



**FEMP** 50  
50 Years of Federal Energy Management

# Utility Engagement & Performance Contracting for Decarbonization and CFE Goals

# Learning Objectives

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Upon completion of this training, you will be able to:

- Understand how to implement CFE through UESCs and ESPCs
- Identify available PCNRC resources and trainings
- Understand FEMP's role in fostering partnerships and interconnection, and the value of partnering with utilities
- Learn from real world UESC and ESPC case studies



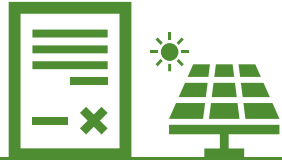


# Performance Contracts & Utility Engagement

Tracy Niro

# Federal Agency Energy and Sustainability Goals and Requirements

Agency energy projects will enable progress toward several administration and congressional priorities focused on energy and water efficiency, decarbonization, investment, jobs and American manufacturing.



## Energy Act of 2020

- Agencies to use performance contracting to address at least 50% of ECMs identified
- Agencies to implement all cost-effective ECMs identified within two years
- FEMP to establish a Federal Smart Building Program



## Executive Order 14057

- Government-wide targets for long-term and mid-term GHG reductions
- 100% net zero buildings, zero-emission fleets, 100% carbon pollution-free electricity (50% 24/7) by 2030
- Net zero federal government operations by 2050 or sooner



## Climate Smart Building Initiative (CSBI)

- Agencies to establish emissions reductions targets delivered through performance contracting
- Increase on-site clean electricity generation
- Support plan to reduce emissions from Federal buildings by 50% by 2032



## Federal Building Performance Standard

- Support achievement of net-zero emission for federal building portfolio
- Zero scope 1 emissions from on-site fossil fuel use in 30% of agency's federal buildings (by GSF) by FY 2030
- Applies to federally-owned, EISA-covered facilities in U.S. and U.S territories

*Note: Descriptions are illustrative and not comprehensive.*

**Performance contracting supports all these goals and requirements**

# FEMP Performance Contracting Impact

Since 1998, performance contracts have helped agencies reduce costs, energy intensity, and GHG emissions of their facilities.

**Over \$12 billion in project investments awarded  
(DOE ESPC IDIQ, ESPC ENABLE, UESC)**



## ENERGY

Estimated over  
**49.6 trillion BTU**  
reduced annually



## ECONOMIC

Estimated over  
**96,600**  
**job-years**  
(direct jobs)



## ENVIRONMENTAL

Estimated over  
**2.8 million**  
**metric tons CO<sub>2</sub>e\***  
reduced annually

