energy efficiency and for water conservation or the management of electricity demand conducted by gas, water, or electric utilities and generally available to customers of such utility"
  - "Each agency may accept financial incentives, goods, or services generally available from any such utility, to increase energy efficiency or to conserve water or manage electricity demand."

Case Studies

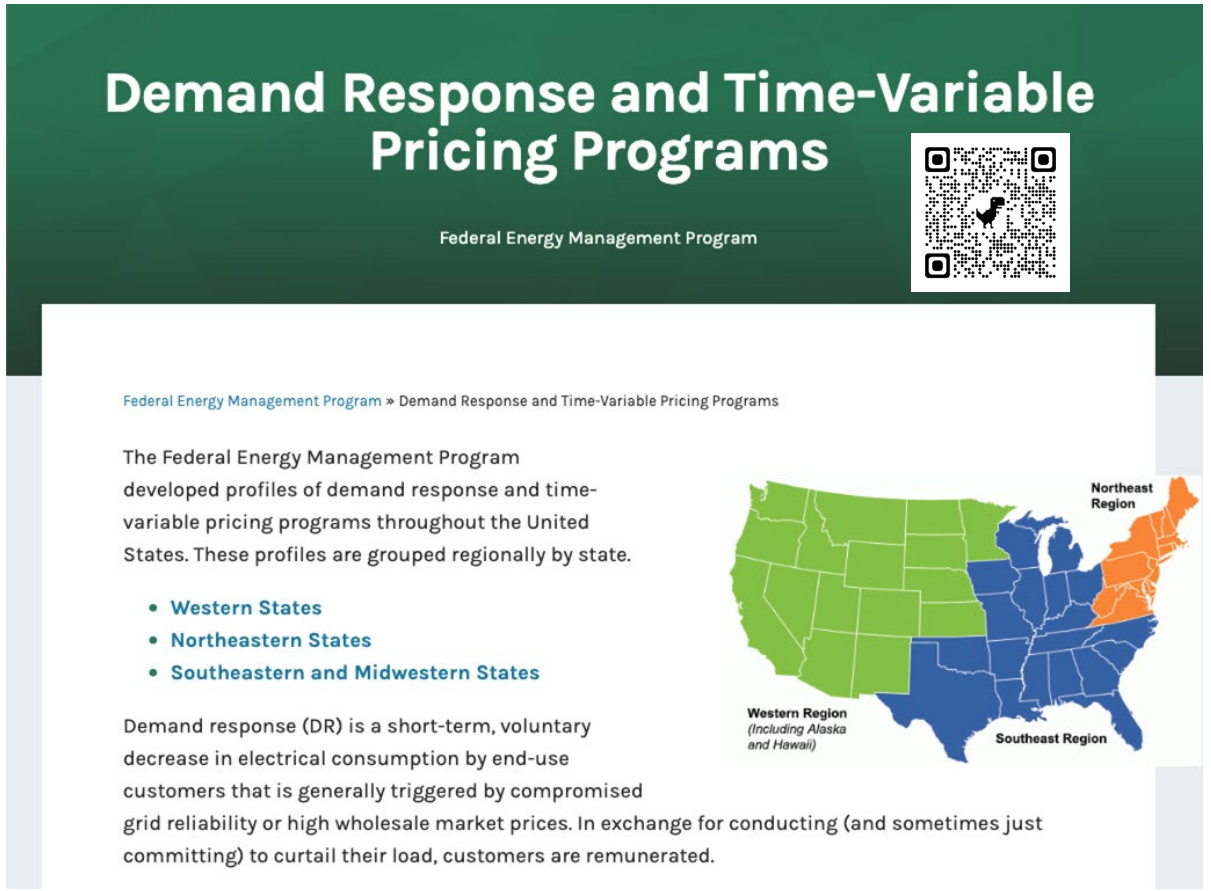
Managers of the William S. Moorhead Federal Building enrolled in a TVP rate and **implemented load shifting resulting in $285k of savings (12%) over the first 3 years.**

VA MD Health Care System enrolled 1-3 MW annually in a demand response program. Using small generators and manual curtailment strategies **they have been able to save over $490,000 to date**.

GSA Region 9 enrolled 11 facilities in PG&E's northern California territory in the statewide Emergency Load Reduction Program. **Sites enrolled in this program receive $2/kWh for their reduction when an event is called.**

Resources and Support

- FEMP's Demand Response and Time-Variable Pricing Website
- FEMP's Technical Assistance Portal
- FEMP's On-Demand Training on Demand Response and Time-Variable Pricing



https://www.energy.gov/femp/demand-response-and-time-variable-pricing-programs

PG&E's
Automated Demand Response Program

→*Automate your response in DR events*

Wendy Brummer
wlbg@pge.com

OVERVIEW

Program Summary

- Incentives to offset the costs of automated control technologies that receive signals during DR events to lower energy use
- Customers work through their account manager and Energy Solutions to assess automation projects for DR potential
- Projects receiving incentives must commit to participate in an eligible DR program for three to five years.
- Customers encouraged to participate in EE offers as well to achieve permanent lower consumption

3rd Party Implementer:

Energy Solutions

RESOURCES

AUTODR Website (pge.com) ADR Fact Sheet (pge.com)

AUTOMATED DEMAND RESPONSE PROGRAM MANUAL (pge.com)

ADR Guidelines 2024

SUCCESS STORIES

"PG&E's Automated Demand Response incentive program made it possible to install automation equipment and major control system upgrades, which improved the flexibility of our operations."

Dean Butler

Electrical Engineer, Berrenda Mesa Water District

"With the Automated Demand Response program incentives, we were able to improve operating flexibility at four facilities. The installed systems overlaid existing facility controls, and allowed for additional capabilities over our existing equipment."

Sara Neff

Senior Vice President for Sustainability, Kilroy Realty

"With so many pumps involved, capital costs were a concern. Funding from PG&E's Automated Demand Response program allowed us to move the project forward and covered most of the equipment and installation costs."

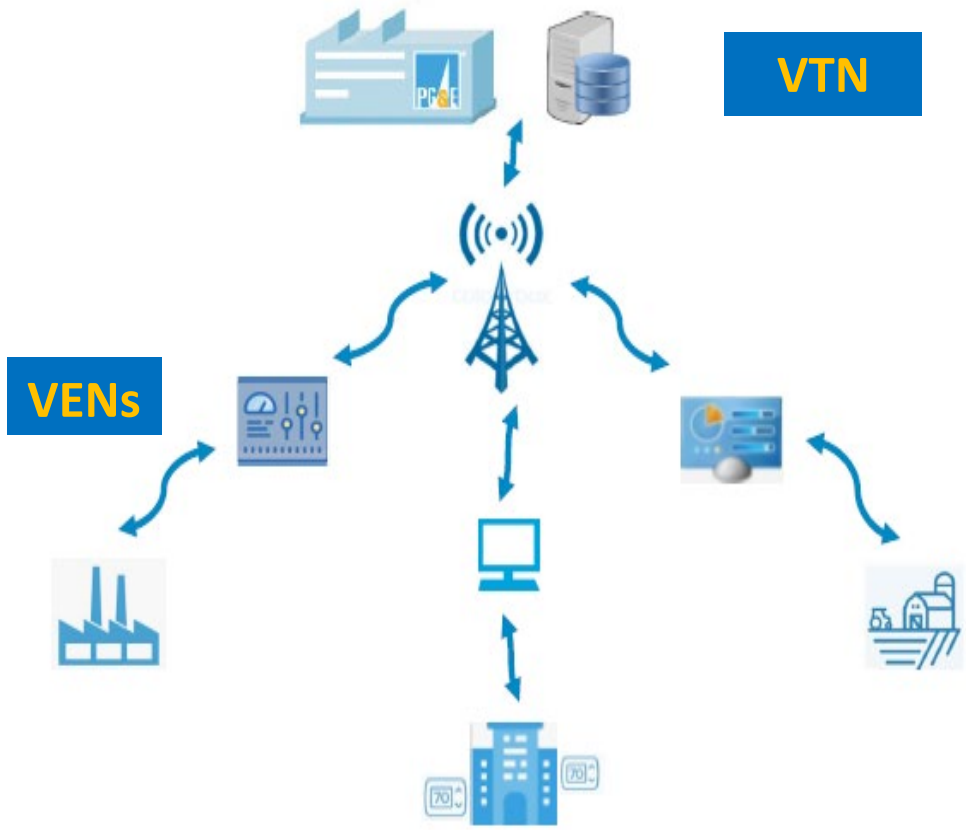
Dan Cummings

Chief Executive Officer, Capay Farms

How it Works

Operational Details

- PG&E provides a “Virtual Top Node”
- VTN can integrate with PG&E DERMS in the future for orchestrated dispatch
- Control technologies are called “Virtual End Nodes”
- Commercial/industrial properties receive signals from PG&E’s VTN with commands during DR events through WiFi



Dispatch System:

Olivine DER™ software

Standard:

OpenADR Alliance

Programs that Qualify

Must commit 3-5 years to DR program participation

Eligible Programs:

1. Capacity Bidding Program
2. Peak Day Pricing
3. Demand Response Auction Mechanism (DRAM)

Which program is right for you?

[Business Demand Response Programs (pge.com)]

Business Demand Response Program Comparison Chart

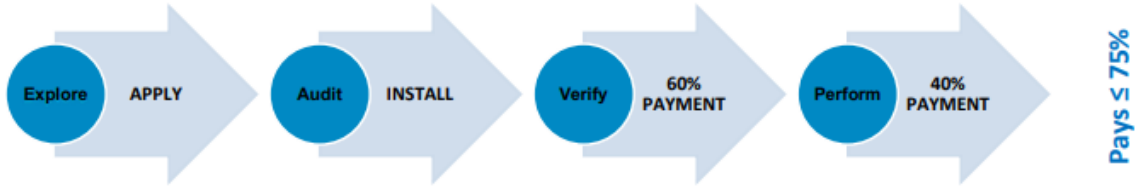
	Peak Day Pricing	Base Interruptible Program	Capacity Bidding Program	Emergency Load Reduction Program	Automated Demand Response
Availability	Jun-Sept 4-9 p.m.	Year-Round 24x7	May: Mon-Sat, 5-10 p.m. June-Sept: Mon-Sat, 4-9 p.m. Oct: Mon-Fri, 4-9 p.m.	May-Oct 4-9 p.m.	N/A
Event Duration	5 hours per event 9-15 Event Days per year	1 event per day max 6 hours per event max 10 event days per month max or 180 event hours per year max	6 events per month max or 30 event hours per month max	5 hours per event max 60 event hours per year max	N/A
Event Notification	Day-Ahead	Day-Of (15 or 30 minutes)	Day-Ahead	Day-Ahead or Day-Of	N/A
Eligibility	Must be on a PG&E Business time-of-use rate plan with 4-9 p.m. peak hours, or PG&E Agricultural time-of-use rate plan with 5-8 p.m. peak hours Can be dual-enrolled with Emergency Load Reduction Program	Must be on a PG&E non-residential electric demand time-of-use rate plan 100 kW or higher maximum demand during peak time-of-use hours Subject to a pre-enrollment qualification process to demonstrate ability to participate and must provide load reduction plan	Aggregator specified	1 kW load drop potential	Must be enrolled in an eligible PG&E Demand Response program: Peak Day Pricing Capacity Bidding Program Demand Response Auction Mechanism
Disqualifiers	Must not be enrolled in the Base Interruptible Program or Capacity Bidding Program	Full Standby Rate schedules AG-R and AG-V	Wholesale power customer (e.g. WAPA) Full Standby Rate schedule NEMCCSF	Must not be enrolled in another CAISO integrated/ supply-side Demand Response program, with the exception of the Base Interruptible Program.	None
Enrollment Channel	Direct with PG&E	Direct with PG&E 3rd Party Aggregator	3rd Party Aggregator	Direct with PG&E 3rd Party Aggregator	Apply with PG&E

The Application Process

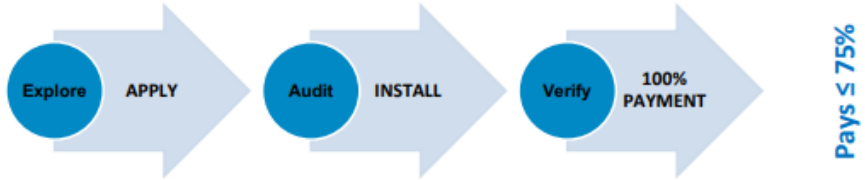
Standard (Calculated) or Fastrack (Deemed) – two different options for application processes. Energy Solutions will help identify the right approach for a project.

Standard Application Projects (Two Options)

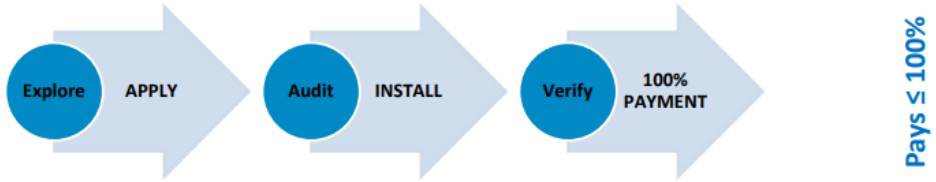
Option One - Requires three years of participation in an ADR eligible DR Program:



Option Two - Available for applications signed after January 1, 2022 - Requires five years of participation in an ADR eligible DR program:



FastTrack Application Projects



FastTrack is a streamlined application process for specific building types with less than or equal to 499 kW average peak summer demand per service agreement identification (SAID)

FastTrack business sectors:

- Office
- Retail
- Quick serve restaurant
- Conditioned warehouse
- Grocery

ADR Eligible Projects & Covered Costs

PROJECTS

For the project to be eligible for the ADR Program incentives it must meet the following criteria:

1. ADR controls are new to the site/SAID and the control which enables DR is not already installed
2. The system does not require manual intervention to initiate the pre-programmed load change sequence during a DR event
3. Provides incremental kilowatt (kW) and kilowatt hour (kWh) load changes relative to existing (baseline) equipment
4. Can include multiple project sites in a single project application, provided that the requirements listed below apply:
   - Sites can have entirely different DR measures, operating hours, and energy use profiles o The same Customer must own and/or occupy the Customer project sites
   - Each site must have a unique service agreement identification (SAID) and be in PG&E's service territory
   - Customer must be able to initiate DR event participation at each facility or site individually, based on the SAID with their control system.

COSTS

1. ADR control equipment parts and materials
2. Labor for design, installation, programming and commissioning of ADR control equipment (external and internal labor)
3. ADR project management labor (external and internal)
4. Installation labor and equipment used to relay metering signals from PG&E's electric meter into the ADR control system to manage the ADR impact in real-time during a DR event
5. Software and programming costs required for local hardware controls or local facility energy management systems (EMS) for enabling local ADR DR event strategies at the facility site (see cloud-based projects)
6. Subscription fees for cloud-based services to cover the DR program participation requirement
7. Up to five years of cellular service to specifically communicate with ADR controls
8. Dedicated DSL line to specifically communicate with ADR controls
9. Additional hardware and programming needed to pass the stranded asset test


Thank
You!

Emergency Load Reduction Program (ELRP)

Non-Residential Customer Experience

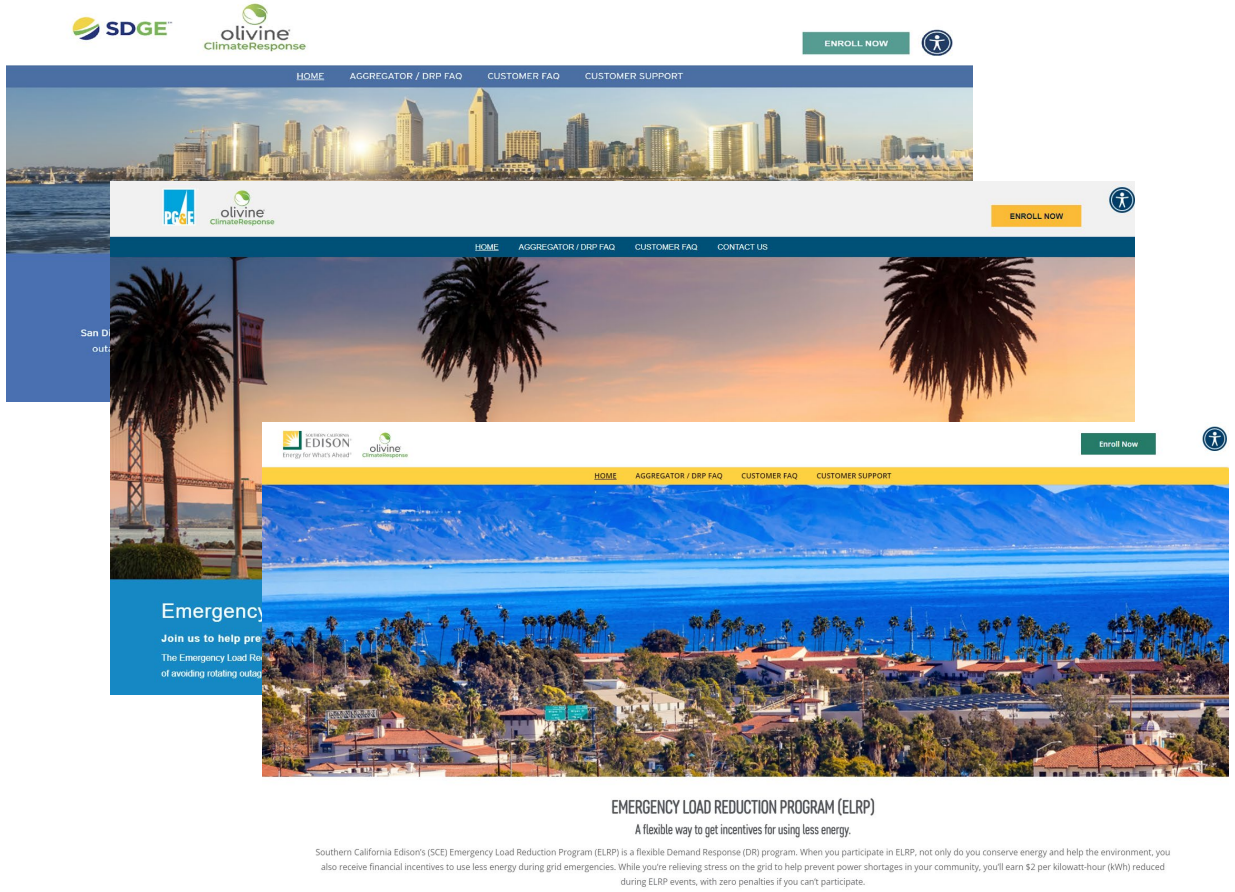
Beth Reid

Federal Energy Management Program (FEMP)

April 24, 2024

Olivine Introduction & Role in ELRP

- About Olivine, Inc.
  - California-based company focused on helping the state meet its ambitious renewable energy and GHG reduction goals
  - Proven track record in undertaking complex utility programs
  - Learn more at www.olivineinc.com
- Role in ELRP
  - Implementing the ELRP on behalf of IOUs
  - Responsible for providing the infrastructure and program management



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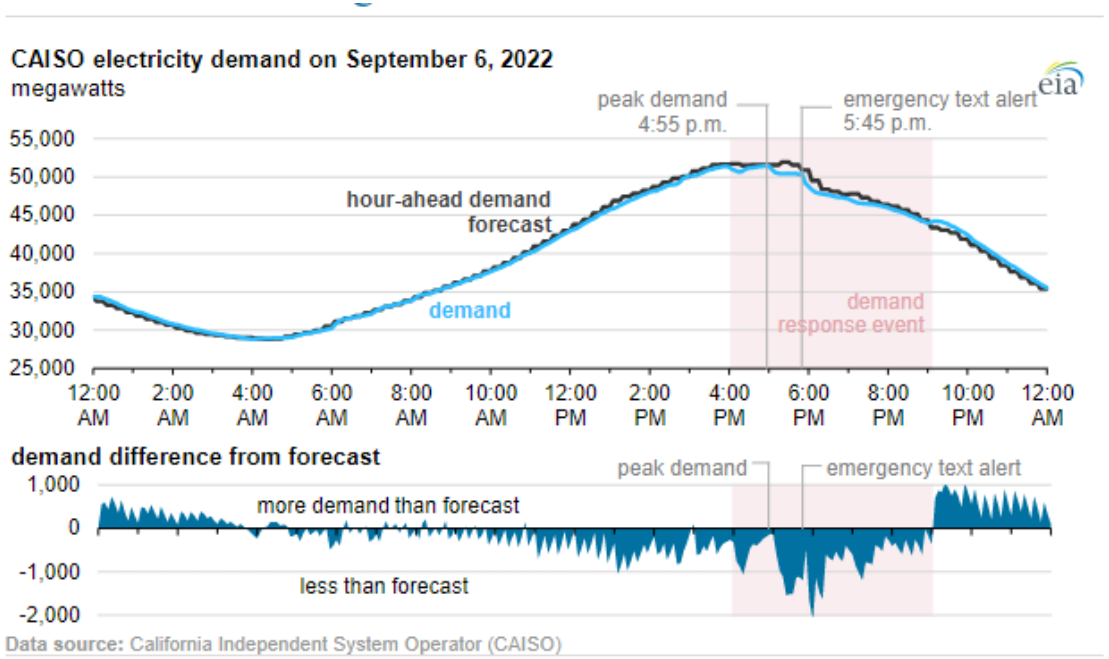
ELRP Background



- Program born out of 2020 heat wave and rotating outages
- Event Statistics:
  - 2021: 4 events, 13 event hours (Group A only)
  - 2022: 9 emergency events, 2 administrative events (minimum dispatch), 30-50 event hours
  - 2023: 3 emergency events, 2-6* administrative events (minimum dispatch), 5-30 event hours
- 2022 Heat Wave
  - Extreme heat throughout the west put significant strain on the electricity system
  - Forecasted demand in CAISO territory exceeded supply by 2-4 GW at times
  - As a result, there were 11 event days (10 consecutive) and 30-50 event hours for ELRP participants

*Note there is a range in the number of administrative or test dispatches due to the differing minimum dispatch hours for the different Group A aggregator subgroups.

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ELRP Overview

What is the Emergency Load Reduction Program (ELRP)?

- CPUC ordered IOUs to develop & administer ELRP in rulemaking 20-11-003
  - Decision 21-03-056 laid out the requirements for IOUs to implement the ELRP by May 1, 2021
  - Subsequent Decisions 21-06-027, 21-12-015, and 23-12-005 made modifications to the ELRP
- 7-year pilot program, 2021-2027 (A.6 residential subgroup sunsets in 2025)
- Main Goals:
  - Access additional load reduction during times of high grid stress and emergencies
  - Avoid rotating power outages while minimizing cost to customers
- Program offers financial incentives to reduce energy usage during times of high grid stress and emergencies
- Utilized for system-wide CAISO grid reliability needs, not localized grid needs

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ELRP Overview

Program Parameters	
Availability	May – October; 7 days a week; 4-9 PM 60-hour annual dispatch limit Dispatches can occur on consecutive days
Incentive Rate	$2/kWh ($1/kWh for PSR) No penalties for non-performance
Event Triggers*	CAISO Flex Alert, Watch, EEA 1-3 Notices
Event Notification	Day-Ahead & Day-Of Events (non-PSR only)
Event Duration	Non-PSR: 1-5 hours (1-3 hours for A.4/A.5); PSR: 5 hours only
Prohibited Resources	Allowed for load reduction if not in DAC
Exports	Participants with interconnection export permits can be compensated for exported energy

Participants	
Subgroup	**Target**
A1	**Non-Residential**
A2	BIP & Other Non-Res Aggregators
A3	**Non-Residential Rule 21 Exporting DERs**
A4	VPP Aggregators
A5	Vehicle Grid Integration Aggregators
A6	Residential (Power Saver Rewards)
B1	3rd Party DRPs
B2	CBP aggregators

Directly Enrolled Customers | **Out-of-Market Aggregations** | **In-Market Aggregations**

*Note that not all of these notices trigger events for all subgroups. EEA Watch and EEA 1-3 notices trigger events for aggregator subgroups. IOUs may trigger events based on other CAISO notices or on alternative criteria to meet minimum dispatch hours.

