

FEDERAL UTILITY PARTNERSHIP WORKING GROUP SEMINAR

May 1-2, 2023

Welcome to the Spring 2023 FUPWG Seminar

Co-sponsored by:



Welcome and Announcements – FUPWG Day 2

Tracy Niro

Utility Program Manager

May 1, 2023



Welcome to FUPWG Day 2!

- Highlights from Day 1
- Thank you to NRECA for a great networking event!
- Please wear your badge at all times. Your badge is required for entry.
- Lunch
 - Will not be provided today, but there are several nearby options
- **Special Session 1: GSA Areawide Contract Holders Meeting (Open to AWC Holders and Interested Utilities) - 1:00PM – 2:00PM**
- **Special Session 2: Energy Lawyers and Contracting Officers Forum (Open to all FUPWG Attendees) - 2:15PM – 3:15PM**
- **UESC Comprehensive Training May 3rd and 4th!**

Slides will be posted to the FUPWG website within 2 weeks.

Take Advantage of Continuing Education Units (CEUs)

- A total of **1.1** International Association for Continuing Education and Training (IACET) CEUs will be offered
 - Monday AM: Cooperative Innovation – 0.3 CEUs
 - Monday PM: What's New in the Industry – 0.4 CEUs
 - Tuesday AM: Best Practices and Resources – 0.4 CEUs
- **IMPORTANT** - You **MUST** either scan the QR code to indicate your attendance for **EACH SESSION** or fill out the hardcopy attendance form for **EACH SESSION** at the registration desk to be eligible to receive credit!
- For logistical questions related to CEUs, email Elena Meehan at elena.meehan@hq.doe.gov.

NOTE:
**We will send
instructions & quiz
links Weds 5/3**

**The National Institute of Building Sciences' Whole Building Design Guide (WBDG)
hosts the FEMP training program's learning management system.**

Step by Step Instructions to be Awarded CEUs for FUPWG

How to obtain your CEUs:

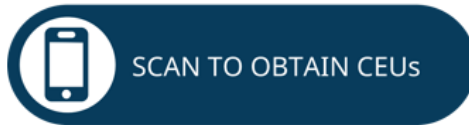
1. Attend the training in full (no exceptions).
2. Scan the QR code following each session, or sign in and out with full name on sheets at the registration desk, to verify event attendance for CEU certification and award.
3. Visit the Whole Building Design Guide (WBDG) at wbdg.org to log in or create an account.
4. Enroll in the training.
5. Select the training's "Proceed to Course" button.
6. Complete an assessment demonstrating knowledge of course learning objectives **within six weeks of the training (June 9th!), with a minimum score of 80%, or forfeit CEUs. No exceptions!**
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.

Watch for the CEU Slide Following Each Session

FUPWG CEUs: May 2nd Session 3



Best Practices and Resources – 0.4 CEUs

- Scan the code to register your attendance and be able to visit the WBDG to earn CEUs
- <https://www.wbdg.org/fupwg>

Federal Utility Partnership Working Group
May 1-2, 2023 Arlington, VA



FEDERAL UTILITY PARTNERSHIP WORKING GROUP SEMINAR

May 1-2, 2023

Incorporating Grid-interactive Efficient Building (GEB) Strategies in Utility Energy Service Contracts

Jason Koman, DOE FEMP, Moderator

Steve Rutledge, GSA

Aaron Bollinger, GSA



Incorporating Grid-interactive Efficient Building (GEB) Strategies in Utility Energy Service Contracts

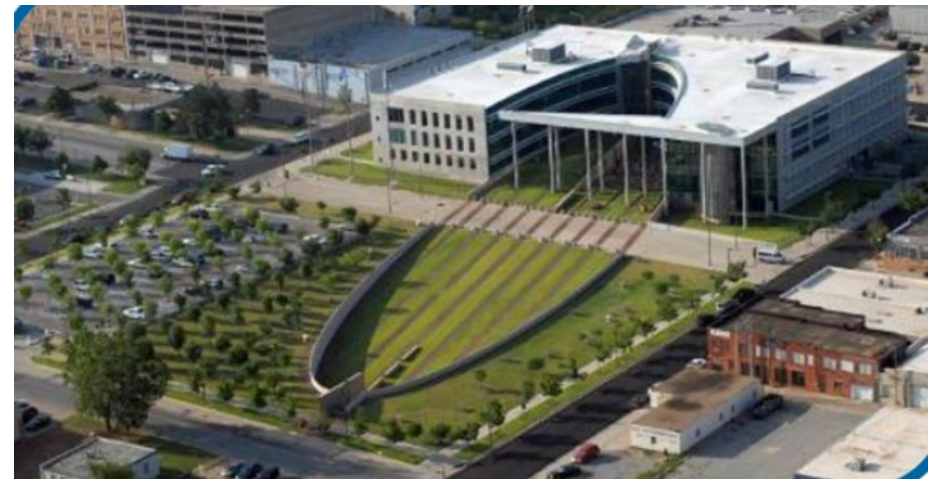
GSA Region 7 (Greater Southwest)
Steve Rutledge, GSA R7 Performance Contract Program Manager
Aaron Bollinger, GSA R7 Energy and Sustainability Branch Chief



Federal Utility Partnership Working Group
May 1-2, 2023 Arlington, VA

Overview - GSA Region 7 Performance Contracting

- **GSA Region 7**
 - 200+ GSA Owned Facilities
 - 5 States, 67 cities
 - Federal Buildings, Courthouses, Special Use Buildings, Land Ports of Entry
- **Performance Contracting**
 - ESPC ENABLE Fort Worth (Performance Period)
 - ***UESC Oklahoma (Final Acceptance)***
 - ***UESC New Mexico (Near Final Acceptance)***
 - ESPC NDER IV, El Paso (Construction)
 - ***UESC Eastern (Construction)***
 - ESPC GSA NDER V, Dallas/NOLA (Construction)
 - ESPC Enable Arkansas/Oklahoma (Construction)



KNOW YOUR ORGANIZATION/SITUATION

Before GEB - Doing the Contracting Itself - Build Your Team!

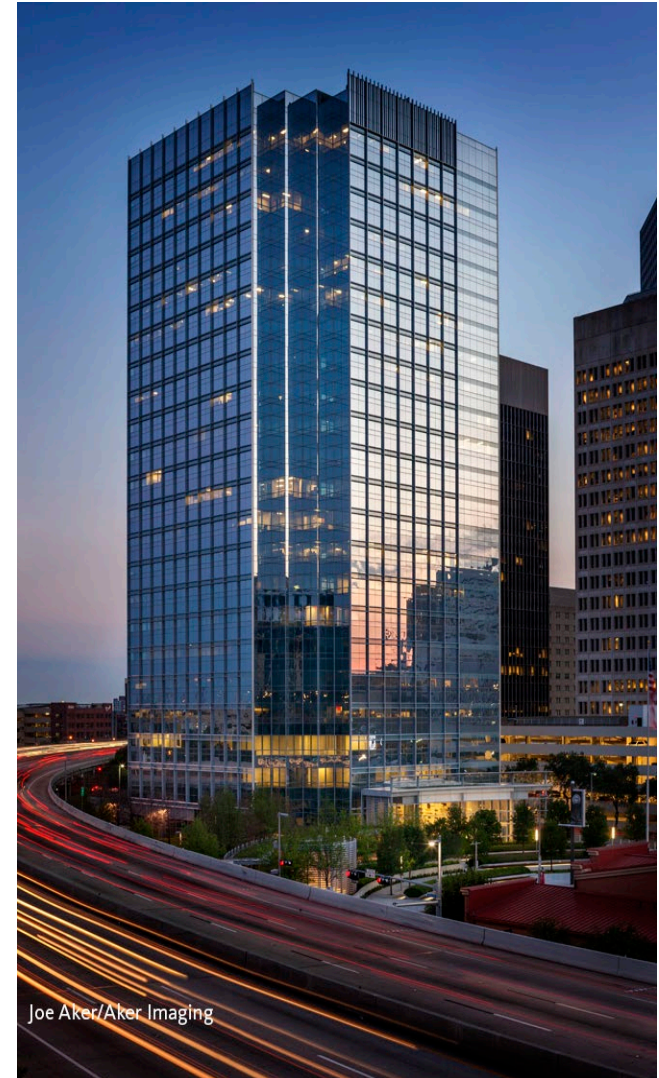
- Energy Team
- Acquisition Team
- Other parts of the organization - Project Managers, Subject Matter Experts, Portfolio, Budget, Central Office Contacts, Senior Leadership Team, Field Office Locations, Utility Partners, ESCO Partners, DOE FEMP Partners

Sell the Vision and Expectations!

- Build the Foundation
- Show the Benefits
- Leverage What You Can – (capital contributions, AFFECT Grants, etc.)

