Utility Open House for Federal Customers: Oklahoma Gas & Electric

July 25, 2024| 12:30 PM – 4:30 PM CT (1:30 PM– 5:30 PM ET)

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

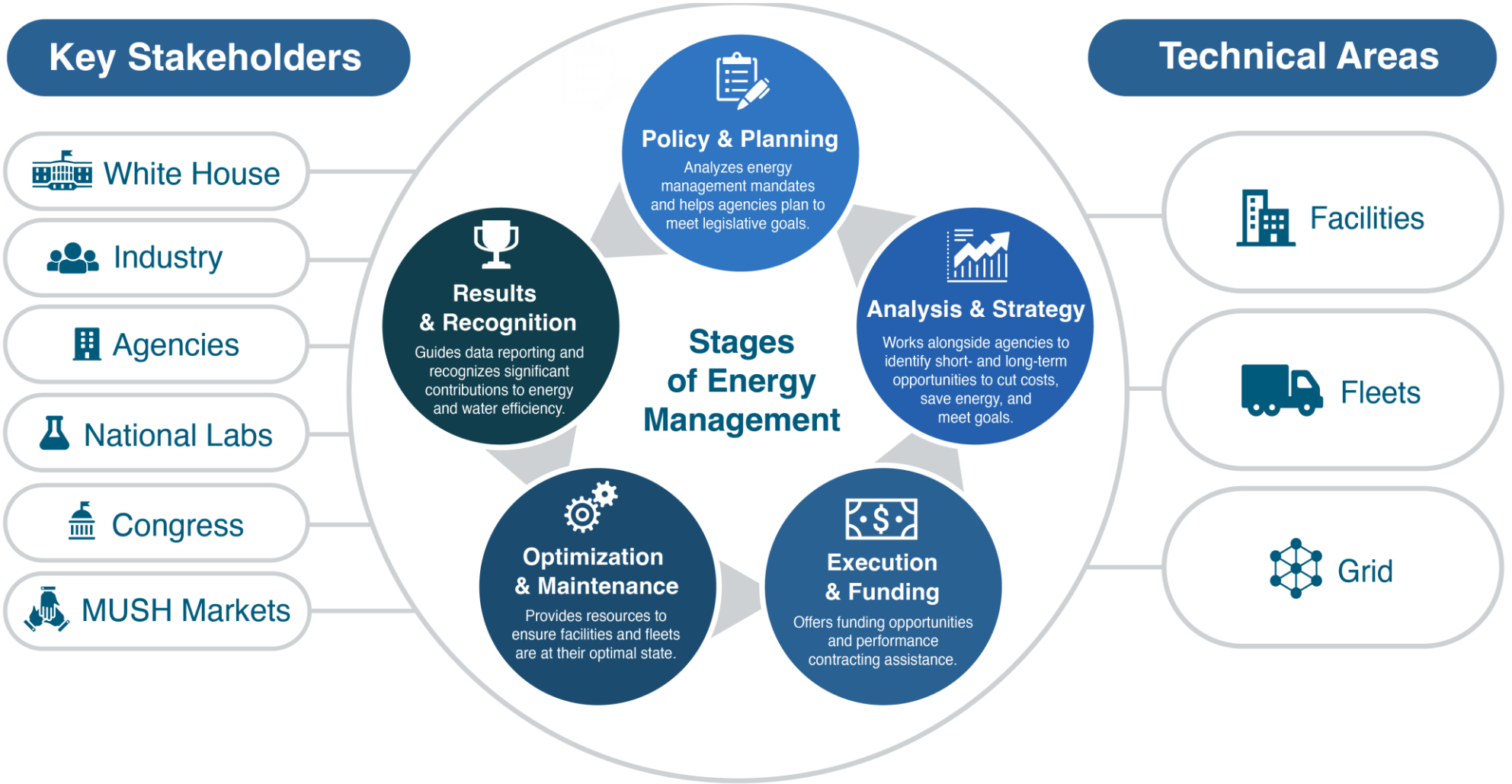
12:30 PM (CT)	Welcome and Opening Remarks
12:50 PM	Grid-Interactive Efficient Buildings, Demand Response and Time-Variable Pricing
1:30 PM	Fleet Electrification and Electric Vehicle Supply Equipment (EVSE)
2:00 PM	Grid Enhancement and Resilience
2:30 PM	Break
2:50 PM	Carbon Pollution-Free Electricity (CFE)
3:30 PM	Utilizing the GSA Areawide Contract (AWC) and Utility Energy Service Contracts (UESC)
4:20 PM	Final Q&A, Resources and Next Steps
4:30 PM	Adjourn

FEMP Welcome

Anna Siefken
Deputy Director, Federal Energy Management Program
U.S. Department of Energy

FEMP Empowers 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

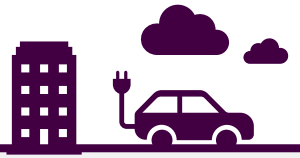
- Smart Facility Accelerator
- FEDS Spotlight
- REopt
- ESPC
- Technical Resilience Navigator
- Federal Utility Partnership Working Group
- Re-tuning Trainings
- EVI Locate
- UESC
- CDF Calculator
- Treasure Hunts
- Interagency Task Force
- Federal Energy & Water Management Awards
- Energy Exchange
-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

and much, much more...

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'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 form* 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.

OGE

We Energize Life

Opening Remarks

Christi Woodworth, VP Marketing & Communications

Safety Moment

Clayton Fogg,

Plant Electrician II, is the 2024 safety coin design winner.

“Staying Safe Together, We Succeed Together“ these words encompass what OG&E is about – looking out for one another and doing your jobs safely so we can all come home to our loved ones,” said Clayton.

The Purpose of The Coin

The safety coin is a tangible reminder of our value of Individual Safety and Wellbeing. Values, beliefs and culture are difficult to hold in your hand or put in your pocket. The presence of the safety coin in your pocket reminds you of your role in creating and sustaining an incident- and injury-free culture at OG&E.

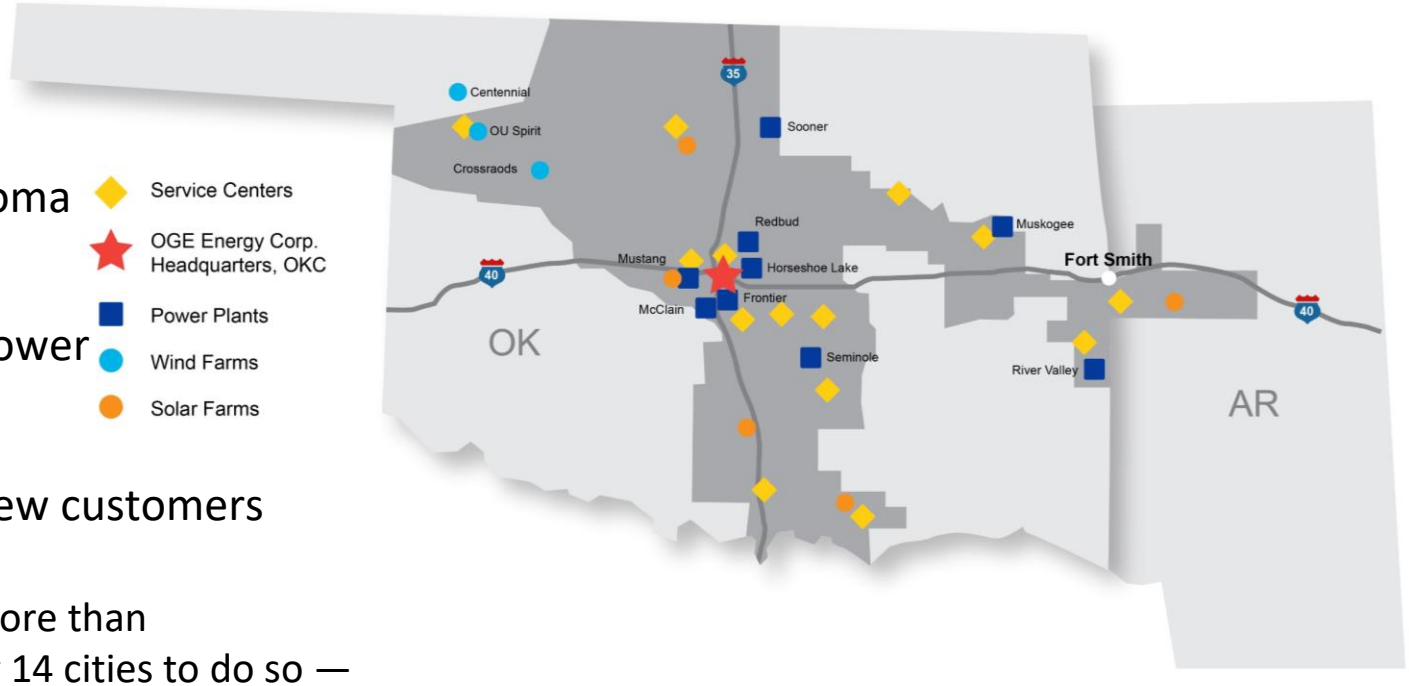
OG&E – Who we are & what we do

Regulated electric company serving **896,000** customers at some of the lowest retail rates in the nation*

2,300 full-time employees

Service area: **30,000 square miles** in Oklahoma and western Arkansas

Generating capacity: 7,116 megawatts, 9 power plants, 3 wind farms, 6 solar farms



Sustained economic growth by attracting new customers through reliable and low-cost energy

- Our hometown of Oklahoma City grew by more than 100,000 residents since 2010 — one of only 14 cities to do so — and is now the 20th largest city in the country.

*S&P Global Market Intelligence Ultimate Rankings of 2022 average bundle price to ultimate customers by parent company

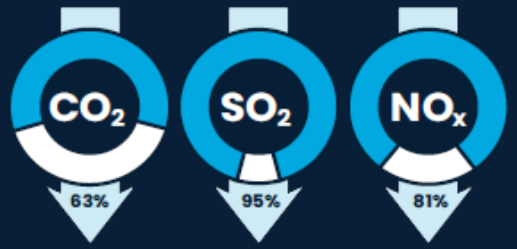
Stewardship Highlights

ENVIRONMENT

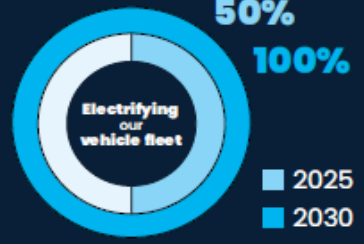
Progress on Reducing Emissions*

By 2030, we expect to see a 50% reduction in carbon dioxide emissions over 2005 levels.

*Emissions reductions 2005 to 2023. Emissions reductions will vary year-to-year based on a variety of factors, some outside our control.



Yearly Fresh Water Withdrawal/Recycled



We are actively replacing 50% of our light-duty vehicles with electric vehicles by 2025 and 100% by 2030.

INVESTING IN THE GRID

- Reduced service interruptions by up to **40%***
- Reduced outage duration by up to **30%** on upgraded circuits*

COMMUNITY IMPACT

#1 Best Employer in Oklahoma

Named #1 Best Employer in Oklahoma as part of **Forbes 2023 Best Employers by State.**

$90M IN ANNUAL PROPERTY TAXES SUPPORTING LOCAL COMMUNITIES

As the largest ad valorem taxpayer in Oklahoma, our assessments contribute to **funding public schools and libraries.**

$14M IN DONATIONS

Since 2021, we've supported over 315 programs and organizations that enhance the quality of life and economic well-being of our communities

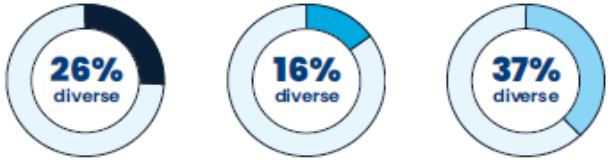
through OG&E and the OGE Energy Corp. Foundation

OGE

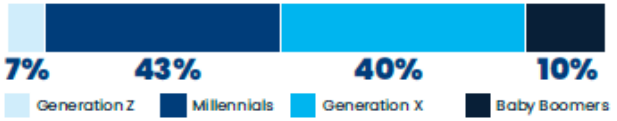
Employee Demographics

Gender

Race & Ethnicity



Generational Diversity



ALMOST $100MM SINCE 2021

Customer assistance dollars in partnership with social services agencies, nonprofit assistance groups, and state and federal agencies to support the most vulnerable populations.

Supported 92 new or expansion economic development projects since 2021 that attracted an estimated 12,359 jobs and represented over $5.4 billion in investments.

12,359 JOBS

83%

Reduced our OSHA Total Recordable Incident Rate by more than 83%, with the last eight years being the safest in our history.

*since 2019

Grid-Interactive Efficient Buildings (GEB)

Sean Pachuta
Research Engineer, NREL

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

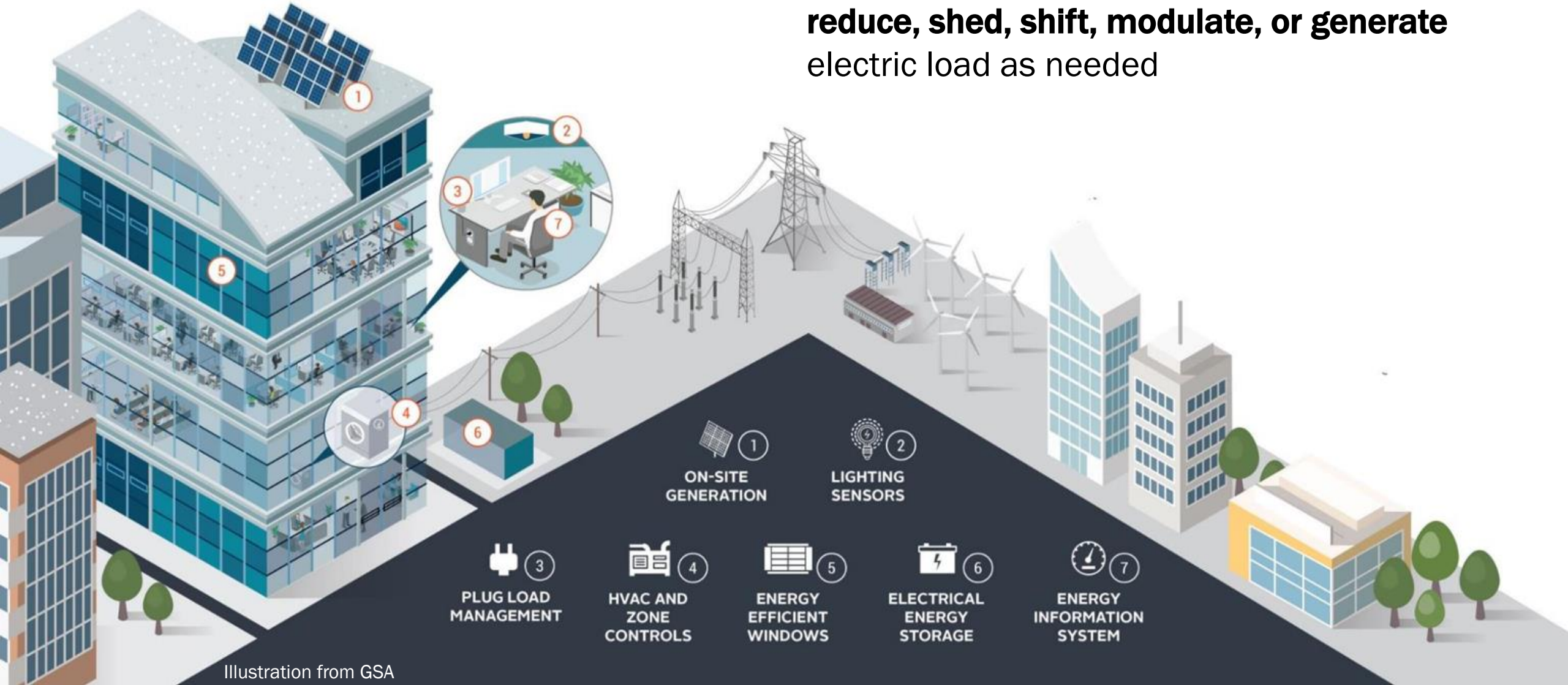


Illustration from GSA

FEMP GEB Program Support

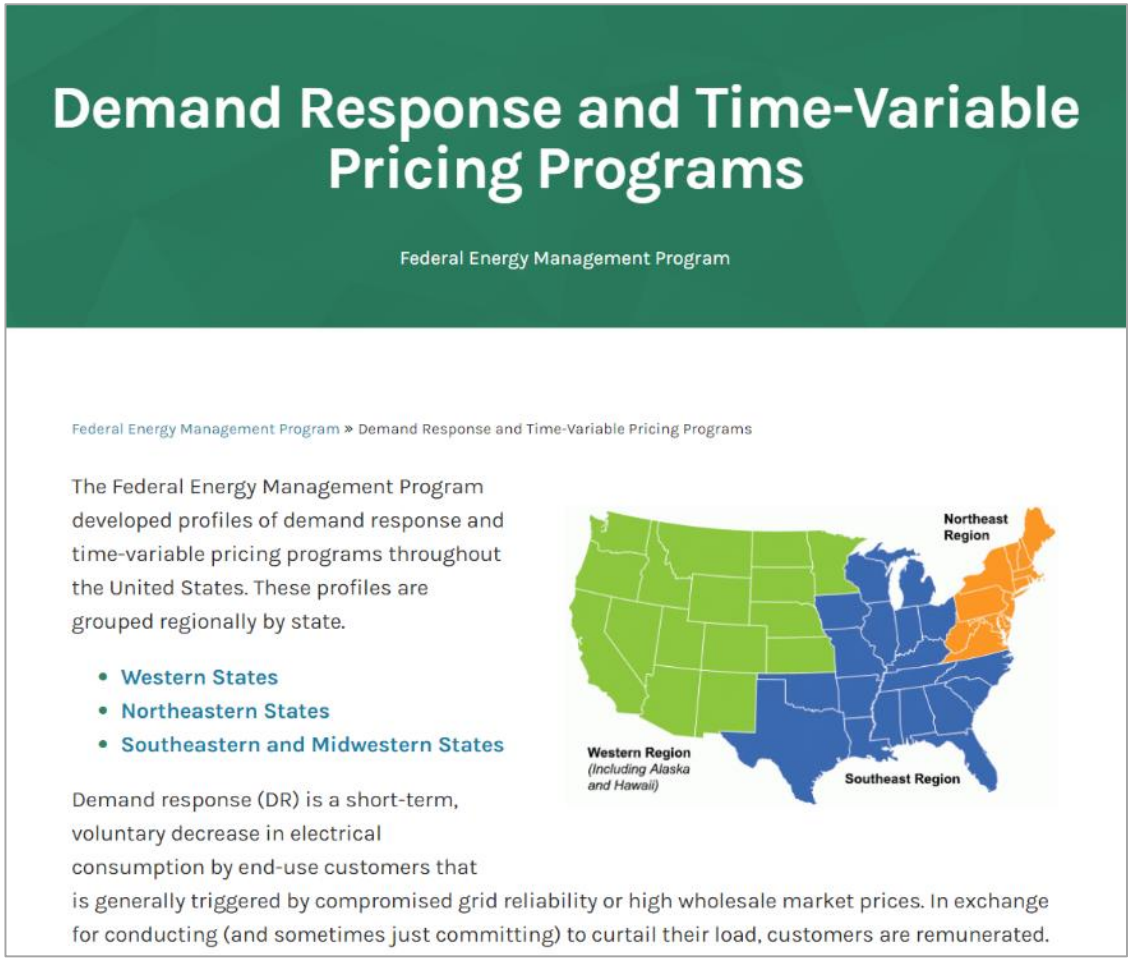
- FEMP's GEB program is available to provide technical assistance and guidance around implementing GEB strategies
  - Technology Insights
  - Financing Guidance
  - Utility Rate and Incentive Considerations
  - Case Studies

GSA Oklahoma City Federal Building Case Study

- Highlights a robust GEB project carried out via an utility energy service contract (UESC)
- 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
- Time 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 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

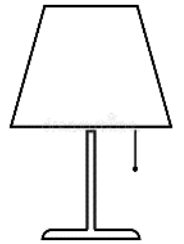
Image Source: DOE (www.energy.gov/oe/demand-response)