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US Federal Facilities in ELRP

Creating Awareness

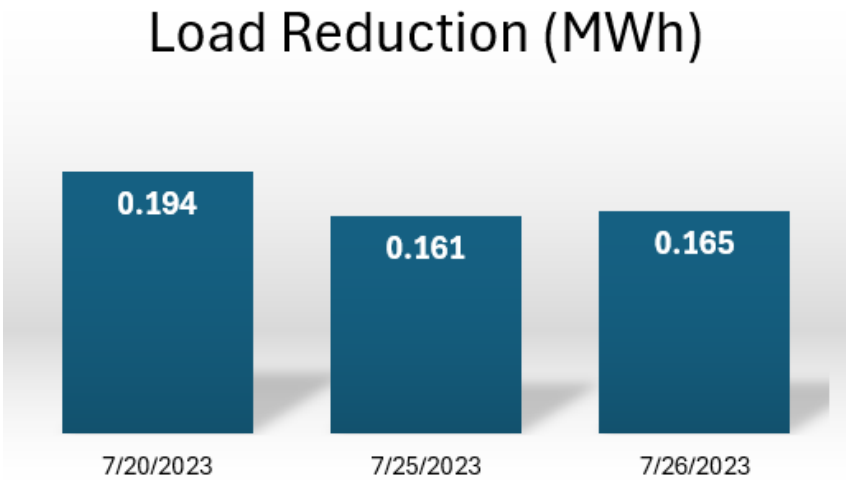
- In October 2022, Olivine partnered with PG&E to deliver a presentation to highlight benefits of ELRP participation
- Demonstrated how simple actions such as pre-cooling could translate to $$$ in the program

Analysis and Enrollment

- PG&E identified 46 buildings across 15 service agreements with high DR performance potential
- Account reps worked with Olivine to enroll these accounts in the program in 2023

Performance

- In 2023, enrolled GSA facilities were able to deliver over 0.5MWh of load reduction



PROGRAM DETAILS

Subgroup A.1 Details

- Bundled and unbundled non-residential customers that meet all the following criteria may directly participate in ELRP:
  - Customer's service account is classified as non-residential; and
  - Customer's service account must be able to reduce load by a minimum of 1 kW during an ELRP event
  - Customer is not simultaneously enrolled in another supply-side DR program offered by an IOU, third-party demand response provider (DRP), or community choice aggregator (CCA), with the exception that dual enrollment in PG&E's Base Interruptible Program (BIP).
    - If an eligible BIP customer is participating with a BIP aggregator, then the BIP customer must participate under Sub-Group A.2.

Subgroup A.3 Details

- Bundled and unbundled non-residential customers that meet all the following criteria may directly participate in ELRP:
  - Customer's service account is classified as non-residential; and
  - Customer is not simultaneously enrolled in any market-integrated DR program offered by an IOU, third-party DRP, or CCA; and
  - Customer possesses a behind-the-meter (BTM) Rule 21-interconnected device (including Prohibited Resources) with an existing Rule 21 export permit; and
  - Customer's BTM Rule 21 interconnected device meets the Minimum Export Threshold of 25kW for at least one hour in compliance with Rule 21 and other applicable regulations and permits during an ELRP event.

Enrollment Process

Back-up Generators

- Use of prohibited resources (BUGs) located in a Disadvantaged Community (DAC)* are not permitted
- Outside of DACs, non-residential BUG use **is only allowed when permitted by a Governor's Executive Order** and in compliance with Rule 21 and other applicable regulations and permits during an ELRP event to achieve Incremental Load Reduction (ILR)
- The following resources are defined as prohibited in either topping cycle combined heat and power (CHP) or non-CHP configuration:

Distributed generation technologies using:

Natural Gas | Gasoline | Liquified Petroleum Gas | Propane | Diesel

Back-up Generation (BUG) Reporting Data Requirements *(Non-Residential Sites Only)*		
Required Information	**Required if Intending to Utilize in Event if Permitted**	**Optional**
Is a BUG present?	• Location • Fuel Type • Nameplate Capacity • PPA Attestation	Notice time
Intent to utilize during event (yes/no) if permitted		Ramp time

*Information on DACs is available through OEHHA: https://oehha.ca.gov/calenviroscreen/sb535

ELRP Events

Parameter	Details
Program Availability	• May – October • Seven (7) days per week • 4 p.m. to 9 p.m. (Pacific Time Zone)
Event Duration	• 1-hour minimum • 5-hour maximum
Annual Dispatch Limit	Up to 60 hours
Consecutive Day Dispatches	No constraints (limits)

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Events (continued)

- Test Events
  - One annual Group A required test event, 2-hour duration (only if an actual event is not called by the end of the season)
  - Participants will be compensated for load reduction during a test event
  - Use of prohibited resources during a test event is not permitted and will not be compensated.

Event Triggers and Notifications

- Event Triggers
  - Day Ahead events triggered by Alerts per Energy Emergency Alert (EEA) system
  - Day-Of events triggered by EEA system
- Notifications
  - Notifications can be delivered via email and text (if desired)
  - Day-Ahead notifications will come by 5pm
  - Day-Of notifications will come as soon as trigger is met (~2-3 hr lead time, may be shorter)

Event email template will look like this:

An Emergency Load Reduction Program (ELRP) event has been scheduled. Your participation will help reduce grid stress during this emergency.

Site:	123 MAIN ST San Diego, CA 92105
Event Date:	Weekday, Month DD, YYYY
Event Time:	X PM – X PM

During this event, you are requested to reduce energy. A second notification will be sent if the event ends early.

Thank you for your participation and making an impact!

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ENROLLMENT PROCESS

Enrollment

- There are two enrollment pathways for participants entering the ELRP program:
  - Web Enrollment:
    - Customers can visit the webpage for program information and to initiate enrollment elrp.olivineinc.com
    - The online application requires customer to enroll accounts individually and is recommend when enrolling fewer than five accounts.
  - Offline Enrollment:
    - Customers who wish to enroll five or more accounts have the option to work with an IOU account representative to complete an Excel-based enrollment form and enroll many accounts at once
    - This enrollment option is ideal for customers that want to enroll many meters across multiple accounts or that require their assistance to enroll
  - Note that customer enrollment rolls over year to year - customers do not need to re-enroll

Enrollment Requirements

- Before starting the enrollment process, customers must gather the following information (customers are notified of the required information at the home screen of the web enrollment flow):
  - IOU account number and service address
  - An email address or phone number associated with the account
  - Contact Information (name, email, and phone)
  - Whether any of the meters being enrolled have a back-up generator, including prohibited resources, and Rule 21 Export or Non-Export Interconnection Agreement
  - A Rule 21 Export Interconnection Agreement is required if would like to be compensated for exports
    - Customers do not need to provide evidence of a Rule 21 permit at the time of enrollment - this will be checked by SDG&E on the back end. If a customer is unsure, they can select “Yes” and SDG&E will confirm.
  - Email address for ELRP event notifications
  - Nomination(s), or expected load reduction in kilowatts (kW) during events for each meter
  - Email address for authorized signer of the Terms and Conditions (if submitter is not authorized)

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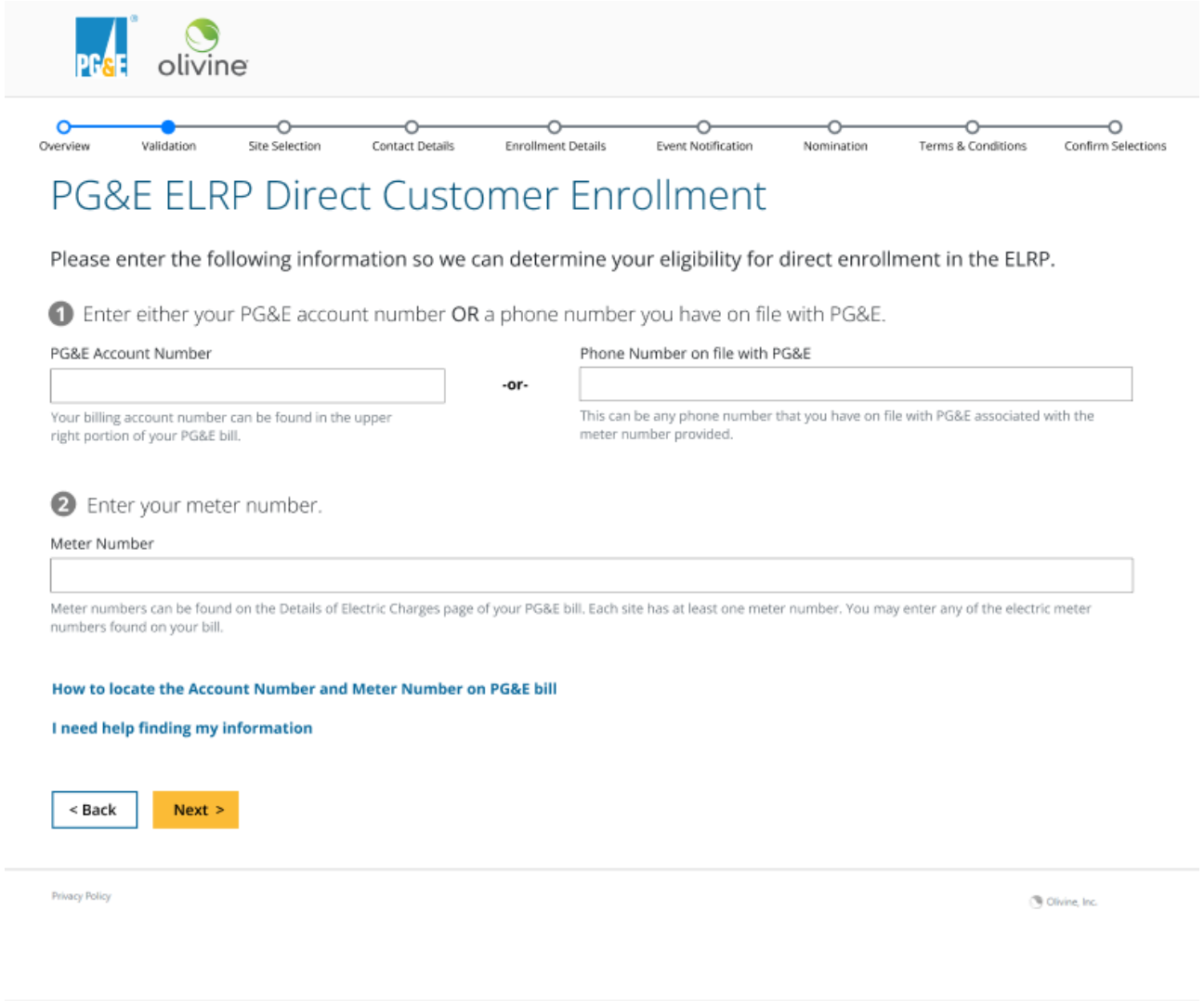
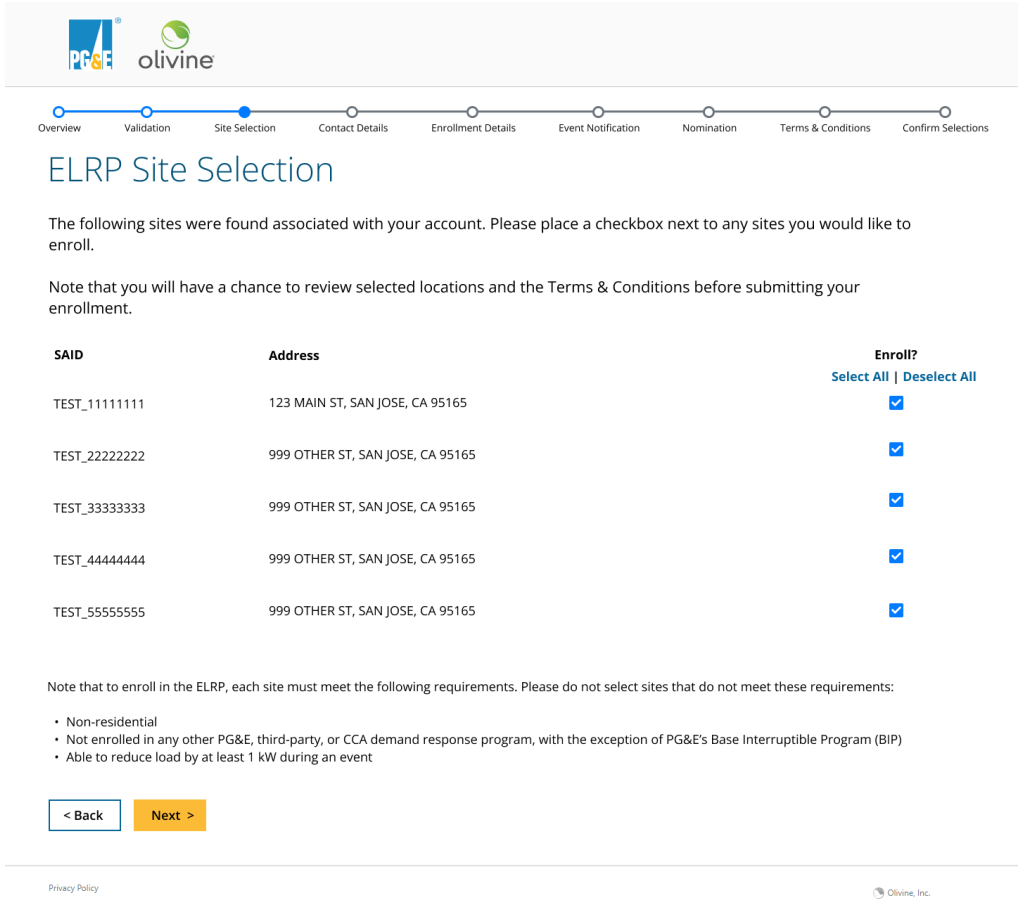
Web Enrollment Process – PG&E

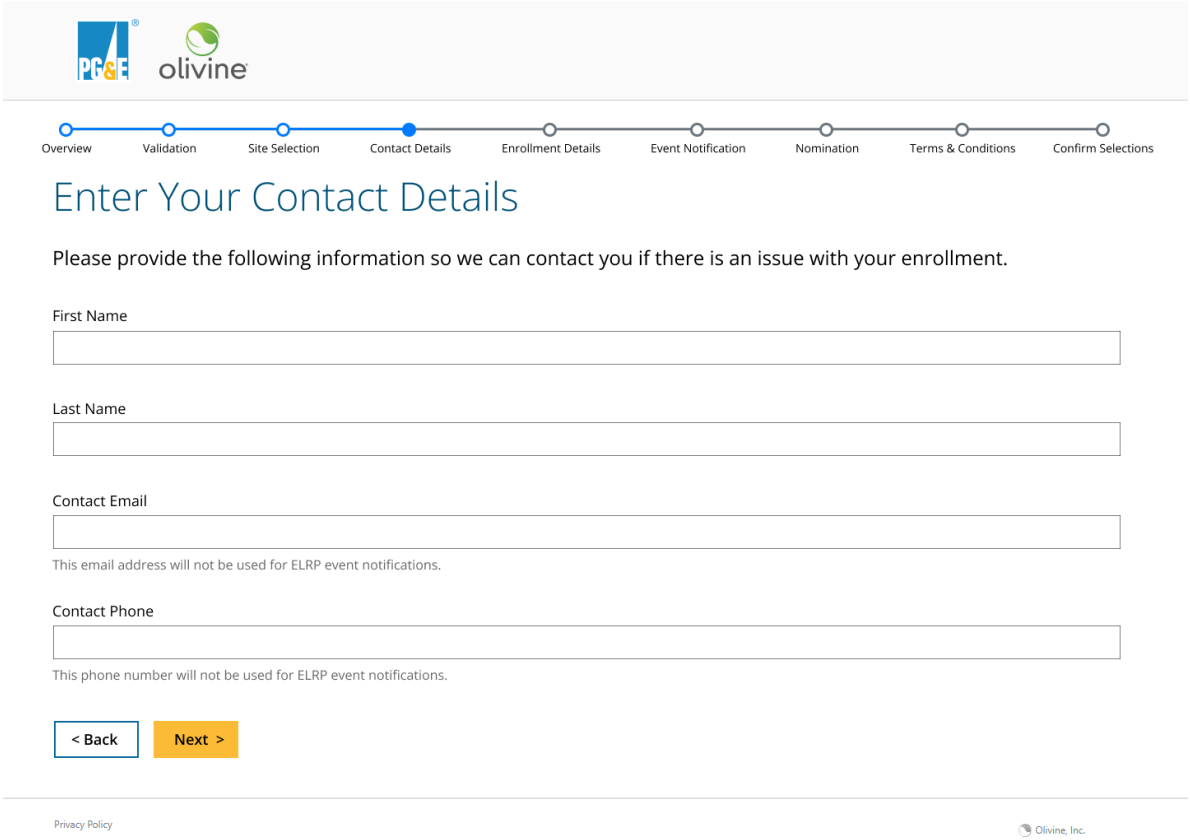
- Customer is prompted through enrollment steps to provide all the information listed themselves.