Expect the Unexpected and Work Through The Challenges

- Eastern Area UESC Example – procurement hurdle
- Do What You Can



GSA REGION 7 UESCs

Oklahoma UESC

- 5 Buildings - 2 cities
- Oklahoma Gas and Electric (OGE)/Ameresco
- 13 Energy Conservation Measures (ECMs)

New Mexico UESC

- 9 Buildings - 4 cities
- New Mexico Gas Company (NMGC)/Energy Systems Group (ESG)
- 9 ECMs

Eastern Area UESC

- 18 Buildings - 8 cities
- CenterPoint Energy (CNP)/ESG
- 6 ECMs



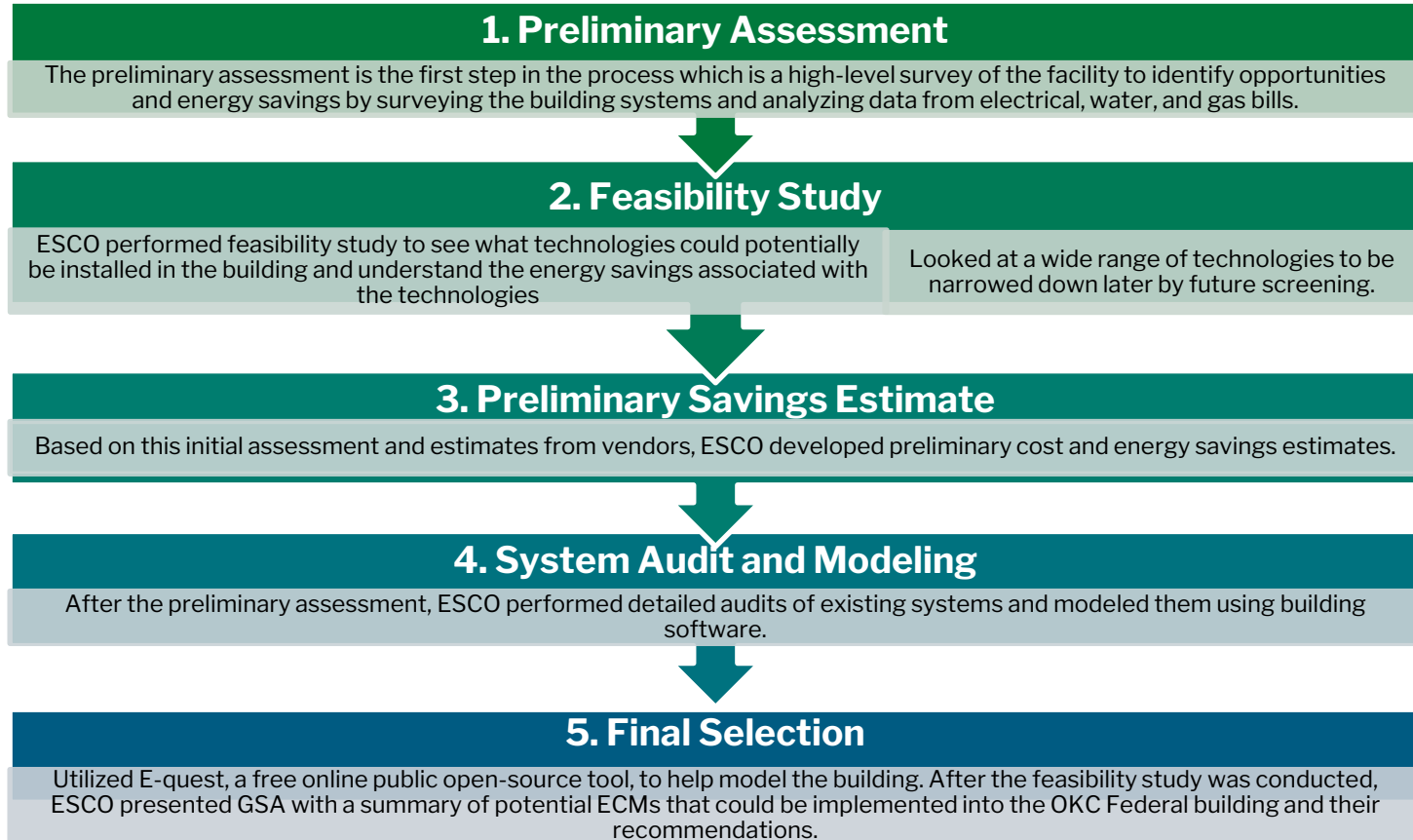
GEB Blueprint



Key to the success of a GEB project is:

- Site selection with utility rates and incentives favorable to GEBs;
- Identification of GEB measures early;
- Stakeholder engagement;
- Integration of GEB measures within major building renovations; and
- Careful consideration of GEB measurement and verification methodologies

Technology Selection Process



- We requested a broad range of technology recommendations to keep options open
- The core GSA team had the final say in what technologies were going to be selected, but we valued the input from all the team members
- Some technologies were eliminated based on cost/savings, while other technologies were not practical for the facility from a size or space constraint perspective
- We also analyzed the lifecycle of equipment and how the proposed equipment would integrate with other existing systems

GEB Strategies and Technologies

Solar PV Array

Addition of a 300 kW PV array on the roof of the building to capture solar energy.

Benefit: Generation



LED Retrofit

Lighting fixtures were upgraded to LEDs which are controlled in the Lutron control system.

Benefits: Efficiency & Shedding



Lighting Controls

Lutron smart control systems with ability to automatically dim or turn off lighting during demand response events; integrated with the battery system.

Benefits: Shedding



Transformer Upgrades

Installed more efficient transformers so less of the energy was wasted as heat.

Benefit: Efficiency



Smart Irrigation System

Installed smart irrigation controls that are used for water conservation.

Benefit: Water conservation



GEB Strategies and Technologies



Building Automation System

Implemented more efficient control strategies for HVAC and lighting equipment loads.

Benefits: Shedding and Shifting



Battery Storage

Microgrid controls with a 250 kW battery storage system interconnected with the rooftop PV system; required separate control system.

Benefit: Shifting



Advanced Power Strips

Advanced power strip that can shut off unused outlets through various means of sensing (e.g., current sensing, IR, motion).

Benefits: Efficiency & shedding



Roof Upgrade

Adding the PV array required the roof to be updated, which provided additional energy savings.

Benefit: Efficiency



KNOW YOUR ORGANIZATION/SITUATION

DO WHAT YOU CAN!

Lighting Retrofits – 32 Buildings

BAS Controls Work – 14 Buildings

Water Conservation – 14 Buildings

Smart Irrigation – 2 Buildings, significant installations

Capital Contributions - \$7,915,886 across the three projects (including 6 BAS projects in the Eastern UESC, Lighting Controls in OK UESC and Chiller and Boiler work in NM UESC)

AFFECT Grant - \$933,000 for BESS/Microgrid in OK UESC



QUESTIONS?