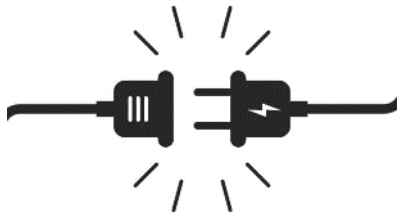
Program Types

- **Formal DR Programs**
  - Run by utilities and ISO/RTOs
  - 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

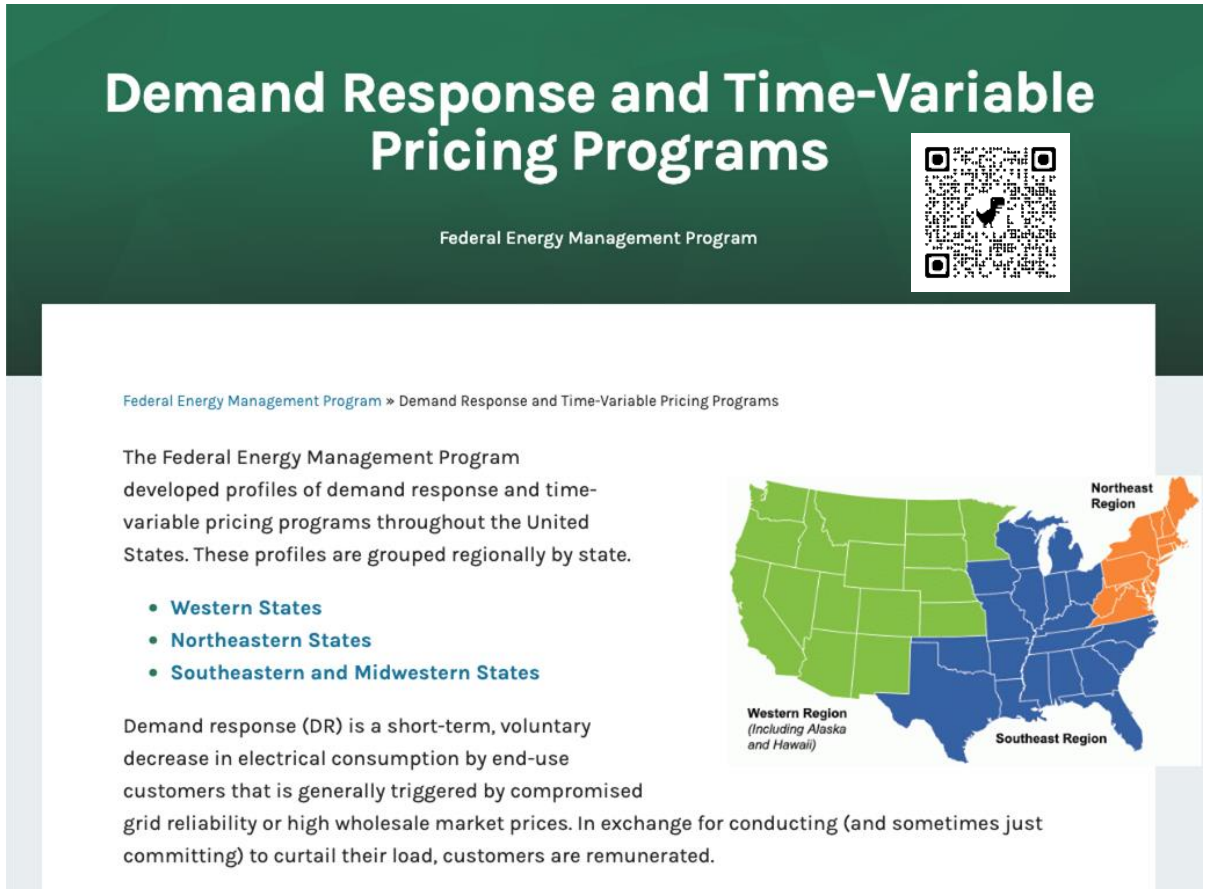
William S. Moorhead Federal Building in Pennsylvania enrolled in a TVP rate and **implemented load shifting resulting in $285k of savings (12%) over the first 3 years.**

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 facilities in California's statewide Emergency Load Reduction Program. Sites enrolled **receive $2/kWh for reduction** when an event is called. In 2023, these facilities delivered over 0.5 MWh in load reduction

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

Energy Efficiency

Federal Facility Energy Efficiency: Goals & Statutory Requirements

Executive Order 14057

Agencies shall:

- Increase facility energy and water efficiency.
- Establish targets for FY2030 for agency-wide energy use intensity (EUI) and potable water use intensity.

Energy Act of 2020

Agencies are required to:

- Install all life cycle cost-effective energy and water conservation measures in owned buildings to the maximum extent practicable, as soon as practicable after October 1, 2022.
- Report non-compliance to Congress every two years, beginning January 1, 2022.

EISA 2007 & EPAct 2005

Agencies must reduce energy consumption per gross square foot of Federal buildings relative to a FY2003 baseline by:

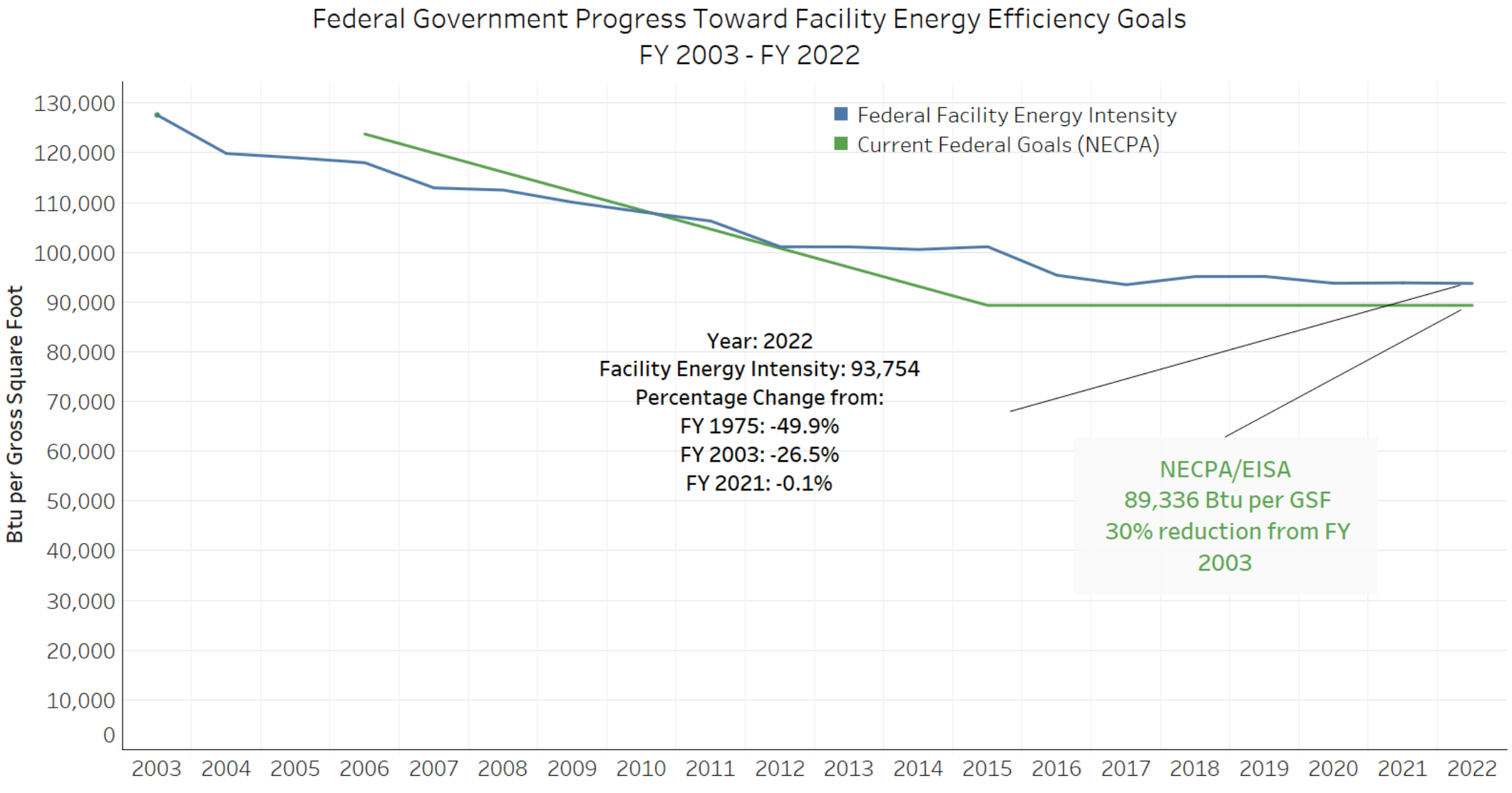
- 27% by FY2014
- 30% by FY2015

EISA = Energy Independence & Security Act

EPAct = Energy Policy Act

[Facility Energy Efficiency | Federal Laws and Requirements Search]

Federal Facility Energy Use Intensity (Btu/GSF)



OGE

We Energize Life

Customer Program Offerings

Jeannette Staden, Senior Program Manager

Presentation Abstract

Utility companies face increasing grid demand, necessitating greater reliance on demand response and energy efficiency programs. OG&E addresses this by balancing supply and demand through initiatives like SmartHours and Load Reduction. These programs reduce or shift electricity use during peak times, avoiding costly system upgrades and new power plant construction, thereby putting downward pressure on costs for customers. By incentivizing customers with time-based rates and rewards, OG&E effectively manages peak demand, ensuring a stable and cost-efficient energy supply.

Learning Objectives

- **Recognize the Significance of Demand Response**: Why is demand response crucial for managing grid stability and avoiding expensive infrastructure upgrades?
- **Understand Advanced Tools for Demand Response**: What innovative tools and programs, like SmartHours and Load Reduction, are essential in implementing effective demand response strategies?
- **Identify Requirements for Demand Response and Energy Efficiency**: What are the key factors and criteria for determining when and how to deploy demand response and energy efficiency programs to optimize energy use and customer benefits?

Outline / Agenda

- **Introduction**
- **Customer Programs**
- **OG&E Program Offerings**
- **Promises & Pitfalls**
- **Wrap Up**

Customer Programs

EFFICIENT

Persistent low energy use minimizes demand on grid resources and infrastructure

CONNECTED

Two-way communication with flexible technologies, the grid and customers

SMART

Analytics supported by sensors and controls co-optimize efficiency, flexibility and customer preferences

FLEXIBLE

Flexible loads and distributed generation / storage can be used to reduce, shift or modulate energy use

Energy Efficiency

Demand Response

OG&E Program Offerings

Energy Efficiency Program Overview

Commercial & Industrial:

- Custom Incentive Programs
- Lighting and HVAC Upgrades

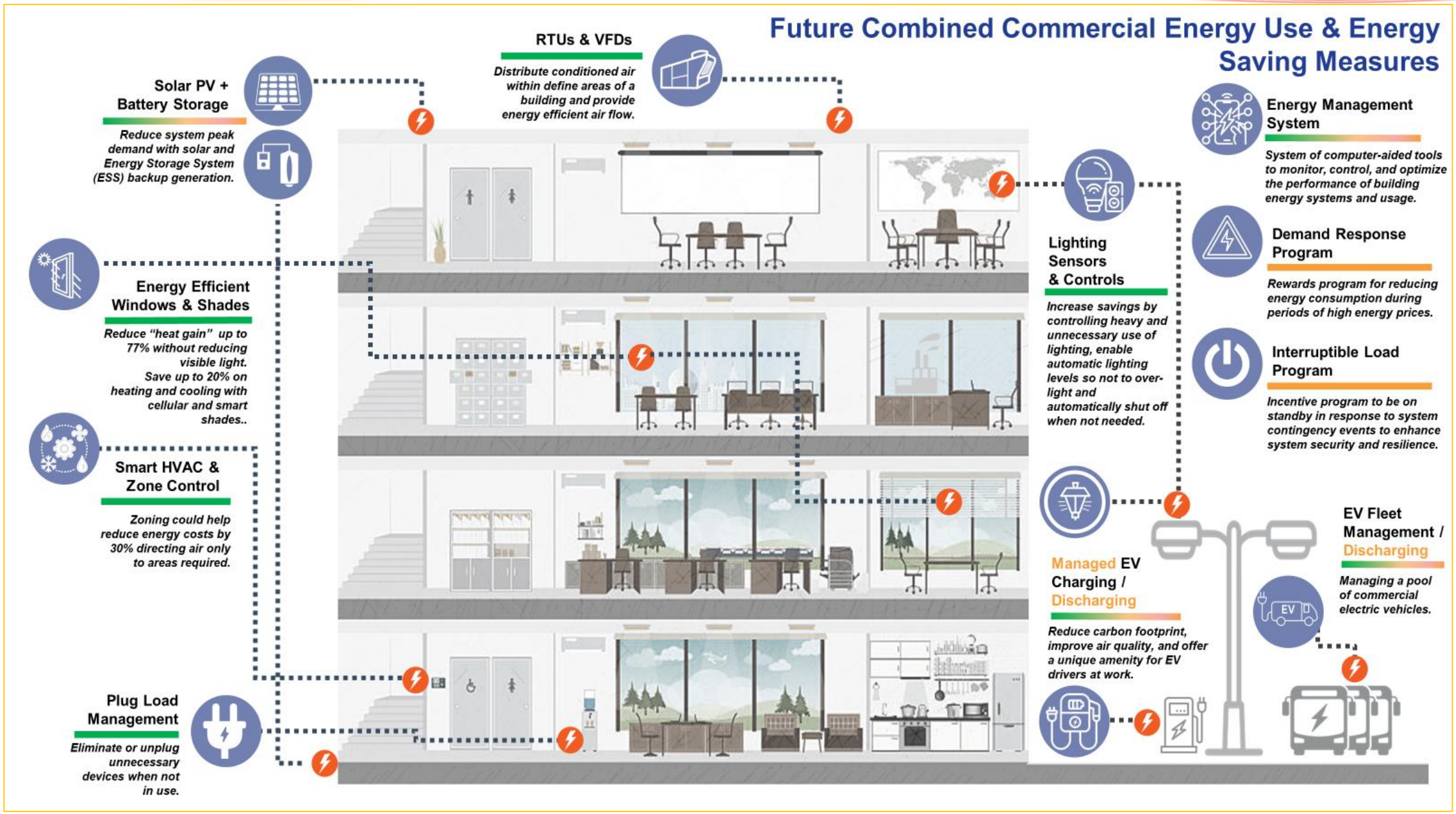
Residential:

- Home Energy Efficiency Program
- Weatherization

Small & Medium Business:

- Small Business Direct Install

Energy Efficiency Portfolio Overview



Demand Response Program Overview

Commercial & Industrial:

- Load Reduction Program
- Demand Response Auctions

Commercial & Residential:

- SmartHours
- Direct Load Control (DLC)

Small & Medium Business:

- Small Business Load Reduction Program
- SmartHours for Business

SmartHours for Oklahoma Businesses

2024 SmartHours Oklahoma Commercial Prices*

Off Peak
7 p.m. – 2 p.m.
weekdays
& all day
weekends

Peak
2 p.m. – 7 p.m.
weekdays

Daily

Peak Hours
Low: 6¢ per kWh
Standard: 14¢ per kWh
High: 27¢ per kWh
Critical: 49¢ per kWh

Critical Events
Times of high
energy demand
49¢ per kWh

Off Peak
6¢ per kWh

Fixed

Peak Hours
23¢ per kWh

Off Peak
6¢ per kWh

SmartHours for Arkansas Businesses

2024 SmartHours Arkansas Commercial Prices*

Off Peak
7 p.m. – 2 p.m.
weekdays
& all day
weekends

Smart Hours®

Peak
2 p.m. – 7 p.m
weekdays

Daily

Peak Hours
Low: **4¢** per kWh
Standard: **10¢** per kWh
High: **22¢** per kWh
Critical: **41¢** per kWh

Off Peak
4¢ per kWh

Fixed

Peak Hours
22¢ per kWh

Off Peak
4¢ per kWh

Renewable Program Overview

Commercial & Industrial:

- Renewable Energy Certificates (RECs)
- Wind Power Program

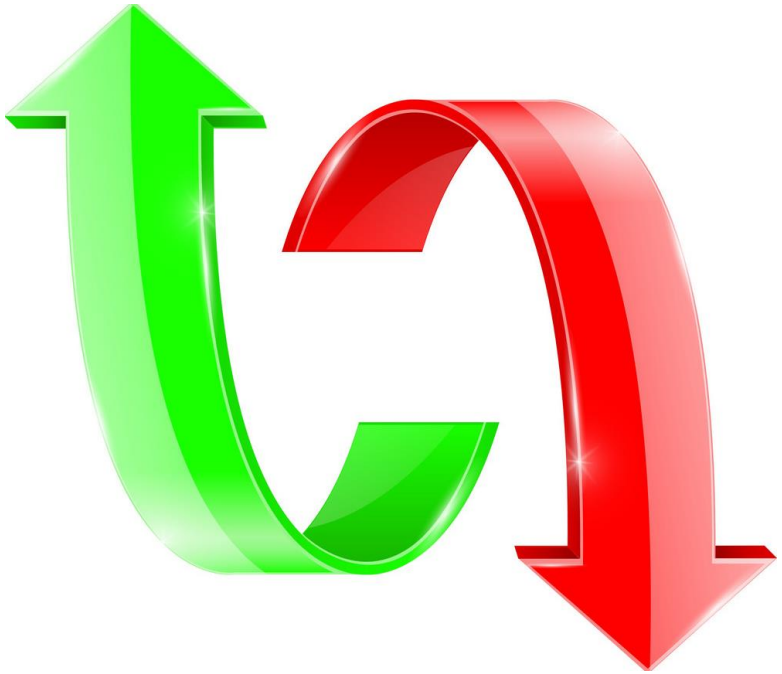
Residential:

- RECs for Homes
- Solar Power Program

Small & Medium Business:

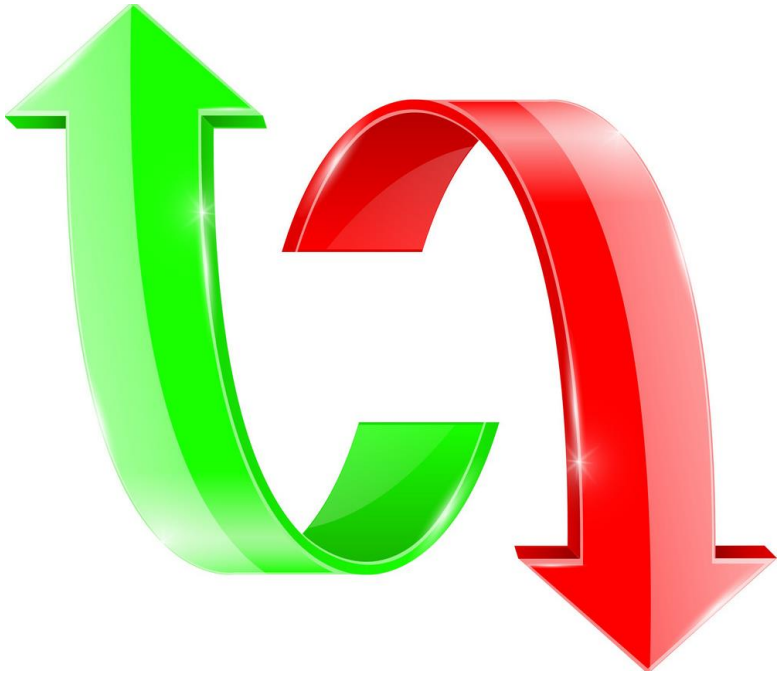
- Green Power Choice
- Community Solar Program

Converting Pitfalls into Promises



- **Program Stagnation**
- **Complexity & Customer Misconceptions**
- **Technology Enablement**
- **Integration of Emerging Offerings**
- **Developing Relationships with Trade Allies**

Overcoming Misconceptions



Customer Misconceptions

- "OG&E is trying to control my equipment"
- "OG&E is trying to shut off customers"
- "Solutions are too complex"

Investing in Select Trade Ally Partnerships

- Often willing to take on the effort for the utility
- Knowledgeable on customer programs & guide customers
- Advises utility on Voice of Customer insights