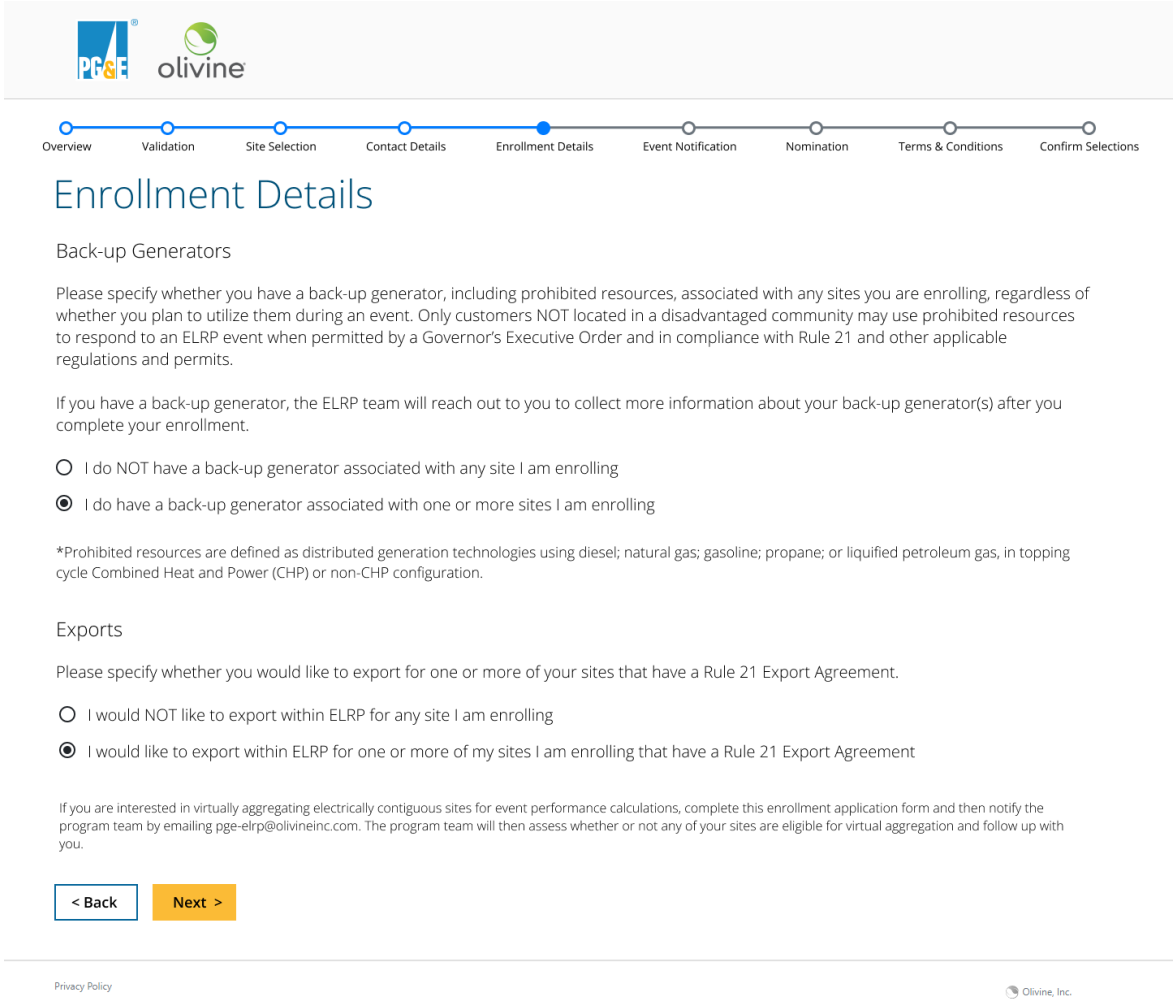
Web Enrollment Process – PG&E



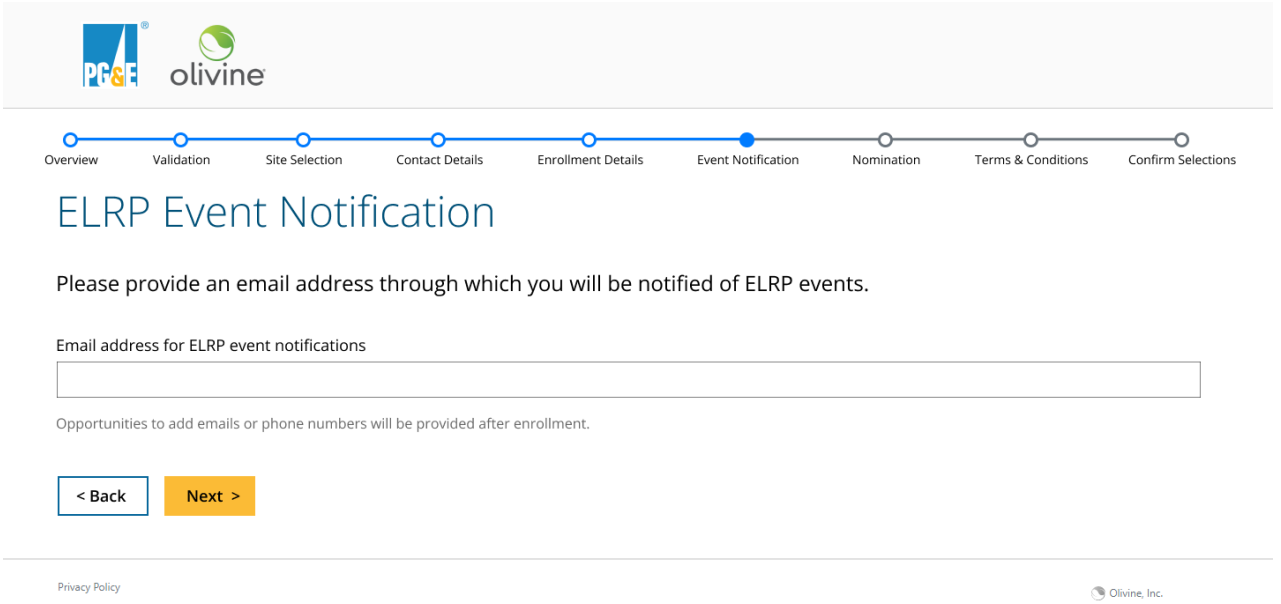
Web Enrollment Process – PG&E



Web Enrollment Process – PG&E



Web Enrollment Process – PG&E



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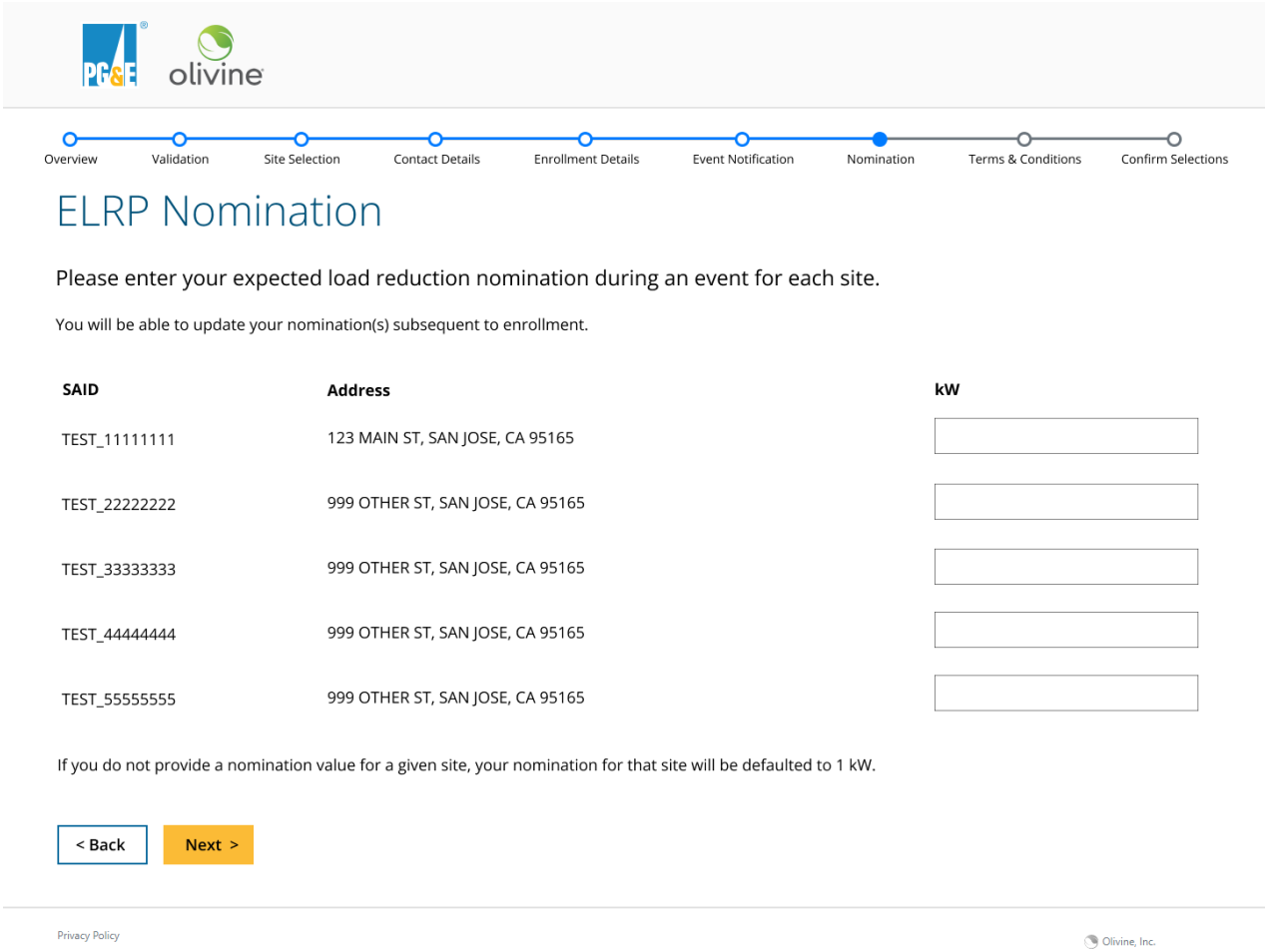
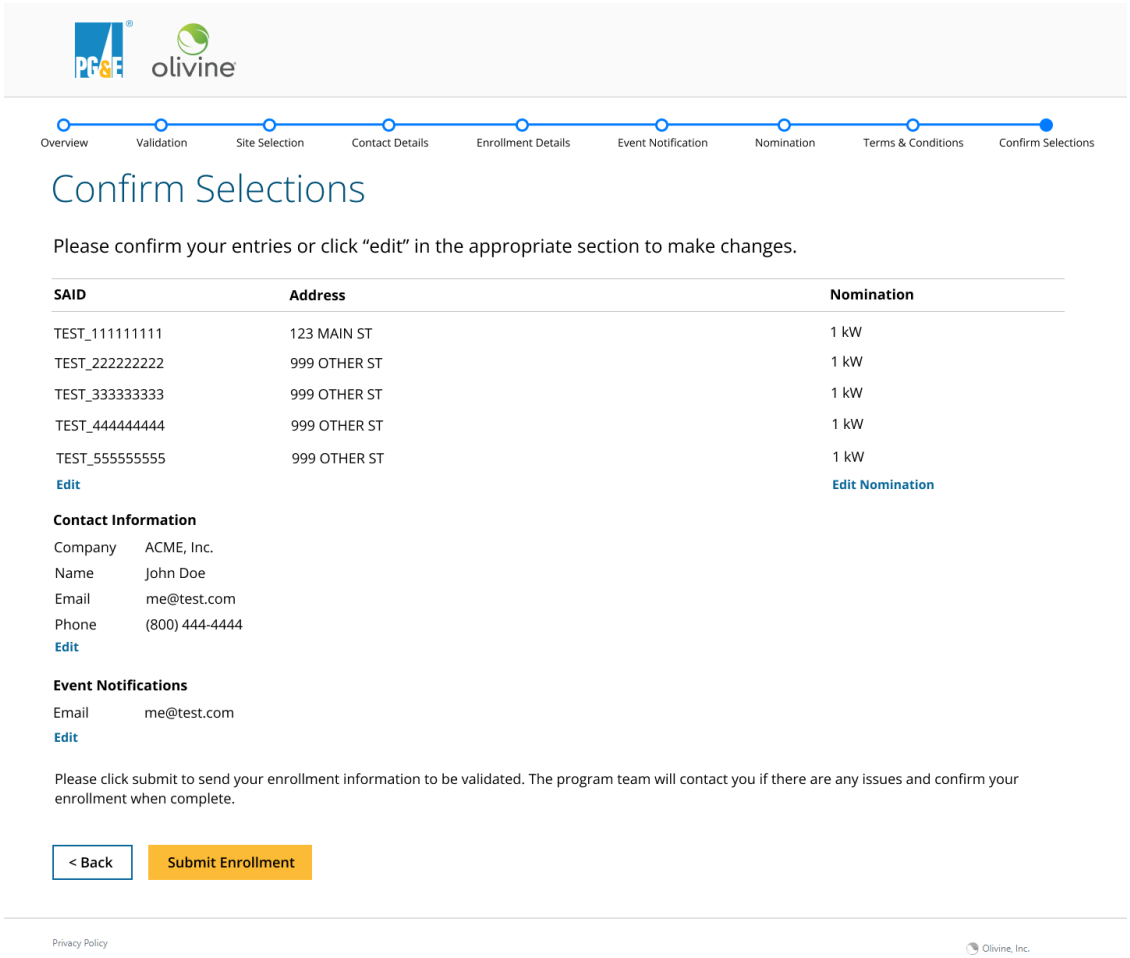
Web Enrollment Process – PG&E



Web Enrollment Process – PG&E



Overview · Validation · Site Selection · Contact Details · Enrollment Details · Event Notification · Nomination · Terms & Conditions · Confirm Selections

Confirm Selections

Please confirm your entries or click “edit” in the appropriate section to make changes.

SAID	Address	Nomination
TEST_111111111	123 MAIN ST	1 kW
TEST_222222222	999 OTHER ST	1 kW
TEST_333333333	999 OTHER ST	1 kW
TEST_444444444	999 OTHER ST	1 kW
TEST_555555555	999 OTHER ST	1 kW

Edit — Edit Nomination

Contact Information

Company	ACME, Inc.
Name	John Doe
Email	me@test.com
Phone	(800) 444-4444

Edit

Event Notifications

Email	me@test.com

Edit

Please click submit to send your enrollment information to be validated. The program team will contact you if there are any issues and confirm your enrollment when complete.

< Back | Submit Enrollment

Privacy Policy — Olivine, Inc.

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Offline Enrollment Process

- All of the same fields collected in bulk in an Excel spreadsheet and sent directly to Olivine for enrollment.

SDG&E Preparer Name:					Olivine has created this template for customers who want to sign up multiple sites for ELRP rather than through the standard enrollment process at app.olivineinc.com/l/sd/SanDiegoGasAndElectricElrp.				
SDG&E Preparer Email:									
Customer Primary Contact Name:					Template Instructions:				
Customer Primary Contact Email:					• Do not change the formatting or any of the header names.				
Customer Primary Contact Phone:					• Green cells are required to process enrollments. Yellow cells are optional.				
T&C's Authorized Signer Name:					• Authorized Signer Email Field: Terms and Conditions will be sent to this person to execute. This may be a different person than the customer primary contact.				
T&C's Authorized Signer Email:					• BUG (Yes/No): If the meter is associated with a BUG, enter "Yes" and Olivine will do follow with the customer to request BUG data.				
Required Field:					• To submit, please send via EDT to support@elrp.sdge.com.				
Preferred Data:									
Customer Name	*Customer Account Number*	*Meter Number*	*Street Address*	*BUG (Yes/No)*	*Export Election (Yes/No/NA)*	*Rule 21 (Export/Non-Export/None/NA)*	*Nomination (kW)*	*ELRP Event Email Address*	*ELRP Event Phone Number*

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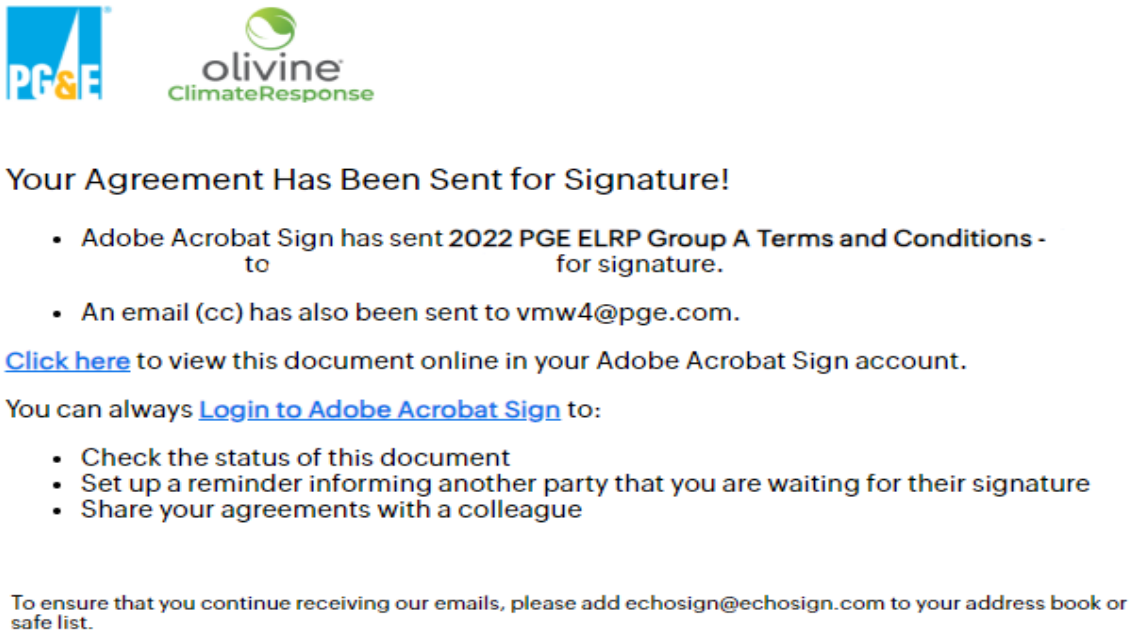
CUSTOMER COORDINATION

Offline Enrollment Process – Signing T&C's

- Once the sites have been submitted for enrollment and their eligibility has been validated, customers are sent Terms and Conditions for signature through Adobe Sign.



Your Agreement Has Been Sent for Signature!

- Adobe Acrobat Sign has sent **2022 PGE ELRP Group A Terms and Conditions -** to for signature.
- An email (cc) has also been sent to vmw4@pge.com.

Click here to view this document online in your Adobe Acrobat Sign account.

You can always Login to Adobe Acrobat Sign to:

- Check the status of this document
- Set up a reminder informing another party that you are waiting for their signature
- Share your agreements with a colleague

To ensure that you continue receiving our emails, please add echosign@echosign.com to your address book or safe list.

Confirmation Email

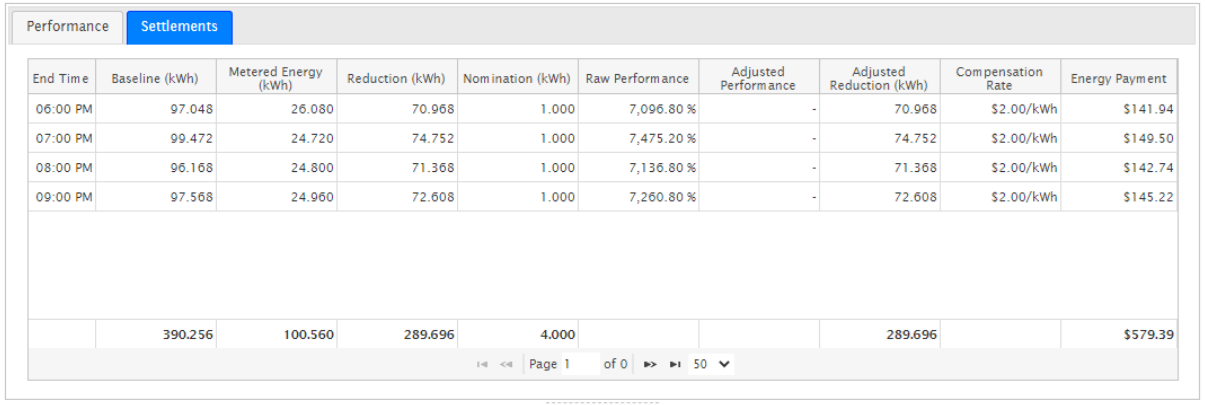
- Customers will receive an enrollment confirmation email confirmation after the eligibility review is complete
- This email will come from the program administrator (emails below). Upon request, Olivine can cc Account Executives in the email, so they're aware when a customer has enrolled in the program
    - PG&E: pge-elrp@olivineinc.com

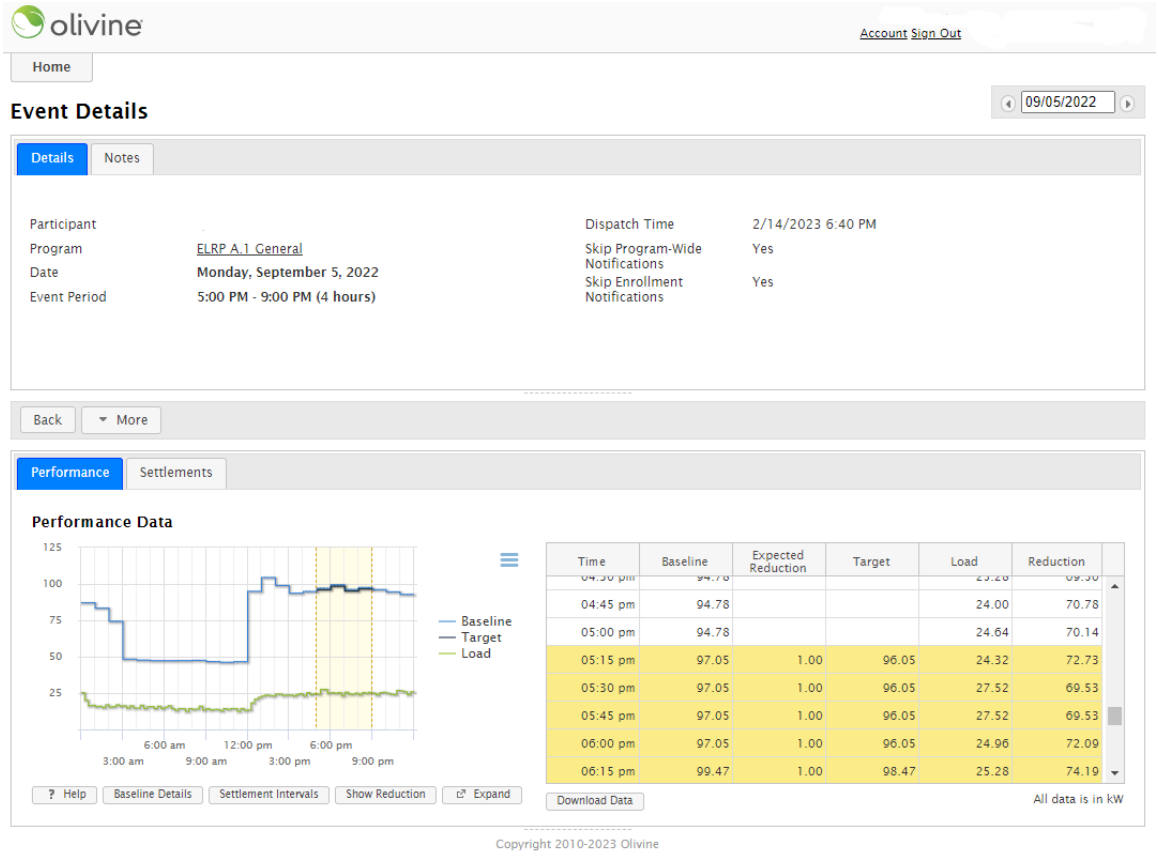
Updating Event Notification Contact Information

- If a customer wants to update their event notification contacts, they should use the following procedure:
  - Send an email to the IOU customer support email address requesting to either add or update event notification emails or phone numbers to receive email and text notifications or call us at
  - The ELRP team will add the contact information on the back end and notify the customer once this information has been updated.

Olivine DER Platform

- Web platform with live views of event performance and settlements
- Access available for customers and account executives



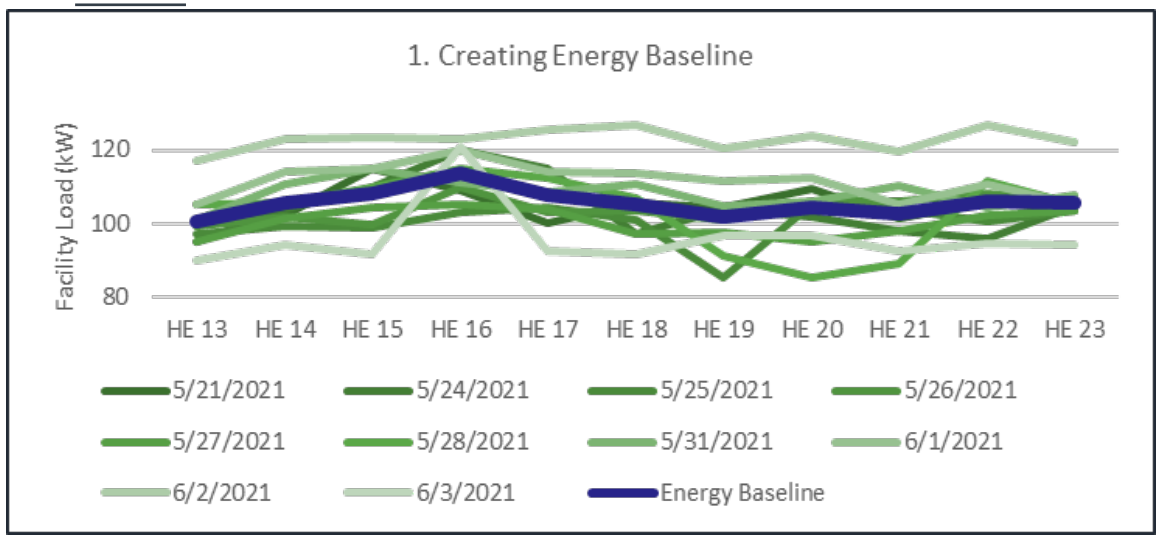


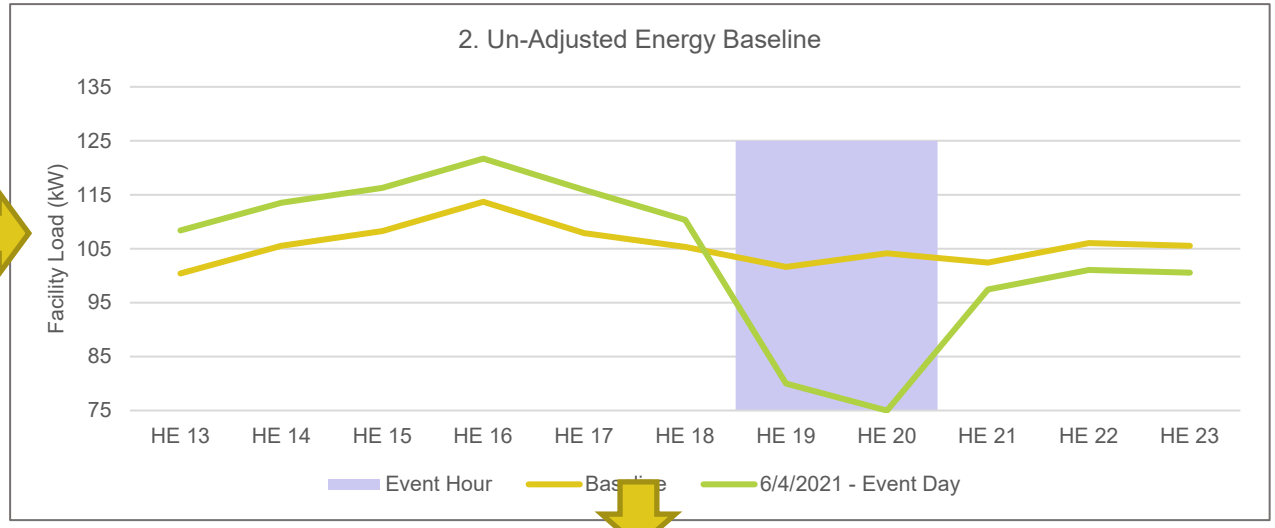
Load Reduction Strategies

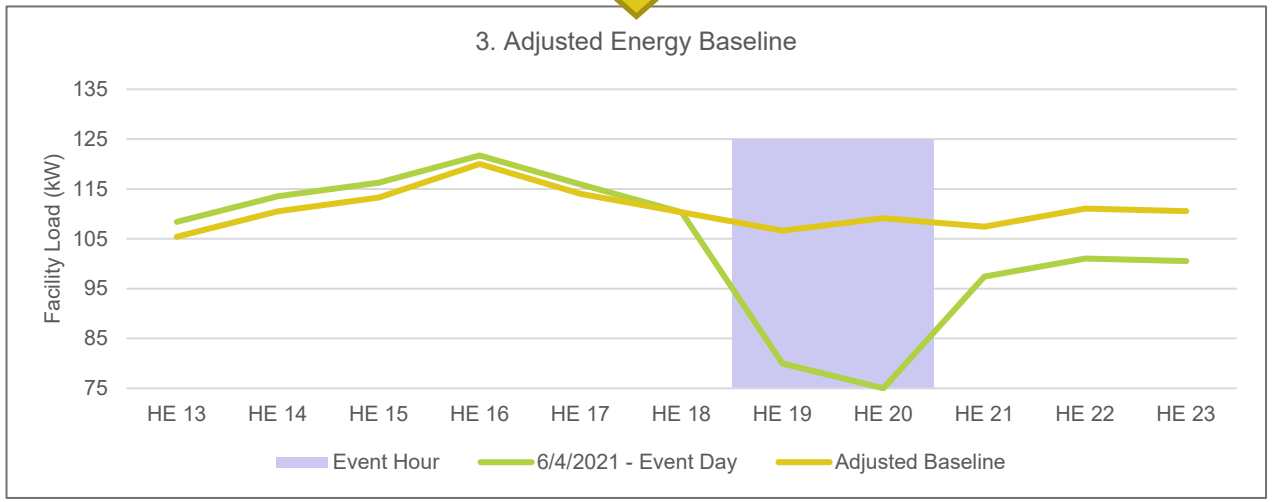
Examples of potential load reduction strategies across different sectors below:

Customer Sector	Load Reduction Strategies
High Tech	• Increase HVAC temperature set points • Delay processes that are not time-sensitive • Discharge on-site generator
Office Buildings	• Increase HVAC temperature set points • Discharge on-site generator • Dim or turn off lighting in low occupancy areas
Retail	• Dim lighting
Hospitals	• Increase HVAC temperature set points

Performance Measurement







10-in-10 Baseline Methodology picks the ten most recent similar non-event days plus day-of adjustment (up to 40%) to create baseline.

The difference between the event day load and the baseline is the measured performance.

Example:
Event Day is 6/4/21 from 6-8pm.