steve.rutledge@gsa.gov

512-801-7296

FEDERAL UTILITY PARTNERSHIP WORKING GROUP SEMINAR

May 1-2, 2023

Remarks from the DOE Principal Deputy Under Secretary for Infrastructure

Dr. Kathleen Hogan

U.S. Department of Energy

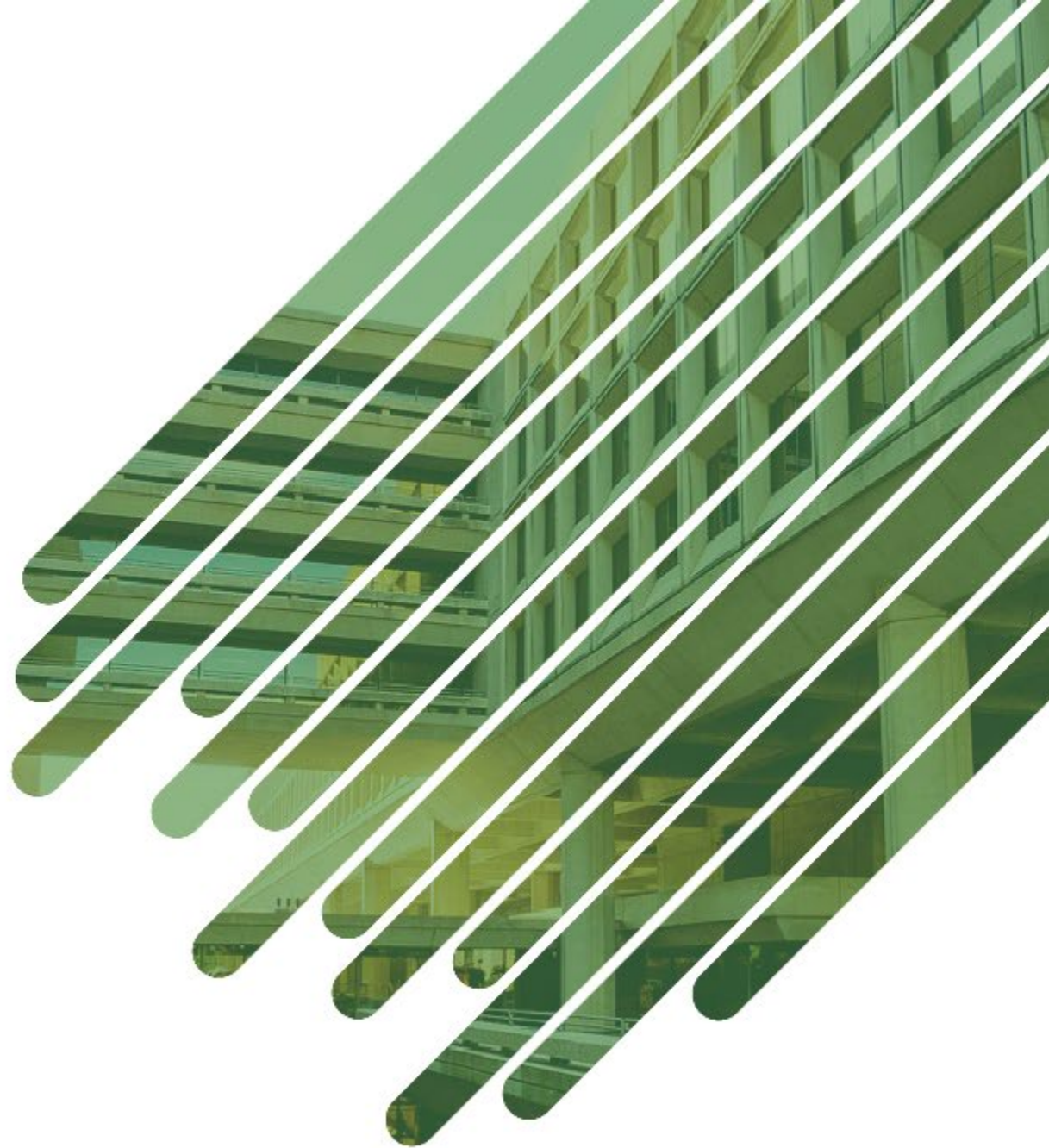




U.S. DEPARTMENT OF
ENERGY

BIL and IRA Implementation at DOE

Under Secretary for Infrastructure



Our Mission

Catalyzing the nation's equitable transition to a clean, secure, affordable, and resilient energy system



Lowering energy bills for households and businesses



Creating good jobs and boosting energy supply chains and domestic manufacturing



Advancing world-class, next generation clean energy technology demonstrations



Making the energy system more secure, reliable, and resilient



Congress has given DOE new mandates and unprecedented funding

Hydrogen

Buildings: efficiency & electrification

Carbon Management

Energy Storage

Electric Grid

Cybersecurity

\$90B in Grants and Rebates
\$250B+ in Loans and Loan Guarantees

Critical Minerals/Materials

Domestic Supply Chains

EVs and Chargers

State, Local, Tribal Partnership

Workforce

Clean Energy Projects

We are embedding key DOE priorities into our work

- **Justice 40**
 - Meet or exceed the objectives of the Justice40 initiative that 40% of benefits accrue to disadvantaged communities
- **Diversity, Equity, Inclusion, and Accessibility**
 - Equitable access to wealth building opportunities (teaming, access to good jobs, business and contracting opportunities, etc.)
- **Good Jobs**
 - Create good-paying jobs to attract and retain skilled workers and ensure workers have a voice on the job over decisions that affect them (wages, working conditions, safety, etc.)
- **Workforce and Community Agreements**
 - Meaningful engagement with community and labor partners leading to formal agreements



*In most cases, Community Benefits Plans equate to 20% of the technical merit points for project proposals

FUNDING ANNOUNCED

- Hydrogen Hubs
- Grid Programs
- Transmission Facilitation Program
- Battery Supply Chains
- Weatherization
- State Energy Program
- Long Duration Energy Storage
- Carbon Management Programs
- Advanced Reactor Demos
- State Revolving Loan Funds
- Civil Nuclear Credit
- Energy Efficiency and Conservation Block Grants
- Direct Air Capture Hubs
- Energy Improvements in Rural and Remote Communities
- Industrial Decarbonization



**\$46
BILLION**

FEDERAL UTILITY PARTNERSHIP WORKING GROUP SEMINAR

May 1-2, 2023

Partnering with FEMP to Advance Your Energy Priorities

Mary Sotos, DOE FEMP, Moderator

Creshona Armwood, DOE FEMP

Skye Schell, DOE FEMP

Nael Nmair, DOE FEMP

Rachel Shepherd, DOE FEMP



Partnering with FEMP to Advance Your Energy Priorities



FEMP Focuses on Federal Agency Support

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

Key Stakeholders

-  White House
-  Industry
-  Agencies
-  National Labs
-  Congress
-  MUSH Markets

Technical Areas

- Facilities 
- Fleets 
- Grid 



FEMP Support Moves Agencies Forward

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



Request Technical Assistance

FEMP's project facilitators and 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 AFECT 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
-  AFECT Funding
-  Electricity Procurement Analysis and much, much more...

Agency Engagement

Creshona Armwood



FEMP Engagement Methods



Interagency Energy Management Task Force and Working Groups



Memoranda of Understanding (MOUs)



Collaboration with Industry Leaders and Professional Organizations



Interagency Agreements (IAA)



Service Requests
FEMP Assistance Request Portal
(energy.gov)



Workforce Training/Energy Exchange

Engagement Programs



AWARDS AND RECOGNITION PROGRAMS



ANNUAL AGENCY PERFORMANCE AND COVERED FACILITY COMPLIANCE REPORTING



ENVIRONMENTAL JUSTICE



HEALTHY BUILDINGS



TRAINING

<https://www.energy.gov/femp/workforce-development-and-training>

Performance contracts must comply with federal acquisition rules that require Agencies to purchase EnergyStar Certified or FEMP Designated Products.



ENERGY EFFICIENT PRODUCT PROCUREMENT (EPPP)

<https://www.energy.gov/femp/search-energy-efficient-products>

Awards and Recognition

FEDERAL ENERGY and WATER MANAGEMENT AWARDS

51 UESC PROJECTS AND PROGRAMS HAVE RECEIVED AWARDS SINCE 2001

2023 CRITERIA AND GUIDELINES TO BE RELEASED IN JUNE



NASA Kennedy Space Center (KSC)

FEDS SPOTLIGHT RECOGNITION

CALL FOR 2023 NOMINATIONS MAY 22



2020 Feds Spotlight recipients



MARCH 26 - 28 2024
PITTSBURGH, PENNSYLVANIA

For Technical Program inquiries*:

Contact the Energy Exchange support team at:
Email: EExTechTraining@pnnl.gov

For Registration Questions/General Information:

Contact Anne Phillips at MC²
Email: aphillips@mc-2.com
Phone: 678-398-2650

For Exhibit Sales/Supporter Information:

Contact Trina Jordan at MC²
Email: tjordan@mc-2.com
Phone: 678-398-2624



**ENERGY EXCHANGE 2024 WILL BE HELD FROM
MARCH 26-28, 2024 IN PITTSBURGH, PENNSYLVANIA!**

Procurement and Distributed Generation Services

Skye Schell



Procurement and Distribution Services: Overview



Acquisition planning and planning for projects to maximize impacts vs agency goals:

- Decarbonization
- Resilience
- Deep Energy Retrofit
- Electrification
- Distributed Energy Procurement (DEP)
- EJ 40

Procurement and Distribution Services: Technical Assistance

Carbon Pollution-Free Electricity (CFE) and Renewable Energy (RE)

- On-site CFE and RE project development and procurement support
- Off-site CFE and RE purchase support
 - FEMP [CFE Program Availability Map](#)
 - Utility CFE program assessment & procurement support