Wrap-Up

Energy Efficiency

Demand Response

Fleet and Electric Vehicle Supply Equipment (EVSE) Programs

Emily Kotz
Federal Fleet Team Lead, NREL

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

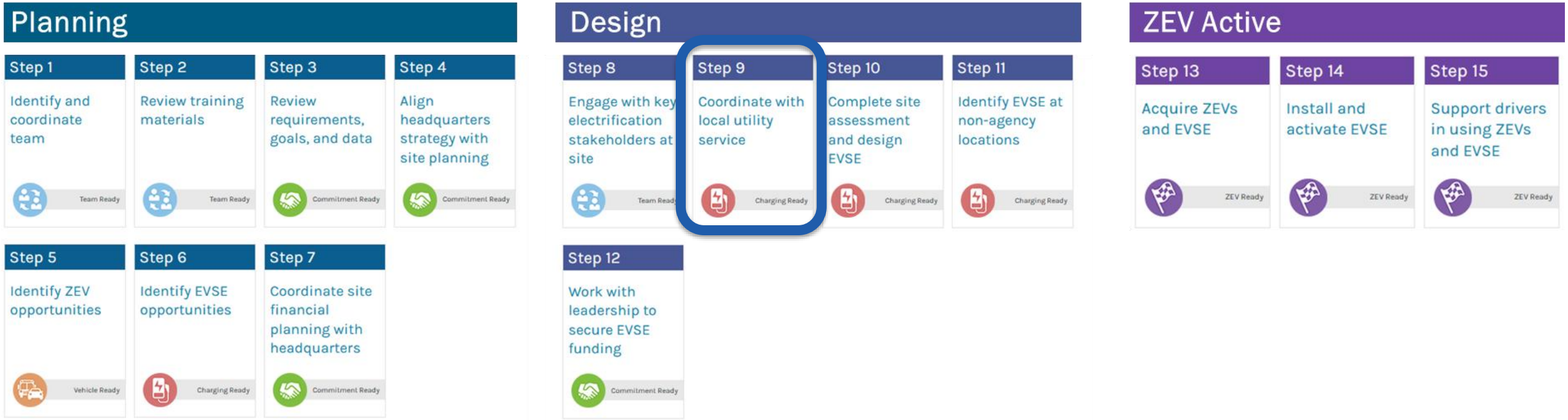
December 8, 2021

Transition to a zero-emission federal fleet

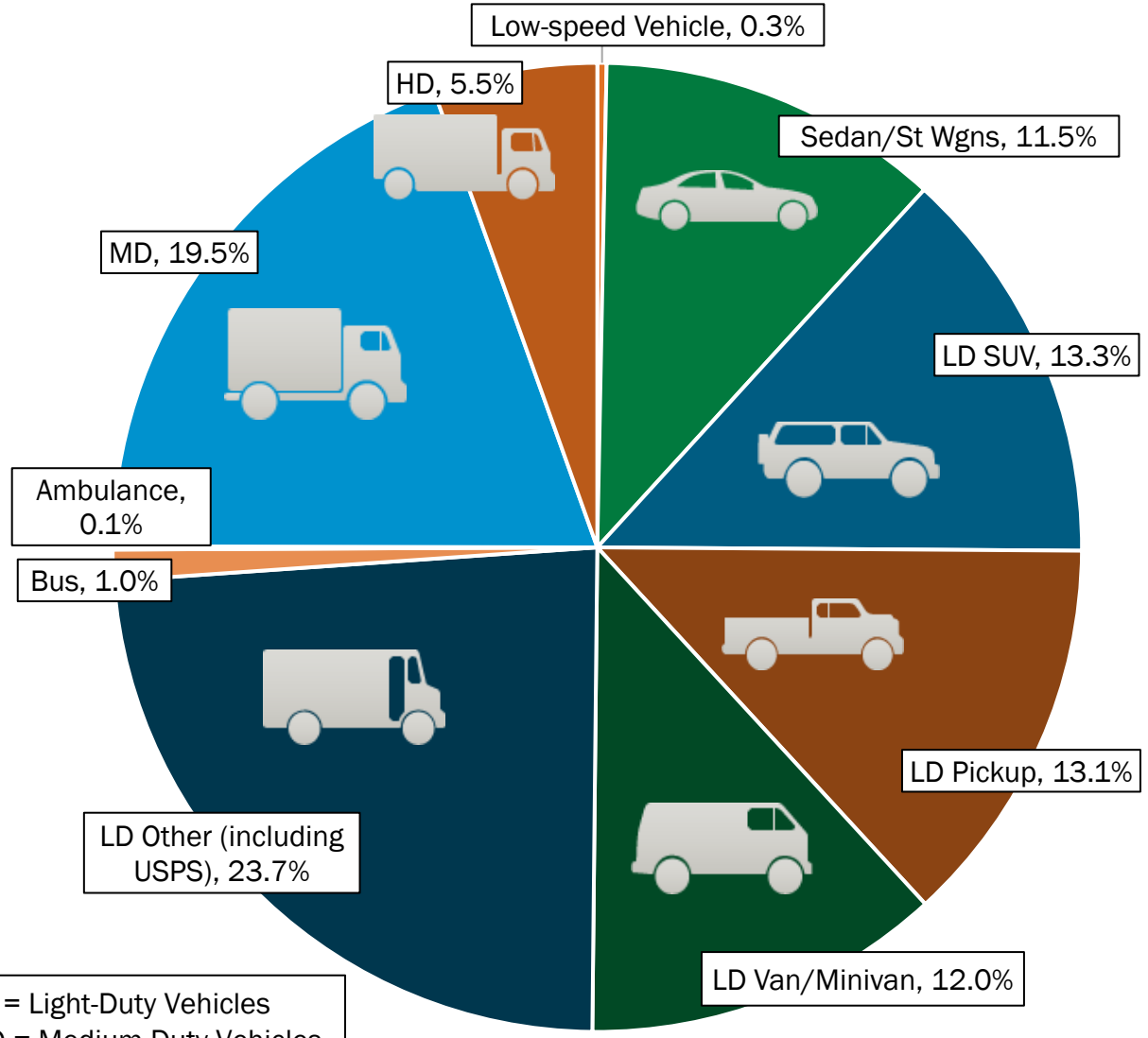
- Annual targets for ZEVs by agency
- 100% light-duty (LD) acquisitions by 2027
- 100% medium-duty (MD)/heavy-duty (HD) acquisitions by 2035

ZEV Ready Framework

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



Federal Fleet Electrification is Accelerating (FY23 FAST)



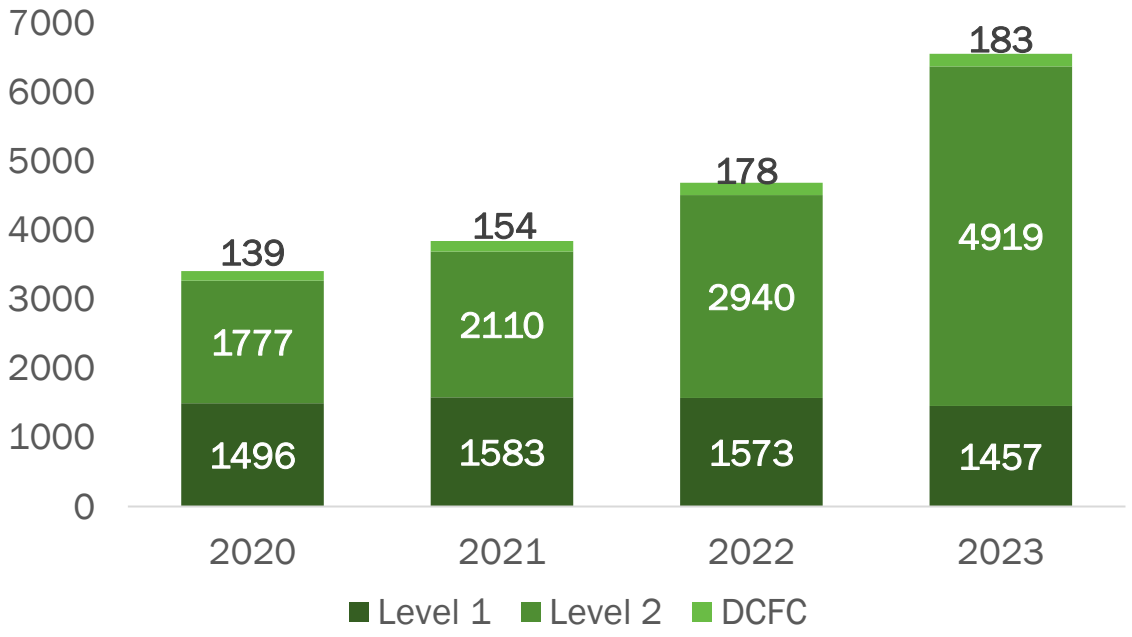
LD = Light-Duty Vehicles
MD = Medium-Duty Vehicles
HD = Heavy-Duty Vehicles

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



Step 9 – Identify Utility Point of Contacts and Incentives

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

Database that helps federal agencies connect to electric vehicle supply equipment (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

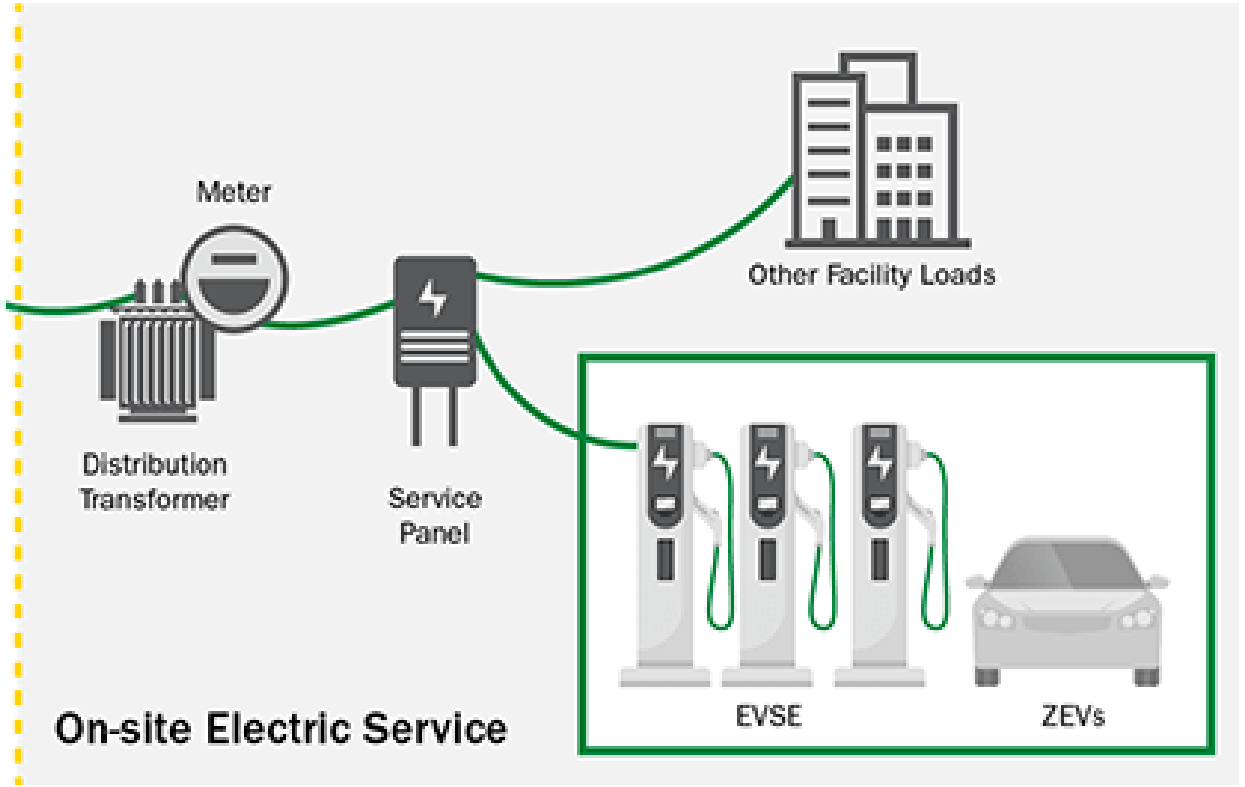
Identified active utilities in 72863

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



OGE

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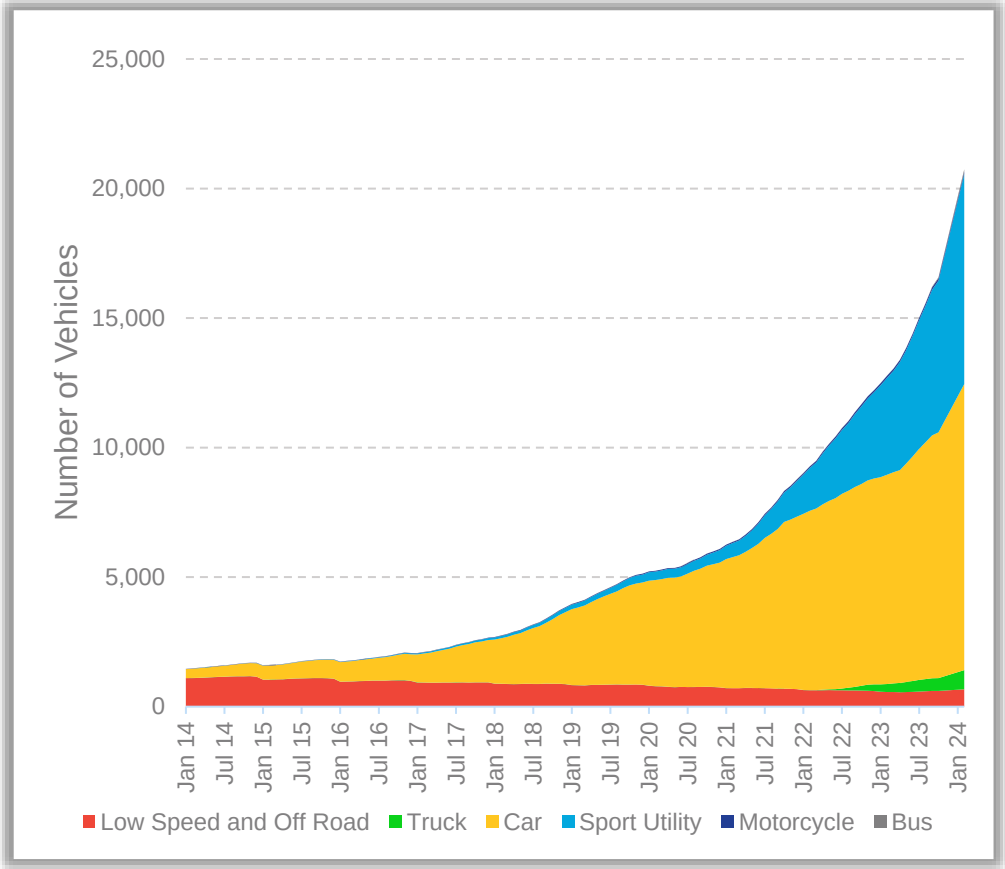
Fleet Electrification and Electric Vehicle Supply Equipment (EVSE)

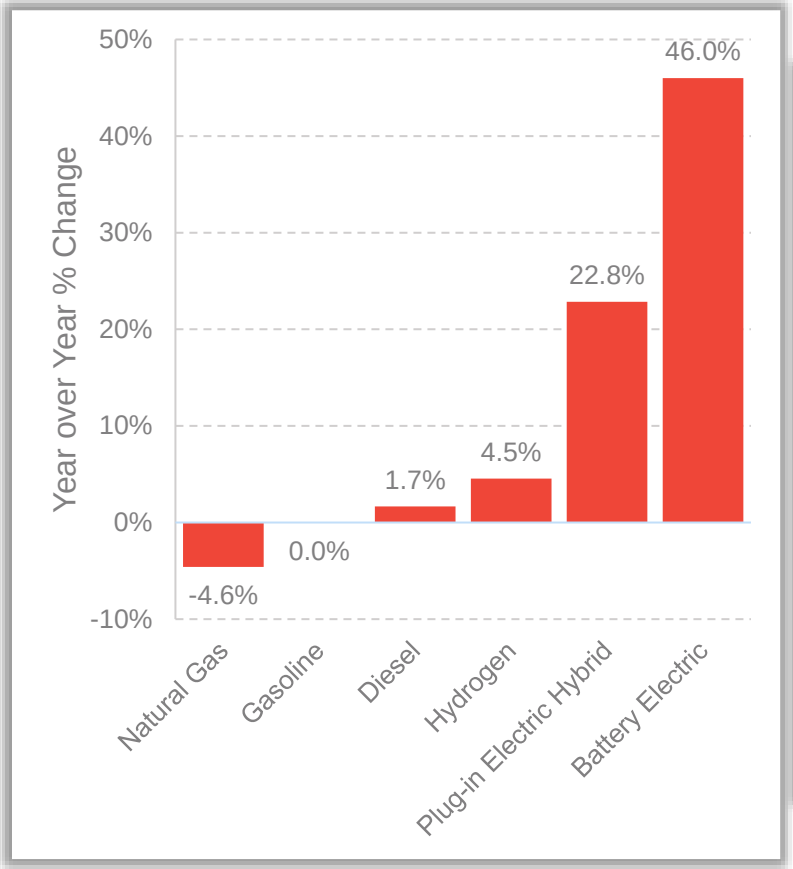
LaDee Nichols, Expert Business Analyst

Electric Vehicle Supply Equipment (EVSE) Cases

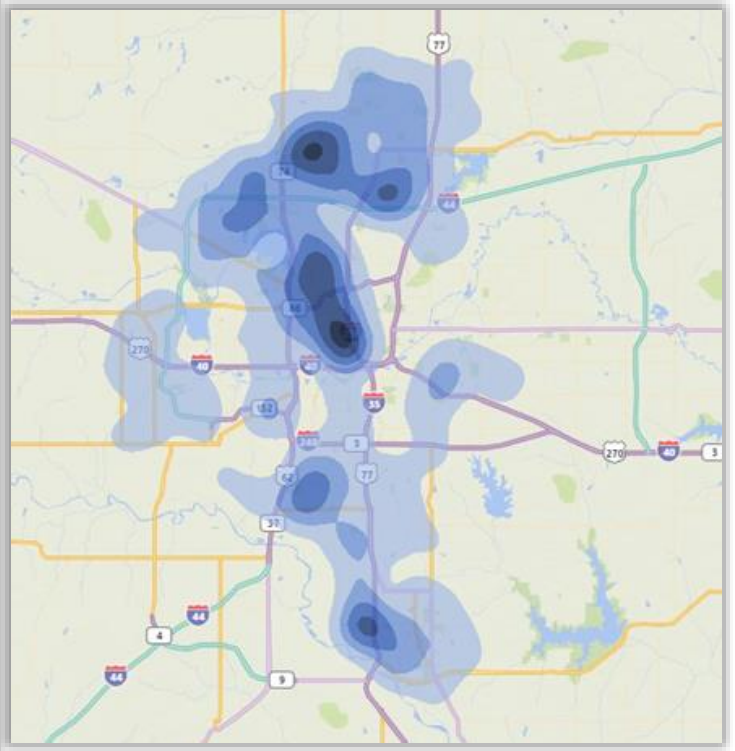
Oklahoma BEV & PHEV by Vehicle Type



Oklahoma Light Duty Vehicle Growth by Fuel

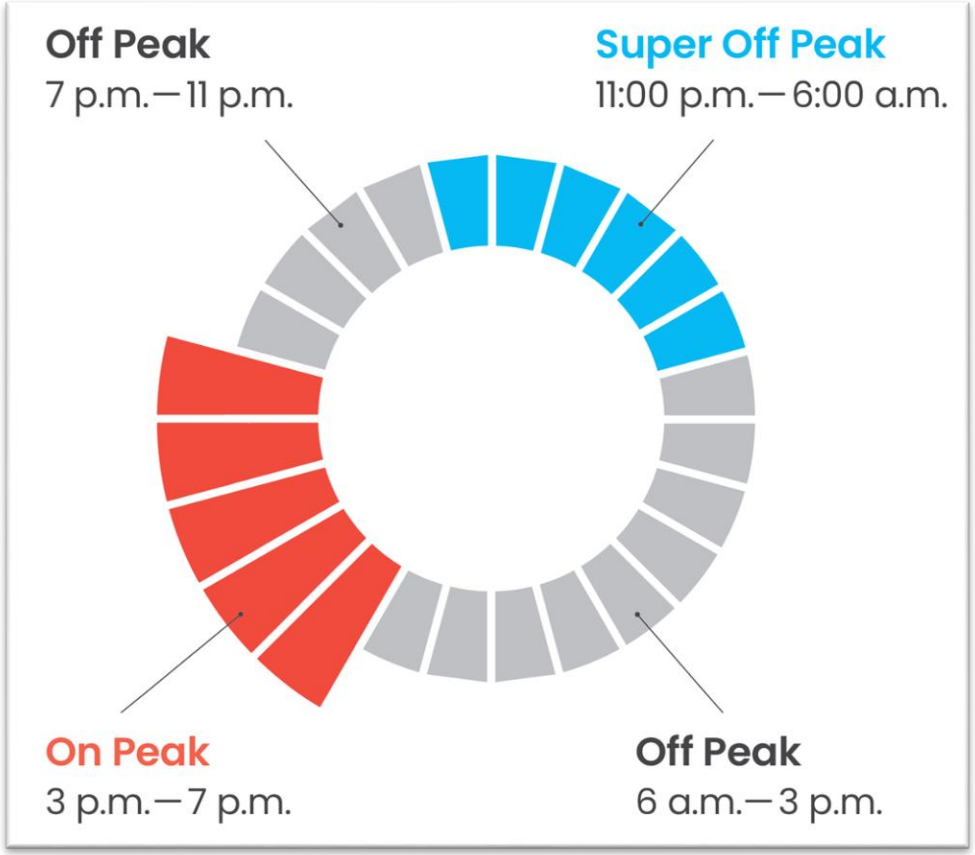


Oklahoma City EV Concentrations



EVSE at Federal Entities

Electric Vehicle Time-of-Use Tariff



- OG&E will help select the right rate for your charging needs
- This rate was designed for the sole use of charging
- Electric Vehicle fleets at government facilities, businesses or public schools
- Super Off-Peak Rate continues year-round allowing you to benefit from low overnight rates
- On Peak and Off-Peak Rates only apply in the summer, June 1 through September 30
- Utilizing the super-off peak periods, the cost of charging a bus can be as low as $550 per year
- Rate requires a separate meter for EV charging facilities