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SUMMARY

Summary

- **$2/kWh** for load reduction during ELRP events
- ***No penalties*** for underperformance
- If you enrolled prior to 2024 you do **NOT** need to enroll again
- Day-Ahead and Day-Of Events possible
- Notifications are supplied by default by email. Text (SMS) messaging is available, as well as API-based notifications via OpenADR or the Olivine Dispatch API (please follow up for details)
- Analysis support can be provided

olivine® ClimateResponse

Website	Elrp.olivineinc.com
Customer Support Email:	pge-elrp@olivineinc.com
Customer Support Phone:	1-800-492-5190

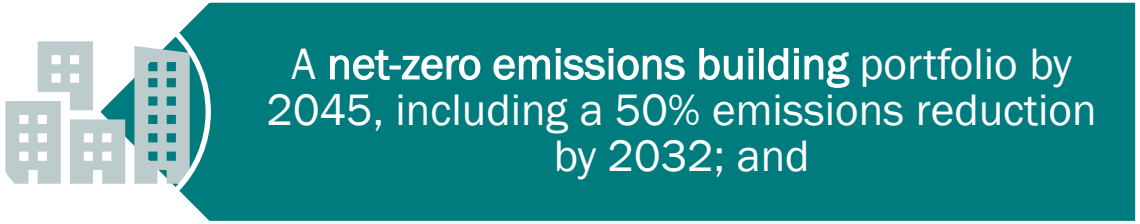
Carbon Pollution-Free Electricity (CFE) Discussion

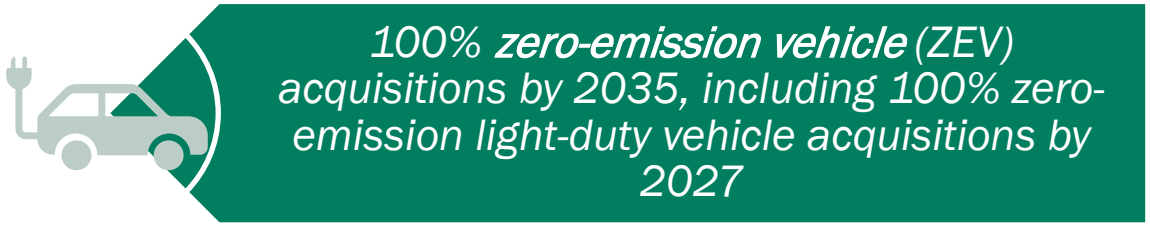
Tracy Niro
Utility Program Manager
DOE FEMP

Executive Order 14057 CFE Goals

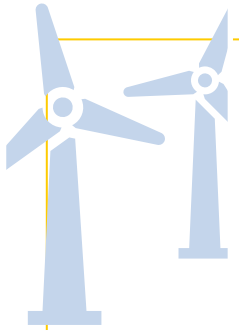
Catalyzing Clean Energy Industries and Jobs through Federal Sustainability
(12/8/2021)

Implementing Instructions for Federal Agencies

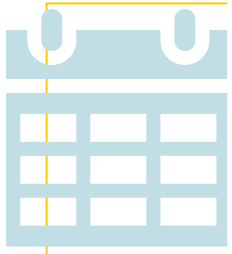




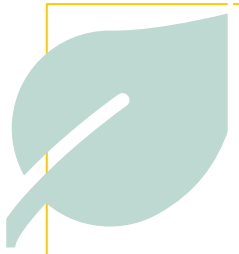
What qualifies as CFE?



CFE Technology



Placed in service 10/1/2021 or newer



EACs delivered or retired

Delivered to balancing area

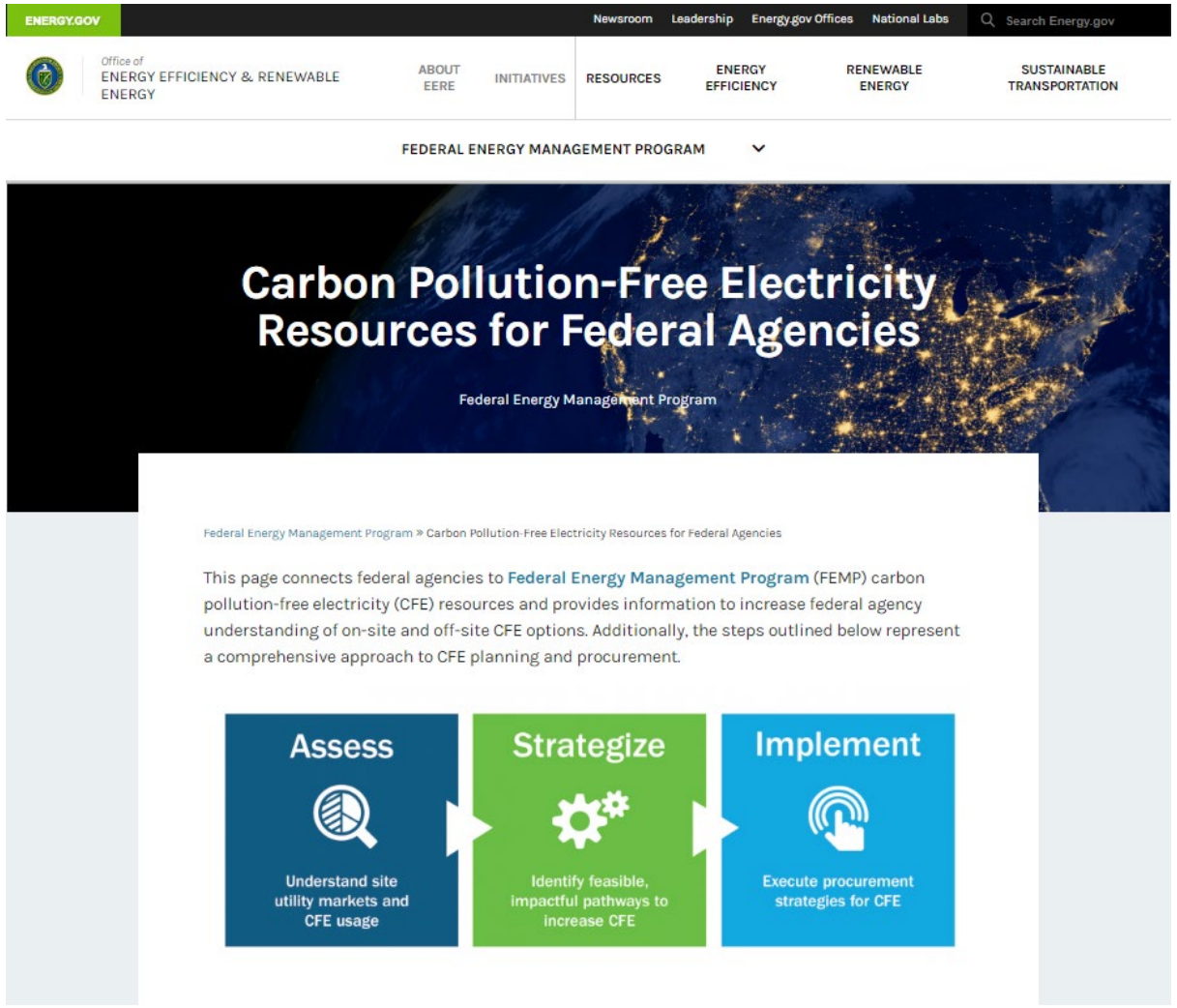
What technologies are considered CFE?

Per E.O. 14057 Section 603(d):

- Solar
- Wind
- Hydroelectric
- Nuclear
- Geothermal
- Renewably-sourced hydrogen
- Generation from fossil resources with active carbon capture and storage
- Marine and hydrokinetic

Other technologies may also be eligible with carbon capture and storage

CFE Resources on the FEMP Website



Assess

Assess the options available to your site based on the utility regulatory environment in which it is located. Available options will differ depending upon the market structure.

- UNDERSTAND AGENCY ELECTRIC UTILITY REGULATORY ENVIRONMENT +
- IDENTIFY BALANCING AUTHORITIES +
- REVIEW AVAILABLE DATA RELATED TO IDENTIFIED ECMS FOR EFFICIENCY OPPORTUNITIES +
- CONSIDER FUTURE LOAD +

Strategize

Identify feasible, impactful pathways to increase CFE.

- UNDERSTAND POTENTIAL FOR ADDITIONAL ON-SITE CFE GENERATION CAPACITY +
- IDENTIFY CURRENT ELECTRICITY PROCUREMENT STRATEGY +
- UNDERSTAND OPTIONS FOR OFF-SITE CFE PROCUREMENT +

Implement

Implement energy efficiency measures, off-site CFE procurement, and on-site CFE generation and/or energy storage projects.

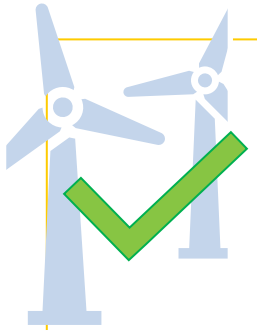
- EXECUTE STRATEGIES TO INCREASE ON-SITE CFE GENERATION +
- EXECUTE STRATEGY TO INCREASE CFE FOR SITES IN VERTICALLY INTEGRATED MARKETS +
- EXECUTE STRATEGY TO INCREASE CFE FOR SITES IN RETAIL ELECTRIC CHOICE MARKETS +
- REPORT CFE USAGE +
- MEASURE PROGRESS +

Learn more: CFE Resources for Federal Agencies

Where to start to purchase qualifying CFE?

- **Identify the regulatory environment:**
  - In California electricity is a competitive market
- **Identify your balancing area:**
  - Your balancing area is CAISO

Evaluate options to determine what qualifies as CFE



CFE Technology

solar/wind/non carbon emitting, etc.

Placed in service 10/1/2021 or newer

EACs delivered or retired

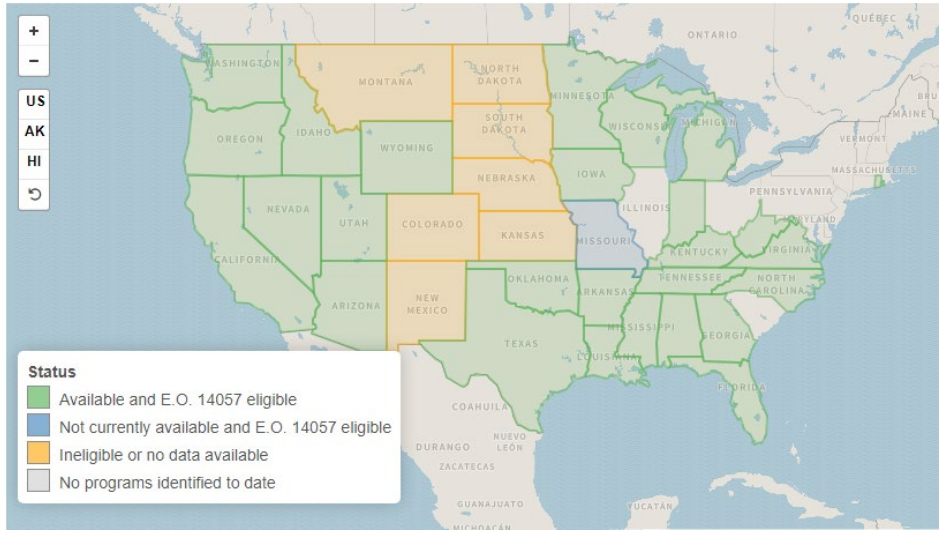
Delivered to *CAISO* balancing area

Tools for CFE Planning

Utility CFE Program Availability Map Tool

- Identify clean energy purchasing programs offered by vertically integrated utilities.
- Filter by state, program availability, E.O. 14057 eligibility, and existing areawide contract to identify programs of interest.

New programs/utility offerings added quarterly!



Balancing Authority Lookup Tool

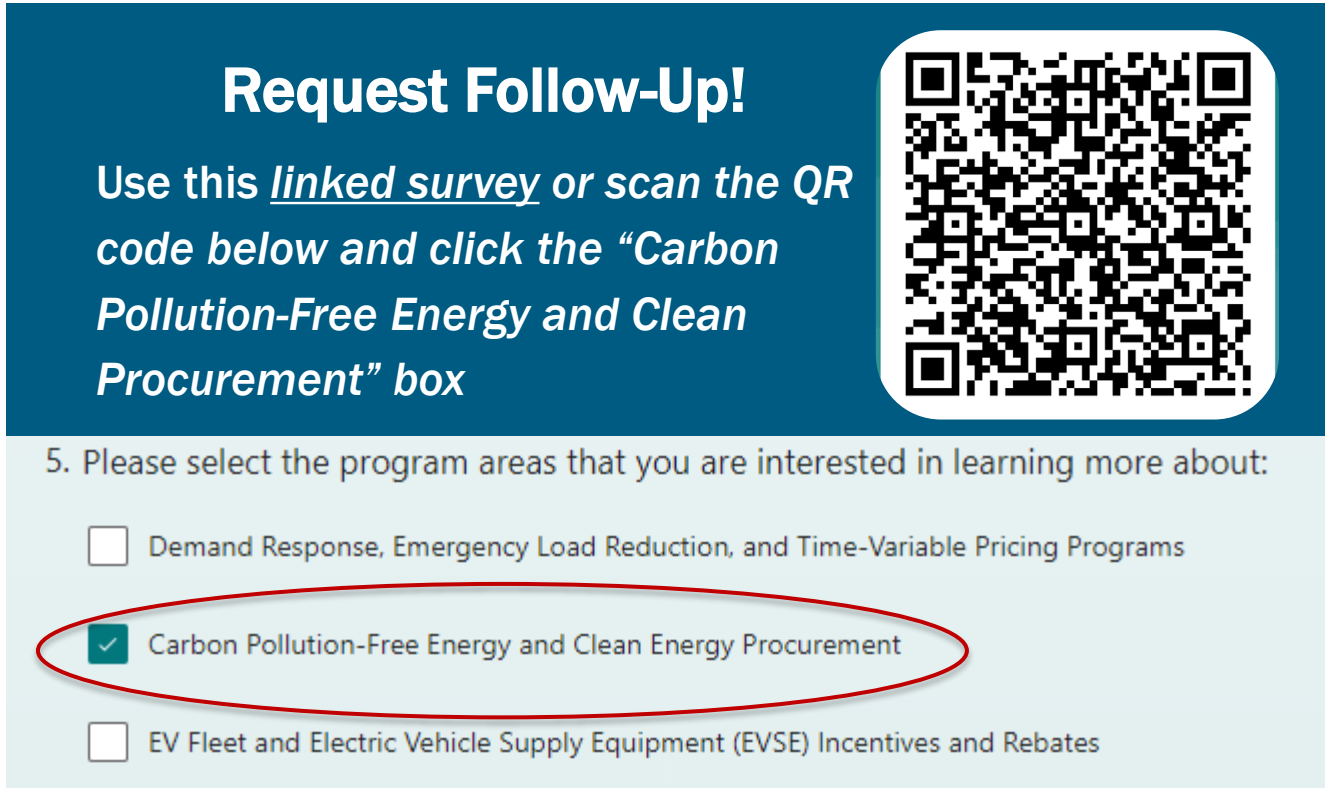
- Identify a site's balancing authority by entering its ZIP code.

REopt (Renewable Energy Optimization Tool)

- Evaluate economic viability of on-site technologies at a given site.
- Perform single- or multi-site analysis.
- Set clean energy goals (i.e., can specify % of load to be met by on-site CFE).

Request Follow-Up to be the First to Know About New Options

- Currently, no qualifying CFE options for PG&E customers
- In the next section we will learn about community choice aggregators—but these offerings do not qualify as CFE at this time

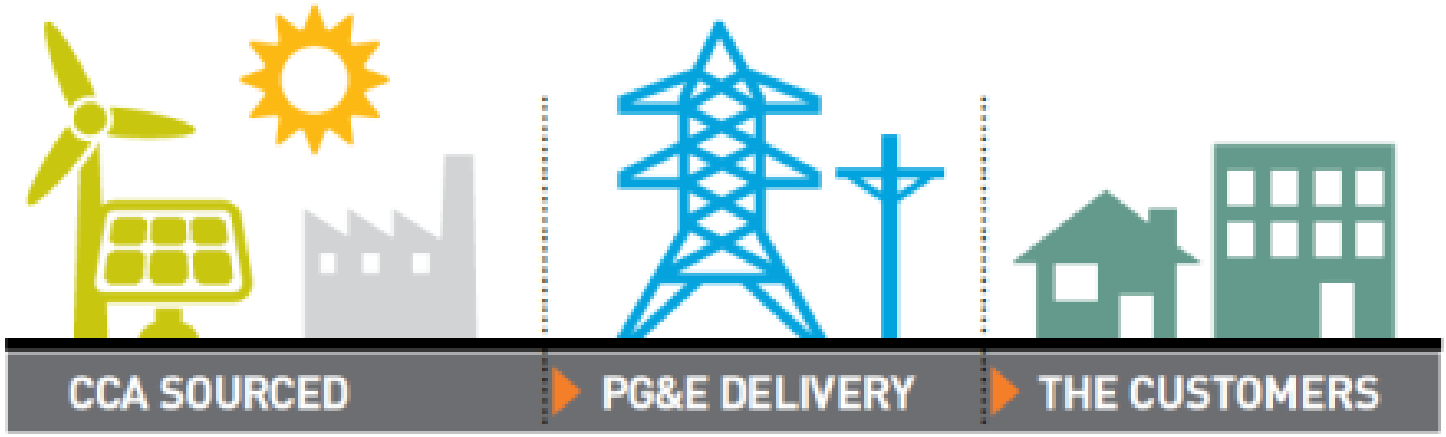


California Community Choice Aggregation (CCA)

Sarina Uriza
CCA Relations
SCU1@pge.com

What is Community Choice Aggregation?

Community Choice Aggregation, or CCA, is a local non-profit program available within the service areas of investor-owned utilities. CCA enables cities and counties to **purchase and/or generate electricity** for residential and non-residential customers.

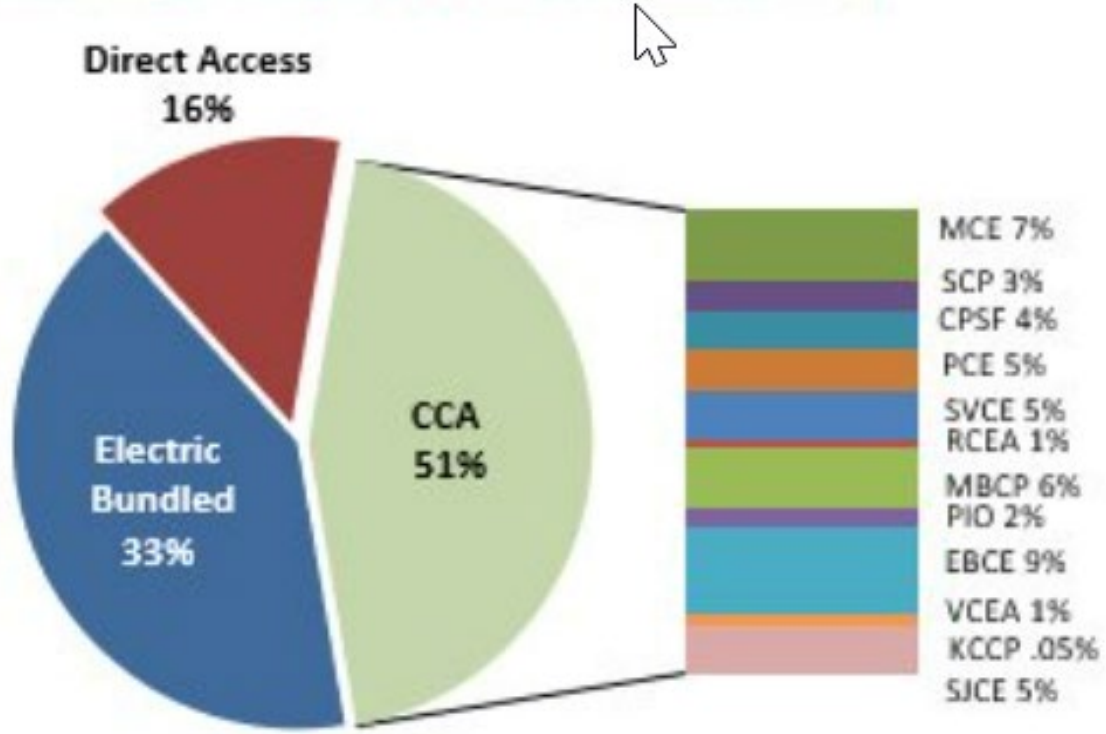


Drivers for pursuing Community Choice Aggregation:

- Control over generation procurement
- Potential local economic benefits
- Influence over generation rate changes

History and Current State

- The first CCA to launch in PG&E territory was MCE, established in 2010.
- Six CCAs launched in 2018, making 2018 the peak year for CCA growth.
- Twelve CCAs operate within PG&E territory
- 1,237 active Federal service agreements.
- Roughly 239.8M kwh utilized in 2023.



PG&E and CCA Code of Conduct

- **PG&E respects the energy choices** that are available to customers. We cooperate with local governments as they consider pursuing, developing or expanding a Community Choice Aggregator (CCA) program.

- The **Code of Conduct** (Decision 12-12-036) was ordered by the CPUC response to SB 736. The Code of Conduct is a rule book for utility interactions with CCAs and CCA customers, providing guidance on how to continue to conduct our business in accordance with the rules.

CCA Code of Conduct

The **CCA Code of Conduct** provides rules and procedures that are intended to:

1. Provide CCA's with the opportunity to operate in the energy market on a **fair** and **equal basis**.
2. **Prevent** investor-owned utilities from using their position or market power for an **unfair advantage**.
3. **Empower customers** to make educated choices about their electric providers.

CCA Customers Eligibility

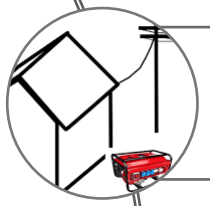
Note, CCA customers are eligible for most PG&E programs and services. Limited exceptions exist for certain Demand Response programs and Solar Choice/Green Tariff Programs.

- ✓ RATES
- ✓ SELF-GENERATION INCENTIVES
- ✓ ENERGY EFFICIENCY INCENTIVES
- ✓ ON-BILL FINANCING
- ✓ NON-EMERGENCY AND EMERGENCY RESPONSE SERVICE

CCA CUSTOMERS ARE STILL PG&E CUSTOMERS!

CCA Trends and Hot Topics

EV and EV Charging Infrastructure – Most CCAs provide incentives for purchasing an EV and/or upgrading or installing EV charging stations.



Customer Resiliency – Most CCAs are provide batteries to critical facilities and vulnerable, medical or life support customers. Other resiliency CCA projects include developing community microgrids.

Building Decarbonization – Supporting the state's GHG reduction goals, CCAs are developing programs that incentivize customer electrification projects.

Energy Efficiency – Some CCAs administer their own EE programs. PG&E is works with the CCAs to collaborate where possible and ensure program effectiveness.

Demand Response – Some CCAs provide residential and commercial demand response programs which mirror PG&E's current offerings for bundled customers to help ease strain on the grid.