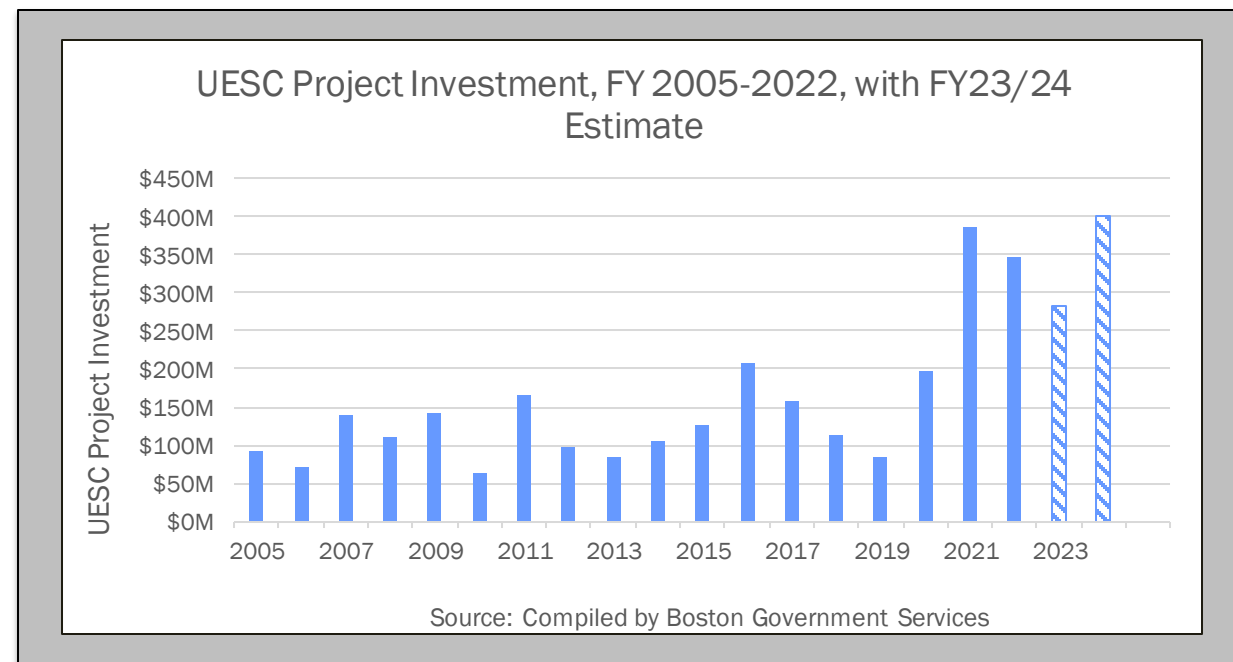
\*Using eGrid 2019 values, inclusive of awarded projects through FY2022

# Federal/Utility Partnerships

FEMP's Utility Program actively supports agencies partnering with their serving utilities to capture incentives, improve resilience, meet federal goals, and improve energy and water efficiency through the implementation of cost-effective infrastructure upgrades.

The Utility Program hosts on-site, on-demand, and live trainings on how to execute utility energy service contract (UESC) projects—a key form of agency-utility partnership—and provides expert technical support in implementing them.

To help establish and enhance federal agency-utility working relationships, the Utility Program also convenes annual/semi-annual meetings, which typically attract over 300 attendees.



UESC Project Growth Shown Above

# Federal Utility Partnership Working Group Seminar (FUPWG)

The Federal Utility Partnership Working Group Seminar, also known as FUPWG, was initiated by FEMP in 1994 and is the Utility Program's key outreach effort.

FUPWG provides a unique venue for information exchange and training that fosters effective partnerships between federal agencies and their serving utilities to develop solutions which leverage private sector investment in federal facility infrastructure to improve energy and water efficiency and install renewable energy to reduce greenhouse gas emissions, with a focus on Utility Energy Service Contracts (UESCs).



Seminar attendees include representatives from federal agencies, utilities, energy service companies, and other energy-related companies.

FUPWG Seminars are typically a day and a half long and feature sessions relating to best practices, success stories, case studies, and new technologies, as well as updates from federal agencies and our industry partners.



# Utility Energy Service Contracts (UESCs)

**A UESC is 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

**Authorized and encouraged by 42 U.S.C. § 8256**

- Agencies are authorized to participate in utility incentive programs and accept any financial incentive, goods, or services generally available from gas, water, or electric utilities

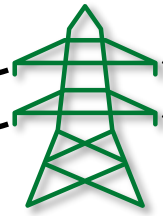


## Benefits of Contracting with Your Utility

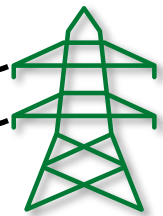
- Established source with knowledge of facility
- Mutual goals for energy efficiency and carbon reduction incentivizes project success
- Long-term relationship with customer service focus