EVSE New Rebates

- OG&E is offering the EV Charger Rebate Program to incentivize the purchase of ENERGY STAR® certified level 2 EV chargers
- Submit this application along with a paid-in-full invoice/receipt for a qualified purchase and/or install of an ENERGY STAR certified level 2 EV charger to rebates@oge.com

The Future of EV Fleet Programs

we are currently here

Unmanaged
EVs are plugged in with no management of the electricity usage and the vehicle immediately starts charging

Passive
Passive managed charging provides program incentives or rates to incentivize customer behavior changes. This type of program may require software on the customer side but no utility side management

Active
Active managed charging involves using software systems to charge EVs during beneficial times. Active managed charging can use networked EVSE or vehicle telematics to control the charging

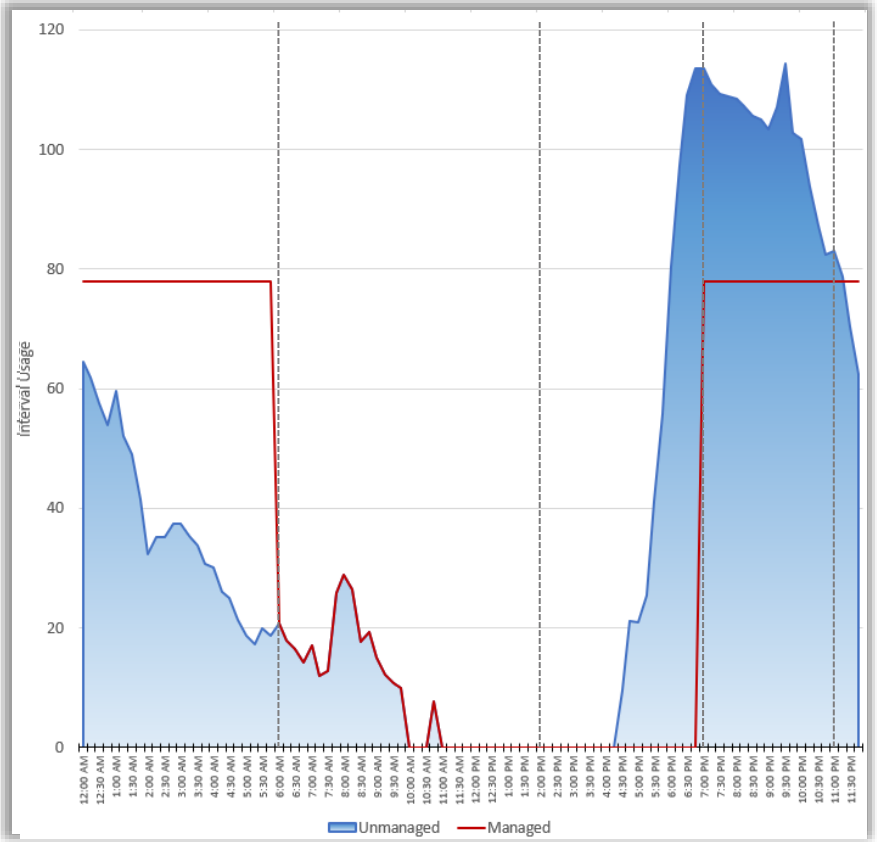
Bidirectional Non-exporting
Non-exporting bidirectional charging uses an EV to send electricity to a home or load. It requires software and energy management devices

Bidirectional Exporting
Exporting bidirectional charging uses an EV to send electricity to grid-tied loads and to the grid. Requires software and energy management devices as well as an interconnection agreement with utility

Actions Needed:	Unmanaged	Passive	Active	Bidirectional Non-exporting	Bidirectional Exporting
Incentive or Rate		●	●	●	●
Software			●	●	●
Energy Management Device				●	●
Interconnection					●
Capacity Implication	Unmitigated capacity impact	Potential capacity impact	Capacity Avoided	Demand Side Management	Capacity Contribution

Fleet Managed Charging

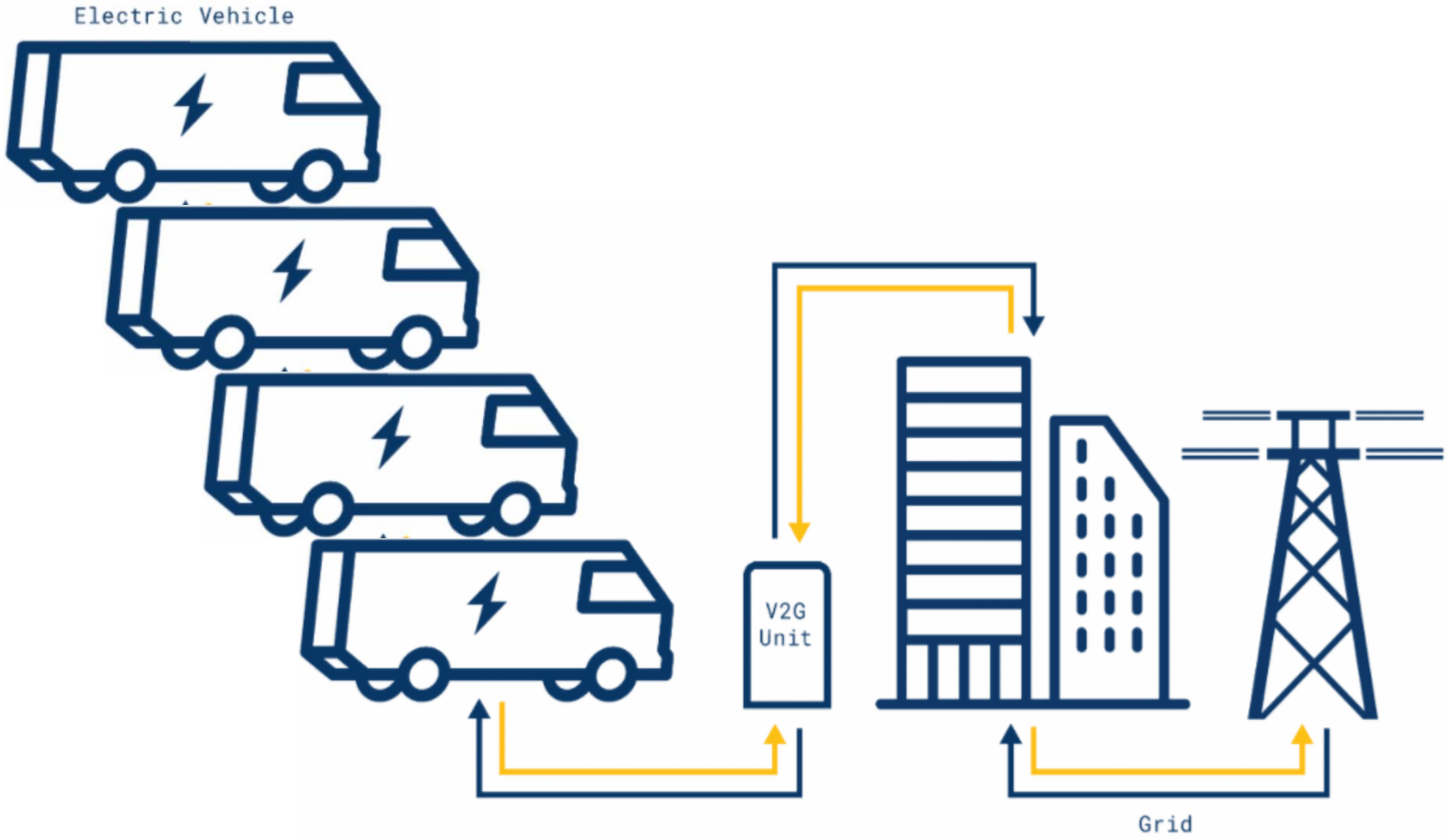
	Super Off Peak	Off Peak	On Peak	Off Peak
Unmanaged	1,189 kWh	285 kWh	574 kWh	1,662 kWh
Managed	2,180 kWh	285 kWh	0 kWh	1,246 kWh
Difference	+991	+0	-574	-417



Viability for OG&E		Desirability for Customer	
Reduction in peak demand	22%	Reduce energy costs	-44%
Reduction in energy used on peak	-100%	Reduce demand charges	-22%
Day in day out operation reduce capacity needs would result in revised needs for distribution planning		Overall bill reduction	-29%
		Deliver the same amount of energy over 24 hours	
Capacity cost based on current rate	$100/kW	All vehicles fully charged by 6 am	

Source: Analysis of Amazon's existing EV Fleet. Bill implications based on PL EV TOU Rate Structure only.

Capacity Payment or Incentive

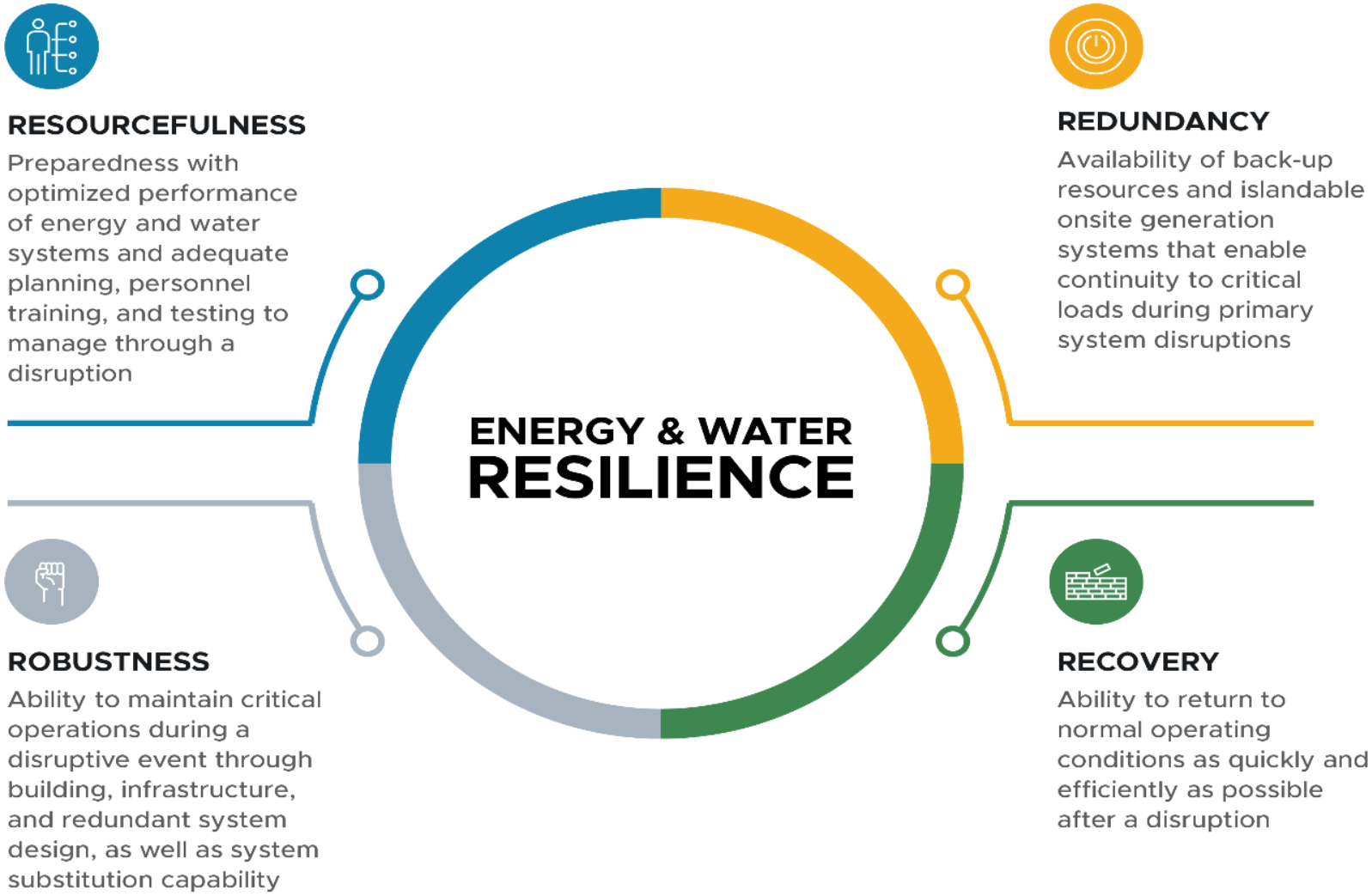


Resilience

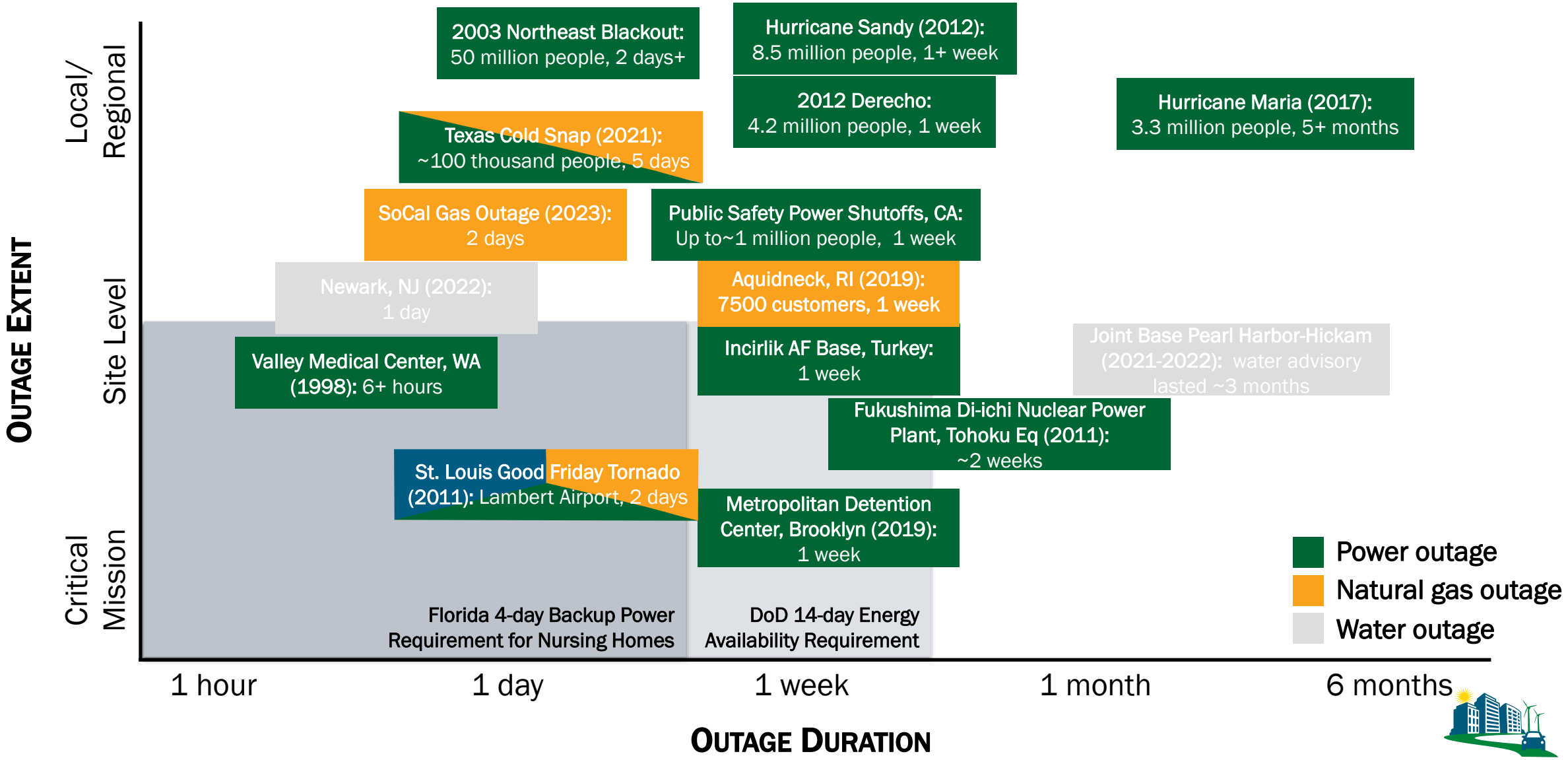
Ethan Epstein
Resilience Program Manager
DOE FEMP

What is Resilience?

The ability to anticipate, prepare for, and adapt to changing conditions and to withstand, respond to, and recover rapidly from disruptions.