Thank you

For additional resources visit: www.pge.com/cca

Or email: Sarina Uriza at Sarina.Uriza@pge.com

Fleet Electrification and Electric Vehicle Supply Equipment (EVSE)

Jason Koman
Energy Technology Program Specialist
DOE FEMP

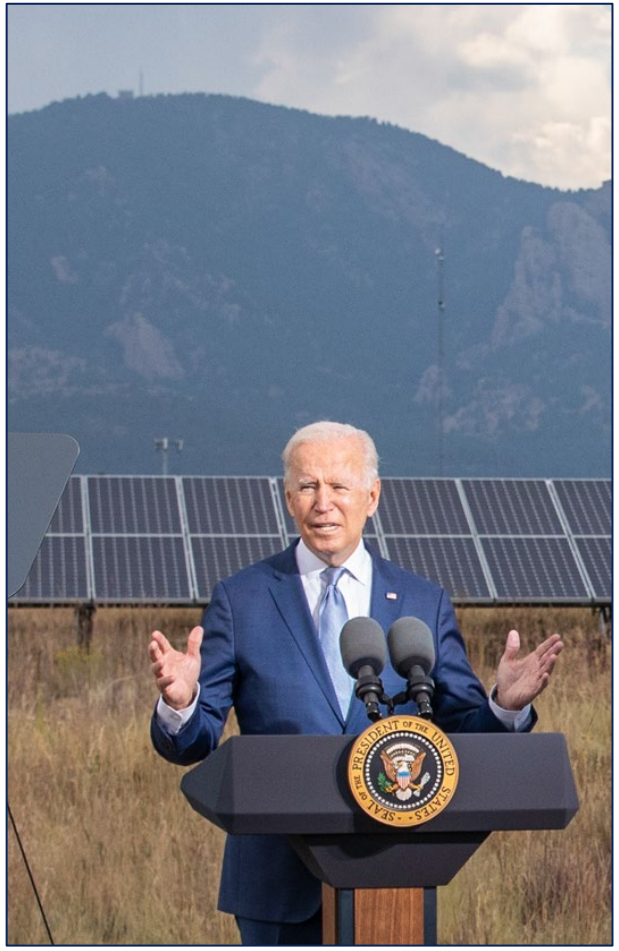
Electric Vehicles as an Administration Priority

WH.GOV

Executive Order on Tackling the Climate Crisis at Home and Abroad

January 27, 2021

GSA, Council on Environmental Quality, and Office of Management and Budget in coordination with DOE, Department of Labor, and Department of Commerce to develop a plan to convert Federal, state, local, and Tribal fleets to zero-emission vehicles (ZEVs)



WH.GOV

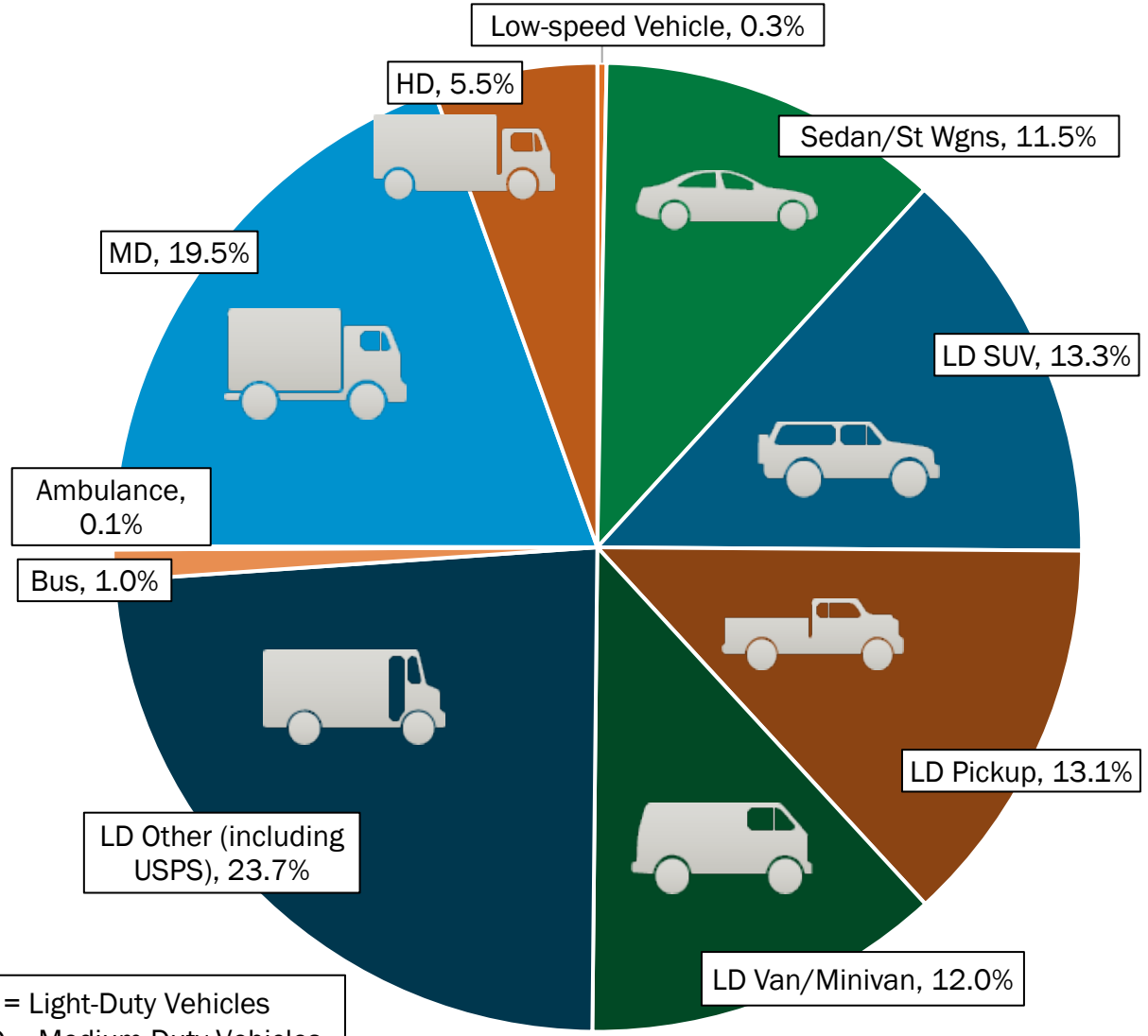
Executive Order on Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability

December 8, 2021

Transition to a zero-emission federal fleet

- Annual targets for ZEVs by agency
- 100% light-duty (LD) acquisitions by 2027
- 100% medium-duty (MD)/heavy-duty (HD) acquisitions by 2035

Federal Fleet Electrification is Accelerating (FY23 FAST)



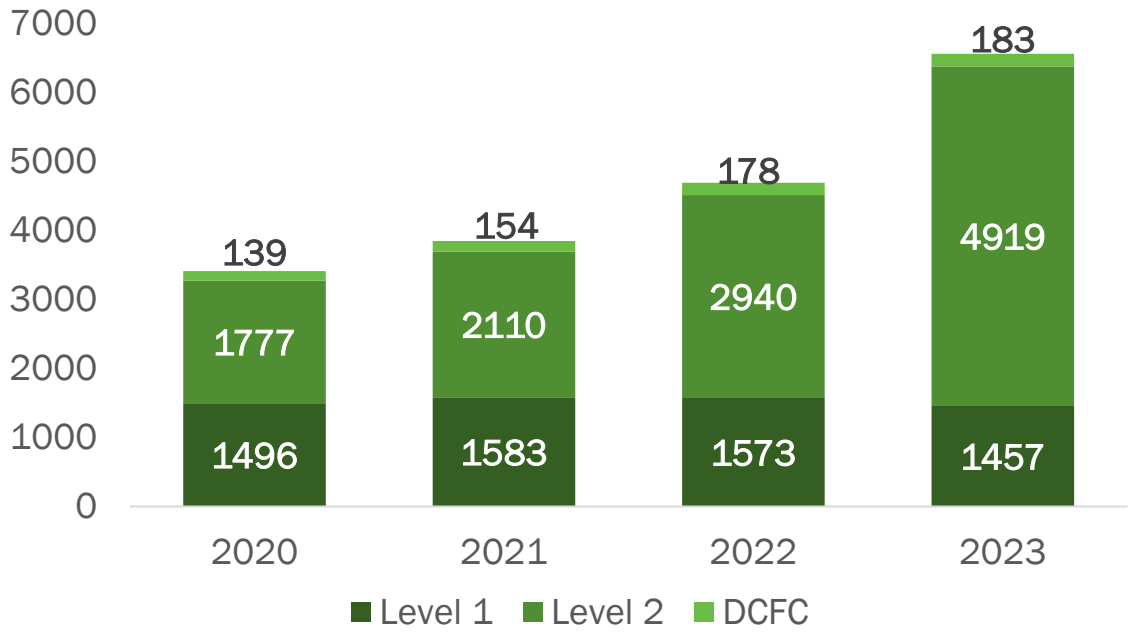
LD = Light-Duty Vehicles
MD = Medium-Duty Vehicles
HD = Heavy-Duty Vehicles

3.6k FY22 ZEV orders
(9% of Federal Fleet Purchases)

5.8k FY23 ZEV orders
(14% of Federal Fleet Purchases

5.1k FY24 ZEV orders as of 2/29/24
(18% of Federal Fleet Purchases)

Source: GSA, Excludes USPS



ZEV Ready Framework

FEMP's recommended site-level fleet electrification planning process consists of 15 process steps organized into 3 phases.

Step 9 – Identify Utility Point of Contacts and Incentives

FEMP's EV Utility Finder (EV U-Finder)

Database that helps federal agencies connect to EVSE utility partners and incentives available by ZIP Code.

Enter ZIP Code to identify local utilities, electric vehicle support programs, and Clean Cities Coalitions.

72863

Powered by the U.S. Utility Rate Database (https://openei.org/apps/USURDB/)
Utility territories last updated February 2021.

See Introduction worksheet for notes on using EV U-Finder.

***Customer Types:**
G: Government or Public; C: Commercial; R: Residential

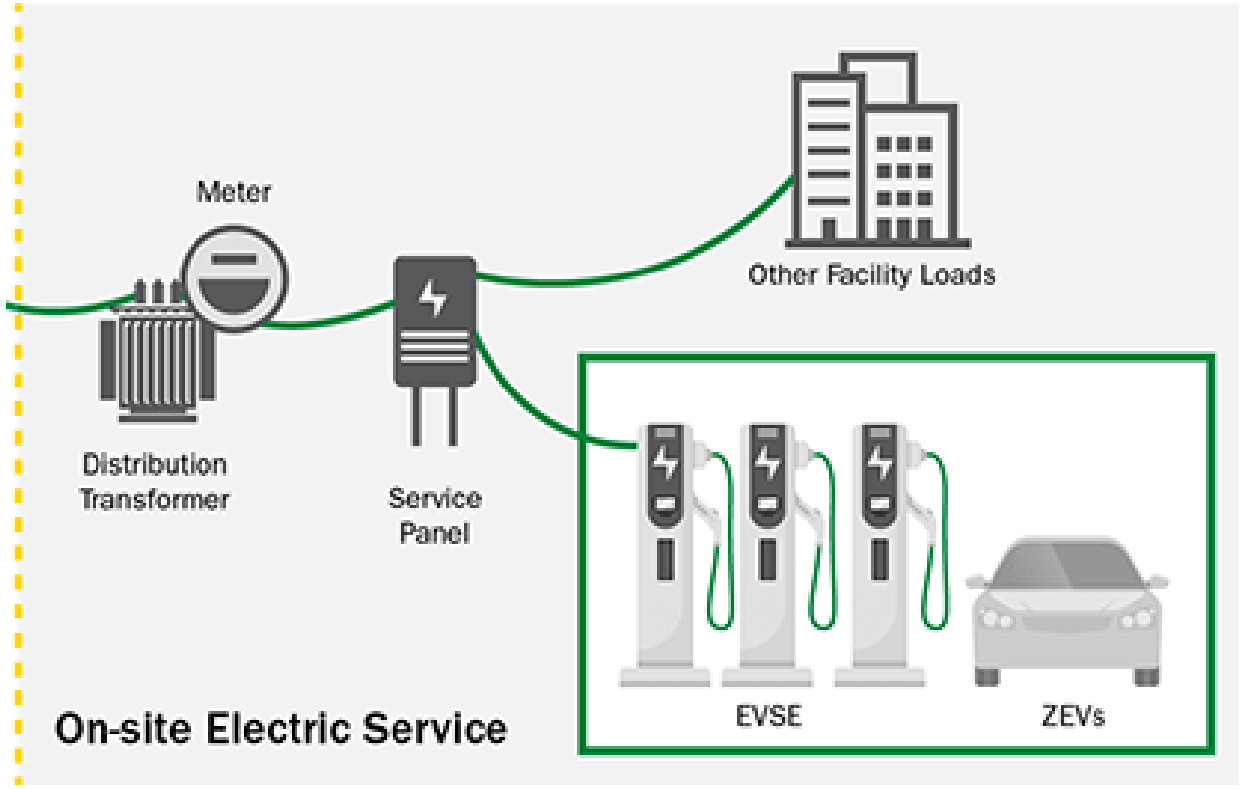
Identified active utilities in 72863

Utility	Utility Name	Utility Ownership	Known EVSE Funding Eligibility?*	Known Advisory Services Eligibility?*	Known Federal EVSE Incentives?	GS
1	Entergy Arkansas Inc	INVESTOR	GCR		Y	
2	Arkansas Valley Elec Coop Corp	COOPERATIVE				
3	Village of Brainard, Nebraska (Utility Company)	PUBLIC				

https://www.energy.gov/femp/articles/ev-utility-finder-ev-u-finder

Step 9 – Coordinate with Local Utility Service

- **Evaluating EVSE impacts on electrical service equipment**
  - Facility versus utility equipment ownership
- **Evaluating EVSE impacts on power requirements**
  - Power Capacity
  - Power Load at the Service Panel Level
  - Power Load at the Facility Level
- **Utility Equipment Upgrades**
  - Plan for the future.
  - Scale back when practical.
  - Use managed charging.



EV Fleet Program

Dean Kunesh
Dean.Kunesh@pge.com

EV Fleet Program Overview

PG&E will help you install EV make-ready infrastructure for medium- and heavy-duty fleets.

$236 million
budget over 7 years
FROM 2020 - 2026

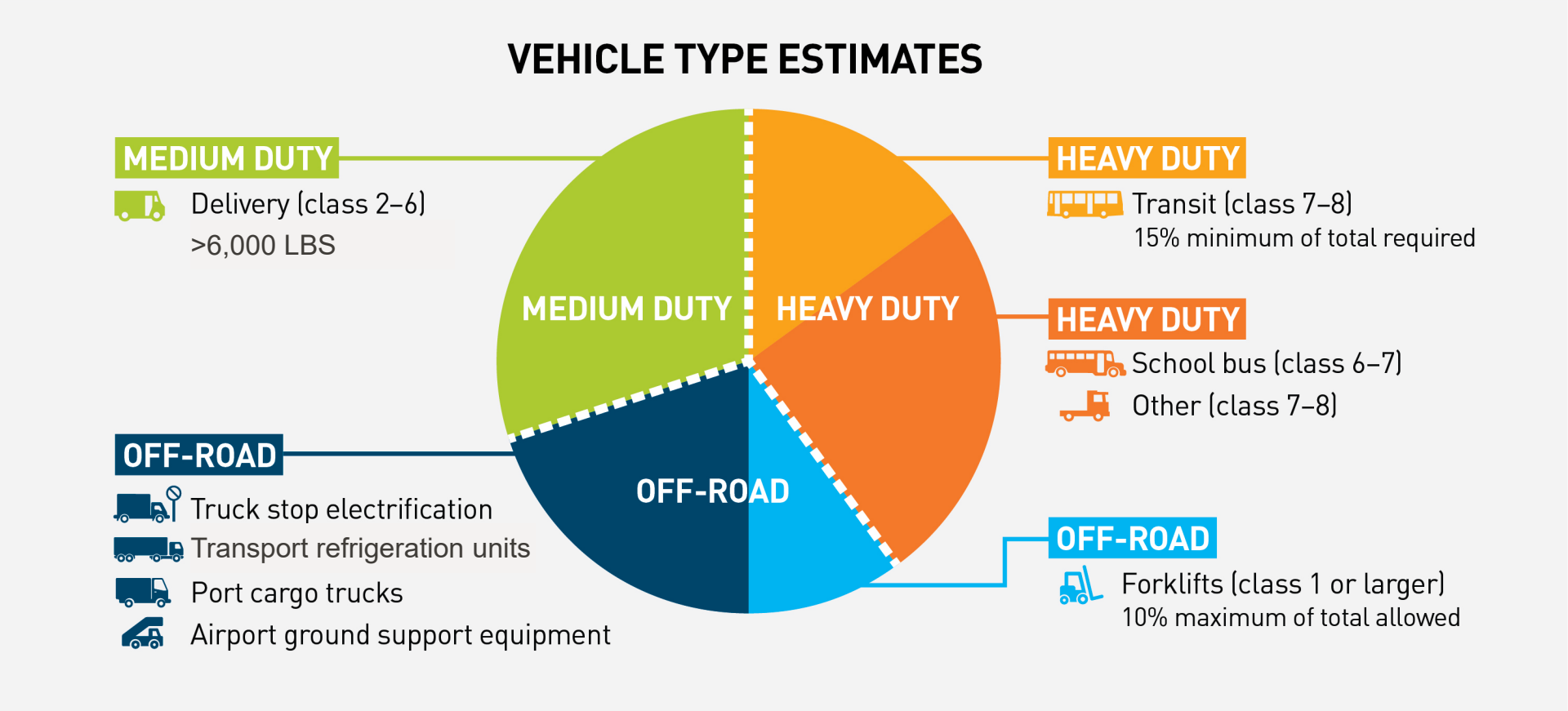
700+ sites
SUPPORTING
6,500 new EVs

Support conversion of commercial and public fleets to electric

EXAMPLES:
Delivery vehicles, school buses, transit buses, and more...

EV Fleet vehicle sector mix

EV Fleet will target a diverse mix of medium- and heavy-duty vehicle types*



*Actual representation of vehicle types subject to vary based on program implementation, project costs, and market readiness

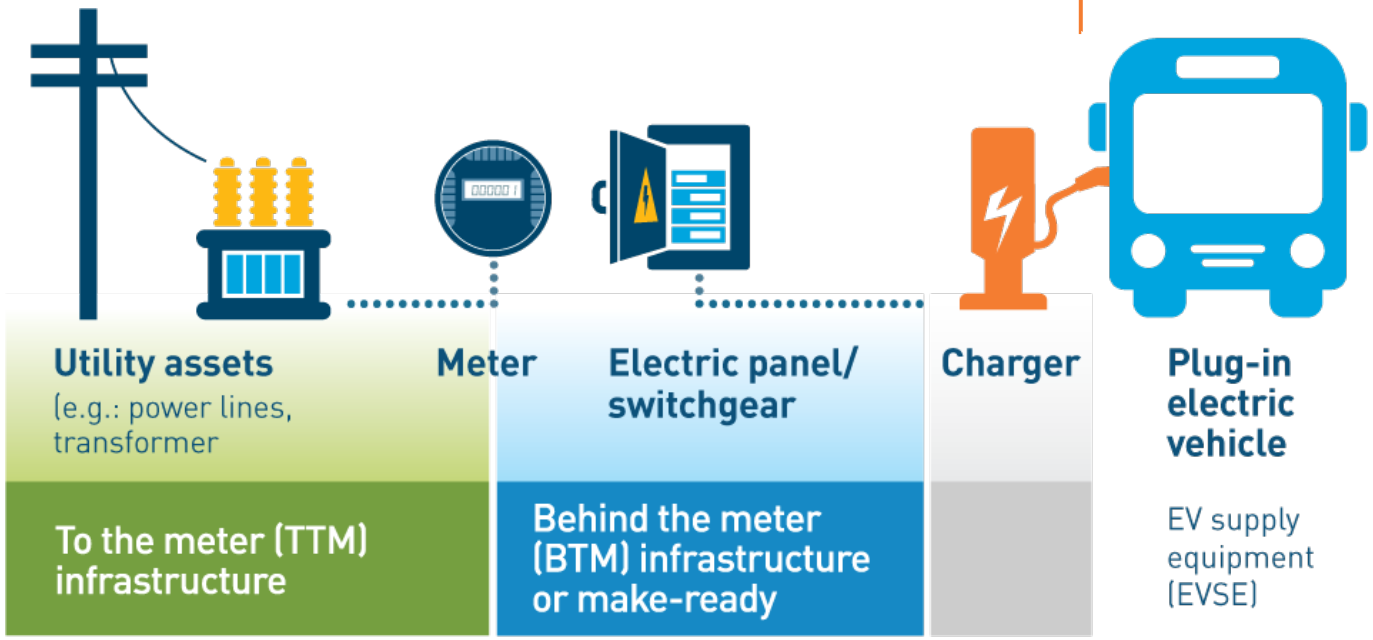
EV Fleet ownership—customer-owned

PG&E pays for infrastructure cost up to the customer meter*

	To the meter (TTM) infrastructure	Behind the meter (BTM) infrastructure or make-ready	
Who constructs, owns, and maintains?	PG&E	The customer	The customer
Who pays for?	PG&E	The customer	The customer
Available rebates/incentives?	N/A – fully paid for by PG&E	Incentives may be available to offset your out-of-pocket costs	Charger rebates available for transit agencies, schools, and some sites located in disadvantaged communities

* Some exceptions may apply to customers who hold Primary Service with PG&E.
** Customer-owned eligibility at PG&E discretion based on project scope and associated costs.

Available incentives and rebates



Charging equipment rebates for schools, transit agencies and disadvantaged communities

EVSE power	Max. rebate amount*
Up to 50 kW	$15,000 per charger
50.1kW – 149.9kW	$25,000 per charger
150 kW and above	$42,000 per charger

Customer-owned infrastructure **

Eligible for incentive up to capped amount based on vehicle sector

Vehicle type	Per vehicle incentive cap
Transit buses and Class 8 trucks	$9,000 per vehicle†
Transportation refrigeration units, truck stop electrification, ground support equipment and forklifts	$3,000 per vehicle‡
School buses, local delivery trucks, Yard Hostlers and other vehicles	$4,000 per vehicle†

* Rebate not to exceed 50% of charger equipment.
EVSE must meet minimum and standard requirements to be eligible for rebate.
Fortune 1000 companies are not eligible.
** Customer-owned eligibility at PG&E discretion based on project scope and associated costs.
Incentive not to exceed 80% of customer out-of-pocket costs.
† Limited to 25 vehicles per site.
‡ Limited to 50 vehicles per site.

How to prepare

What we need from **you**

Demonstrate commitment with **2 or more** EVs by end of **2028**

Demonstrate long-term electrification growth plan and schedule of load increase

Provide data related to charger usage for a minimum of **5 years**

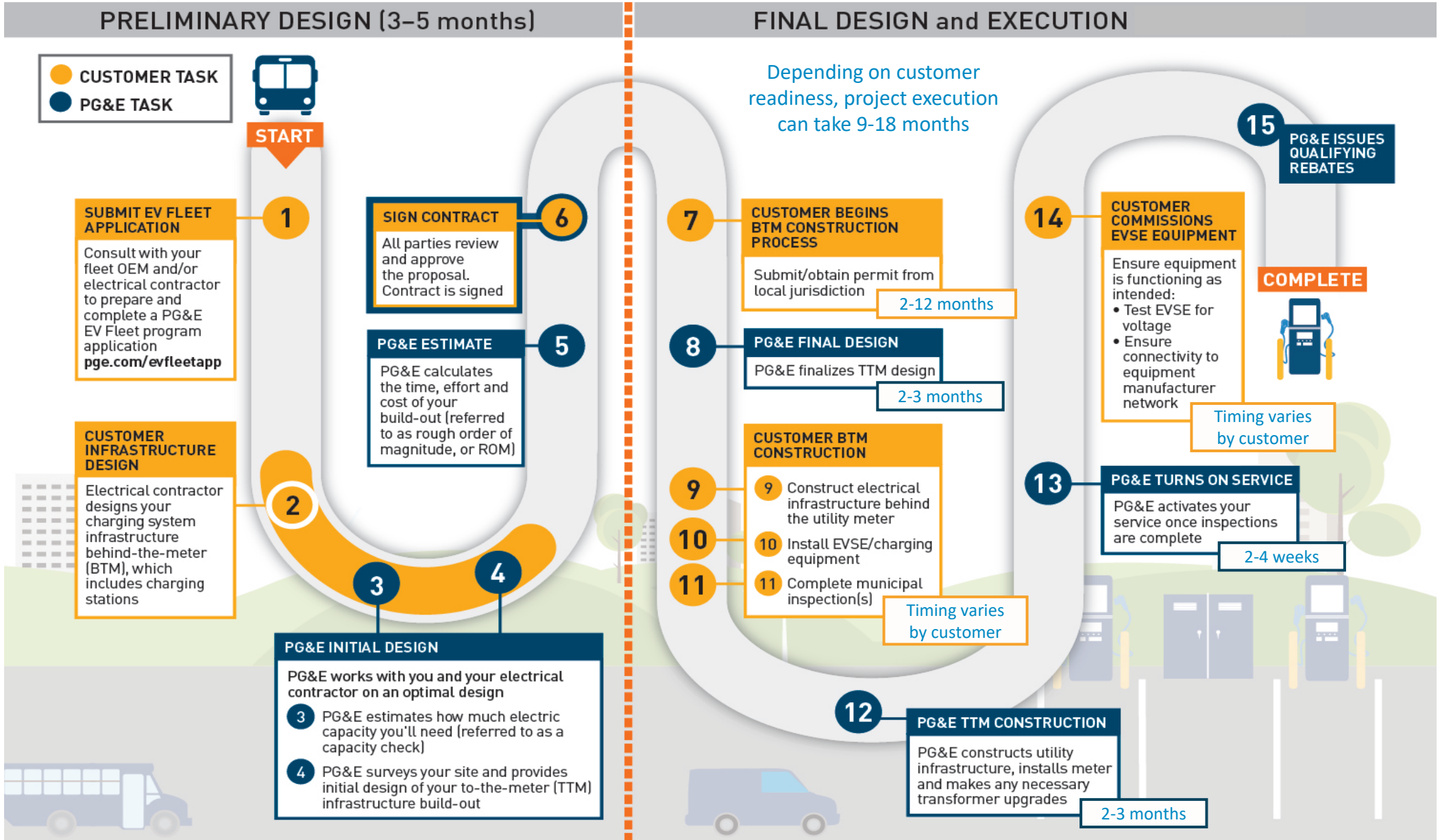
Own or lease the property where chargers are installed, and operate and maintain vehicles and chargers for minimum of **10 years**

Application readiness

Ready to apply

1	**Vehicle deployment plan**	Quantity, make, and model of EVs that you plan to deploy over the next 5 years
2	**EV charger deployment plan**	Quantity, make, model, power level, and datasheet for each EV charger that you plan to deploy Approved Product List (hosted by Southern California Edison)
3	**Map of EV charger location**	Map screenshot indicating the location where you plan to install your EV chargers
4	**Secured funding for out-of-pocket costs**	Grants or approved budget to cover cost of BTM infrastructure, vehicles, and chargers
5	**Leadership approval**	Must have internal readiness to sign a contract to commit to the EV Fleet Program
6	**Permission from property owner**	Property owner must be willing to sign an easement with PG&E for infrastructure installation
7	**Proof of vehicle procurement**	Paid vehicle invoice, approved vehicle grant, or a letter from board/owner/city council/etc

EV Fleet Electrification Process



Business EV rate structure

1

Customers choose subscription level, based on charging needs

High Use EV Rate:

$95.56 / 50 kW block over 100kW*

Low Use EV Rate:

$12.41 / 10 kW block up to 100kW

Customers that want to **manage charging loads** can opt for a lower subscription level.