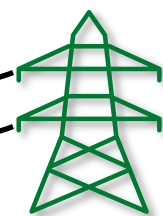
# Eligible Utility Contractors



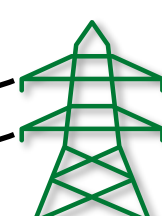
Investor-Owned



Rural Coops



Municipal



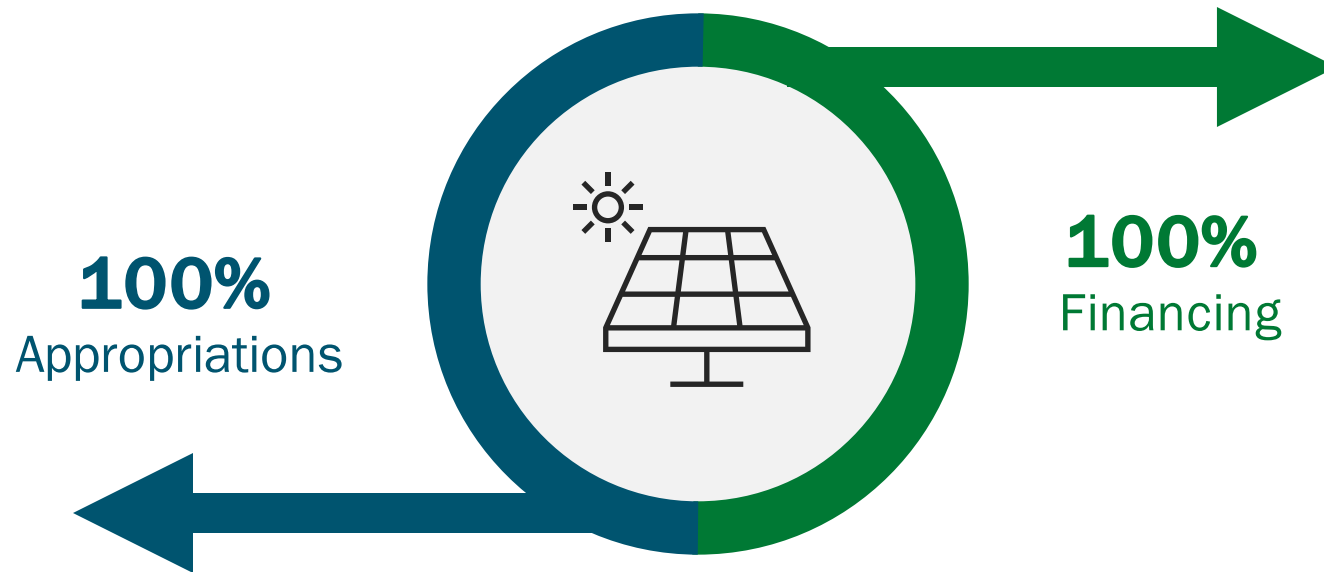
Federal (TVA)

**Eligible utilities are local serving distribution utilities that maintain infrastructure (poles, wires, pipes) for distribution of electricity, natural gas, or water in a specific geographic area**

- Sites must be located within the utility's franchise service territory (current or prospective customer)
- Energy commodity suppliers are not eligible
- Can be investor-owned, coops, public/municipal, federal (TVA)
- Water utilities typically do not have UESC programs, however, they may have incentives and should be considered
- Solutions should be fuel neutral

References: 42 USC 8256 (c) and FAR Part 41

# UESC Funding



**Agencies are authorized to use “any combination” of appropriated funds and private financing to pay for performance contracts.**

[42 U.S.C. § 8253\(f\)\(10\)\(B\)](#)