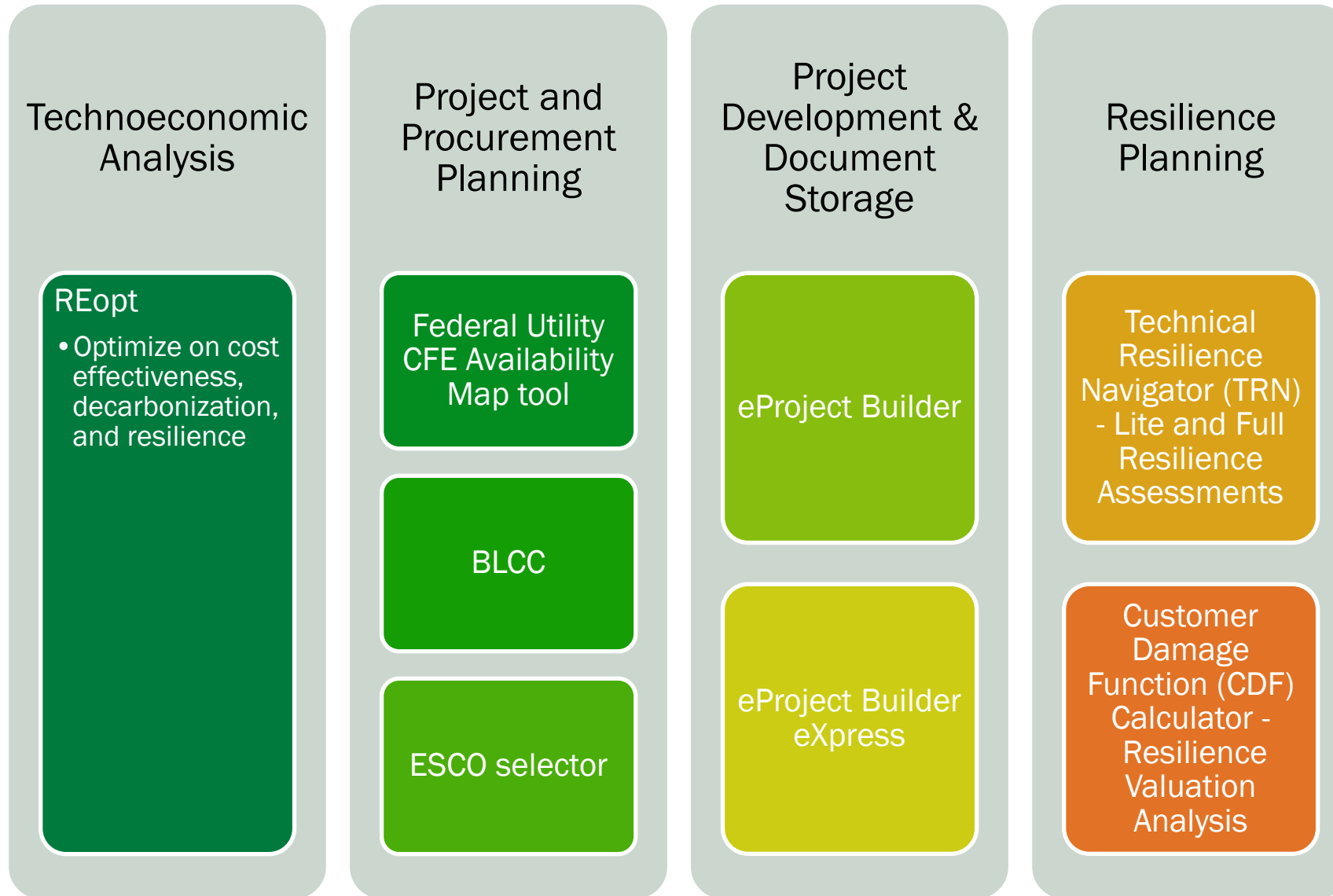
Projects

- Initial project consultations
- Contractor (Utility or ESCO) selection support
- Preliminary assessments, investment grade audit and final proposal/task order reviews
- M&V and performance assurance planning support
- Project facilitation
- Example: GSA Region 7 (in-person training, performance assurance/other project development assistance)

Technologies

- Support CFE, RE, microgrid and energy storage projects, including those focused on electrification (e.g., via geothermal heat pumps)
- Provide design recommendations and technical specifications (e.g., PV, wind, and storage)
- Troubleshoot issues with on-site system performance
- Interconnection and interconnection agreement assistance

Procurement and Distribution Services: Tools



Resilience Program Offerings – TRN Lite and CDF Calculator

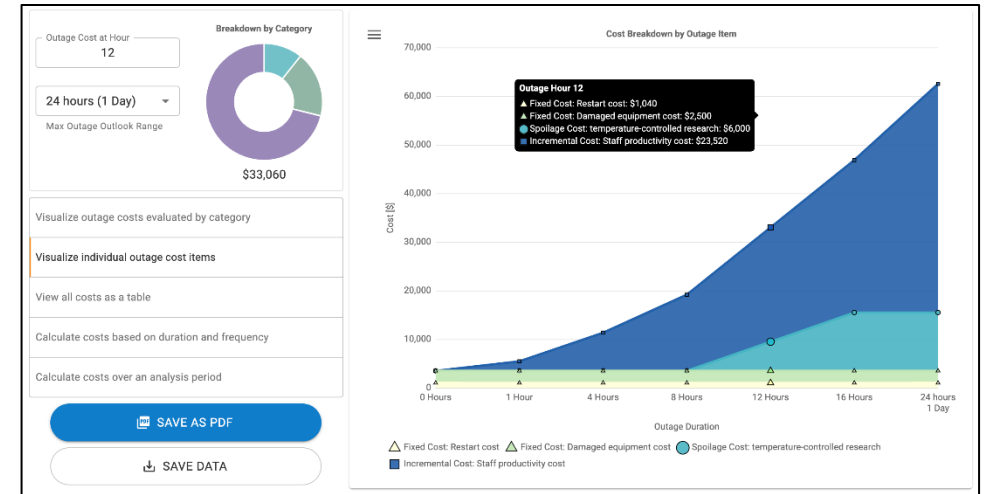
TRN Lite



A streamlined resilience planning tool that provides users with site information on risk drivers and potential resilience solutions that address those risks

- Highlights outputs via engaging infographics
- Shifting the framework to the full TRN, users can tailor and prioritize solutions based on risk reduction, emissions impact, and other priorities

Customer Damage Function (CDF)



Enable the calculation of costs associated with an electrical outage at a facility to determine the value of resilience or the cost of inaction

- Screening tool that provides justification to site/HQ leadership for resilience investments
- Cost estimates are broken up into fixed, spoilage, and incremental categories

Procurement and Distribution Services: Community



Procurement and Distribution Services: Funding

AFFECT

ESPC and UESC focus for AFFECT proposals

Utility provided financing

Utility Energy Service Contracts

ESCO provided financing

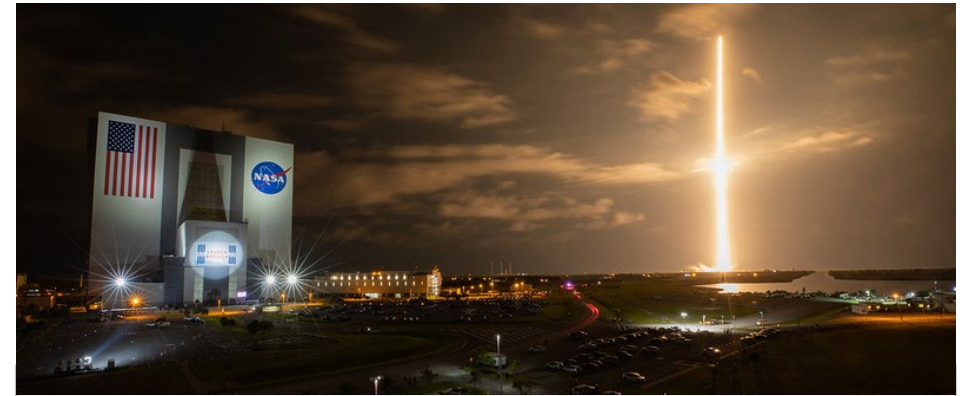
Energy Savings Performance Contracts

Leverage

Utility & tax incentives; appropriations

Procurement and Distribution Services: Recognition

- Example of UESC programs and projects recognized at the 2021 and 2022 FEMP Federal Energy and Water awards:
 - Robins AFB (U.S. Air Force)
 - Tinker AFB (U.S. Air Force)
 - Kennedy Space Center (NASA)
 - Naval Weapons Station Seal Beach (U.S. Navy)



NASA Kennedy Space Center

- **Investment Value:** \$21.9 million
- **Avoided Cost:** \$1.4 million/year
- **Energy Conservation Measures (ECMs):** 8 ECMs in 21 buildings (2 MW PV system, retrofitted 13,000 lighting fixtures and 500 plumbing fixtures, replaced 74 transformers, upgraded mechanical systems)

Procurement and Distribution Services: Live Training



Live In-Person Training

- Energy Exchange
- FUPWG
- Federal/Utility Strategic Partnership Meetings (recent SPM with Hawaiian Electric in April 2023)

Live Virtual Training

- Annual Comprehensive UESC Training (~January)
- Quarterly UESC Webinars (Dec. 2022– Decarbonization Considerations Q&A, Mar. 2023– Financing for UESCs)
- Agency/Utility or Project-Specific Training

Procurement and Distribution Services: On Demand Training



Fundamentals

- UESC OnDemand Webinar Series (6-part)
- UESC training for Utilities and ESCOs
- Fundamentals of ESPCs, and ESPC ESAs
- Utility Industry Basics

Topic-Specific

- Advanced M&V and Performance Assurance
- eProject Builder
- Pricing, Proposal Evaluation, and Financing

Recent Additions

- REopt & On-Site Federal Clean Energy (3-part series)
- Implementing Microgrids in Federal Sector (4-part series)
- IRA: Implications for Federal Agency Decarbonization
- Identifying Utility CFE Purchasing Programs

Facility & Fleet Optimization

Nael Nmair

Nael.Nmair@hq.doe.gov

May 2nd, 2023



Facility & Fleet Optimization

Support Agencies' Strategic Energy Management Program

- Save money, energy, and reduce GHG emissions.
- Enhancing agency mission:
 - Resilience.
 - Process streamlining.
- Provide portfolio-wide tools, practices, training.

Compliance with Federal Statutes & EO Requirements

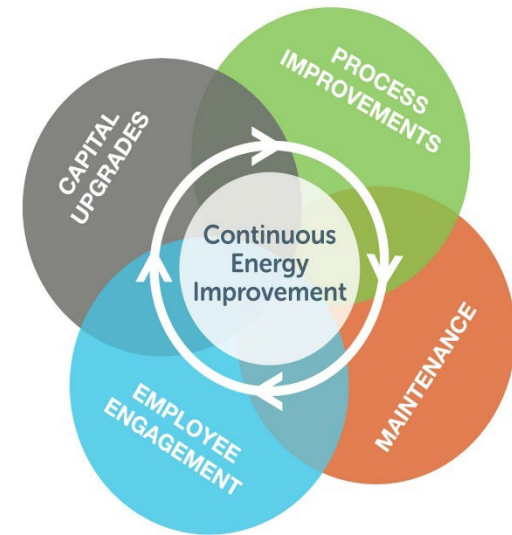
- Assist agency in compliance with current Federal Statutes.
 - EISA, EA2020, EO-14057,...).
- Provide statutes guidance and implementing instructions.