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

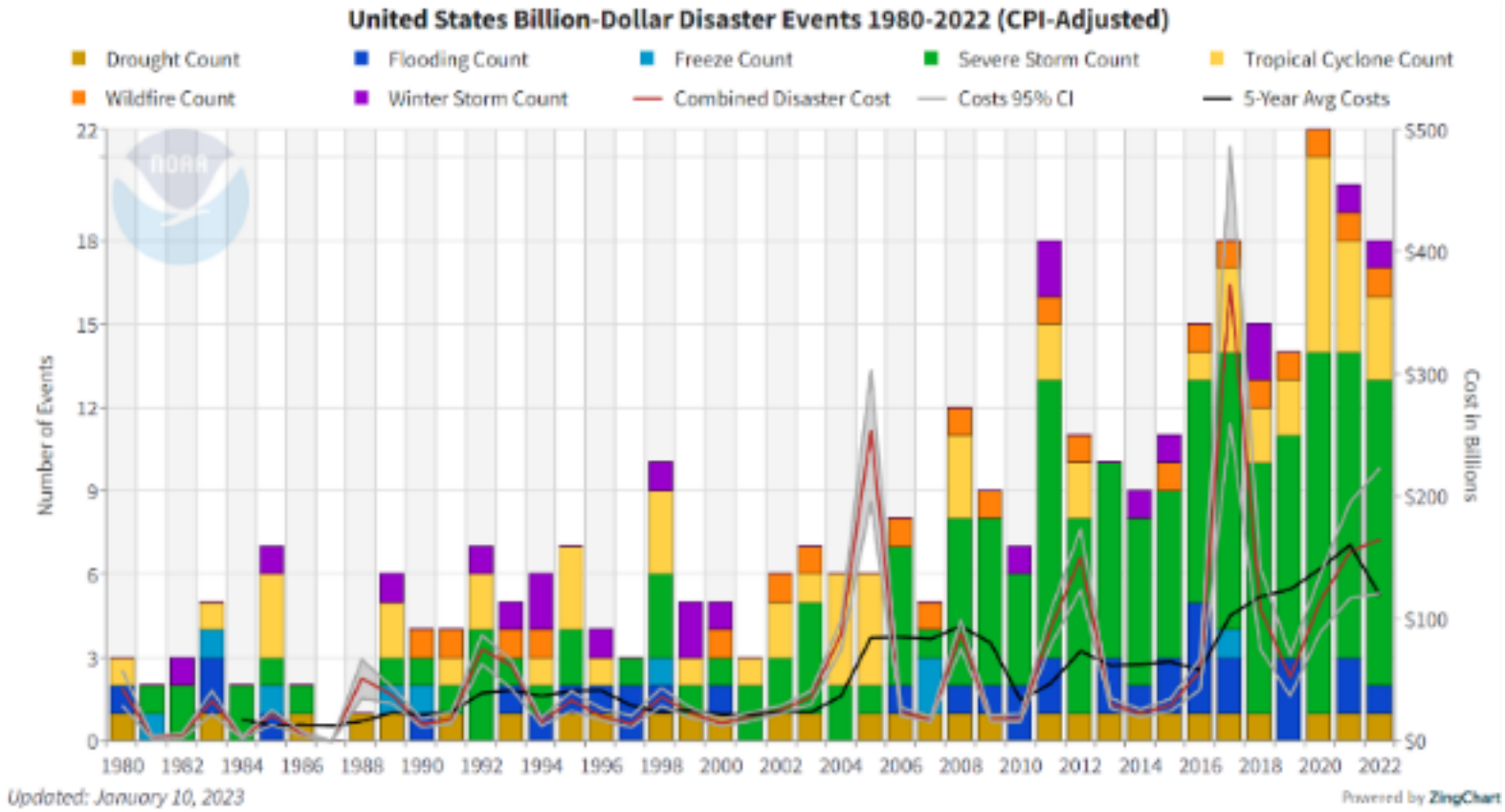
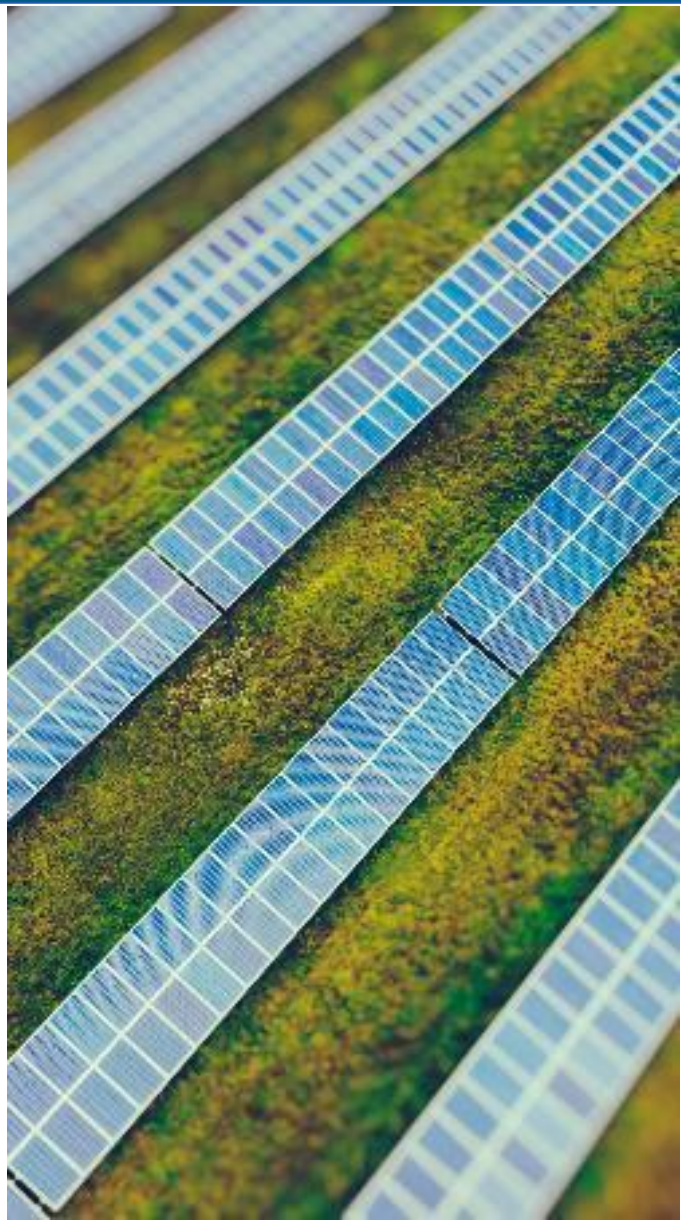


Figure Source: NOAA/NCEI, https://www.climate.gov/news-features/blogs/2022-us-billion-dollar-weather-and-climate-disasters-historical-context

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.*



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 PUC approval
- Important considerations:
  - Resilience uptime guarantee
  - Cost
  - Contract length
  - Terms/conditions
  - REC ownership (if applicable)

OGE

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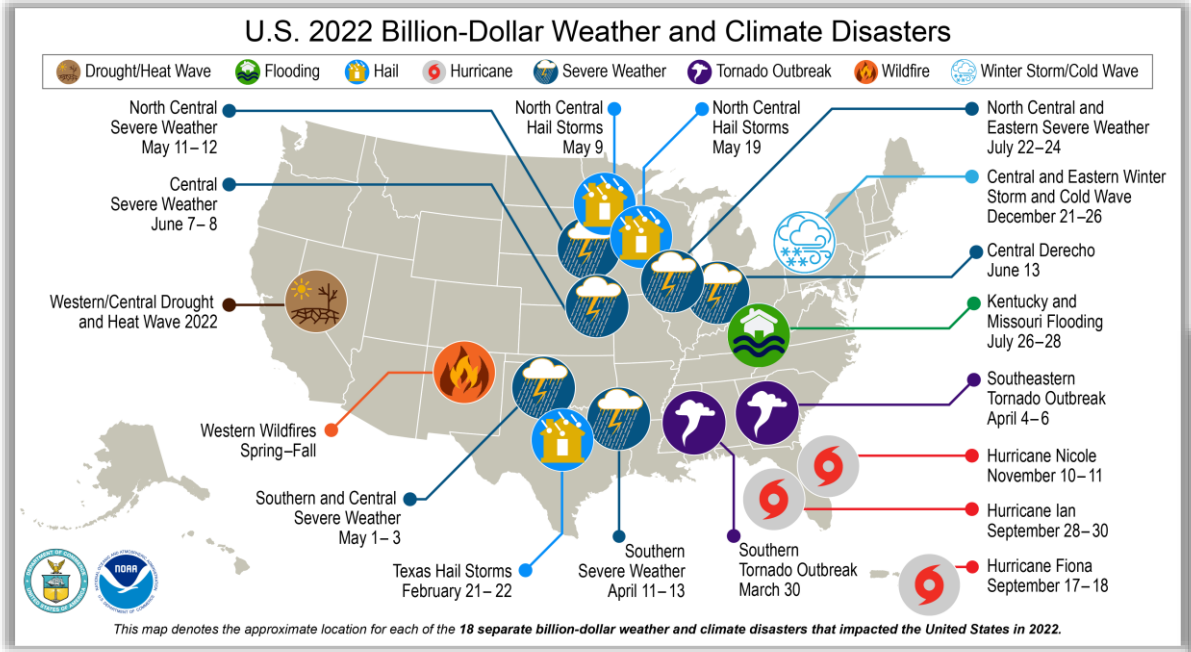
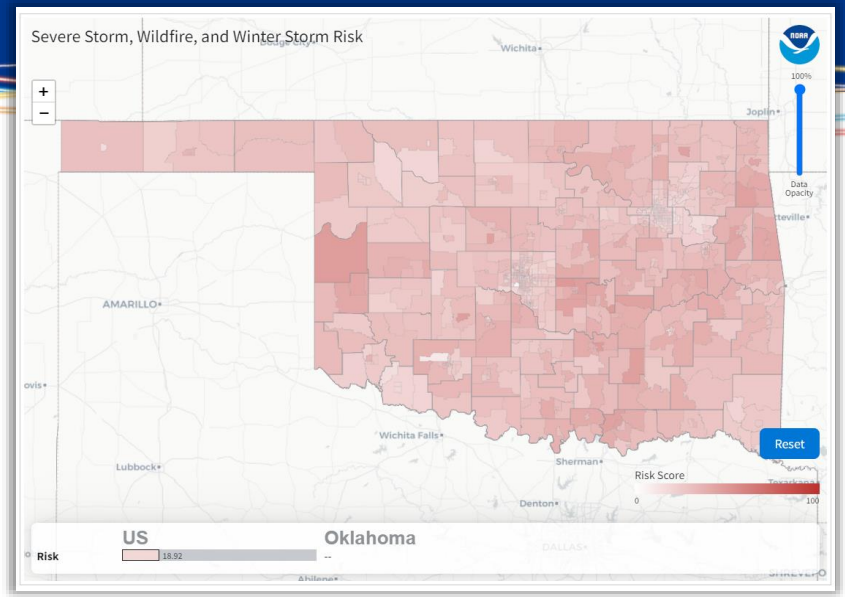
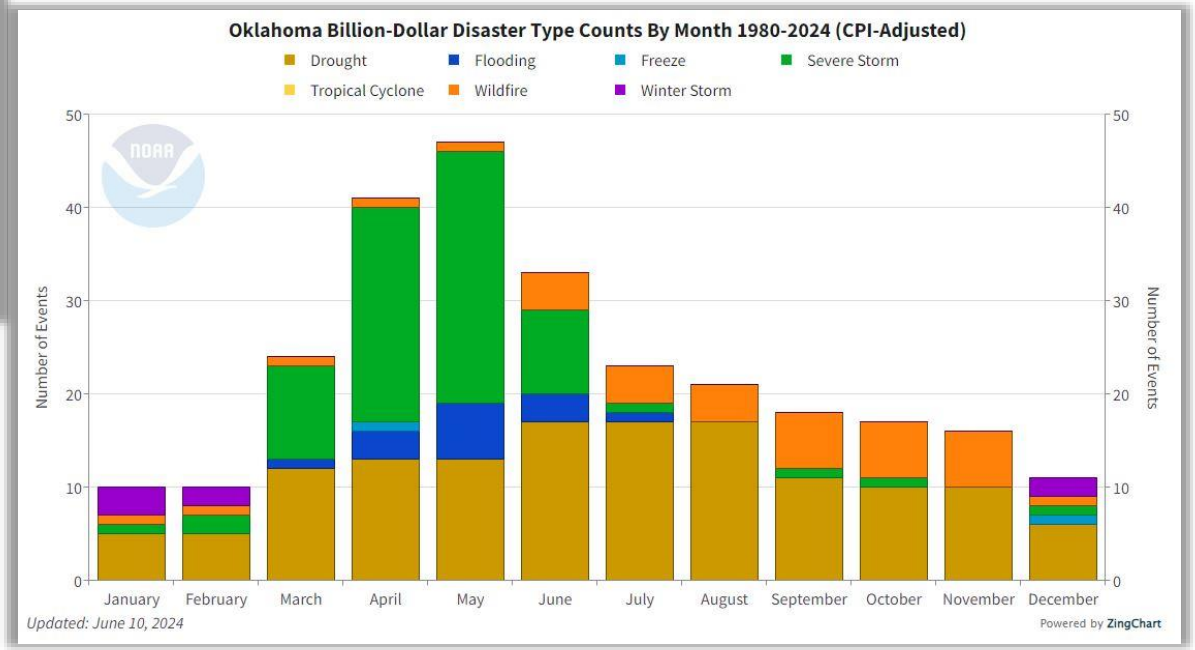
Grid Enhancement and Resilience

Chris Marts, Lead Grid Innovation Engineer

Why Energy Resilience?

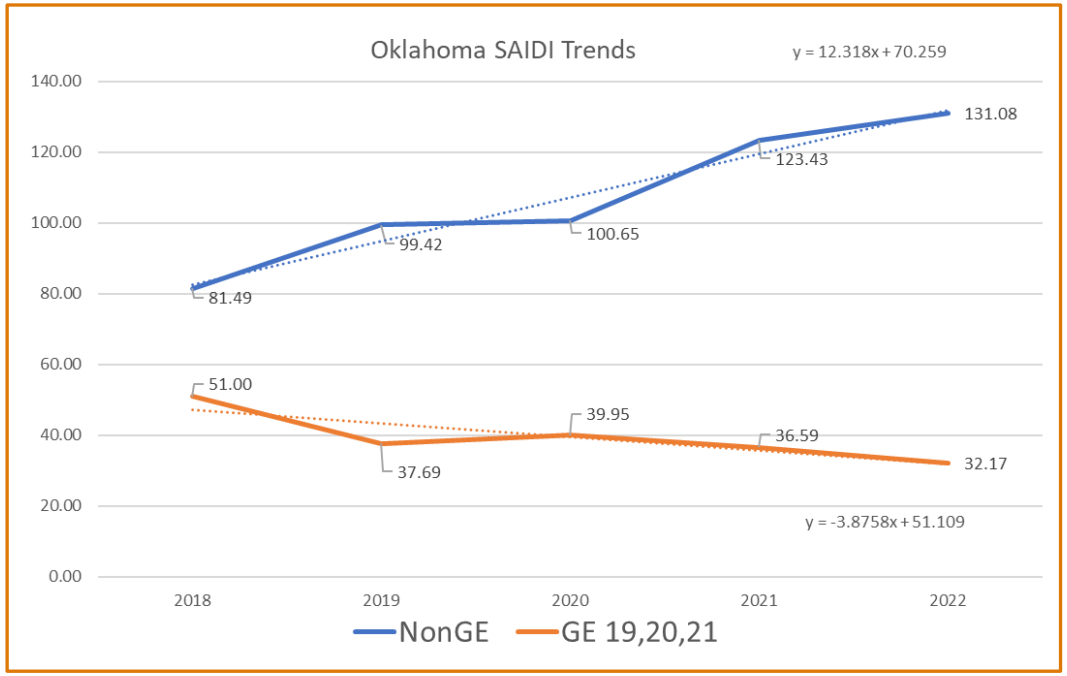


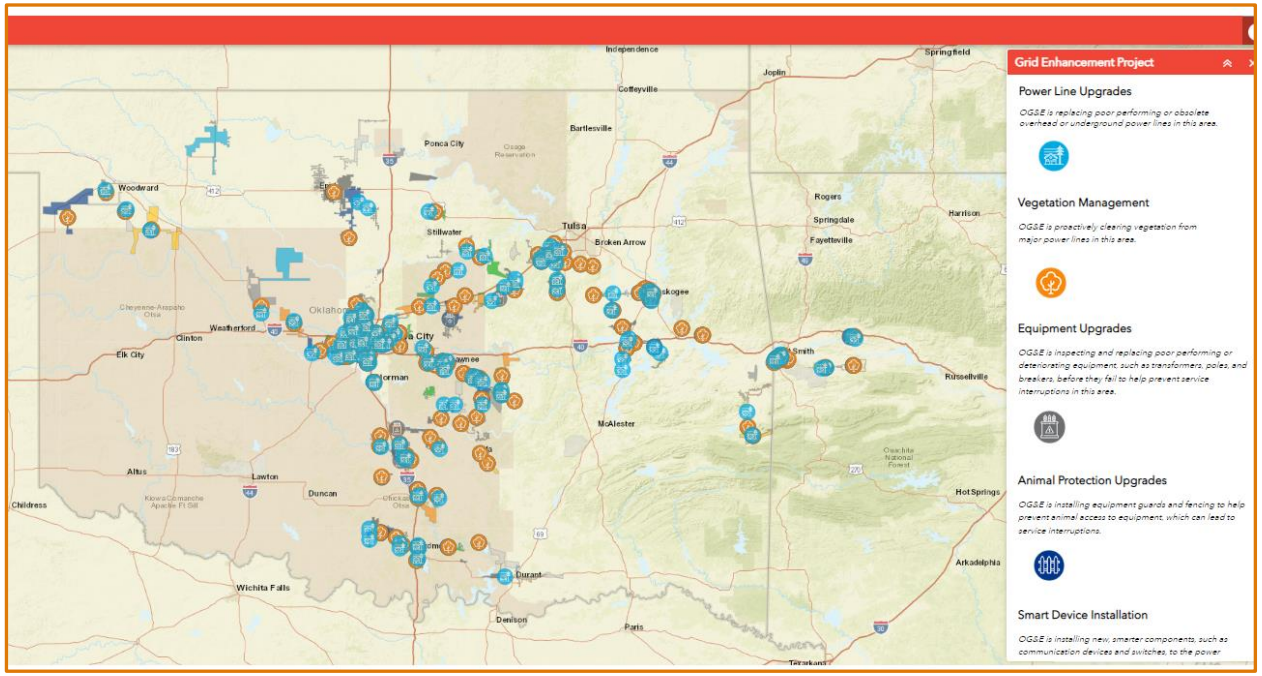




https://www.ncei.noaa.gov/access/billions/

Grid Enhancement





Our reliance on mobile devices, computers, and advanced technology is moving us to meet unprecedented demand for reliable and resilient electricity. We are adding technology that senses and isolates disruption in our system and automatically reroutes power for as many customers as possible.

System Hardening: Structural Resilience

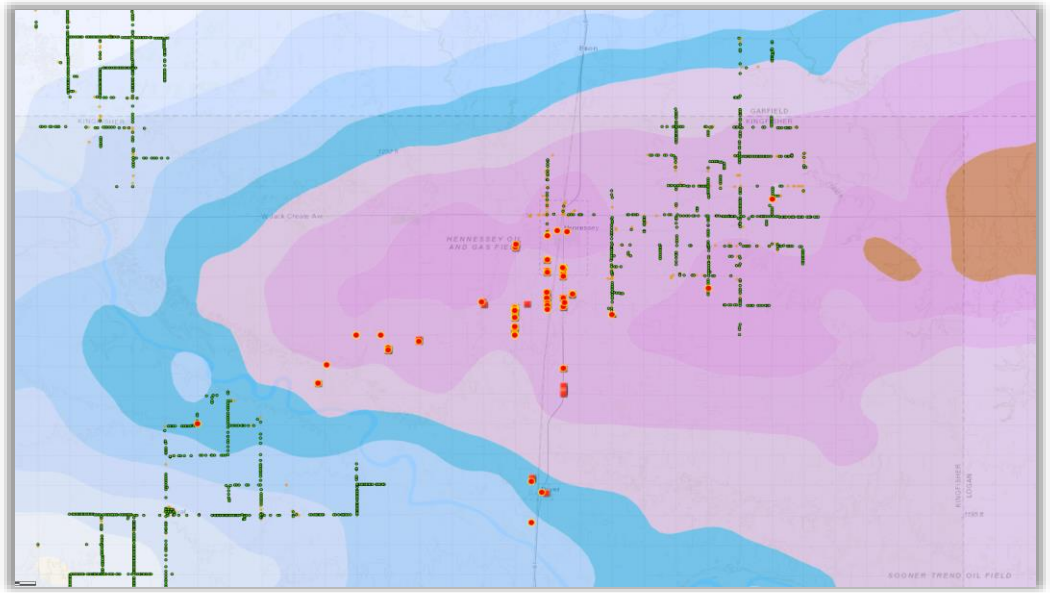
- Systematic review of the remaining strength of all our support structures
- Adding additional strength and upgrades as needed to improve resilience during storms
- Extending the asset life and reducing costs

Decayed poles given original strength performance

Sound poles given significant strength upgrades (up to 75% Capacity Upgrade)