2

Subscription remains consistent month-to-month

If site charging power exceeds subscription, several customer communications are triggered, and overage fees may apply.

Customers **can change subscription level** to suit their charging needs.

3

Energy usage is billed based on time-of-use pricing

Energy Charge:

~$2.33
per e-gallon

Depends on vehicle type, season, and time of day for charging

Visit the Business EV Rate website for more information

* Values for Business High Use EV Rate Secondary (BEV2-S) voltage. For Business High Use EV Rate Primary (BEV2-P) voltage, the price of each 50 kW block is $85.98. Please refer to the Business EV Tariff for exact values.

EV Fleet Savings Calculator

Note: Values shown for illustrative purposes. Please refer to the EV Fleet Savings Calculator at **Fleets.pge.com** for exact values.

EV Fleet Savings Calculator

Annual Fuel Savings	Savings Per Mile	Annual LCFS Credits	Revenue Per Mile	Annual GHG Emissions Saved
$299,000	$0.64	$143,000	$0.31	866 Tons

VEHICLES

3x Tesla Semi

Miles per vehicle	300
Days Operating	Weekdays
Charging:	9pm - 5am

6x Kenworth K370e

Miles per vehicle	100
Days Operating	Weekdays
Charging:	9pm - 5am, 2pm - 4pm

1x Ford E-transit

Miles per vehicle	100
Days Operating	Weekdays
Charging:	9pm - 5am

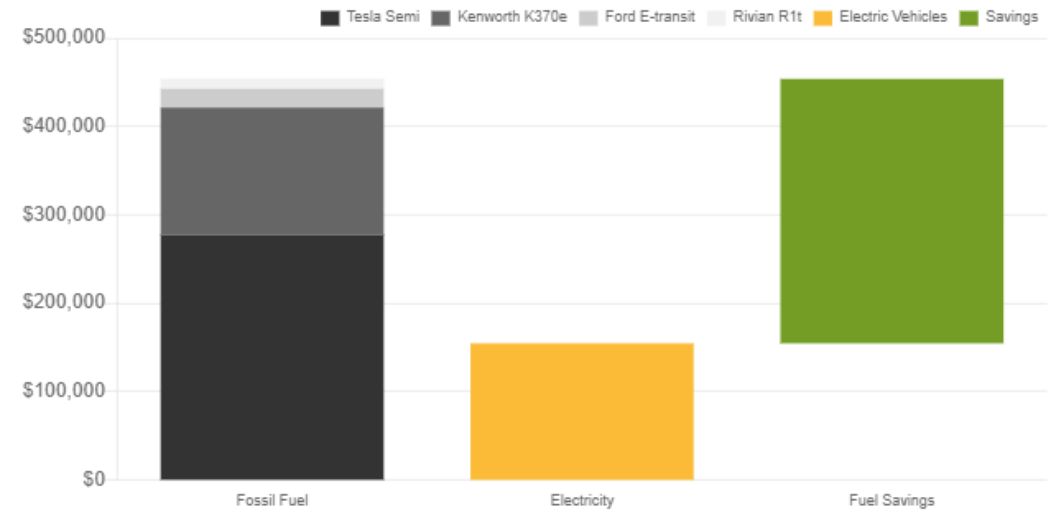
3x Rivian R1t

Miles per vehicle	60
Days Operating	Weekdays
Charging:	9pm - 5am

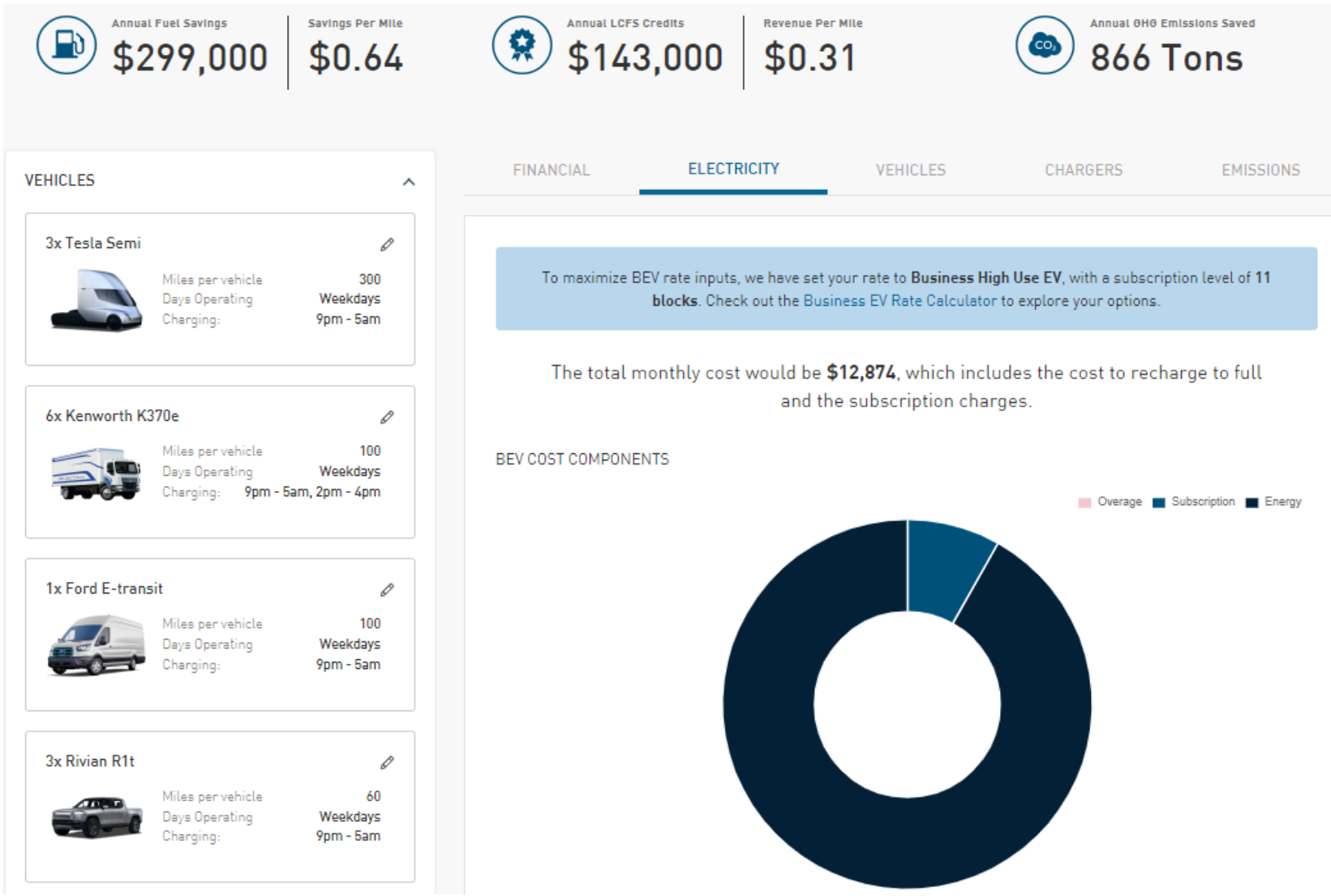
FINANCIAL | ELECTRICITY | VEHICLES | CHARGERS | EMISSIONS

Based on your selections, using electricity instead of fossil fuel saves **$299,000** per year.

ANNUAL FUEL COSTS



EV Fleet Savings Calculator



Note: Values shown for illustrative purposes. Please refer to the EV Fleet Savings Calculator at **Fleets.pge.com** for exact values.

EV Fleet Savings Calculator

LCFS Calculator

The Low Carbon Fuel Standard is designed to decrease the carbon intensity of California's transportation fuel pool and provide an increasing range of low-carbon and renewable alternatives, which reduce petroleum dependency and achieve air quality benefits.
— Low Carbon Fuel Standard Homepage

The Low Carbon Fuel Standard (LCFS) is administered by the California Air Resources Board (CARB). Participation requires registration, which entities can do so here. The LCFS program is set to continue through at least 2030.

The calculation below is based on the methodology provided by CARB, which assumes a decreasing carbon intensity of fossil fuels. This tool makes no assumptions about a similar decreasing carbon intensity of the California Grid, therefore it is recommended to use the results of 2021 for a typical year.

The calculation below also assumes a flat LCFS credit price of $150. This value is not guaranteed going forward and can change at any time. See the latest LCFS credit prices here. A single LCFS credit represents 1 metric ton of carbon, and credit prices are often referred to as $ ___ /MT (dollars per metric ton).

Note: Values shown for illustrative purposes. Please refer to the EV Fleet Savings Calculator at **Fleets.pge.com** for exact values.

EV Fleet Savings Calculator

Payback Period ⓘ
1.3 years

EV Savings
$4,225,000

EV Total Costs
$3,349,000

Fossil Total Costs
$7,574,000

VEHICLES

3x Tesla Semi

Miles per vehicle	300
Days Operating	Weekdays
Charging:	9pm - 5am

6x Kenworth K370e

Miles per vehicle	100
Days Operating	Weekdays
Charging:	9pm - 5am, 2pm - 4pm

1x Ford E-transit

Miles per vehicle	100
Days Operating	Weekdays
Charging:	9pm - 5am

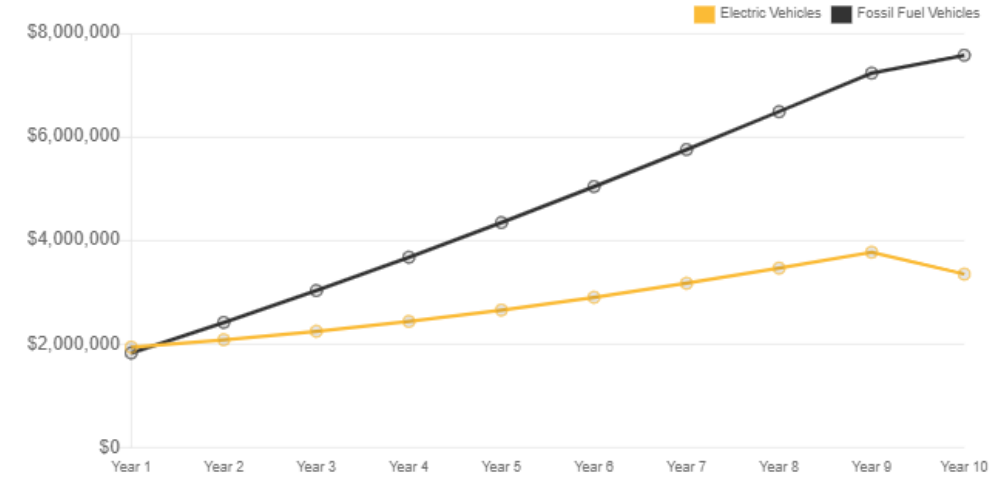
3x Rivian R1t

Miles per vehicle	60
Days Operating	Weekdays
Charging:	9pm - 5am

OVERVIEW | FUEL | VEHICLES | OPERATIONS | GRANTS | LCFS

After **1.3 years**, the cumulative cost of electric vehicles becomes cheaper than the cost of an equivalent fossil fuel fleet.

TOTAL COSTS OVER TIME



Note: Values shown for illustrative purposes. Please refer to the EV Fleet Savings Calculator at **Fleets.pge.com** for exact values.

EV Fleet Savings Calculator

SELECT AN ESTIMATION APPROACH

BASE CALCULATIONS UPON

Vehicles

Vehicles are known and chargers are assigned on a 1:1 to each vehicle.

VEHICLES

3x Tesla Semi

Miles per vehicle	300
Days Operating	Weekdays
Charging:	9pm - 5am

6x Kenworth K370e

Miles per vehicle	100
Days Operating	Weekdays
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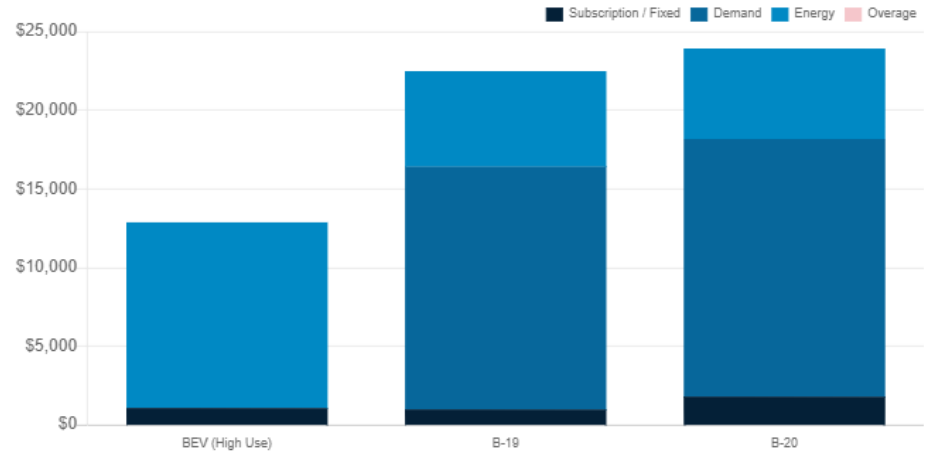
1x Ford E-transit

Miles per vehicle	100
Days Operating	Weekdays
Charging:	9pm - 5am

3x Rivian R1t

Miles per vehicle	60
Days Operating	Weekdays
Charging:	9pm - 5am

RATE COMPARISON - BEV AND COMMERCIAL RATES



RATE ELEMENTS

RATE SELECTED

BEV

Rate Element	Charge	Units	Cost
Energy ($ per kWh)	$0.20	60,578	$11,823
Subscription ($ per block)	$95.56	11	$1,051
Overage ($ per kW)	$3.82	0	$0
Total			$12,874

Note: Values shown for illustrative purposes. Please refer to the EV Fleet Savings Calculator at **Fleets.pge.com** for exact values.

Thank You!

Together, Building
a Better California

Dean Kunesh

Dean.Kunesh@pge.com

Helpful resources

- EV Fleet Website
- PG&E Integration Capacity Analysis (ICA) Map
- EV Fleet Application ***
- Approved List of Chargers
- Request to add Chargers to APL
- Requesting Letter of Support or Commitment
- EV Permit Streamlining Map
- EV Fleet Terms and Conditions
- EV Fleet Easement
- Non-Disclosure Agreement
- PG&E Service Territory Map
- PSPS Map and Outage History
- PG&E Power Mix
- 3rd Party Authorization Form

30-Minute Break

Resilience

Ethan Epstein
Resilience Program Manager
DOE FEMP

What is resilience?

RESOURCEFULNESS

Preparedness with optimized performance of energy and water systems and adequate planning, personnel training, and testing to manage through a disruption

REDUNDANCY

Availability of back-up resources and islandable onsite generation systems that enable continuity to critical loads during primary system disruptions

ROBUSTNESS

Ability to maintain critical operations during a disruptive event through building, infrastructure, and redundant system design, as well as system substitution capability

RECOVERY

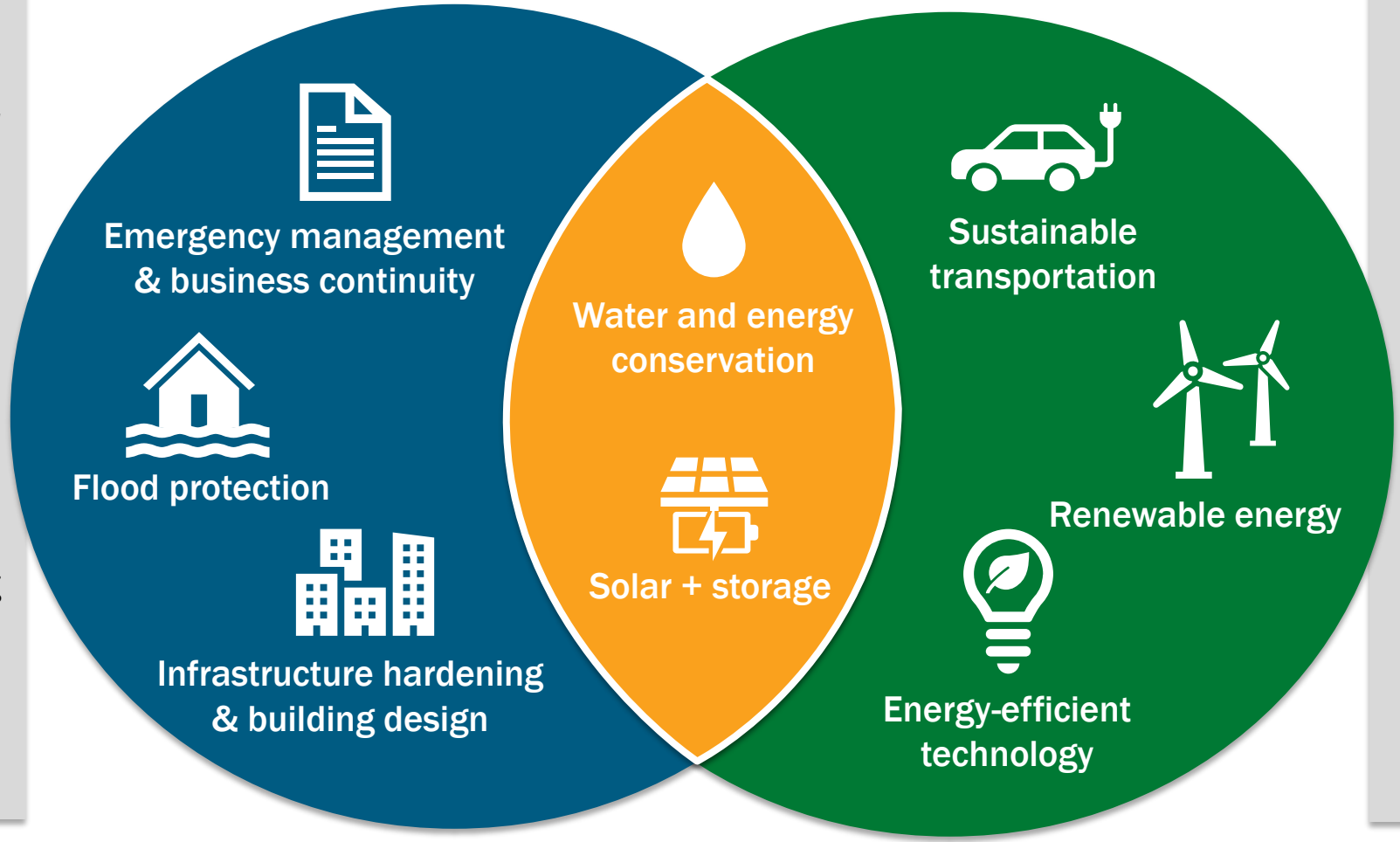
Ability to return to normal operating conditions as quickly and efficiently as possible after a disruption

Achieving Climate Resilience

E.O. 14008 *[Sec. 211]*
- Climate Action Plans and Data & Information Products to improve adaptation and resilience

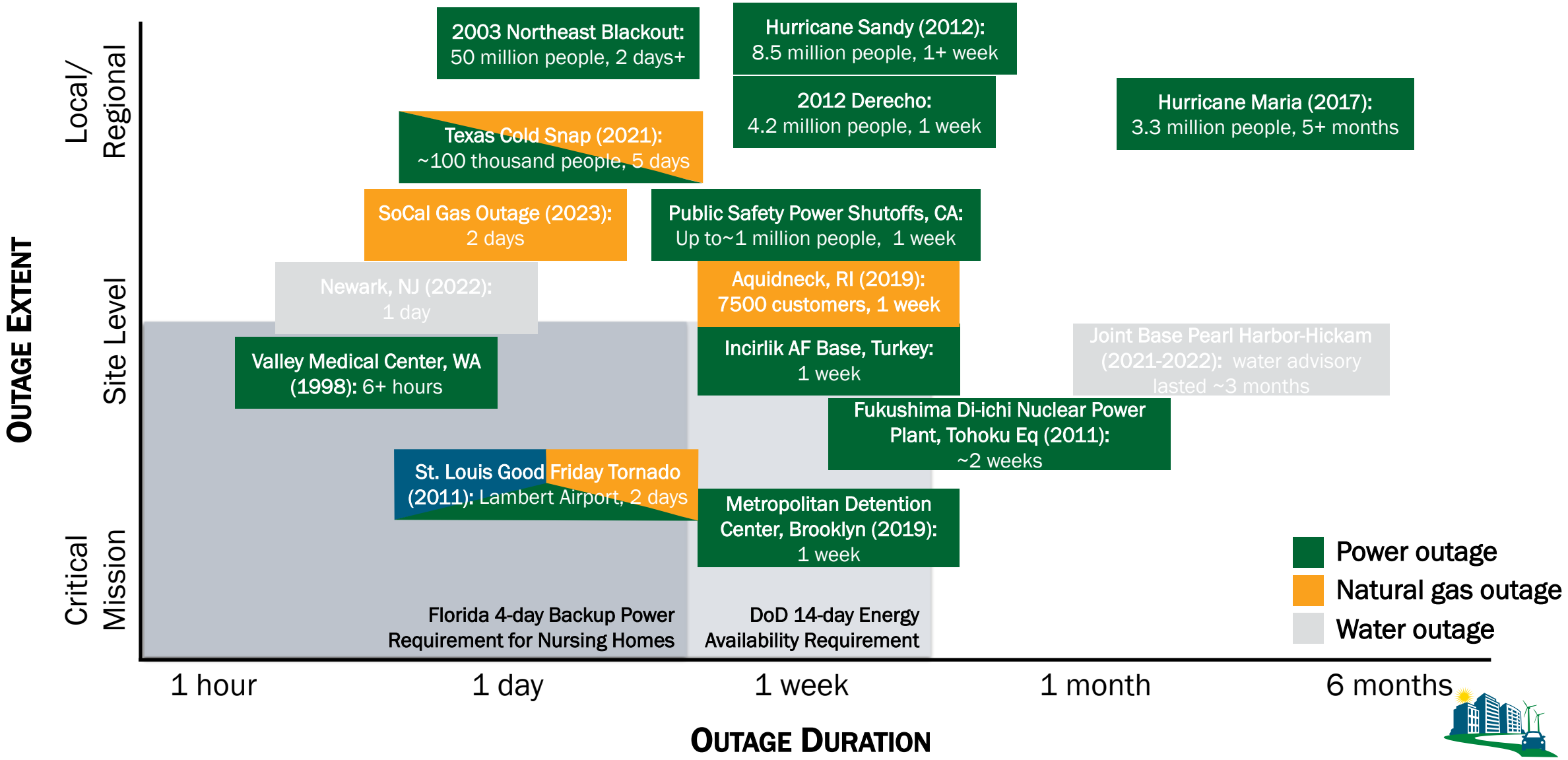
E.O. 14057 *[Sec. 102]*
- Climate resilient infrastructure and operations
- Climate- and sustainability-focused Federal workforce

E.O. 14072 *[Sec. 2]*
- Climate-smart management and conservation planning to address threats to mature and old-growth forests on Federal lands



E.O. 14057 *[Sec. 102]*
- 100% carbon pollution-free electricity on net annual basis by 2030
- 100% zero-emission vehicle acquisitions by 2035
- Net-zero emissions building portfolio by 2045
- 65% reduction in scope 1 and 2 GHG emissions by 2030 from 2008 levels
- Net-zero emissions from Federal procurement

Energy and Water Resilience is Increasingly Important



High-Impact Hazards Occurring More Frequently Over Time

- NOAA analysis of “billion-dollar disasters” demonstrates an increase in hazards that are likely to be impacted by climate change over time
- Increasing cost of natural hazards is likely a combination of increasing population and climate change effects