Fleet

- Collaborate with agencies to develop fleet electrification and management plans through:
 - Data analysis, vehicle & EVSE selection/procurement, site planning, and training including the new ZEV Ready Center.
- Track EVSE plans and designs, EVI-Locate Tool.

Programs Offered

- GEB, Smart Buildings, Fleet, 50001 Ready.
- Audits, Decarb, Energy & Water Treasure Hunts, Re-tuning.
- O&M, Healthy Buildings.
- Smart Metering, Cyber Security.



<https://www.energy.gov/femp/facility-and-fleet-optimization>

What are Grid-interactive Efficient Buildings (GEBs)?

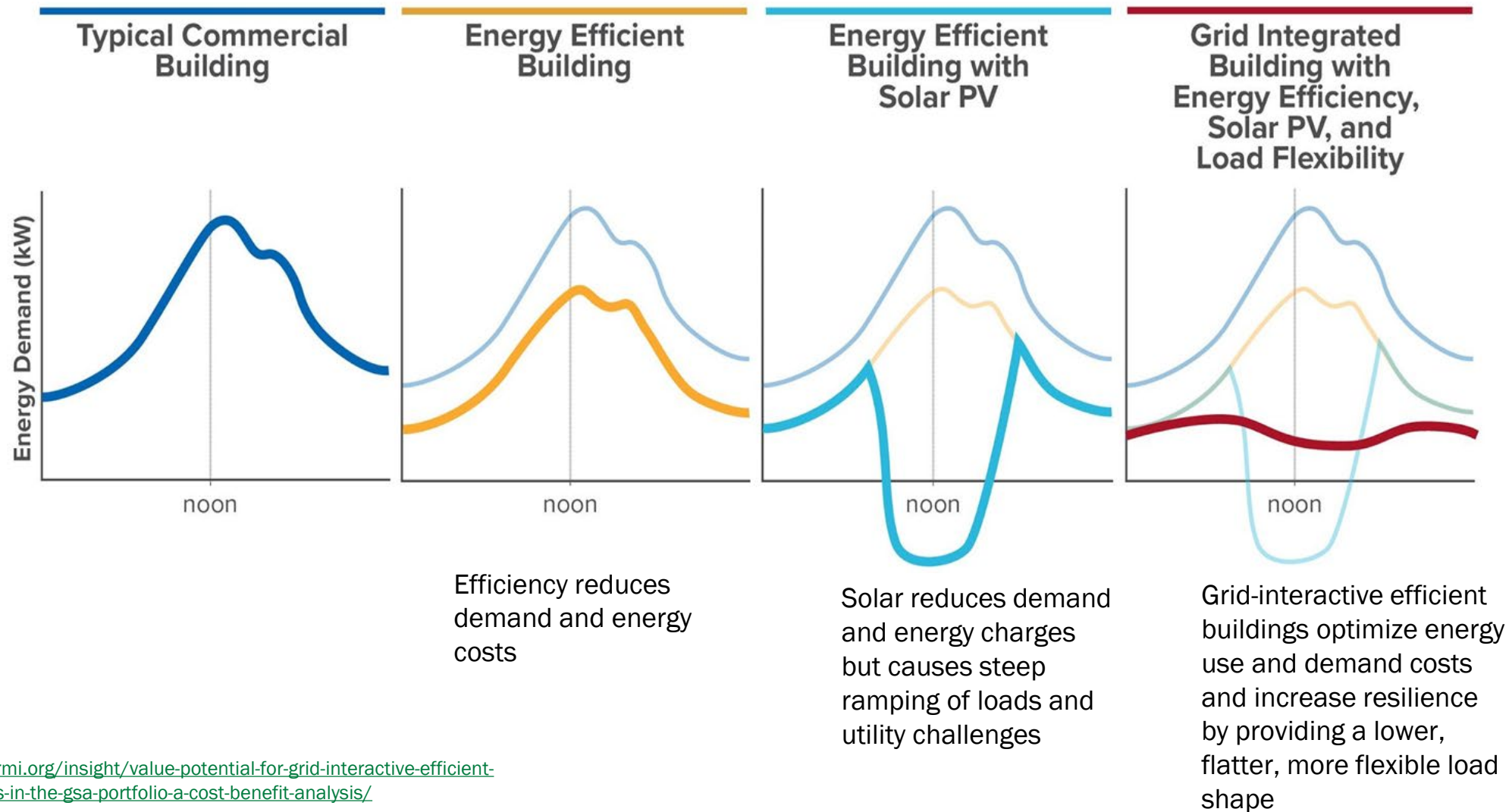
A GEB is an energy-efficient building that uses smart technologies and on-site Distributed Energy Resources (DERs) to provide demand flexibility while co-optimizing for energy cost, grid services, and occupant needs and preferences, in a continuous and integrated way.

- 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



<https://www.energy.gov/femp/grid-interactive-efficient-buildings-federal-agencies>

GEBs Load Profile Potential - Example



<https://rmi.org/insight/value-potential-for-grid-interactive-efficient-buildings-in-the-gsa-portfolio-a-cost-benefit-analysis/>

Federal Smart Buildings Accelerator Overview

As referenced in the Energy Act of 2020, FEMP has launched the Federal Smart Buildings Accelerator

- Identify & implement approaches to accelerate adoption of smart building and grid technologies.
- Assist in overcoming real-world barriers to GEB implementation by providing TA and support for plan development to specific Federal sites around the country.
- Accelerator goals are:
 - **Screen and identify Federal buildings** for potential GEB adoption with various types and sizes of facilities and in various geographic locations.
 - **Develop and pilot resources** for GEB opportunity identification, deployment, and successful adoption of GEB technology in Federal facilities in the U.S.
 - **Create action plans** for implementing identified GEB technologies that agencies can implement post accelerator effort.
 - **Produce trainings** for GEB technology operators to ensure peak energy savings and the use of best practices, along with guides and strategies to implement GEBs smoothly and efficiently

Opportunity to Partner: If a utility services a federal site and would like to promote GEB, let us know!

EVs as GEBs

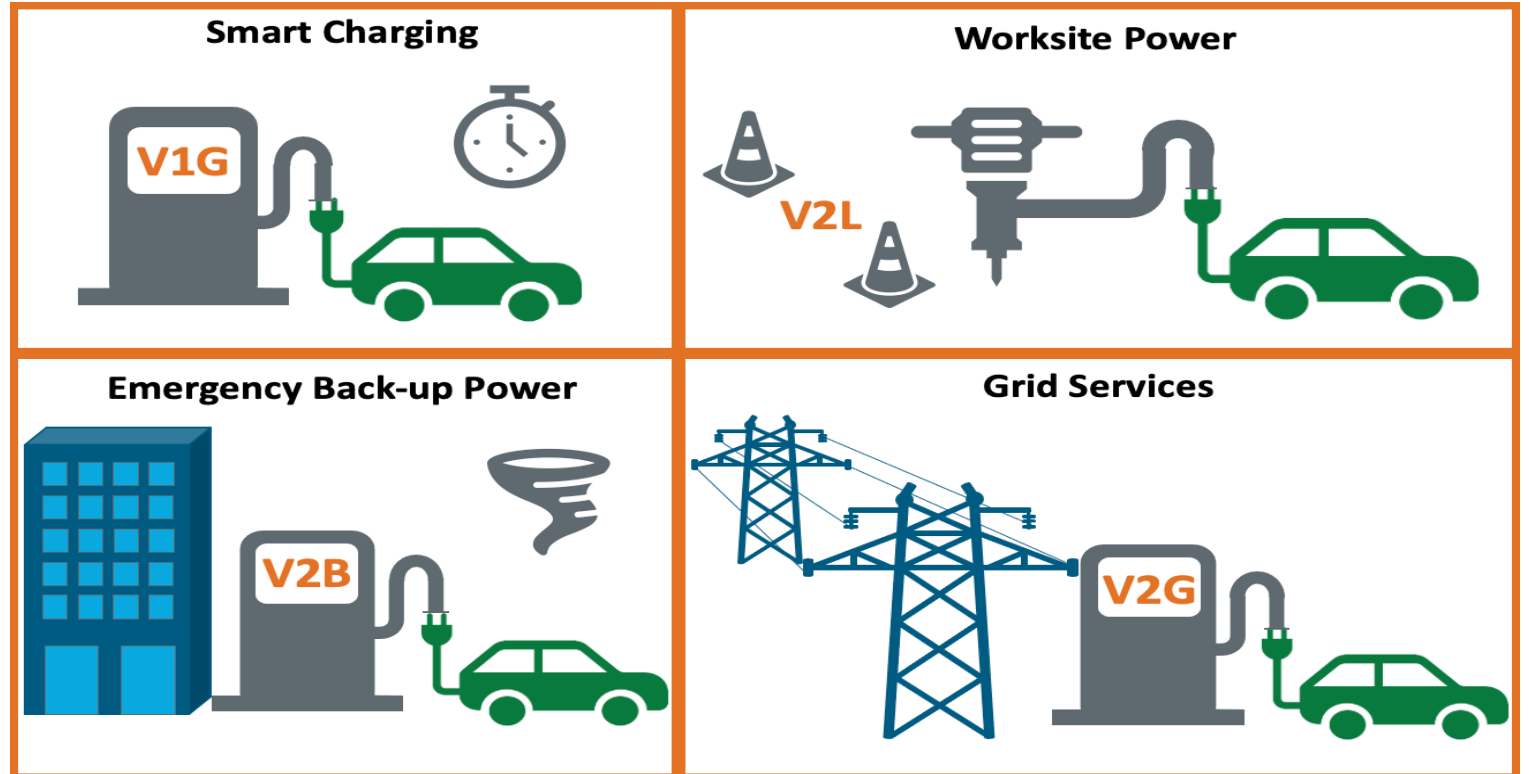
- EVs are a new BIG electric load that is coming...and fast!
- New faster charging with longer-range batteries are coming soon.
- R&D around wireless charging is underway.
- BUT we have an opportunity to make EVs a mobile battery solution for
 - Demand response/load management [charge off peak]
 - GEB load management. [charge off peak, draw at peak]
 - Resilience [use EVSE power in emergencies]
- Fleets - utility collaboration opportunity about planning and support



EV 'Power' Use Cases to Support Grid Connection

What are the different forms of advanced charging and which of them incorporate bidirectional power?