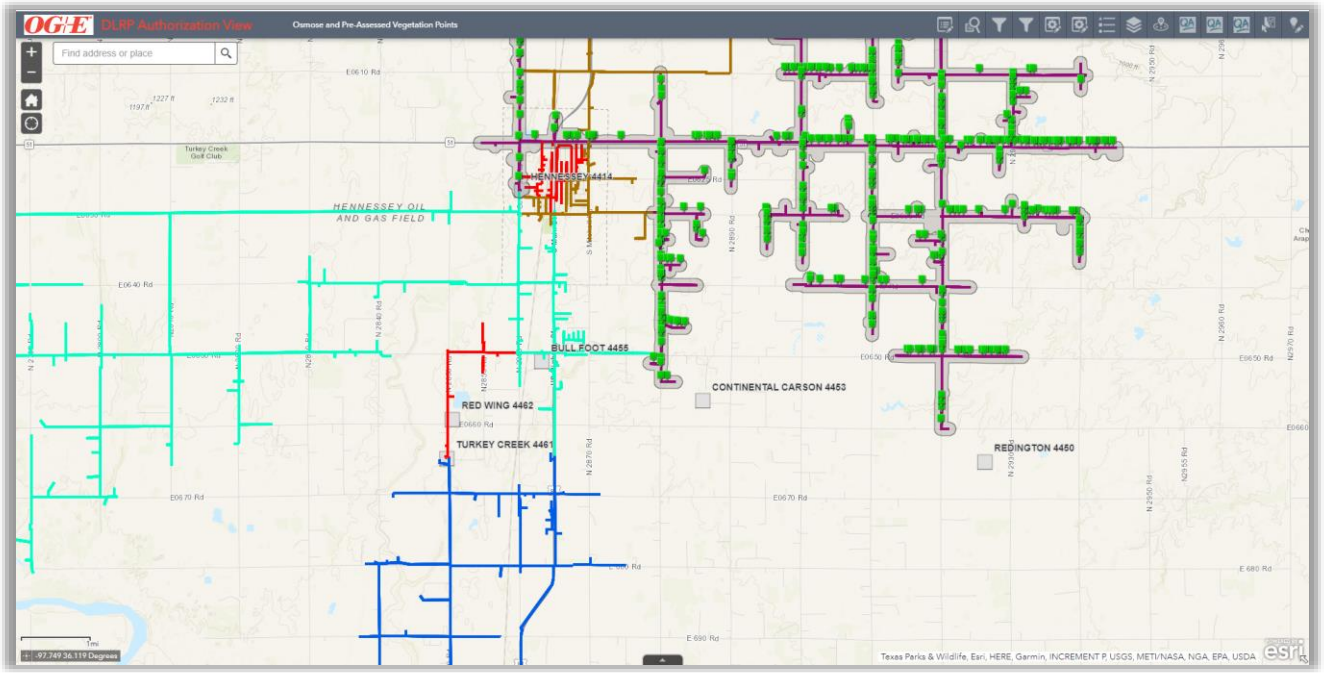
Existing poles augmented with improved guying or New stronger poles designed

System Hardening



Wind Map of estimated storm winds from August 13 severe weather

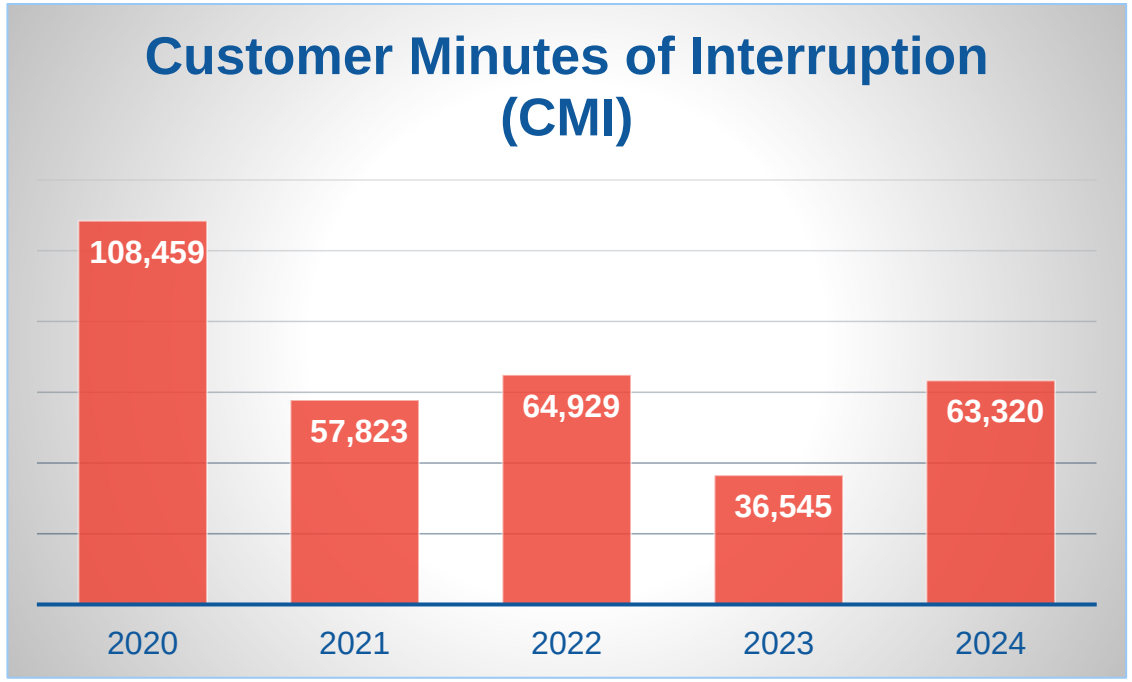
Pink is radar estimated winds above 65 MPH
Dark Purple inside the orange is estimated wind greater than 85 MPH

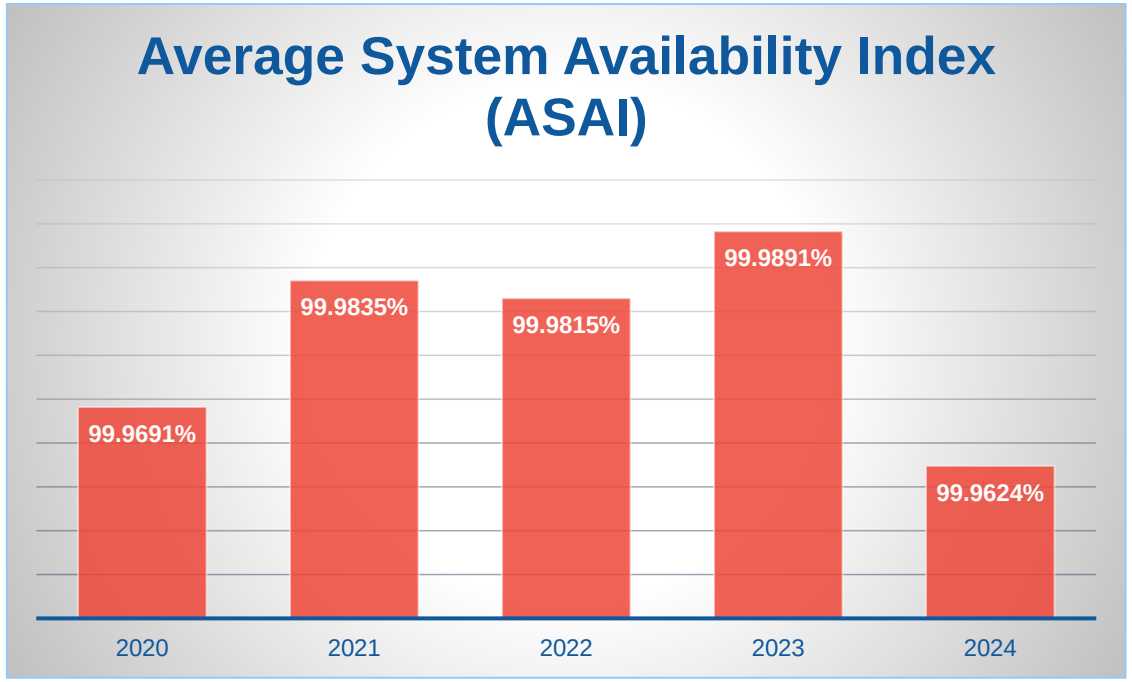


Circuit Outlines:
Circuit 22 teal; no work
Circuit 21 blue; no work
Circuit 23 purple; full system hardening

Red dots are pole failures
Green dots are trussed poles

Tinker: Reliability and Resilience Improvements





Driving Grid Diversity

How We're Making a Difference

Grid Resilience

We're deploying smarter technology that senses and isolates disruptions on our power grid and automatically reroutes power for our customers.

Prioritizing Investments

On our path to decarbonization, we've converted 35 percent of our coal-fueled fleet to natural gas while continuing to add more renewable energy.

Electrifying Our Vehicle Fleet

We're reducing emissions by electrifying our entire light-duty vehicle fleet by 2030.

Investing in Clean Technology

The key to a sustainable future is ongoing renewable energy investments that reduce our environmental footprint. Our investments in clean technology give our customers the benefit of clean energy resources while maintaining reliability and affordability. From modernizing our vehicle fleet and partnering for technology development to promoting electrification and supporting the clean energy transformation, we are facilitating access to cleaner energy throughout our service area.

Visit our Stewardship Reporting Center Page

Renewable Generation

Investing In a More Resilient Grid

Our customers rely on a variety of devices to power their homes and businesses every day. Using some of the nation's premier wind and solar resources, we have reduced our carbon emissions by investing in 32 MW of owned solar capacity, 449 MW of owned wind power generation, 342 MW of wind-purchased power contracts, and converting over 1000 MW of coal generation to natural gas. In order to better meet the needs of those we serve, as well as mitigate the impact of increasing extreme weather, we've invested more than $3.7 billion in transmission, distribution, and grid advancements to improve reliability and resilience.

Stewardship Reporting Center

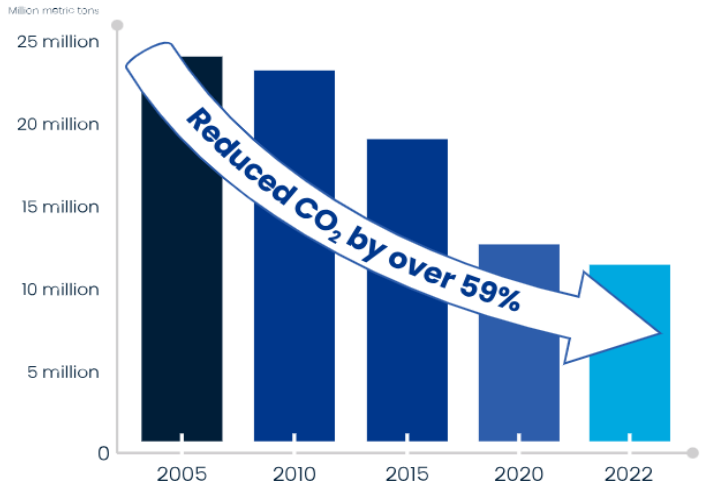
Download our stewardship-related reports and learn more about our positions and commitments.

Visit our Stewardship Reporting Center Page

Reducing Our Carbon Footprint

Since 2005, we have reduced our carbon emissions by 59%, exceeding the national average. We also achieved our goal to reduce carbon emissions from generation by 40% between 2005 and 2020. We believe we are on track to meet our expectations to lower emissions by 50% by 2030. (Emissions reductions will vary year-to-year based on a variety of factors, including some outside our control.)

Carbon Dioxide Emissions – OG&E's Owned and Operated Fleet



Future Technology

Mobile Battery for peak shaving, frequency regulation, voltage support, emergency backup, and grid resilience

Meters acting as grid-edge power quality devices providing clear picture of customer experience and grid conditions

Small Reactor Modules

Utilizing EV vehicles for energy sources for the grid

Advanced Fault Location Isolation and Restoration (FLISR)

Break until 2:50PM CT (3:50PM ET)

Carbon Pollution-Free Energy (CFE) Purchasing Programs

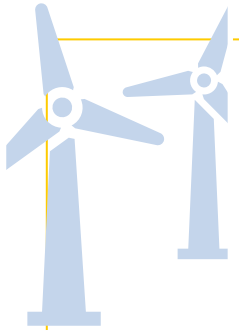
Tracy Niro
Program Manager
DOE FEMP

Executive Order 14057 CFE Goals

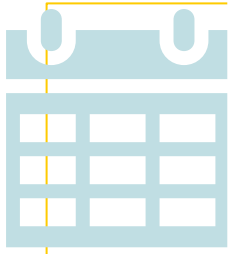
Catalyzing Clean Energy Industries and Jobs through Federal Sustainability
(12/8/2021)

Implementing Instructions for Federal Agencies

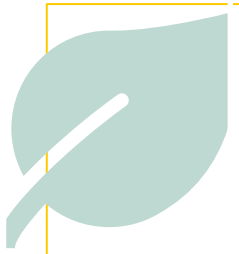
What Qualifies as CFE?



CFE Technology



Placed in service 10/1/2021 or newer



EACs delivered or retired

Delivered to balancing area

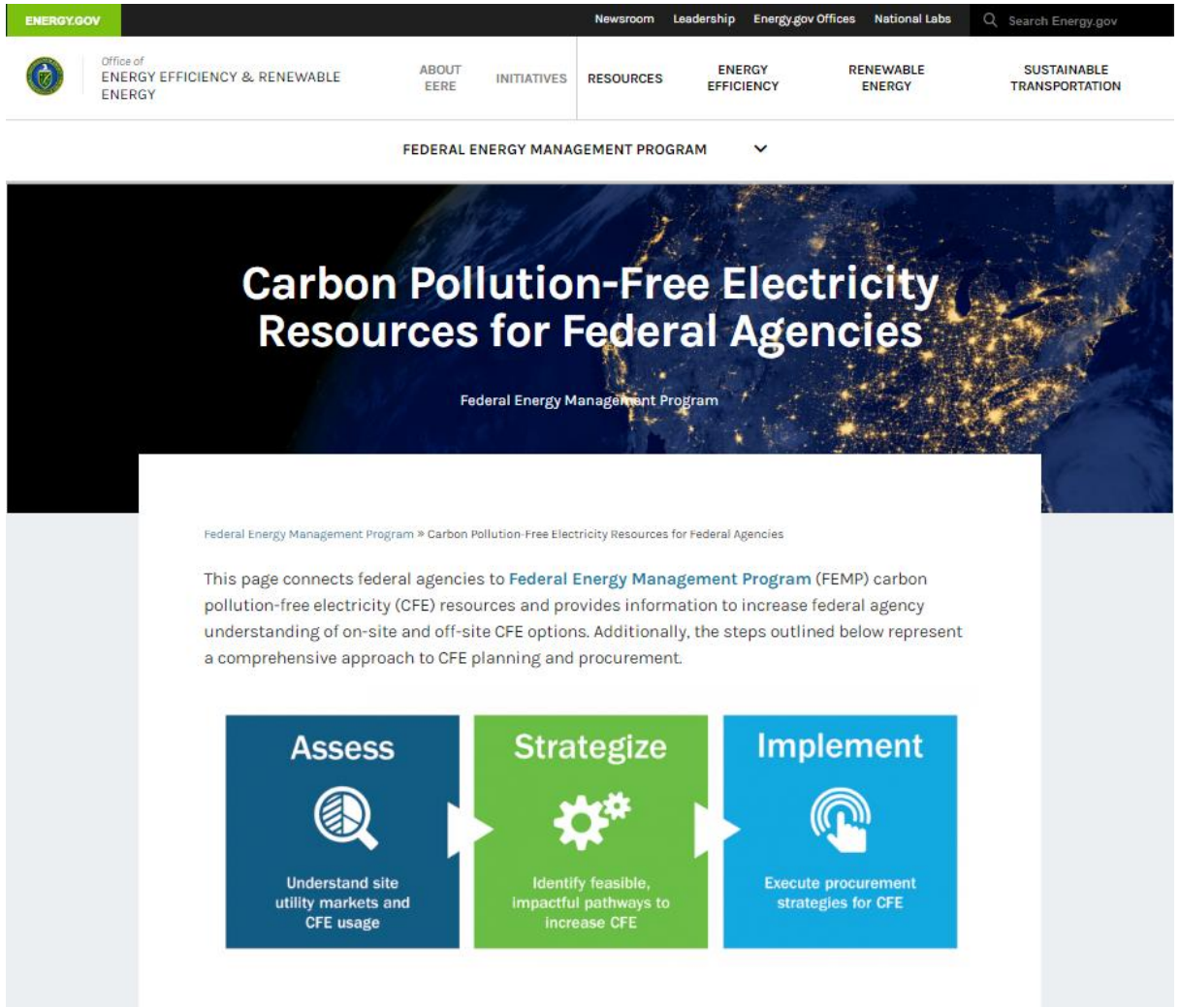
What Technologies Are Considered CFE?

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

- Solar
- Geothermal
- Wind
- Renewably-sourced hydrogen
- Hydroelectric
- Generation from fossil resources with active carbon capture and storage
- Nuclear
- 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 Oklahoma, electricity is a vertically integrated market.
- **Identify the balancing area:**
  - Your balancing area is Southwest Power Pool (SWPP).

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

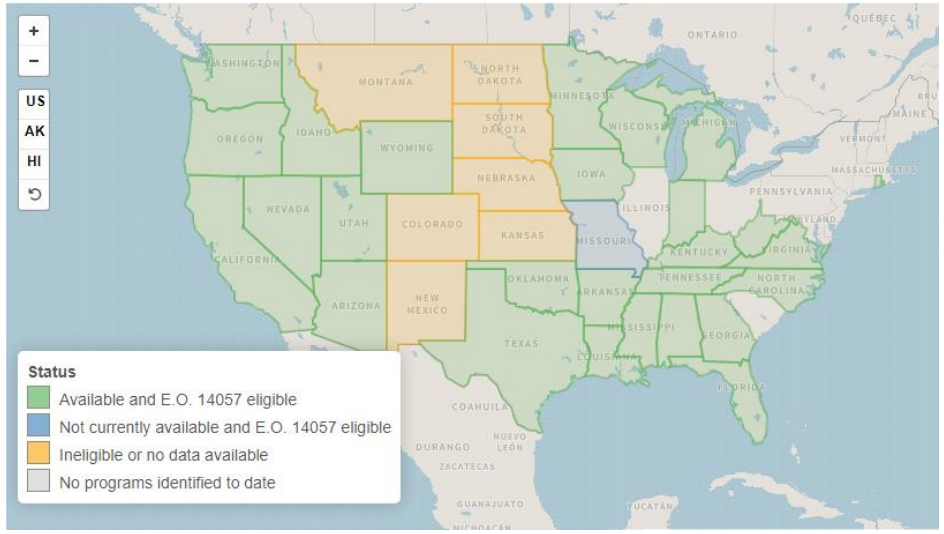
Delivered to *SWPP* balancing area

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

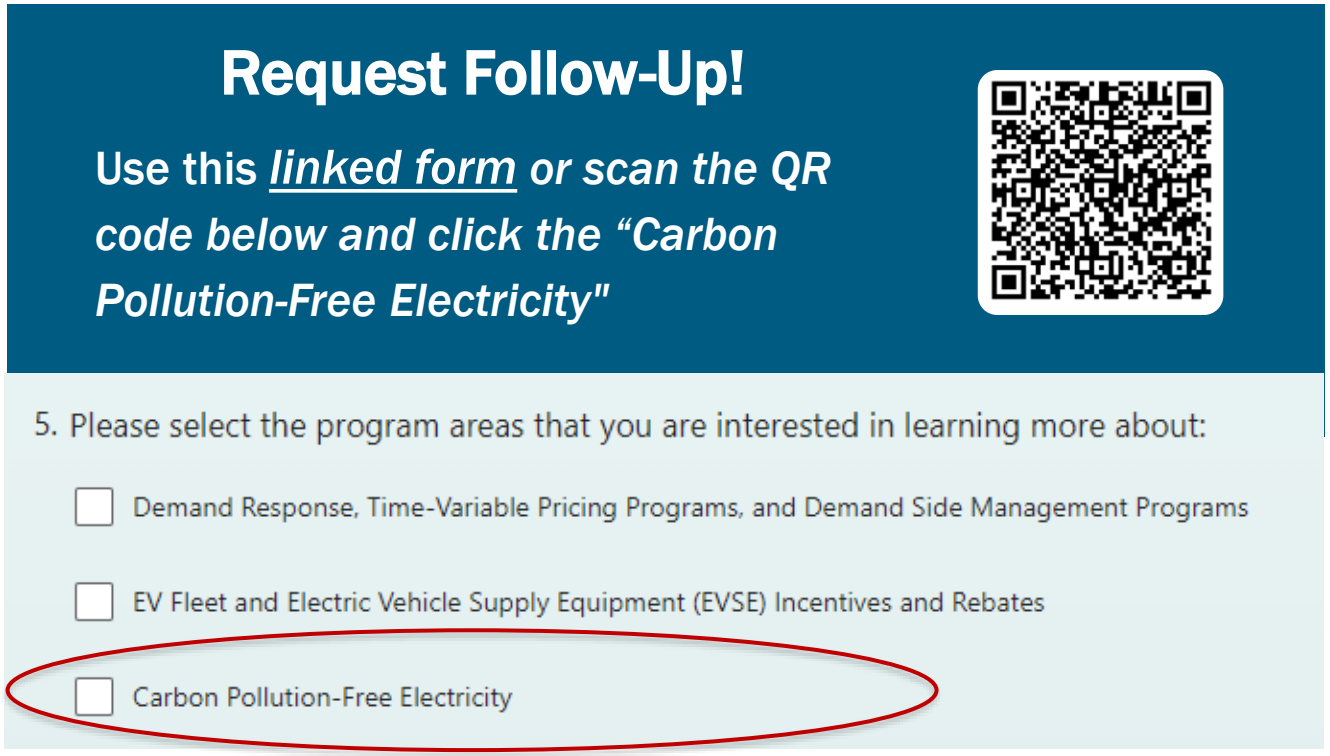
- Identify a site's balancing authority by entering its ZIP code.