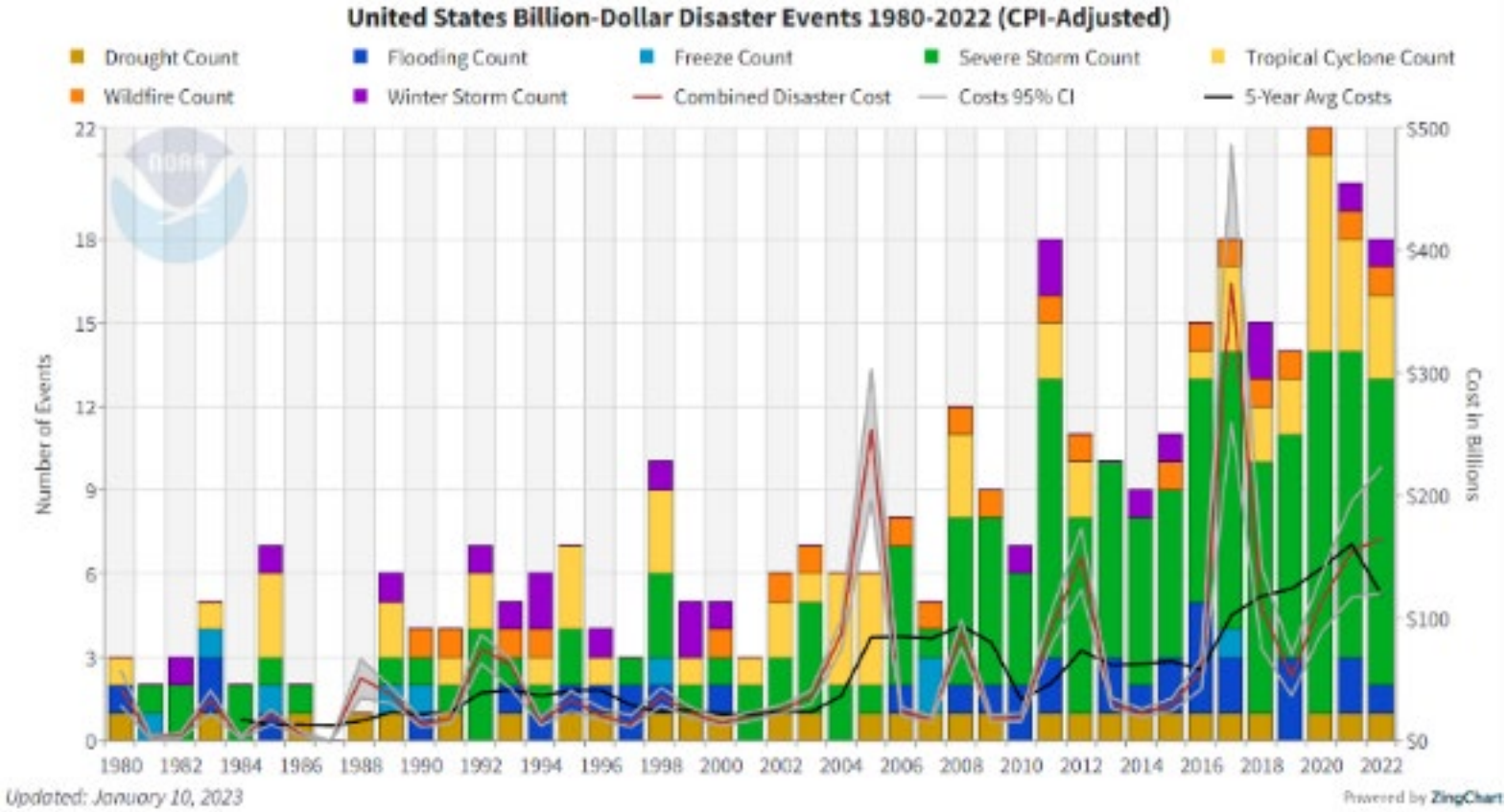


Figure Source: NOAA/NCEI, https://www.climate.gov/news-features/blogs/2022-us-billion-dollar-weather-and-climate-disasters-historical-context

Example: Resilience Solutions

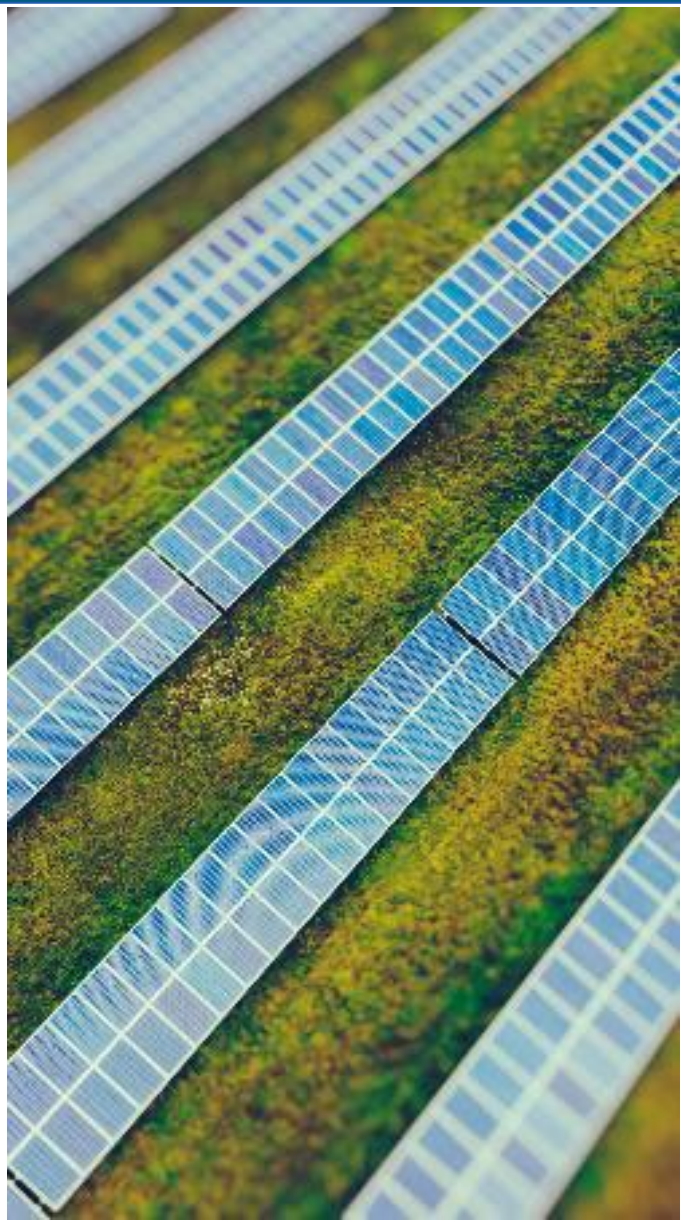
Resource Impacted	Solution Description	Solution Type	Resilience Attributes Incorporated
Energy	Microgrid serving critical loads with onsite storage and islanding controls.	Technological	Redundancy Robustness
Energy and Water	Recovery plans in place and exercised.	Operational	Resourcefulness Recovery
Energy	Develop strategic investment plan for critical infrastructure and end-of-life replacement with more resilient infrastructure.	Operational Institutional Technological	Resourcefulness Recovery
Energy and Water	Increase site security, remote monitoring, and/or develop robust fence and gate infrastructure for physical security.	Operational Institutional	Resourcefulness Robustness
Energy and Water	Develop pre-event checklist for site preparation.	Operational	Resourcefulness Robustness
Energy	Develop distributed resources for spatial diversity and grid flexibility, implement redundant transmission and distribution lines, and/or diversify energy supply.	Operational Technological	Redundancy Resourcefulness Robustness Recovery
Water	Develop site appropriate water infrastructure (e.g., redundant supplies; implement water saving/reuse measures, separate combined sewer infrastructure to reduce system stress and reduce treatment energy loads).	Operational Technological	Resourcefulness Robustness Recovery Redundancy

*Table presents a subset of example solutions included in the **Technical Resilience Navigator.**

Federal Utility Resilience Projects - Funding Approaches*

- Real property arrangements such as lease, easement or license for on-site generation/storage
- Utility Service Contracts (using GSA Areawide Contracts)
- Direct Funded Projects/Appropriations
- Utility Incentives
- Utility Resilience Tariffs
- Utility Energy Service Contracts (UESCs)

** There are other options for achieving resilience goals, such as using ESPCs, that will not be covered in this webinar.*



Leveraging Utility Incentives

Ask your utility about applicable incentives that can be used to enhance your resilience project.

- Incentive program funds are limited
- Important to identify incentives early and ask for a letter of commitment to ensure funds are available when you need them (not all utilities can provide the commitment)
- FEMP maintains information on demand response/time-variable pricing programs
- DSIREusa.org - database includes energy efficiency and renewable incentives

Utility Resilience Tariffs

- New offering from a limited number of utilities in vertically-integrated markets
- Generation/storage systems designed, built, paid for, owned, and operated by the utility; operates during a grid outage
- Typically require state Public Utilities Commission approval
- Important considerations:
  - Resilience uptime guarantee
  - Cost
  - Contract length
  - Terms/conditions
  - REC ownership (if applicable)

Example - Northern States Power (WI) Wisconsin Resilience Service Pilot
(Tariff RS-1, see p.53-60 of rate book)

- 30 MW pilot program cap, with 10 MW reserved for gov't and non-profits (must be on eligible tariff)
- Utility installs, operates and maintains new assets
- Minnesota has a similar Resiliency Service Program *(Rate Code A43 - p. 134-139)*

Check out the Fact sheet

Facility Maintenance

Sean Maguire

Facility Maintenance Manager

Site Safety

In Person:	MS Teams:
- Site specific safety	- Become familiar with safety in your location

Facility Maintenance Product Offering

Background:

- Focused on Providing Maintenance related electric and gas maintenance related services on the customer side of the meter.
- FM utilizes excess PG&E crews to perform the job tasks.
- Non-tariffed product within NRD approved by the CPUC.

Facility Maintenance Services:

1. Emergency Services
    - 24/ 7/ 365 PG&E will mobilize to restore power in the case of an emergency.
    - Terms: Time and Material basis
2. Equipment Rental
3. Ongoing Substation and Transmission Line Maintenance.
4. EPC (Engineering, Procurement and Construction) of a new project.

Emergency Repairs

Emergency Repair Response Protocol:

- 1) Emergency occurs and Customer contacts - either PGE Supervisor or BES Rep.
- 2) BES Rep informs FM Manager Sean Maguire of Emergency Repair request.
- 3) FM Manager and BES Rep needs to manage customer expectations that PGE resource availability needs to be confirmed.
- 4) Customer needs to provide BES Rep:
  - nature of emergency / equipment problem
  - Location address of Customers Emergency
  - Customer contact info / name / address of Emergency Repair contract signatory.
- 5) PGE Supervisor needs to confirm with FM Manager resources are available to support, FM Manager prepares Emergency Contract with info in 4)
- 6) Customer signs contract and FM issues an Emergency Services order number to PGE Supervisor to charge time and materials time.
- 7) FM Manager follows up with invoicing customer once job is complete.

Equipment Rental

- **Emergency Back Up Power Gensets**:
  - Able to mobilize MW's of gensets within 24 hours.
  - Able to provide transport, and PGE crews to mobilize and hook up power solution.
- **Emergency Transformers**:
  - PG&E may have a transformer required in stock for rent.
  - Customers transformer specifications needed.
- **Emergency mobile substations**:
  - PG&E may have a mobile substation available in stock for rental.

Managed and Unmanaged Outages

Managed:

- Public Safety Power Shutoff (PSPS) Events
  - 2017- 2022: 5 PSPS events on average per year.
- California Independent System Operator (CAISO) rotating power outages.
  - CAISO retains authority to call outages at any location.
    - 2020: Aug 14th - 15th 813,000 customers impacted.
    - 2022: Sept 6th CAISO CEO announced possible rotating outages.
- Local Fire Department – Tline / Distribution line shutdown request due to grass fires.

Unmanaged:

- Unpredictable / unexpected utility grid outages.
  - Rule 14: Reliability / continuity not guaranteed.
- Temporary power interruption
  - Voltage Sags can happen anytime on the utility grid.
  - 3-10 per year on average.
- Natural disaster
  - Fires: Over 4,200 acres burnt in Kern County in 2022.
    - Local Fire Dept – Transmission / Distribution line shutdown request due to grass fires.
  - Earthquake: 7.3 magnitude earthquake in Kern County, CA (July 1952).
  - Rain / Flooding: 14 atmospheric rivers (Jan – Mar 2023).
  - Geomagnetic storm (solar flare / G4): possible voltage control problems on power grid.
- Domestic terrorism
  - 6 Substation attacks, Washington / Oregon Substations (Nov 2022)
  - 3 Substation attacks, North Carolina (Dec 2022)
  - 1 Substation attack, San Jose, CA (Apr 2013)

Flooded substation in Morro Bay, CA, January 2023.

Ongoing Maintenance

- **Scheduled Maintenance**: 3 – 5 year maintenance agreement to maintain the customer owned transmission line or substation *at PG&E standards*.
- **Tasks include:**

Substation	
Transformer	
	* LTC overhaul if equipped
	* TASA DGA Testing
	* TDA Main tank
Circuit Breakers	
	* Function test
	* Mechanism service
	* Overhaul
	* Exercise
Relays	
	* Electrical
	* Solid State
	* Micro-Processor
Batteries	
	* Battery resistence test: non-VRLA
	* Battery resistence test- VRLA
Substation Inspection	
	* Station reads
	* Infrared inspection
Substation Insulator Wash	
I&C	Install HVIC
T/line Undergrd/ Overhead	
	* Maintenance, Construction, Inspections
	* Tline aerial inspections: IR
Distribution T&D	
	* Maintenance/Construction
Gas T&D	
	* Maintenance/Construction

EPC* of a New Substation

EPC* = “Engineering, Procurement and Construction” of a new or expanded substation.

Engineering Services

- Design services:
  - Civil and structural design
  - Protection and control system design
  - Control house design
  - Conduit and trench design
  - Grounding system design
- Equipment sizing and specification

Utility Coordination

This critical function coordinates the requirements between a variety of project participants such as electric utilities, co-ops, and municipalities.

Procurement and Project Management

Our offer includes:

- developing specifications,
- releasing requests for quote for major equipment purchases,
- evaluating bids,
- ordering equipment,
- and providing complete project management services.

Thank you

Together, Building
a Better California

Sean Maguire

SQM9@pge.com

Phone: 312-898-0696

Utility Energy Service Contracts (UESCs)

Jeff Gingrich
Project Manager, FEMP Utility Program
National Renewable Energy Lab

What are Utility Energy Service Contracts (UESCs)?

Performance contracts that allow agencies to do energy and water projects with little to no up-front costs and appropriations from Congress.

- Savings from reduced consumption and improved efficiency used to pay for a variety of measures
  - Infrastructure upgrades
  - Replacement of aging, inefficient equipment
  - Renewable energy systems
- Capital costs paid for through financing and available agency funds

Federal Drivers: EA 2020 and Energy Management Requirements

42 U.S.C. § 8253 Energy and Water Management Requirements

- Annual requirements for evaluation of 25% of covered facilities (EISA audits)
  - UESC Preliminary Assessment or Investment Grade Audit can fulfill audit requirement
- EA 2020 - Requires installation of life-cycle cost (LCC) effective energy conservation measures within 2 years of audit
- EA 2020 – Requires use of performance contracting to address at least 50% of LCC ECMs
  - Applies to measures identified in evaluations completed on or after ***December 27, 2020***

FEMP Guidance

Performance Contracting Requirements Related to the Energy Act of 2020

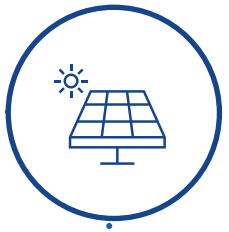
How do UESCs work?

Select contractor

Competition limited to serving distribution utilities

Conduct assessments to evaluate energy/water savings opportunities

Contractor identifies cost effective energy conservation measures (ECMs)



Implement ECMs

Utility secures financing and installs measures

Make payments from cost savings

Contract term of up to 25-years to pay for ECMs

Implement Performance Assurance Plan to monitor and sustain savings

Via operations & maintenance / savings verification/other

Authorizing Law: UESC

Authorized and encouraged under the Energy Policy Act of 1992 (42 U.S.C. § 8256 and 10 U.S.C. § 2913 for DOD)

- Agencies are authorized to participate in utility incentive programs and accept any financial incentives, goods, or services generally available.
- Defined as a limited-source acquisition between a federal agency and serving utility for energy management services, including:
  - Energy efficiency improvements
  - Water efficiency improvements
  - Demand reduction services
  - Distributed energy

UESCs are Limited Source Acquisitions

Competition is limited to serving distribution utilities (electricity, natural gas, and water).

Key Advantages of UESCs

- **Intended to achieve savings or be budget neutral**
  - Paid for through energy/water savings and/or available agency funds
  - Utility is responsible for obtaining financing
- **Contract term up to 25 years**
- **Multiple sites/facilities within the utility's service territory may be included in a single task order**
- **Performance Assurance Plan and/or savings guarantee is required**
  - Utility can perform operations & maintenance, repair/replacement, measurement and verification
- **Contracts are firm-fixed-price**
- **Utility is single point of contact for entire project – evaluation, design, installation, post-installation services**

Energy Conservation Measures

Common Examples

(not exhaustive)

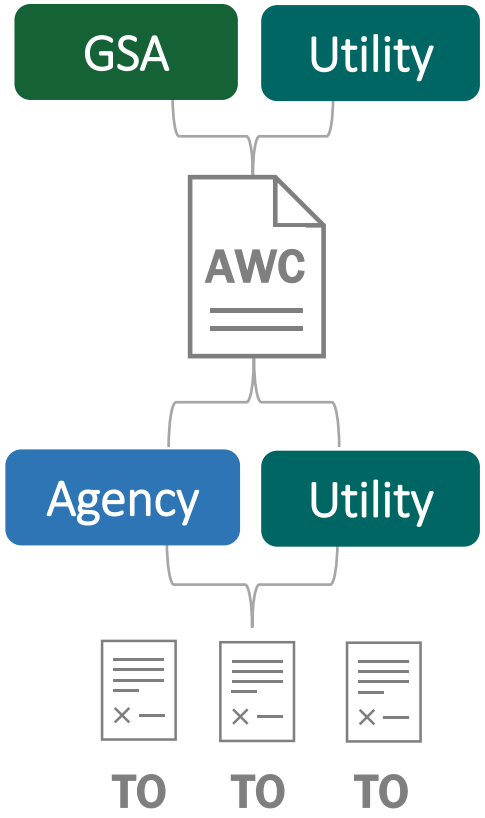
- Boiler and chiller upgrades
- Energy management control systems
- Commissioning/Retro-commissioning
- Building envelope
- HVAC
- Chilled/hot water, steam distribution
- Lighting and lighting control improvements
- Electric motors/drives
- Refrigeration
- Renewable Power Generation Systems
- Electrical peak shaving/load shifting
- Rate adjustments
- Appliance/plug load reductions
- Energy consuming devices and support structures
- Water and wastewater



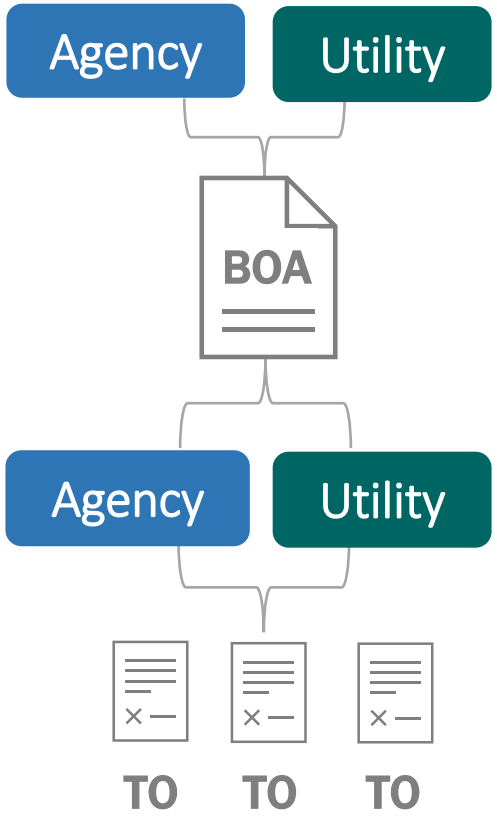



UESC Contracting Options

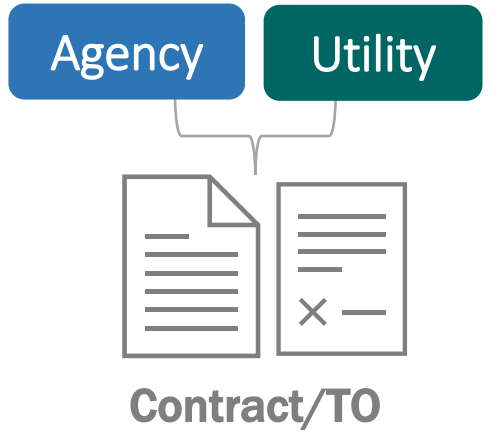
Areawide Contract (AWC)



Basic Ordering Agreement (BOA)



Separate Contract



FAR Part 41.205 Separate Contract | FAR Part 41.204 GSA Areawide Contracts | FAR Part 16.703 Basic Ordering Agreement

Getting Started with a UESC

- **Set goals for your project.**
  - Energy/water efficiency, equipment replacement, decarbonization and electrification, resilience, etc.
- **Review facility/energy consumption data and identify known ECM opportunities.**
  - Leverage existing audits, multi-year site plans, and facility data
- **Identify eligible utility providers.**
  - Contact your serving utilities (electricity, natural gas, water) learn about program availability and experience
- **Evaluate funding options.**
  - Identify available appropriations, grants, and incentives that may help expand scope or shorten contract term
- **Contact FEMP for training and technical support.**

UESC Support and Resources

FEMP offers various types of support to set projects up for success:

- General consultations with Federal Project Executives
- Project Facilitators (PF) to act as advisors through the Preliminary Assessment
- Technical and contracting SMEs to provide support on-request through DOE National Labs
- Training on contracting and technical topics for agency teams
- Online templates and other resources
- Peer-to-Peer working groups and seminars

How much does FEMP support cost?

Nothing!