[*Fleet Electrification and Optimization / Department of Energy*](#)



V1G (Smart Charging) - EVSE with smart charging features designed to modify charging sessions to mitigate peak demand or respond to grid signals.

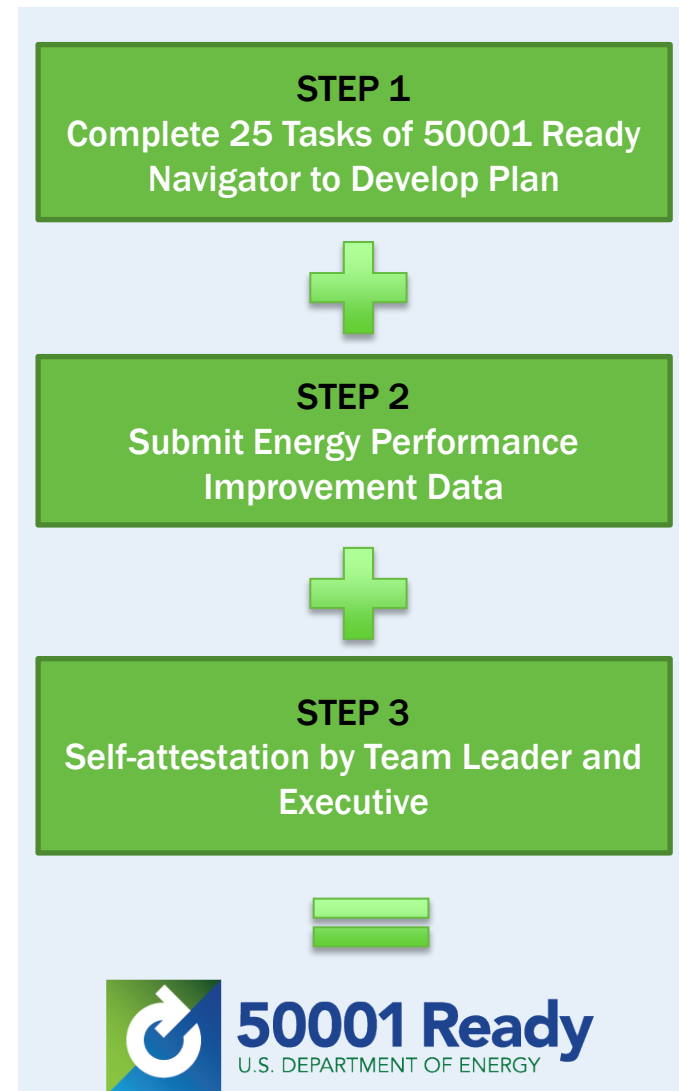
V2L (Worksite Power) - EVSE or vehicle capable of powering equipment external to the vehicle (typically 2-11 kW).

V2B (Back-up Power) - Bidirectional EVSE capable of charging a battery or extracting from battery to power to a building during a grid outage

V2G (Grid Services) - Bidirectional EVSE capable of charging a battery or extracting from battery to supply power to the grid and provide grid services.

✓ **50001 Ready Navigator is an online application that provides step-by-step guidance for implementing an energy management system in conformance with the ISO 50001 Energy Management System Standard.**

- **Validated** energy savings up to 5% annually
- **Open-source software**, designed to be adopted by federal, states, cities, and utilities.
- Ability to support **multi-site adoption**.
- Applicable for all sectors: manufacturing, commercial, institutional, and Federal.
- Supports federal reporting, resilience, and auditing mandates.
- ‘Light lift’ as it builds off current Energy Management Programs.
- Provides a standardized approach to energy management transferable across sites.
- DOE Recognition for **self-attesting** to conformance with ISO 50001; no certification from third parties.
- FEMP has hosted several 50001 Ready Cohorts with numerous sites including some with **utility companies** such as Tennessee Valley Authority (TVA), The District of Columbia Sustainable Energy Utility (DCSEU).