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

- OG&E's Energizing Renewable Connections (ERC) program can be used to meet the CFE requirements from Executive Order 14057.



OG&E

We Energize Life

Renewable Energy Tariff Options & Energizing Renewable Connections (ERC)

Mike Maimo, Sr. Manager Business Development

Gwin Cash, Manager Price & Rate Administration

OG&E's Current Status on Fed. Customers' CFE goals

- OG&E has an optional CFE tariff, Energizing Renewable Connections (ERC), that is available to customers that meet the tariff's criteria. It is subject to new renewable energy resource availability and customers' pricing and volume acceptance
- OG&E current all-sources RFP, due in Q4 2024, will determine availability and pricing of renewable generation that can satisfy CFE requirements
- OG&E is working with GSA on steps towards meeting CFE requirements including sourcing CFE generation and pricing

Existing OG&E Wind Energy Facilities

- Company has approximately 800 MWs of nameplate wind energy capacity through a mixture of Company owned and Power Purchase Agreements.
- They are located primarily in the NW part of Oklahoma where wind energy is abundant.
- Wind energy is made available to customers via Oklahoma Corporation Commission and Arkansas PSC approved subscription tariffs and special contracts.

Facility	First year in Service	Nameplate Capacity (MW)
Centennial	2006	120
OU Spirit	2009	101
Crossroads	2012	228
Keenan	2010	152
Taloga	2011	130
Blackwell	2012	60

Existing OG&E Solar Energy Facilities

- OG&E has approximately 32 MWs of Company-owned nameplate solar energy.
- They are located throughout our service territory and are strategically placed at sites expected to have more sunny, clear days so as to maximize solar energy production.
- Solar energy is made available to customers via an Oklahoma Corporation Commission and Arkansas PSC approved Utility Solar Program ("USP") subscription tariffs.

Facility	First year in Service	Nameplate Capacity (MW)
Mustang	2015	3
Covington	2018	9
Chickasaw Nation	2020	5
Choctaw Nation	2020	5
Butterfield	2022	5
Branch	2021	5

Existing OG&E Renewable Energy Tariff Options

- The Company currently has 3 Renewable Energy Tariff Options for existing resources. These programs are typically subscribed to by residential and small business customers.
- Renewable Energy Program Rider - provides to customers Renewable Energy Certificates (“RECs”) through a minimum 1-year subscription.
  - RECs are a market-based instrument that represents the property rights to the environmental, social, and other non-power attributes of renewable electricity generation. RECs are issued when one megawatt-hour (MWh) of electricity is generated and delivered to the electricity grid from a renewable energy resource.
  - These Credits will be provided through either: (a) Company owned renewable resources or power purchase contracts for; or (b) purchased from a verifiable marketplace.

Existing OG&E Renewable Energy Tariff Options cont.

- Green Power Wind Rider (GPWR) - Allows for the purchase of wind energy from company-owned facilities in increments of 100 kWh blocks.
  - Currently the Company maintains 791 MWs of Nameplate Wind Energy Assets.
  - Subscribed kWh is exempt from the Fuel Cost Adjustment, may be utilized as a fuel price hedge.
  - Subject to a maximum amount set by class

- Utility Solar Program - Allows for the purchase of utility solar energy produced by OG&E up to 50% of the customer's annual energy usage.
  - Currently the Company maintains 31 MWs of Nameplate Solar Energy Assets
  - This mechanism functions similarly to Net Metering netting actual usage against the $/kWh cost of energy from the facility.

OG&E Energizing Renewable Connections (ERC)

- This program facilitates the procurement of up to 100% of a client's energy consumption from newly established, company-owned or Power Purchase Agreement based renewable facilities.

- Eligibility is restricted to clients whose monthly peak demand surpasses 2 MW, with a collective minimum demand of 100 MW from all participating clients.

- This tariff is designed with very large customers in mind.

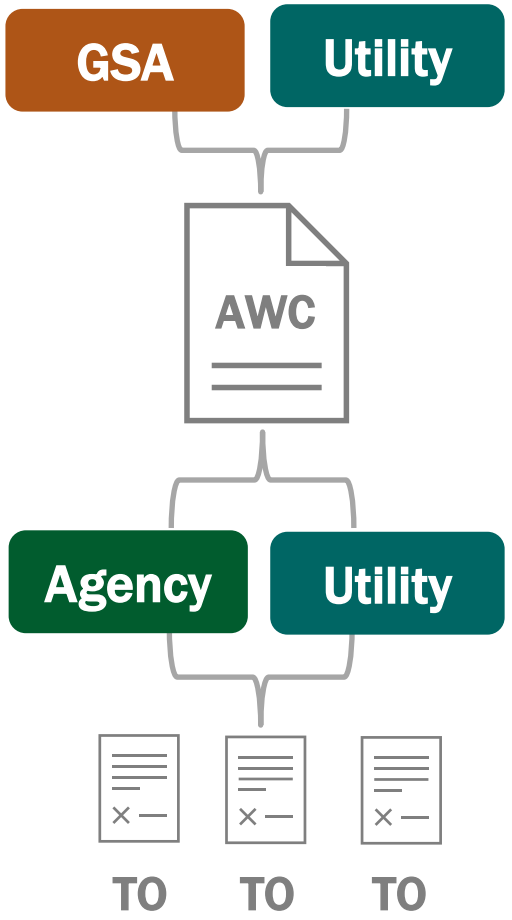
Leveraging GSA Areawide Contracts (AWCs)

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.

- Contract Term - 10 years (25 years for UESCs)
- AWC bilaterally signed by GSA and utility
- FAR Part 41 requires agency use available AWC unless head of contracting authority (HCA) determines otherwise
- Exhibits for services signed by agency and utility



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 "C"

Contractor's ID NO._____(Optional)
Ordering Agency's ID _____(Optional)

Oklahoma Gas and Electric Company AUTHORIZATION FOR ENERGY MANAGEMENT SERVICE, OR DISCONNECTION OF ENERGY MANAGEMENT SERVICE UNDER
CONTRACT NO. 47PA0417D0001

Ordering Agency:_____
Address:_____

Pursuant to Contract No. 47PA0417D0001 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 or modified as hereinafter stated. Contract Articles 2 and 4 shall be followed for the initiation of service under this contract.

PREMISES TO BE SERVED:_____
SERVICE ADDRESS:_____

NATURE OF SERVICE:
- ☐ Preliminary Energy Audit
- ☐ Comprehensive Energy Audit
- ☐ EMS Engineering and Design
- ☐ EMS Installation
- ☐ Demand Side Management (DSM) Project
- ☐ Other (See Remarks Below)

IF ANY REGULATED SERVICES ARE PROVIDED UNDER THIS AUTHORIZATION, SUCH SERVICES SHALL BE SUBJECT TO THE AUTHORITY OF THE GEORGIA PUBLIC SERVICE COMMISSION.

POINT OF DELIVERY: _____

PROJECT COST: _____

ACCOUNTING AND APPROPRIATION DATA: _____

List of Attachments:

☐ General Conditions	☐ Payment Provisions	☐ Special Requirements	☐ Economic Analysis
☐ Facility/Site Plans	☐ Historical Data	☐ Utility Usage History	☐ ECP Feasibility Study
☐ Design Drawings	☐ Design Specifications	☐ Certifications	☐ Commission Schedules
☐ Other:			

View and Download the OG&E AWC

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**

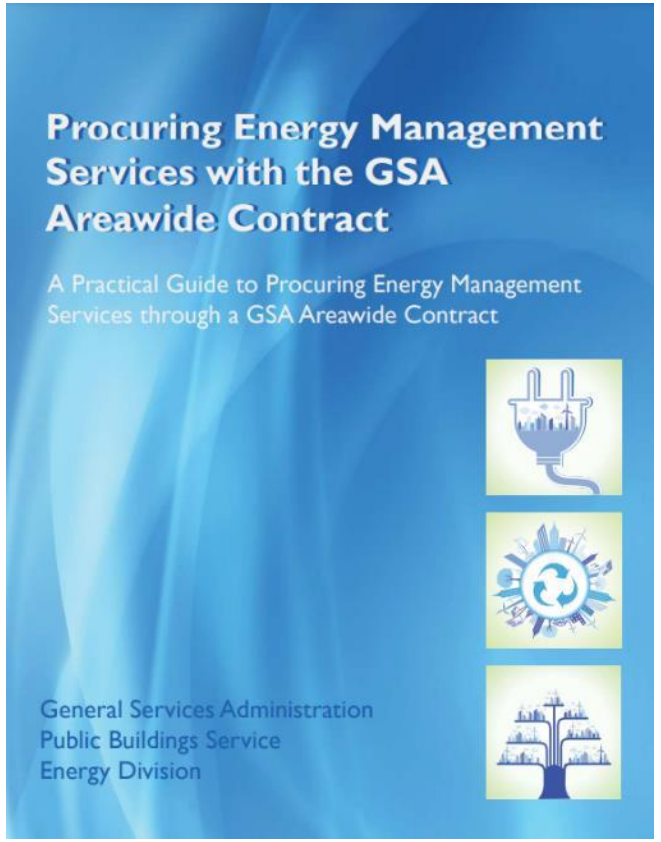
KEY REQUIREMENT

- **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)

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)



Utility Energy Service Contracts (UESCs)

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

What are Utility Energy Service Contracts (UESCs)?

Energy 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)
- 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

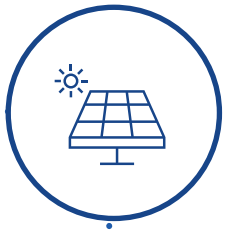
How do UESCs Work?

Select contractor

Competition limited to serving distribution utilities

Conduct assessments* to evaluate energy/water savings opportunities

OG&E identifies cost effective energy conservation measures (ECMs)



Implement ECMs

OG&E secures financing and installs measures

Make payments from cost savings

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

OG&E and agency implement Performance Assurance Plan to monitor and sustain savings

Via operations & maintenance / savings verification/other

**Preliminary Assessment typically provided at no cost*

Authorizing Law: Utility Energy Service Contract (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**
- **Sites/facilities within OG&E's service territory may be bundled in a single task order**
- **Performance Assurance Plan and/or savings guarantee is required**
  - OG&E can perform operations & maintenance, repair/replacement, measurement and verification, as needed
  - OG&E will consider offering a savings guarantee
- **Contracts are firm-fixed-price**
- **OG&E is single point of contact for entire project – evaluation, design, installation, post-installation services**

Energy Conservation Measures

Common Examples

(not exhaustive)

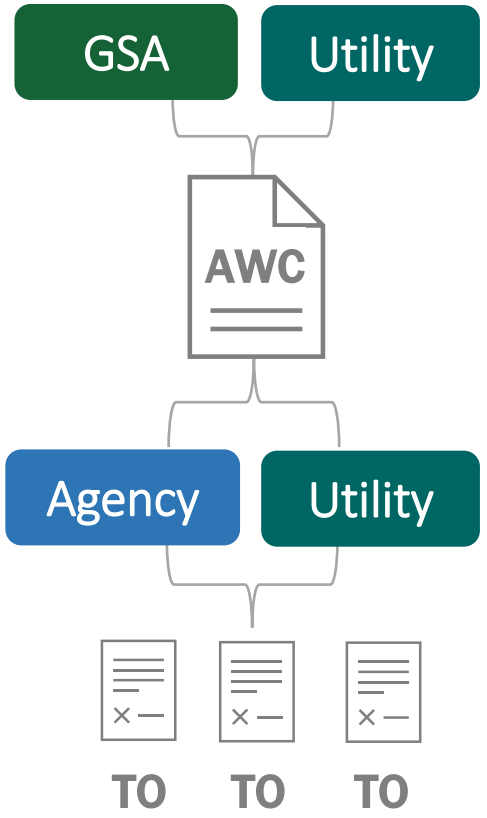
- Boiler and chiller upgrades
- Energy management control systems
- Commissioning/Retro-commissioning
- Building envelope
- HVAC
- Chilled/hot water, steam distribution
- Lighting and lighting control improvements
- Electric motors/drives
- Refrigeration
- Renewable Power Generation Systems
- Electrical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



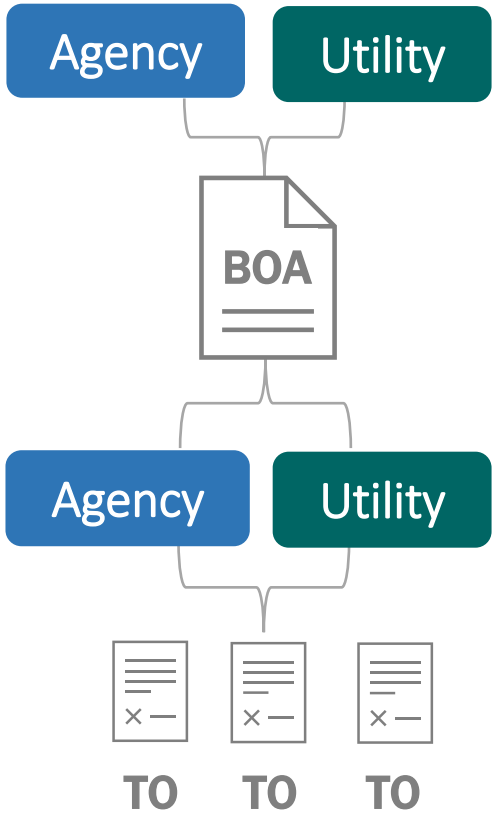



UESC Contracting Options

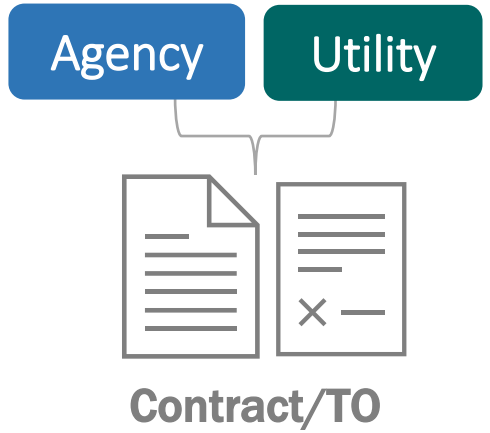
Areawide Contract (AWC)



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 (*other than OG&E*)**
  - Contact your serving utilities (electricity, natural gas, water) to 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
- Project support provide by technical and contracting SMEs through DOE National Labs
- Training on contracting and technical topics for agency teams
- Online templates and other resources
- Federal Utility Partnership Working Group
  - 2024 FUPWG Seminar on Wednesday/Thursday August 21-22, 2024 in Houston, TX
  - Free one day UESC training on Tuesday, August 20

How much does FEMP support cost?

Nothing!

Most support can be provided at no cost

Visit the FEMP UESC website to learn more

OG&E

We Energize Life

GSA Areawide Contracts (AWCs) and Utility Energy Service Contract (UESCs)

Michelle Rodriguez-Pico, Business Development Manager
(federal account expert)

OG&E – Areawide Contract (AWC)

Areawide contracts provide a pre-established contractual vehicle for utility services to perform projects with federal entities in the electric company service area

- GSA Utility Energy Service Contract
- VANCE Electrical Substation Riser Connection
- AR Ebbing Air National Guard New Training site
- Oklahoma Air National Guard Secondary Power Feed
- Federal Aviation Administration EVSE

OG&E UESC Projects

Oklahoma Gas and Electric

Initiatives

General Service Administration (GSA) in Oklahoma provide workplaces for many government agencies.

OG&E selected Ameresco to partner in five Oklahoma buildings to implement energy conservation measures.

Specifics/Solution

UESC Project Highlights

- $8.9 million in energy efficiency and infrastructure improvements
- Year 1 cost savings of more than $412,000
- 41% total energy use reduction
- 13% total water reduction for the smart irrigation systems
- Greenhouse Gas reduction of more than 3,100 metric tons/yr.

Additional

- AFFECT Grant for BESS $800k
- GSA funding $130k
- Receive over $259k in incentives

ECMs

- HVAC Improvements
- High Efficiency Transformers
- BAS Optimization / Upgrades
- LED Lighting retrofit / Lighting Controls
- Solar PV Panels (roof)
- Interior Insulation
- Smart Irrigation
- BESS / Microgrid Control System (through AFFECT Grant)

General Service Administration

Edmondson Courthouse
Post Office Courthouse
Holloway Courthouse & FOB
Federal Campus Bldg.
Federal Parking Garage

GSA hopes the outcome of this energy project will be used to pave the way for a more flexible and interconnected building grid across the federal government

OG&E UESC Projects

Oklahoma Gas and Electric

Initiatives

Federal Aviation Administration (FAA) – Mike Monroney Aeronautical Center (MMAC) provides critical products and services that touch all aspects of aviation.

OG&E was the sole contractor on this project

Specifics/Solution

UESC I	2015
UESC II	2017
Total	**$4.3M**

- Approx. $250k Energy and Water Savings annual
- Reducing energy consumption by over 5,000 MMBTUs
- Reducing water consumption by over 1M gallons annually
- Received over $183k in incentives for saving over 8 million kWh

FAA Mike Monroney Aeronautical Center

Winners of the sustainability award in energy conservation for 7 consecutive years

ECMs

- Cooling Tower equipment
- HVAC improvement
- Chiller Replacement
- VFD Retrofits
- LED Lighting conversion in several buildings
- Outdoor LED Lighting Upgrades

OG&E UESC Projects

Oklahoma Gas and Electric

Initiatives

The Air Logistics Center at Tinker AFB required significant energy upgrades to B9001 which is the 2nd largest facility in the DoD covering nearly 3Msqft.

OG&E selected Honeywell to partner on these major UESC projects.