Most support can be provided at no cost*

PG&E's Utility Energy Service Contract (UESC) Overview

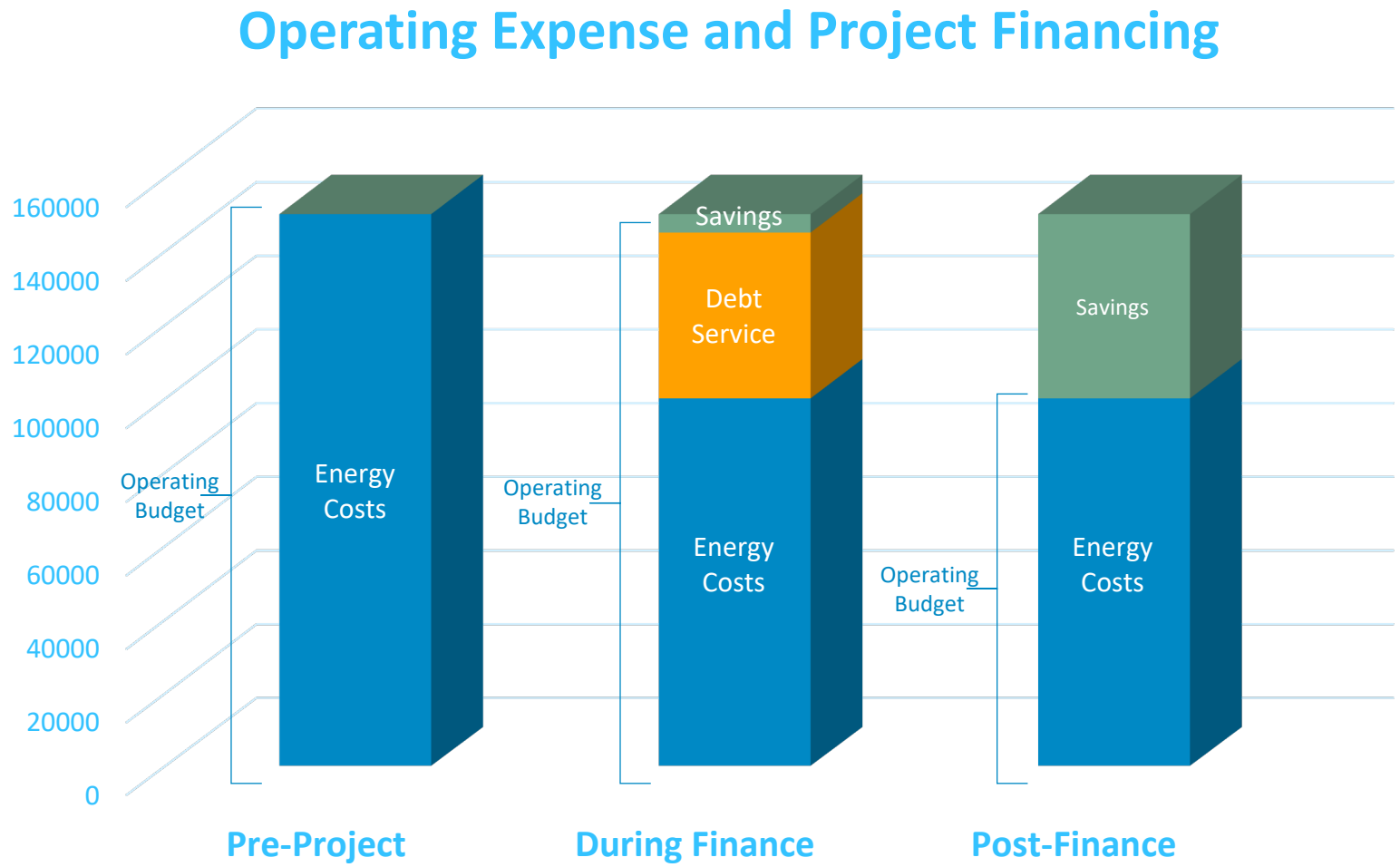
April 2024

UESC in a Nutshell

UESC is a “one-stop-solution” that identifies, prioritizes, and **implements** energy efficiency, energy generation, energy storage/resiliency, and water conservation measures for large federal customers

UESC projects are paid for over time by the **energy savings** generated by the projects

Energy Savings as Debt Service



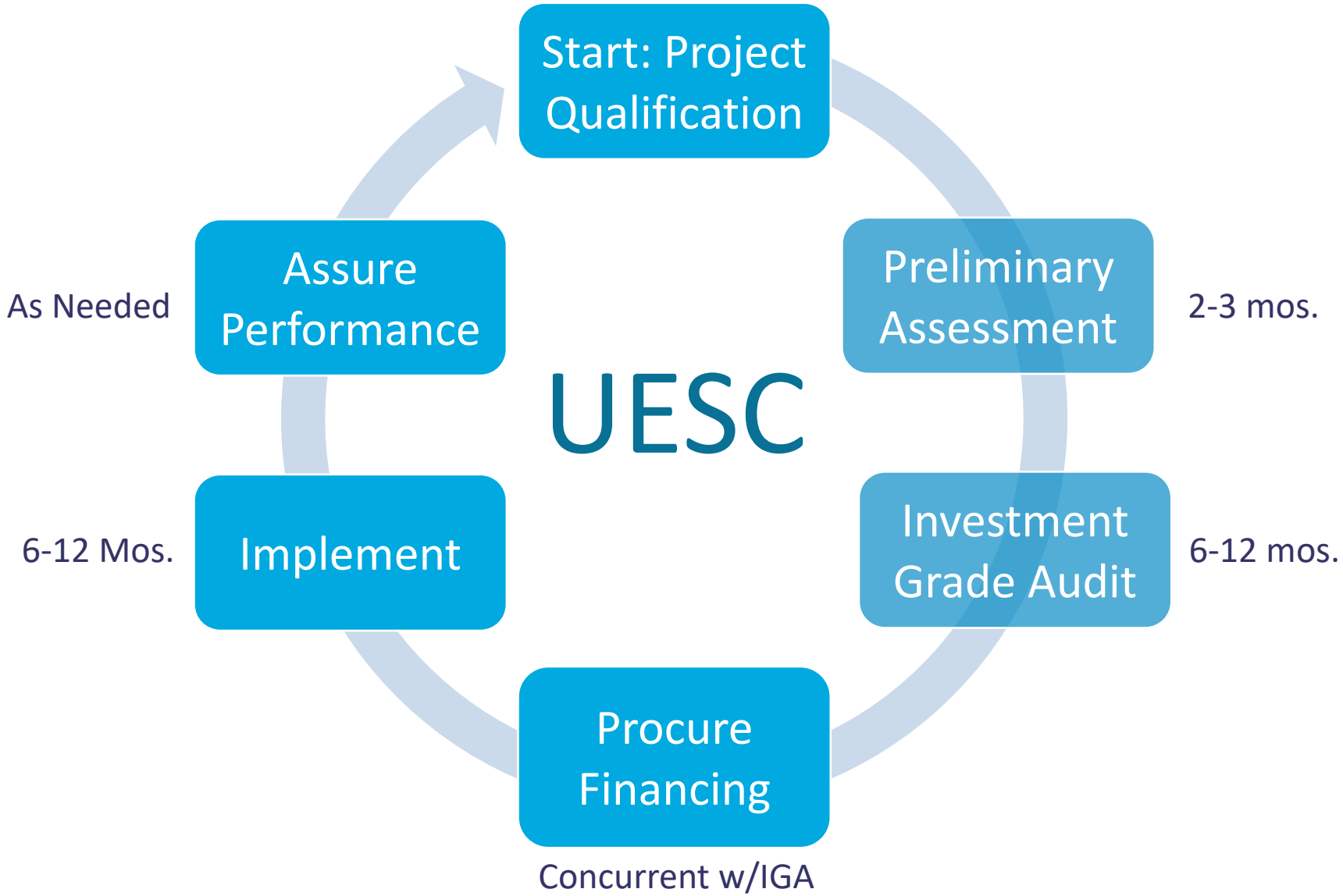
PG&E UESC Experience

- Our projects **reduce cost, improve mission readiness, and relieve O&M burden**
- 15 years of experience on complex multi-measure projects for the federal government
- 20-40% cuts in energy costs, energy use, carbon emissions
- Project paybacks range 3-15 years; financing terms up to 25 years allowed
- Projects can be paid for using a mix of appropriated funds, private financing, zero-interest OBF loan, AFFECT grants, ERCIP, etc.
- Very flexible:
  - All sectors, measures, and incentives
  - LED, HVAC, RCX, PV, BESS, EV, power quality, water, co-gen, micro-grid, etc.

$200M Project Portfolio

- **NASA**
- **IRS**
- **Veterans Affairs**
- **Coast Guard**
- **GSA**
- **Army**
- **FAA**
- **FBOP**
- **Air Force**
- **Navy**

UESC Process Overview



Customer Spotlight – Veterans Affairs

Overview

PG&E partnered with VA in 2017 to identify & implement efficiency and infrastructure upgrades at 7 VA facilities. VA's goals were clear:

- **Be more efficient**
- **Sure-up aging infrastructure**
- **Fund as much as possible w/savings.**

Results

- **TPV $90M**
- **6,228,224 kWh cut annually**
- **412,112 therms cut annually**
- **$1.4M yearly utility spend cut**
- **6600 metric tons CO_2 cut annually**

Measures Implemented

San Francisco: LED lighting, HVAC upgrades, Roofing, Solar PV, New Boiler Plant & Chiller Plant, Electrical System replacements and upgrades, Temporary HVAC & Electrical Equipment to ensure 24/7 operations

Fresno: HVAC upgrades (Covid Ward AHU), Steam System upgrades, Boiler/Chiller upgrades

Livermore: LED Lighting, Steam System improvements, Modular Boiler Plant construction

Menlo Park: LED Lighting, HVAC upgrades & Controls, Steam System upgrades, Solar PV

McClellan/Mather/Martinez: LED Lighting, HVAC, Ground Source Heat Pumps

Thank You

Please contact us to discuss any questions or needs you may have

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Turnkey Product Manager
Pacific Gas & Electric Company
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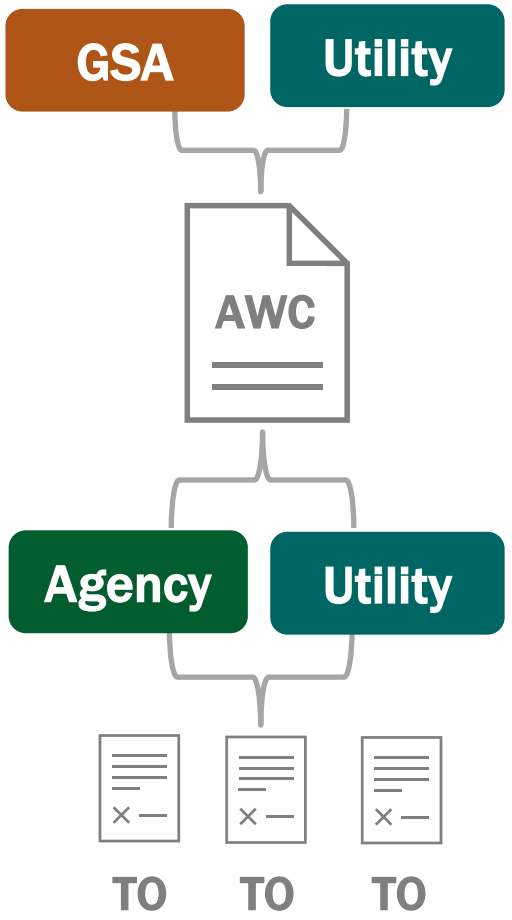
Leveraging GSA Areawide Contracts (AWCs)

Ebony Atkinson
Chief, Public Utility Branch | Senior Contracting Officer
GSA

Areawide Contracts for Utility Services

GSA negotiates AWCs with public utilities on behalf of the Federal Government to streamline procurement of utility services.

- GSA has Statutory Authority under 40 U.S.C 501
  - DOD and DOE have permanent delegations
  - Veterans Affairs has authority for interconnection charges
- Contract Term - 10 years (25 years for UESCs)
- FAR Part 41 requires agency use available AWC unless head of contracting authority (HCA) determines otherwise
- AWC bilaterally signed by GSA and utility
- Exhibits for services signed by agency and utility
- Delegation required when there is no AWC



AWC Exhibits/Authorizations

Authorization for Electric Service

Nature of Service

- ❑ Connect
- ❑ Change
- ❑ DSM Work
- ❑ Line Extension, Alteration, Relocation or Reinforcement
- ❑ Special Facilities

Examples: EV Infrastructure, Advanced Meters

Authorization for Natural Gas Service

Nature of Service

- ❑ Connect
- ❑ Change
- ❑ Continue service
- ❑ Line Extension, Alteration, Relocation or Reinforcement
- ❑ Transportation
- ❑ Billing & Ancillary Services

Example: Installation of gas line

Authorization for Energy Management Services

Nature of Service

- ❑ Preliminary Energy Audit
- ❑ Investment Grade Audit
- ❑ Engineering & Design Study
- ❑ Energy Conservation Project Installation
- ❑ Demand Side Management Project

Examples: Lighting and Chiller Retrofits, Recommissioning, HVAC

Authorization for Provisions of Services Under (insert appropriate Regulatory Authority)

Nature of Service

- ❑ _____ Interconnection of the Ordering Agency's renewable energy project

Examples: Interconnection of PV System

Authorizations for Electric or Natural Gas Service

Used to obtain utility service and implement infrastructure projects that don't typically result in savings.

Authorization for Electric Service

Nature of Service

- ❑ Connect
- ❑ Change
- ❑ DSM Work
- ❑ Line Extension, Alteration, Relocation or Reinforcement
- ❑ Special Facilities*

Authorization for Natural Gas Service

Nature of Service

- ❑ Connect
- ❑ Change
- ❑ Continue service
- ❑ Line Extension, Alteration, Relocation or Reinforcement
- ❑ Transportation
- ❑ Billing & Ancillary Services

** Special Facilities includes a variety of measures not otherwise listed in the Exhibit*

Authorization for Electric Service: Project Examples

- EV Infrastructure
- Advanced Meters
- Solar Arrays
- Conversion of overhead lines to underground
- Utilities hardening
- Emergency & back-up generation
- Customer-owned substation and distribution system upgrades
- Distribution system mapping
- Osmose pole inspections/replacements
- Emergency restoration/repairs
- Redundant/alternate feeder
- Infrared scan
- Line extensions
- Lightning protection




Using the EMSA for UESCs

The Authorization for Energy Management Services (EMSA) is used to award UESCs under an AWC.

- **UESC services include:**
  - Project development - preliminary assessment, investment grade audit
  - Task order award - engineering and design, ECM installation
- **How does it work?**
  - Agency and utility agree upon the scope, deliverables, and cost for the service
  - Agency completes EMSA form and attaches task order
  - Agency sends EMSA and customer agreement form to Utility for signature

EMSA Example

EXHIBIT "B"

AUTHORIZATION FOR ENERGY MANAGEMENT SERVICES

CONTRACT NO. **47PA0420D0006**

Ordering Agency:_____

Address:_____

Pursuant to Contract No. 47PA0420D0006 between the Contractor and the United States Government and subject to all the provisions thereof, service to the United States Government under such contract shall be rendered and subject to all the provisions thereof. This Authorization for Energy Management Services (EMS) including any attachments listed below and any FAR provisions checked below and incorporated herein by reference, shall together with the referenced Areawide Contract form one single integrated agreement.

PREMISES TO BE SERVED:_____

SERVICE ADDRESS:_____

NATURE OF SERVICE:
- ☐ Energy Audit,
- ☐ Comprehensive Energy Audit
- ☐ EMS Engineering and Design,
- ☐ EMS Installation
- ☐ Demand Side Management (DSM) Project,
- ☐ Standby Generation
- ☐ Demand Response/Load Control Participation
- ☐ Other (See Remarks Below)
- ☐ ECP Feasibility Study
- ☐ ECP Engineering & Design Study
- ☐ Energy Conservation Project (ECP)

Leveraging the AWC

Steps for using AWCs for obtaining utility services:

- **Obtain copy of AWC**
  - AWC List: Download Contracts/ Modifications | GSA
- **Complete applicable authorization form for utility services**
  - Ensure applicable clauses are incorporated
- **Complete necessary standard forms (SF) and customer agreement**
  - Include applicable rate schedule and tariff options
- **Send Authorization and customer agreement form to Utility for signature/Agency should fully execute documentation**

KEY REQUIREMENT

- **Send signed forms to GSA for archiving**
- FAR 41 requirement and important part of the process
- Copies of all agreements should be sent to GSA (energy@gsa.gov)

Know a Utility who wants to establish an AWC?

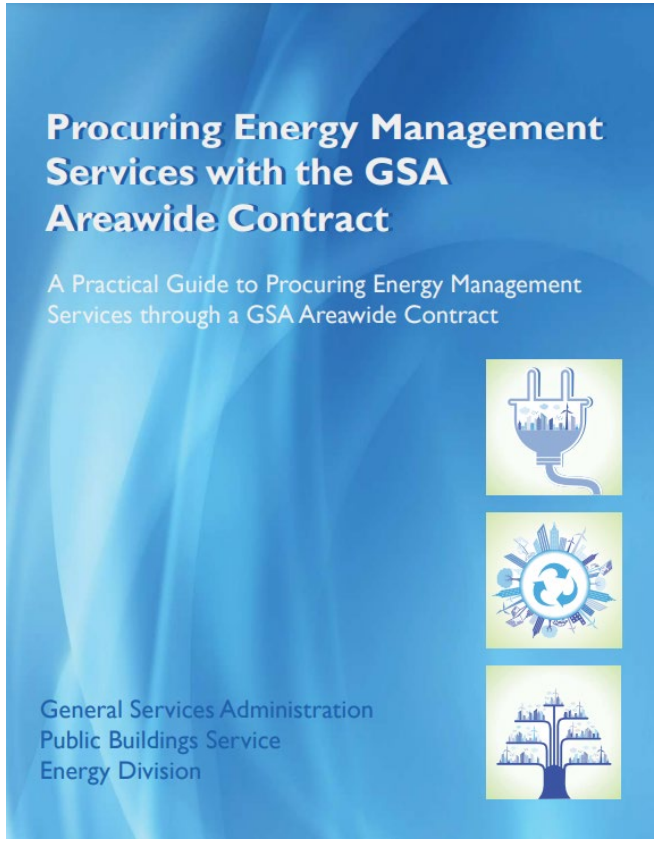
Utilities should start by contacting GSA (energy@gsa.gov) to start the conversation.

- **GSA works with utility to decide whether an AWC is appropriate to pursue.**
  - Considerations include objectives, number of federal customers, and total federal load
- **Review basic requirements and obligations under an AWC.**
  - Including terms and conditions, key articles and contract clauses, and annual subcontracting reporting
- **Access templates for starting the AWC process.**
  - Areawide Agreement, Small business subcontracting plan

GSA AWC Resources

GSA Energy Library - Utility Areawide Contracts

- Utility AWC Listing
- Procurement Guide for Public Utility Services
- Utility Areawide Guide
- Procuring Energy Management Services with the GSA AWC
- Sample EV Charging Infrastructure Exhibits (coming soon)



PG&E Areawide Agreement w/ GSA

PG&E has had an "Areawide" with the federal government for decades.

It allows the government to easily obtain a wide range of energy related services directly from PG&E.

- **Contract No. GS-00P-14-BSD-1137**
- **Extremely Broad Scope**
  - **All fed. agencies & departments in PG&E territory**
  - **Electricity and Gas**
  - **Energy Management Services**
  - **And "Other" Authorized Services**
- **Very Flexible**
  - **Exhibits A-D allow easy execution of a wide range of services (e.g., electricity/gas interconnection, UESC projects; back-up power; sub-station maintenance, etc., etc.)**

Q&A

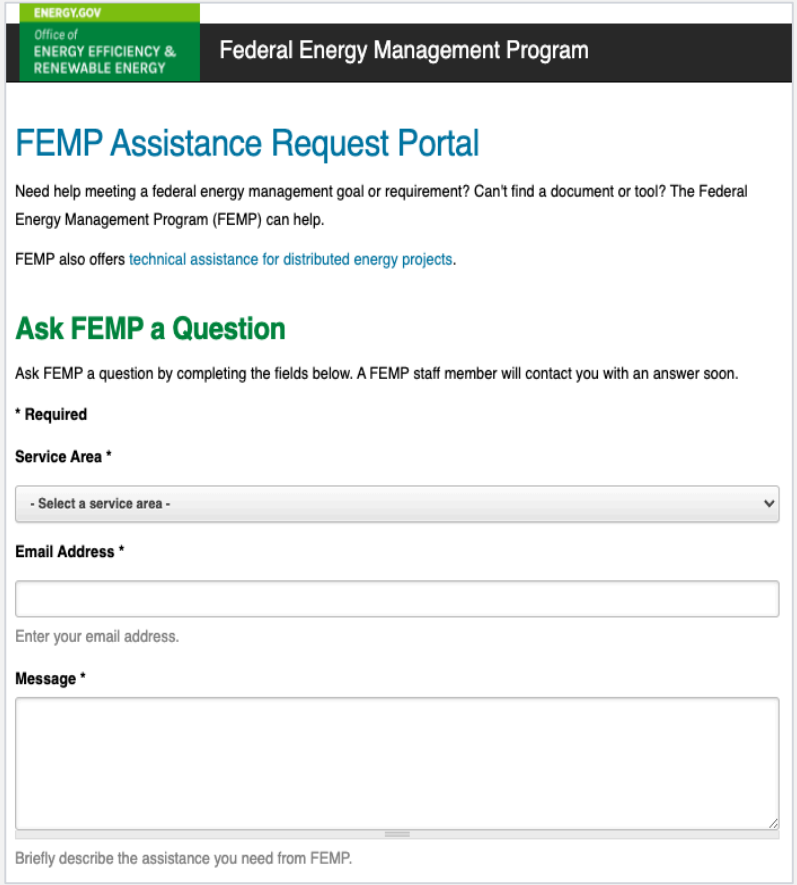
FEMP Technical Assistance

FEMP offers support to federal agencies at no cost via the Technical Assistance Request Portal:

- Staff training
- Project assistance
- Analysis* (utility rates, renewable energy optimization, resilience, etc.)
- Resources (guides, templates, etc.)

** Subject to available funding and scope of request*

FEMP Assistance Request Portal



AFFECT BIL FAC: $250 Million to Advance Net-Zero Facilities

Assisting Federal Facilities with Energy Conservation Technologies (AFFECT)
Bipartisan Infrastructure Law (BIL) Federal Agency Call (FAC)
Advancing Net-Zero Federal Facilities (DE-FOA-0003026)

Topic Areas (updated March 22, 2024)	
Topic Area 1A	Assistance with Net-Zero Buildings Project Development
Topic Area 1B	Assistance with Net-Zero Buildings Program and/or Procedures Development
Topic Area 2	Modify Existing Projects for Net-Zero Buildings
Topic Area 3	New and/or In Development Net-Zero Buildings Projects

Resources

- FAC and Application Forms
- FAC Informational Webinar Recording and Slides
- Slides Summarizing Recent FAC Modifications
- Applicant Questions and Answers
- Upcoming Training and Guidance Information

Only Federal Agencies May Apply for AFFECT

Application Submission Deadlines	
Phase 1	May 31, 2023 (closed)
Phase 2	June 27, 2024 (now open)
Phase 3	April 18, 2025 (forthcoming)

Selected projects announced approximately 6 months following the submission deadline.

Questions? Email AFFECTBIL@hq.doe.gov.

FEMP Webinars and On-Demand Training

Live and on-demand webinars can be accessed through the FEMP Training Catalog

- **Continuing Education Units available**
- **Curriculums include:**
  - UESC and Performance Contracts
  - Distributed Energy Procurement
  - Resilience Planning and Integration
  - Facility and Fleet Optimized Design
  - Legislative and Mandate Guidance
  - Energy and Cyber Security Integration

ESPC, UESC, and Appropriations Project Development

This curriculum offers courses related to financing the implementation of energy and water efficiency projects. These courses help to pair available specific project situations in an effort to prevent stalled, unfunded projects.

Energy and Water Efficiency Project Financing

Title	Level	Length	CEUs
Energy Savings Performance Contracts (ESPC) Comprehensive Training: Phase 1 and 2	Introductory	3 hours	0.4
Energy Savings Performance Contracts (ESPC) Comprehensive Training: Phase 3	Introductory	3 hours	0.4
Energy Savings Performance Contracts (ESPC) Comprehensive Training: Phases 4 and 5	Introductory	3 hours	0.4
Energy Savings Performance Contracts (ESPC): Five Phases to Success	Introductory	3.5 hours	0.4
Project Facilitator Fundamentals	Introductory	4 hours	0.4
Using Task Order (TO) Schedules in eProject Builder (ePB)	Introductory	1 hour	0.2
Advanced Measurement and Verification for ESPC	Intermediate	2.5 hours	0.30
Decarbonization Considerations: Performance Contracting	Intermediate	1.5 hours	0.2
Federal On-Site Carbon Pollution-Free Electricity (CFE) Purchase Contracts	Intermediate	1 hour	0.2
Financing and Financial Proposal Review for Performance Contracting	Intermediate	1.5 hours	0.2

Click here to view all courses!

Next Steps: Schedule a Follow-Up Call

Request a consultation with FEMP or your utility to:

- Discuss your site's energy goals, challenges, and priorities.
- Identify program offerings that align with your needs.
- Sign up for incentives.
- Connect with subject matter experts to learn more about any of the topics discussed today.

Consultation Request Form

Fill out this *linked survey* or scan the QR code below.

FEMP will connect you with the appropriate party for follow-up, which may include FEMP technical experts, utility POCs, and/or the relevant Utility Lead Agency.

Contact Information

FEMP / DOE

Name	Program
Tracy Niro	UESC & CFE
Ethan Epstein	Resilience
Jason Koman	GEB and Fleet/EVSE
Billie Holecek (LBL)	Demand Response and TVP
Jeff Gingrich (NREL)	UESC
Ebony Atkinson (GSA – energy@gsa.gov)	Areawide Contracts

Contact FEMP SMEs via the

FEMP Assistance Request Portal

PG&E

Name	Program
John Garnett (J7gb@pge.com)	UESC / Turnkey Products
Uday Mathur (uxm2@pge.com)	UESC
Wendy Brummer (wlbg@pge.com)	Automated Demand Response
Beth Reid (breid@olivineinc.com)	Emergency Load Reduction
Sarina Uriza (SCU1@pge.com)	Community Choice Aggregation (CCA)
Dean Kunesh (Dean.Kunesh@pge.com)	EV Fleet Program
Sean Maguire (SQM9@pge.com)	Facility Maintenance (Resilience)

This Training Offers IACET CEUs

How to obtain your CEUs:

1. Visit the Whole Building Design Guide (WBDG) at wbdg.org to log in or create an account
2. Enroll in the training
3. Attend the training in full
4. Return to your WBDG account's Enrolled courses
5. Select the training's "Proceed to Course" button
6. Complete an assessment
7. Submit a training evaluation
8. Download your certificate.

What's an IACET CEU?

An International Association for Continuing Education and Training (IACET) continuing education unit (CEU) is a unit of credit equal to 10 hours of participation in an accredited program designed for professionals with certificates or licenses to practice various professions.

Stay in Touch

Ask Questions

Visit FEMP's Technical Assistance Portal to ask questions ranging from general to project-specific.

Sign Up for FEMP Updates

Receive periodic emails to stay informed of FEMP news, trainings, tools, resources, and more.

Find More Trainings

Search the FEMP Training Catalog to find upcoming live trainings, events, and on-demand courses.

Follow FEMP

Follow FEMP on LinkedIn for event announcements, examples of agency success, and of-the-moment news.

Thank You!

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