<https://betterbuildingssolutioncenter.energy.gov/iso-50001/50001Ready>

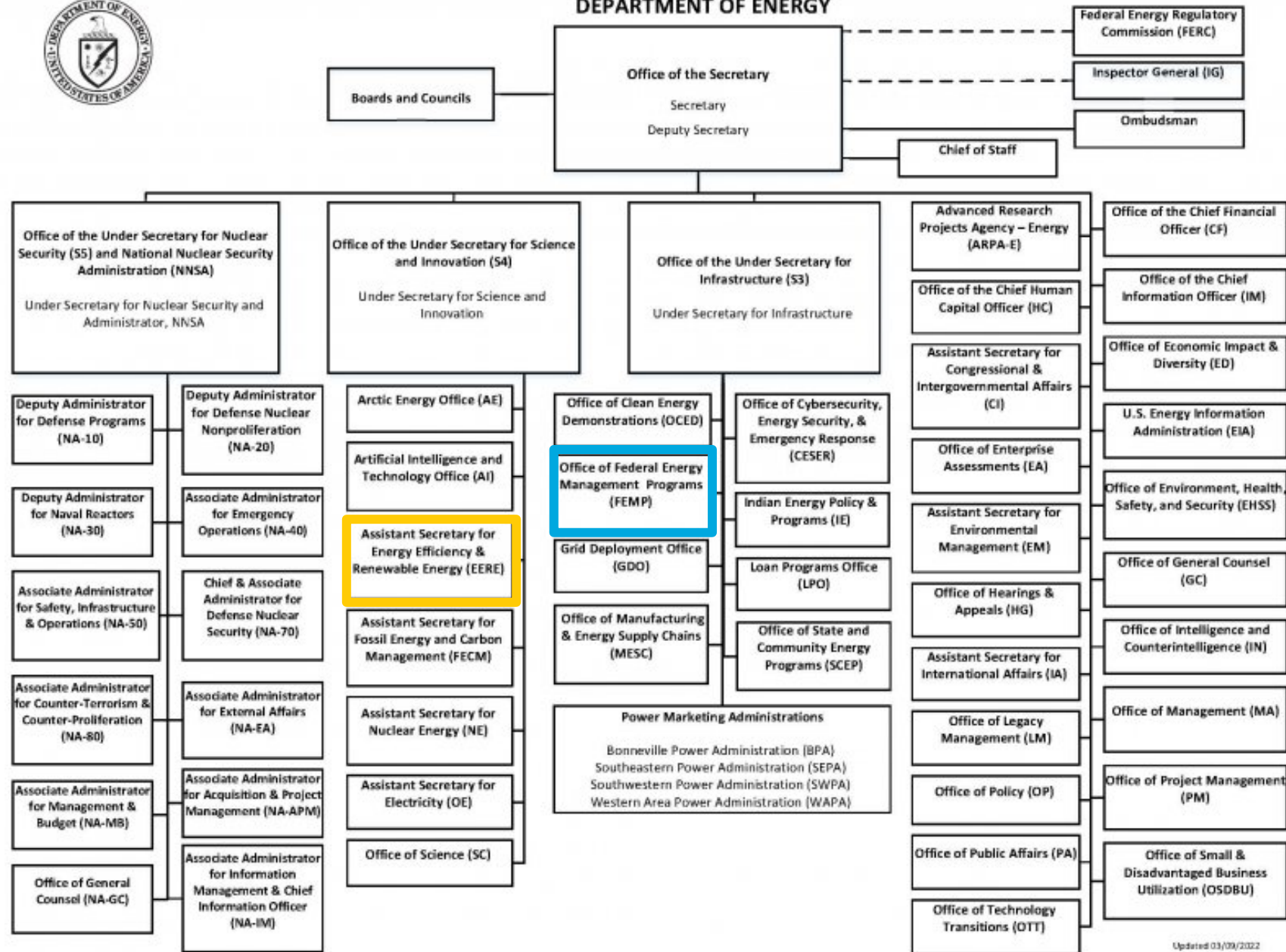
FEMP Operations

Rachel Shepherd



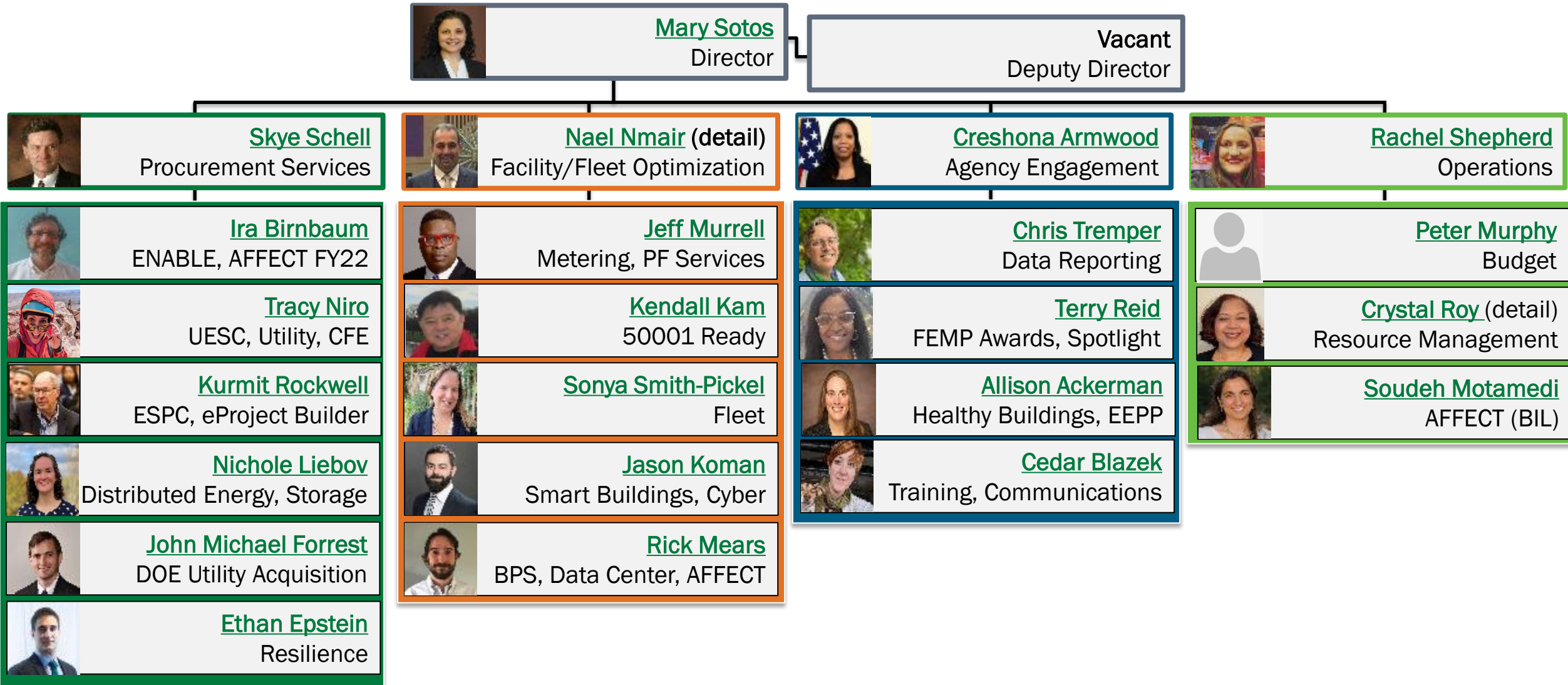


DEPARTMENT OF ENERGY



Updated 03/09/2022

Our Team



Follow FEMP on LinkedIn

<https://www.linkedin.com/company/doefemp>

The image shows the top portion of a LinkedIn profile for the DOE Federal Energy Management Program (FEMP). It features the LinkedIn logo in the top left corner. Below it is a banner image of a city skyline with a large white monument (the Washington Monument) on the left. Overlaid on the left side of the banner is the FEMP logo, which includes a stylized building, a wind turbine, and a solar panel, with the letters 'FEMP' in a blue box below. Underneath the banner, the text reads 'DOE Federal Energy Management Program (FEMP)' in bold, followed by 'Government Administration' and 'Washington, District of Columbia · 365 followers'. A short bio states: 'We help federal agencies meet energy, water, and greenhouse gas emissions related goals.' At the bottom left, there is a rounded rectangular button with the word 'Follow' inside.

The image shows a LinkedIn post from the DOE Federal Energy Management Program (FEMP). The post header includes the FEMP logo, the name 'DOE Federal Energy Management Program (FEMP)', '365 followers', and '1d'. The main text of the post reads: 'Talk about winning 🏆 the long game! Natural Bridges National Monument built its #PV system in 1995 to power all its facilities. Built to last, it's still powering them today—more than 28 years later! FEMP partners with the [National Park Service](#) sites to design, fund, and test renewable energy systems. Read more about this incredible accomplishment: <https://bit.ly/3GKDPT2>'. Below the text are two hashtags: '#NationalParkWeek' and '#NPSAccomplishment'. The post features a photograph of a natural rock archway at Natural Bridges National Monument, with a path leading through it. The caption below the photo reads 'Natural Bridges National Monument'.

AFFECT Federal Agency Call

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

Total Funds Available: \$250 million*

- **Topic Area 1:** Assistance with Net-Zero Buildings Opportunity Development
- **Topic Area 2:** Modify Existing Projects for Net-Zero Buildings
- **Topic Area 3:** New/In Development Net-Zero Buildings Projects

FAC Issue Date:	3/23/2023
Informational Webinar:	4/4/2023
Submission Deadline Options for Applications (all topics):	5/31/2023 11/29/2023 5/29/2024 11/27/2024
Expected Date for Selection Notifications:	3 months following submission date

ONLY Federal Agencies are Eligible to Apply

*FEMP will consider individual awards greater than the historical average but **not in excess of \$10 million**. FEMP does not intend to allocate more than 5% of AFFECT BIL grants for Topic Area 1 projects.

FAC and Webinar Info:

<https://infrastructure-exchange.energy.gov>

Questions about this FAC? Email AFFECTBIL@hq.doe.gov

FEDERAL UTILITY PARTNERSHIP WORKING GROUP SEMINAR

May 1-2, 2023

Sourcing 100% Carbon Pollution-Free Electricity by 2030

Andrew Mayock, CEQ, Moderator

Jetta Wong, General Services Administration

Joe Bryan, Department of Defense

Priya Barua, Clean Energy Buyers Association



FEDERAL UTILITY PARTNERSHIP WORKING GROUP SEMINAR

May 1-2, 2023

UESC Best Practices

Chandra Shah, NREL, Moderator
Kinga Hydras, GSA

John Myhre, NREL
Lisa Hermenau, VA



FEDERAL UTILITY PARTNERSHIP WORKING GROUP SEMINAR

May 1-2, 2023

GSA Performance Contracting Decarbonization Charrette October 2022

Overview and Summary



Path to a Carbon-Pollution-Free Federal Building Inventory

In October 2022, GSA convened a Decarbonization Charrette to chart a path towards a carbon-pollution-free federal building inventory by 2045.

Key Drivers:

Energy Act of 2020
EO 14008
EO 14057
GSA Strategy '22-'28
Others

Developing Recommendations

Charrette participants broke into key groups and developed a list of policy recommendations.

Recommendations made included:

- Policy changes requiring legislation
- Administrative policy changes
- Technology innovation strategies
- Procurement policy changes
- Operations and maintenance improvements
- Employing incentives to fund decarbonization ECMs
- Incorporating a cost of carbon into project development calculations

Participants:

GSA staff

Utilities

ESCOs

Trade Organizations

FEMP

National Labs

Policy Changes Requiring Legislation

Identify classes of emerging decarbonization-enabling technologies to incorporate into performance contracts with exceptions to guaranteed savings requirements

Extend ESPC and/or UESC terms from 25 years to 35-40 years to provide more flexibility around savings guarantees

Example Administrative Recommendations

Use savings from space optimization and consolidation for decarbonization performance contracts in other buildings

Incorporate carbon emission reduction into utility budgets, project development, and project prioritization

Structure task orders to allow for simplified contract modifications and multiple task orders

Reduce ESPC/UESC cycle times by eliminating or shortening preliminary assessments and increasing contracting team resources

Evaluate Scope 1 emissions separately from Scope 2 emissions and prioritize elimination of Scope 1 emissions

Example Technology Innovation Strategies

DOE AFFECT grants
IRA funding
Utility incentives
Appropriated funding
Flexible contract structures

Use innovative funding sources to implement decarbonization technologies with longer payback periods

Develop multi-facility performance contract vehicles with a focus on electrification and decarbonization

GSA Green Proving Ground
DoD SERDP & ESTCP
DOE HIT Catalyst

Require ESCOs and utilities to review and evaluate emerging technologies validated by federal technology validation programs

Example Procurement Policy Recommendations

Make multiple funding streams available for routine equipment purchases



Establish ESPCs to support routine replacement through contract mods

Prioritize decarbonization efforts for routine replacement by asset condition and carbon reduction potential

Blanket purchase agreements for ENABLE

Plan for end-of-life of equipment. Use analytics, continuous commissioning, and improved access to warranty and O&M information to predict need for replacement

GSA areawide contracts for UESC

Example O&M Recommendations

Use monitoring-based commissioning and advanced M&V to capture unrealized savings and avoided O&M costs, and to lower the cost of EISA audits for covered facilities

Capture previously unrealized ECM savings by restructuring O&M contract services, aligning O&M services with ECMs, in part or in whole at each facility, in order to fund decarbonization technologies

Develop training, design, and installation guidance for the workforce to manage facilities moving from fossil fuels to clean electricity

Recommendations for Employing Incentives

Identify all locations with IRA investment tax credit bonus opportunities

For example:
opportunities related to
energy communities

Develop a pilot project for utilizing 179D using either a sole-source contract or by selecting an ESCO through the ESPC Notice of Opportunity process by focusing on 179D opportunity

SREC sales
Demand response
MBCx

Monetize variable incentives using reserve accounts in performance contracts (ESPCs, ESPC ESAs, and UESCs)

Recommendations for Incorporating the Cost of Carbon into Calculations

Adjust facility baselines based on system electrification

Prioritize buildings and sites based on GHG emissions per square foot. Standardize the use of eProject Builder's task order schedule for calculating GHG

Allow use of NIST Energy Escalation Rate Calculator with medium or high carbon rates

Consider the impact of legislation incorporating the cost of carbon into utility budgets

Develop space savings from footprint reduction as an ECM in performance contracts

Implementing Charrette Recommendations

GSA is in the process of implementing some of these recommendations and is investigating how to implement others.