Specifics/Solution

UESC I	2015
UESC Mod I	2018
UESC II Mechanical	2019
UESC II Mechanical – ESTCP Grant	2020
UESC II Security	2019
UESC III Compressed Air	TBD
Total	**~ $58M**

- Approx. $250k Energy and Water Savings annual
- Reducing energy consumption by over 5,000 MMBTUs
- Reducing water consumption by over 1M gallons annually
- Received over $183k in incentives for saving over 8 million kWh

ECMs

- HVAC
- Compressed Air
- Heating/Water Plant Complete Upgrade
- Optimization of Chiller plant and 2M gallon thermal storage
- LED Lighting for entire facility and central plant
- EMCS upgrades allowed visibility and fault notification
- Honeywell installed EMCS, Drives, Security System

Tinker Air Force Base

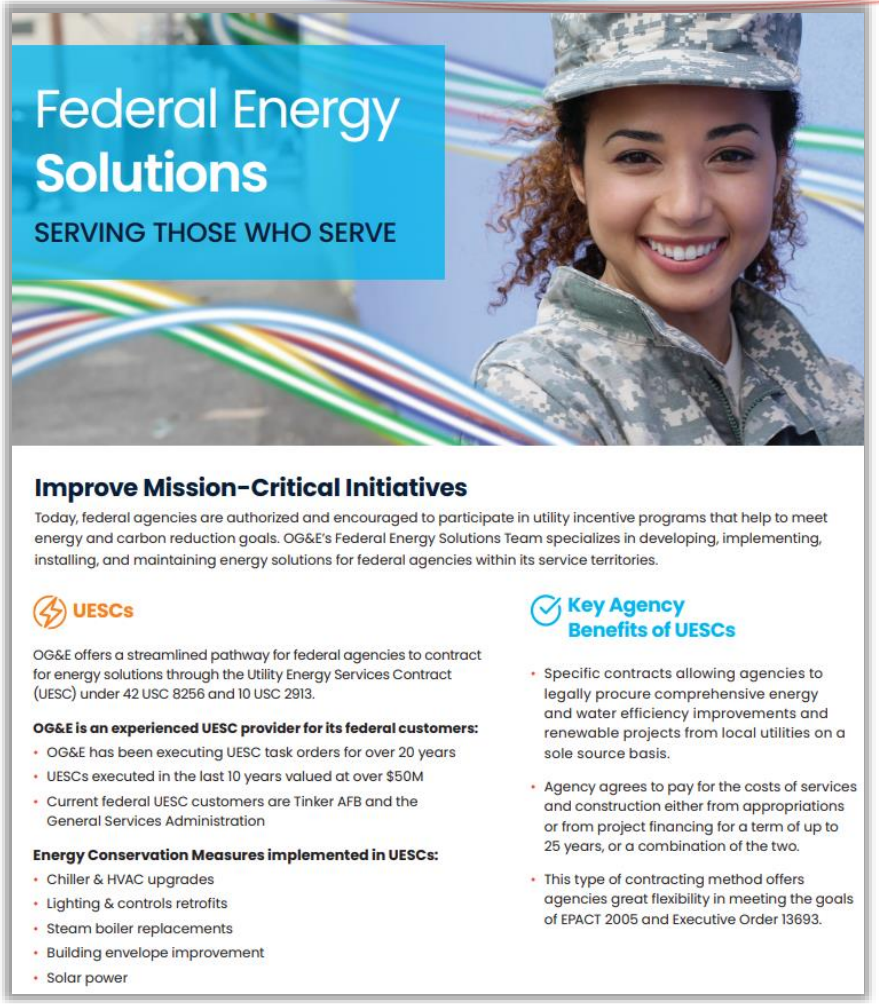
Now has the most mobile maintenance facility in the Air Force

OG&E UESC Goals

Federal Energy Solutions

- Better our communities
- Provide Critical services
- Reliable electricity
- Energy Conservation
- Innovative offering

When we partner with our customers, we can accomplish more together



Federal Energy Solutions

SERVING THOSE WHO SERVE

Improve Mission-Critical Initiatives

Today, federal agencies are authorized and encouraged to participate in utility incentive programs that help to meet energy and carbon reduction goals. OG&E's Federal Energy Solutions Team specializes in developing, implementing, installing, and maintaining energy solutions for federal agencies within its service territories.

UESCs

OG&E offers a streamlined pathway for federal agencies to contract for energy solutions through the Utility Energy Services Contract (UESC) under 42 USC 8256 and 10 USC 2913.

OG&E is an experienced UESC provider for its federal customers:

- OG&E has been executing UESC task orders for over 20 years
- UESCs executed in the last 10 years valued at over $50M
- Current federal UESC customers are Tinker AFB and the General Services Administration

Energy Conservation Measures implemented in UESCs:

- Chiller & HVAC upgrades
- Lighting & controls retrofits
- Steam boiler replacements
- Building envelope improvement
- Solar power

Key Agency Benefits of UESCs

- Specific contracts allowing agencies to legally procure comprehensive energy and water efficiency improvements and renewable projects from local utilities on a sole source basis.
- Agency agrees to pay for the costs of services and construction either from appropriations or from project financing for a term of up to 25 years, or a combination of the two.
- This type of contracting method offers agencies great flexibility in meeting the goals of EPACT 2005 and Executive Order 13693.

Program Recognition

SOCIETY OF AMERICAN MILITARY ENGINEERS • MARCH-APRIL 2019 • VOLUME 111 • NUMBER 720

TME
The Military Engineer

THE INSTALLATION of the FUTURE, Today

At Tinker AFB, Okla., a transformative approach to facility management is being adopted that is driving significant cost savings and cultural change.

By Edward Wojtowicz

Federal legislation and executive orders have brought efforts to enhance energy efficiency and resiliency to the forefront, imposing requirements to reduce foreign oil dependence and carbon emissions while improving cost predictability and system redundancy. Government agencies have opportunities to enhance their energy management while modernizing their facilities for broader benefits. But making changes that have a lasting impact can be challenging where funds are already tight—especially when long-standing facilities and equipment are often contributing to inefficiencies.

Improving infrastructure and driving long-term savings requires a clear, sustainable path. Fortunately, models are emerging through work done at military bases including Tinker AFB, Okla., that exemplify how to implement projects that have measurable positive effects on facility efficiency, as well has how to transform an installation and the behaviors of those within it for improved mission assurance.

AGING INFRASTRUCTURE

Established in 1941, Tinker AFB is home to the Oklahoma City-Air Logistics Complex (OC-ALC), the largest of three aircraft maintenance and repair complexes operated by Air Force Materiel Command. OC-ALC employs more than 10,200 military personnel and civilians, and includes operations spread across 60 facilities that service and repair aircraft from the U.S. Air Force, U.S. Navy, Air National Guard, and Air Force Reserve.

Tinker AFB was once the largest single-site energy consumer in the Air Force, with OC-ALC accounting for nearly 70 percent of the base's total energy consumption due to its energy-intensive processes. In recent years, aging infrastructure of the 75-year-old installation has created even more operational and efficiency challenges, driving up consumption. Resource constraints have

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Tinker's big DROP
from first to fourth in energy consumption
page 3

Oversight continues for base housing
page 2

Tinker's Cuban Missile Crisis connec
page 6

Tinker's big DROP
from first to fourth in energy consumption

Several new air compressors have been installed in Bldg. 3001. The compressors modulate with demand, reducing load and requiring less maintenance over time. The compressors' "communication" by turning off and on as needed and can also track its own energy usage. (U.S. Air Force photo/Kelly White)

A construction worker uses a cutting torch in the demolition site of Boiler #1 in Bldg. 3001. The original boilers were initially installed around 1942, making them the same age as Tinker itself. By removing these boilers and installing new energy efficient ones, Tinker is reducing its energy consumption for the future. (U.S. Air Force photo/Kelly White)

energy consumption if the option is available and see basic maintenance

"This has been a game-changer in terms of coordinating systems across base," Cecile said. "It's still a new system we are adapting to and integrating more systems on, but this will allow us to see what is going on in real-time and making energy saving decisions quickly."

Along with the EBI, other measures for cost-reduction have included replacing the lighting in Building 3001 with energy-efficient lightbulbs; transitioning processes that require steam heating to electric heating; the replacement and modernization of boilers and water coolers; and replacing the motors for some equipment with energy-efficient motors that operators can choose to operate at different power levels based on the needs of the operation.

"We've already seen some substantial cost reduction in key

areas and much of it has been through basic modernization," Cecile said. "From something as basic as introducing cost-effective lighting is a significant energy reducing measure on base when you have the second and third largest buildings under the Department of Defense, Bldg. 3001 and Bldg. 3031."

The project is currently almost 95% completed and will impact more than 30 structures across Tinker. With such progress made in a short amount of time, Col. Paul Filcek, 72nd Air Base Wing commander, said that Tinker is setting a standard in cost-effective modernization.

"This is the kind of innovative and cost-effective work that we collaborate at Tinker," Filcek said. "I see modernizing our energy infrastructure as a critical component of modernizing our combat readiness, and the work done through OC-ALC has truly impacted that in a major way."

www.TinkerTakeOff.com — October 16, 2019 — 3

Aeronautical Center Continues Piling Up Energy Savings Incentives

OG&E
Oklahoma Gas & Electric

The Mike Monroney Aeronautical Center (MMAC) is continuing its record-setting pace toward energy conservation efforts in meeting our mandated energy reduction goals and is continuing to garner utility incentives to reduce operational costs for the Center. Since the MMAC began participating in Oklahoma Gas and Electric (OG&E) utility company's Continuous Energy Improvement (CEI) program, the MMAC has consistently been one of the top performers in electrical energy reduction. Under the program, OG&E offers a 2-cent per kilowatt-hour (kWh) incentive for customers to partner with OG&E's energy consultants to establish conservation programs and implement energy savings opportunities.

During the initial participation year in FY 2018, the MMAC realized a savings of over 2,000,000 kWh under the program and received an incentive of nearly $42,000 – more savings than any other participant! In FY 2019 participating in the program as an alumni member, the MMAC realized an additional savings of 1,973,610 kWh – again, saving more than any other current or alumni participant – earning an incentive of over $39,000. Although energy reductions associated with maximum telework have been subtracted out of the incentives since March 2020, the MMAC has continued to be a top performer.

In total, the MMAC has received over $183,000 in incentives for saving over 8 million kWh since the program start! Due to challenges with federal agencies receiving monetary payments, the incentives have been converted into an equivalent value of renewable energy certificates that allowed the MMAC to exceed our renewable energy goal each year providing an average of over 20% of MMAC electrical usage being credited to renewable sources.

OG&E presenting incentive to the MMAC
L to R: Forrest McGee (OG&E), Kevin Coker (AMP), Kalin Dunn (OG&E)

The MMAC will continue to participate in OG&E's Continuous Energy Improvement program through at least 2022 participating again as an alumni member and will receive additional incentive for additional reductions in electric consumption. To achieve additional reductions, AMP is continuing to implement new and improved energy saving technologies like LED lighting, occupancy sensor lighting controls, and more efficient heating and cooling equipment into maintenance and renovation projects. In addition to new technologies, the MMAC also continues to urge employees to further conservation by providing information through center-wide news articles and emails and hopes to return to on-site events like Earth Day celebrations soon. Environmental representatives from MMAC organizations are also encouraged at quarterly Environmental Network meetings to remind employees to help out by turning off lights and equipment whenever possible and by promptly reporting energy waste such as malfunctioning heating and cooling equipment to AMP for repairs.

If you have any questions or suggestions regarding the MMAC Energy Program, please contact the MMAC energy manager at (405) 954-9610.

GSA's Building Innovation Leads to Huge Savings in Oklahoma City

June 02, 2021

Energy conservation isn't an unfamiliar concept to GSA's Greater Southwest Region, however, the way it is achieved is always being modernized to perfect their process. This time around, they stepped outside of the box with a new approach for implementing an energy contract in Oklahoma City.

The Oklahoma Utility Energy Service Contract (UESC) project originated in 2019 and is currently in the construction phase. From the onset of the project, GSA ensured that *grid-interactive efficient building strategies* were top priority. The goal of these strategies will ultimately bring the Oklahoma City Campus Building and the grid into an interactive alignment, while delivering the most energy and water savings possible to the GSA Oklahoma building portfolio.

GSA will save $13.5 million over the course of the contract through utility savings in five Oklahoma buildings through efficiency measures such as LED lighting, high efficiency transformers and HVAC controls. The Oklahoma City Campus Building saw the most advanced upgrades with a large solar PV installation on the roof, a cutting edge battery storage system and a smart microgrid controller which will allow the facility to dynamically integrate with the demands and flow of the electric grid.

"This was an amazing opportunity for GSA to yet again lead by example. The Campus Building is the first GSA building to undergo such a dramatic transformation with the intent of making the facility truly integrated with the grid. It has been an incredible team effort to get to this point," said Tyler Harris, Branch Chief of the Energy and Sustainability Division in GSA Region 7.

GSA hopes the outcome of this energy project will be used to pave the way for a more flexible and interconnected building grid across the federal government.

OGE

We Energize Life

Closing Remarks

Cristina McQuistion, VP Corporate Responsibility & Stewardship

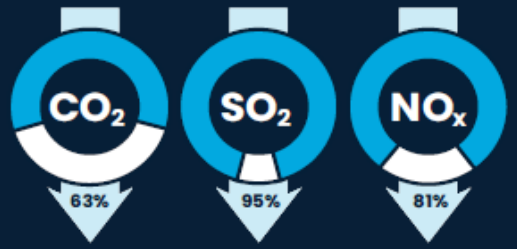
Stewardship Highlights

ENVIRONMENT

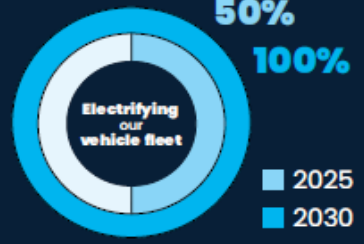
Progress on Reducing Emissions*

By 2030, we expect to see a 50% reduction in carbon dioxide emissions over 2005 levels.

*Emissions reductions 2005 to 2023. Emissions reductions will vary year-to-year based on a variety of factors, some outside our control.



Yearly Fresh Water Withdrawal/Recycled



We are actively replacing 50% of our light-duty vehicles with electric vehicles by 2025 and 100% by 2030.

INVESTING IN THE GRID

- Reduced service interruptions by up to **40%***
- Reduced outage duration by up to **30%** on upgraded circuits*

COMMUNITY IMPACT

#1 Best Employer in Oklahoma

Named #1 Best Employer in Oklahoma as part of **Forbes 2023 Best Employers by State.**

$90M IN ANNUAL PROPERTY TAXES SUPPORTING LOCAL COMMUNITIES

As the largest ad valorem taxpayer in Oklahoma, our assessments contribute to **funding public schools and libraries.**

$14M IN DONATIONS

Since 2021, we've supported over 315 programs and organizations that enhance the quality of life and economic well-being of our communities

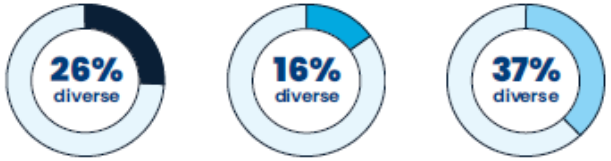
through OG&E and the OGE Energy Corp. Foundation

OGE

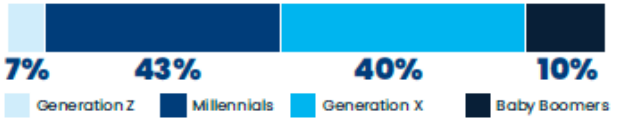
Employee Demographics

Gender

Race & Ethnicity



Generational Diversity



ALMOST $100MM SINCE 2021

Customer assistance dollars in partnership with social services agencies, nonprofit assistance groups, and state and federal agencies to support the most vulnerable populations.

Supported 92 new or expansion economic development projects since 2021 that attracted an estimated 12,359 jobs and represented over $5.4 billion in investments.

12,359 JOBS

83%

Reduced our OSHA Total Recordable Incident Rate by more than 83%, with the last eight years being the safest in our history.

*since 2019

Final Q&A, Resources, and Next Steps

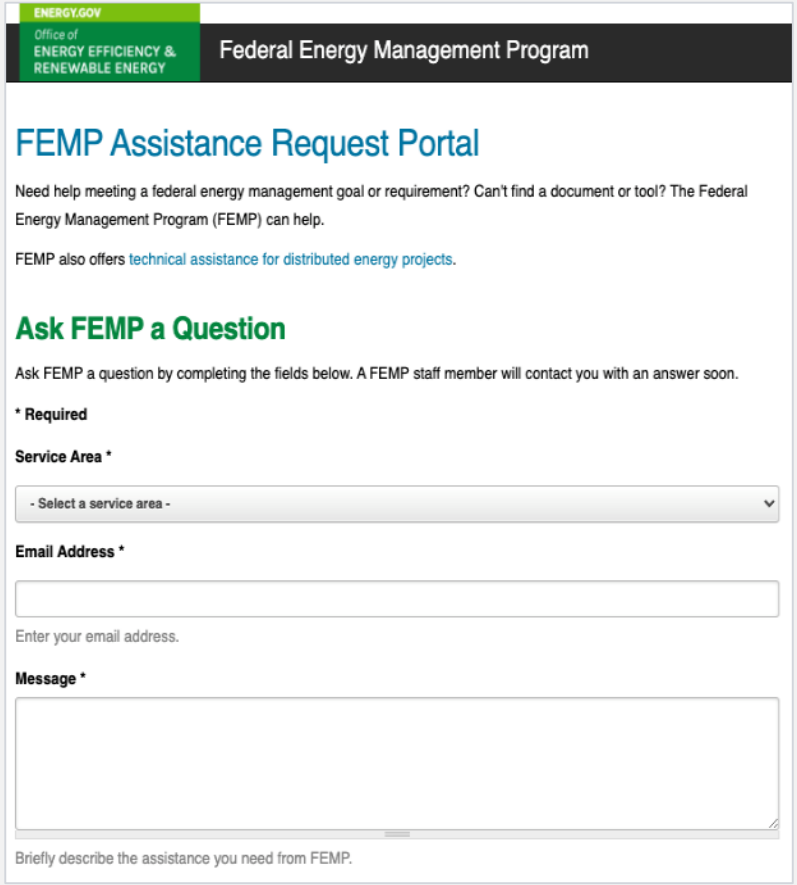
FEMP Technical Assistance

FEMP offers free support to federal agencies via the 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: $250M to Advance Net-Zero Facilities

FEMP Federal Energy Management Program

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
- Training and Guidance Information

Only Federal Agencies May Apply for AFFECT

Upcoming Application Deadlines	
Phase 1	May 31, 2023 (closed)
Phase 2	June 27, 2024 (closed)
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 DR/TVP
  - Distributed Energy Procurement
  - Resilience Planning and Integration
  - Facility and Fleet Optimized Design
  - Legislative and Mandate Guidance
  - Energy and Cyber Security Integration

Utility Engagement			
Title	**Level**	**Length**	**CEUs**
Evaluating Your Utility Rate Options	Introductory	1 hour	0.20
Taking Advantage of Demand Response and Time-Variable Pricing Offerings	Introductory	1.5 hours	0.20
UESC Comprehensive Training: Day 1 - Fundamentals and Planning	Introductory	2 hours	.3
UESC On-Demand Webinar Series: Phase 1 - Acquisition Planning	Introductory	1 hour	0.20
UESC On-Demand Webinar Series: Phase 2 - Utility Selection and Preliminary Assessment	Introductory	1 hour	0.20
UESC On-Demand Webinar Series: Phase 3 - Project Development	Introductory	1 hour	0.20
UESC On-Demand Webinar Series: Phases 4 and 5 - Project Implementation and Construction and Post-Acceptance Performance	Introductory		0.20
UESC On-Demand Webinar Series: UESC Introduction Part 1 - Overview and Background	Introductory	1 hour	0.20
UESC On-Demand Webinar Series: UESC Introduction Part 2 - Legislation and Contracting	Introductory	1 hour	0.20
Utility Energy Service Contracts (UESC) New Utility Toolkit	Introductory	1 hour	0.2
Financing for UESCs: Ensuring the Best Value for the Government	Intermediate	1 hour	0.20
UESC On-Demand Webinar Series: Special Topic - Performance Assurance for Utility Energy Service Contracts	Intermediate	1 hour	0.20

Click here to view all courses!

Federal Utility Partnership Working Group (FUPWG) 2024

Registration Open!

August 21-22, 2024 | Houston, TX

Learn More:

FUPWG Webpage | Registration | Agenda

Event Info

- 2-day seminar led by FEMP to cultivate lasting partnerships between federal agencies and utilities for improved energy and water management
- Sessions and panels led by industry experts
- Knowledge sharing around UESC best practices, new technologies, and approaches to achieving energy goals
- Full-day (no cost!) UESC Training held on August 20
- Space will be limited to 200 attendees
- Hosted in partnership with CenterPoint Energy

CenterPoint® Energy

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 form* 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.

Next Steps: Review Available OG&E Programs

- **Energy Efficiency Rebates**
  - Commercial and Industrial Energy Efficiency
- **Demand Response Programs**
  - Load Reduction
- **Time Variable Pricing Rates**
  - SmartHours
- **Utility Energy Services Contracts**
  - AWC
- **EV/EVSE Programs and Rebates**
  - EV/EVSE
- **Carbon Free Energy Program**
  - Energizing Renewable Connections Program (ERC)
- **Resilience and Grid Modernization**
  - Grid Enhancement

Contact Information

DOE FEMP / Lab Staff / GSA

Name	Program
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Tracy Niro	CFE
Ethan Epstein	Resilience
Jason Koman	GEB and Fleet/EVSE
Billie Holecek (LBL)	Demand Response and TVP
Jeff Gingrich (NREL)	UESC

Contact FEMP SMEs via the

FEMP Assistance Request Portal

OG&E

Name	Program
Jessica King	Demand Response and Time-Variable Pricing
Mike Maimo	CFE
LaDee Nichols	Fleet Electrification
Bobby Shaffer	Resilience
Michelle Rodriguez-Pico	UESC and AWC Projects

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

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Thank You!

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