Through the development of decarbonization focused pilot projects, case studies, and a playbook of best practices, GSA intends to meet its decarbonization obligations and show the way for other federal agencies attempting to do the same.

FEDERAL UTILITY PARTNERSHIP WORKING GROUP SEMINAR

May 1-2, 2023

UESC Best Practices Targeted UESCs to Take Advantage of Utility Rebate Programs

Lisa Hermenau, PE, CEM

US Dept of VA(VISN1)



Benefits of Partnership with Local Utility

- POC inside of the utility to get you to the correct POC (i.e., new construction, rates, utility billing issues, etc.)
- Rebates to offset Energy Projects
- Unique Opportunities Offered by Utility to assist Customers
 - Energy/Scoping Studies performed to determine best outcome for maximum operating savings
 - Custom rebates vs Prescriptive (where savings determine rebates not the std \$10/unit, etc.)
 - Free Surveys for steam systems when you perform the follow-thru repairs/replacements
 - 0% Financing Options with the Utility (project cost- rebate) paid back via monthly utility bills
 - Projects paid for 100% by the Utility

Examples (VISN 1 VAMC)

- UESC Task Orders performed to date (8)
 - Bedford, MA VAMC (7 task orders executed)
 - National Grid paid 100% (\$1M) to the hospital
 - Steam/ Hot water distribution system improvements (steam traps, pipe insulation, radiator controls, etc.)
 - Projects save the facility 60,000 dekatherms (Dth) annually (\$910K/yr) ~ savings to investment ratio (SIR) = 0yrs
 - Providence, RI VAMC (1 task order executed)
 - Retrofitted the entire hospital with LED lighting (\$1.4M project - \$500K rebate)
 - National Grid provided 0% On-bill financing for 5yrs (\$900,000 loan- paid \$15,000/month (\$180K/yr))
 - Project saved 1.6MWH annually ~ \$272K/yr (SIR~3.3yrs)

Example of Not Discussing a Project with Utility POC

• Steam Trap Project

- No discussion with utility, Energy Engineer used a website to determine rebate.
- Project entailed- Steam Trap Survey and replacement of 18 Steam traps
- Prescriptive rebate gave them 18 *\$100/steam trap = \$1800
- Total Project cost -> \$27,700
- SIR= \$27.7K/\$36.8K = 9 months

• Steam Trap Project coordinated with Utility

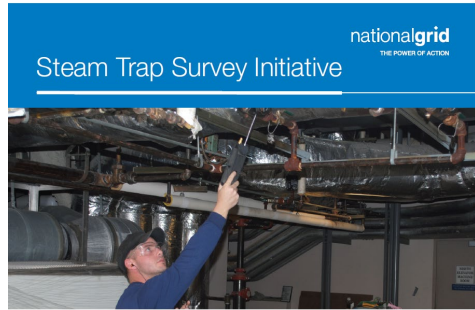
- Utility paid 100% of Survey cost - \$12,500 (if steam traps were repaired/replaced w/in 1yr)
- Utility paid 50% of total cost to repair/replace steam traps (material and labor)- determined by the survey (\$17K utility paid 50% = \$8.5K) (replaced 18 steam traps)
- Custom rebate gave the facility \$21,000 towards the project (therm savings = 18,991 therms~ \$36,842.54/yr)

– Total Project Cost -> \$8,500

– SIR = 2.7 months

2022 High Efficiency Commercial and Industrial Gas Equipment Incentives

INFRARED HEATERS	WEATHERIZATION MEASURES
Infrared heaters (all sizes), Low Intensity	\$350
HYDRONIC BOILERS	Building envelope improvements (measures that regulate heat transfer) such as energy efficient wall, attic & roof insulation, and windows may be eligible for custom rebates at an increased incentive of \$11 per therm. Other building envelope improvements may also qualify. Pre-approved projects receive a one-time incentive based on estimated first-year savings up to 70% of project costs to a maximum of \$100,000 in Long Island and the Rockaways and maximum of \$200,000 for projects in New York City. For more information, please contact National Grid at 1-800-787-1700 or email efficiency@nationalgrid.com .
Hydronic boilers (1001 to 1700 MBH) ≥ 85% Thermal Efficiency*	\$2,500
Hydronic boilers (1701 to 3000 MBH)** ≥ 85% Thermal Efficiency*	\$3,000
CONDENSING BOILERS	• windows • attic/roof/wall insulation
Condensing boilers (1001 to 1700 MBH) ≥ 92% Thermal Efficiency*	\$8,000
Condensing boilers (1701 to 3000 MBH)** ≥ 92% Thermal Efficiency*	\$12,000
PIPE INSULATION Pipe insulation over 2" in diameter may be eligible for custom rebates. Call National Grid at 1-800-843-2888. Rebate insulation work must exceed current New York State Energy Code.	*only firm tariff gas customers on a qualifying commercial rate code who pay into the systems benefits charge (grid are eligible for the weatherization program incentives).
Pipe insulation < 2" in diameter under 1,000 linear foot	\$1,500/ft
CONTROLS EQUIPMENT Boiler reset must be an add-on, after-factory install. Not eligible if part of the original boiler.	
WiFi Thermostats, limit of 10 per gas account	\$75 each
Boiler Reset Single-Stage/After-Factory Install***, limit 2	\$100 each
Boiler Reset Multi-Stage/After-Factory Install***, limit 2	\$200 each
EQUIPMENT	
Steam Traps (limit 250)	\$100 each



While steam systems are one of the most energy intensive processes in commercial buildings, much of this energy consumption is due to the lack of proper maintenance of the steam traps in the system. According to the Department of Energy, steam traps not properly maintained for three to five years "can result in failure rates of 15 to 30 percent." The failure allows steam to escape into the condensate return system, causing losses of up to 20% of the steam generated, resulting in significant monetary losses.

National Grid's new Steam Trap Survey Initiative is designed to help customers reduce their energy use and improve the reliability of their steam systems. Our steam trap survey will help customers identify failed or leaking steam traps as well as other potential low cost O&M improvements.

National Grid offers financial incentives to help share the cost of the survey and steam system upgrades. Assistance from National Grid begins when the participating customer signs a National Grid Memorandum of Understanding (MOU) detailing the responsibilities of both parties.

The following example details typical steam trap survey projects savings and costs for a commercial hospital customer.

Service Provided	Total Project Cost	National Grid Incentive	Customer Contribution
Steam Trap Survey	\$8,750.00	\$0	\$0
Steam Trap Repairs	\$15,000.00	\$7,500.00 (50%)	\$7,500.00 (50%)
Total Project Cost	\$23,750.00	\$14,250.00	\$7,500.00
Annual Savings	\$55,000.00		

In this example, annual energy savings from the steam losses totaled \$55,000. Simple payback for the project was 0.14 years.

*2006, US Department of Energy Publication number DOE/DO-10306-216; and 2006, Oakridge National Laboratory Publication number ORNL/TM-2001-020

Total Rebates to Date (9yr span)

TOTAL Rebates					
	Rebate \$	KWH Saved	Therms Saved	MTCoe ₂ saved	\$ Saved annually
2014	\$209,539	331,764	206,747	152	\$103,844
2015	\$192,882	721,796	26,668	307	\$122,178
2016	\$19,275	0	37,927	2	\$10,000
2017	\$27,519	97,804	0	41	\$12,519
2018	\$760,090	97,804	425,451	65	\$424,741
2019	\$813,912	1,627,728	155,409	22,391	\$372,561
2020	\$34,696	13,612	18,991	7	\$17,858
2021	\$34,314	106,912	0	45	\$0
2022	\$38,572	13,502	0	6	\$2,248
2023	\$133,856	0	75,181	4	\$75,181
Totals	\$2,130,800	3,010,922	871,193	23,016	\$1,065,950

FEDERAL UTILITY PARTNERSHIP WORKING GROUP SEMINAR

May 1-2, 2023

Thank You for Attending the Spring 2023
FUPWG Seminar!



*Next up: Lunch, then GSA AWC Holders Mtg @1pm!
*Don't forget your CEUs!**