**Appropriations can be used strategically to maximize scope and investment.**



Pay for assessments up front to avoid additional financing



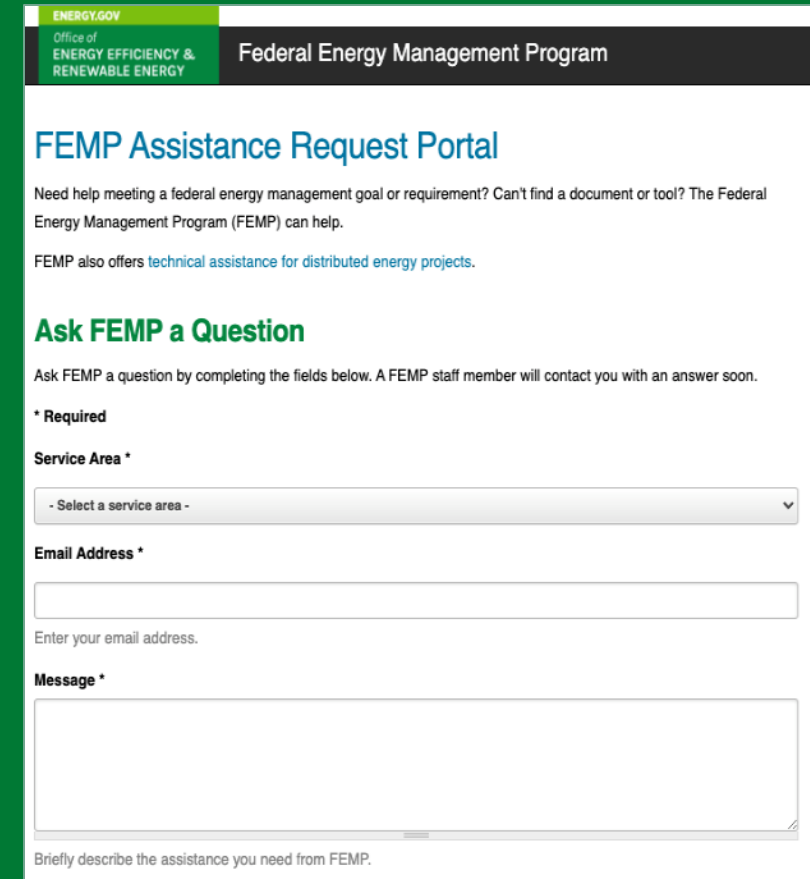
Pay for a Project Facilitator to ensure your project runs smoothly

# FEMP Project Support

## FEMP provides UESC training and project support at no cost to federal agencies:

- Project guidance and discussions with [Federal Project Executives \(FPEs\)](#)
- Tailored training for federal agencies and utilities
- Technical assistance provided by DOE National Labs
  - Initial project consultations
  - Reviewing project files (SOWs, audits, proposals, etc.)
  - Analyzing renewable energy opportunities
  - Evaluating technology considerations

## FEMP Assistance Request Portal



The screenshot shows the FEMP Assistance Request Portal interface. At the top, there is a header with the ENERGY.GOV logo and the text "Office of ENERGY EFFICIENCY & RENEWABLE ENERGY" and "Federal Energy Management Program". Below the header, the title "FEMP Assistance Request Portal" is displayed in blue. A paragraph of text explains that the portal is for those needing help with federal energy management goals or requirements. Below this, there is a link for "technical assistance for distributed energy projects". The main section is titled "Ask FEMP a Question" in green. It includes a sub-header "\* Required" and a "Service Area \*" dropdown menu with the text "- Select a service area -". Below that is an "Email Address \*" input field with the placeholder text "Enter your email address.". At the bottom is a "Message \*" text area with the placeholder text "Briefly describe the assistance you need from FEMP."



**FEMP** 50  
50 Years of Federal Energy Management

# Performance Contracting for Decarbonization and Electrification

Kurmit Rockwell, FEMP

Tracy Niro, FEMP

# Learning Objectives

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- Understand Federal Government Drivers
- Become familiar with performance contracting
- Understand decarbonization strategies
- Learn how to pay for decarbonization including leveraging appropriations
- Review projects that used performance contracting for specific decarbonization and electrification technologies



# What are Energy Performance Contracts?

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

## Utility/ESCO



- Identifies facility upgrades and energy savings opportunities
- Develops and installs energy/water conservation measures
- Resulting cost savings to cover project costs

## Agency



- Pays utility over term of contract from savings
- Contract administration → life of contract

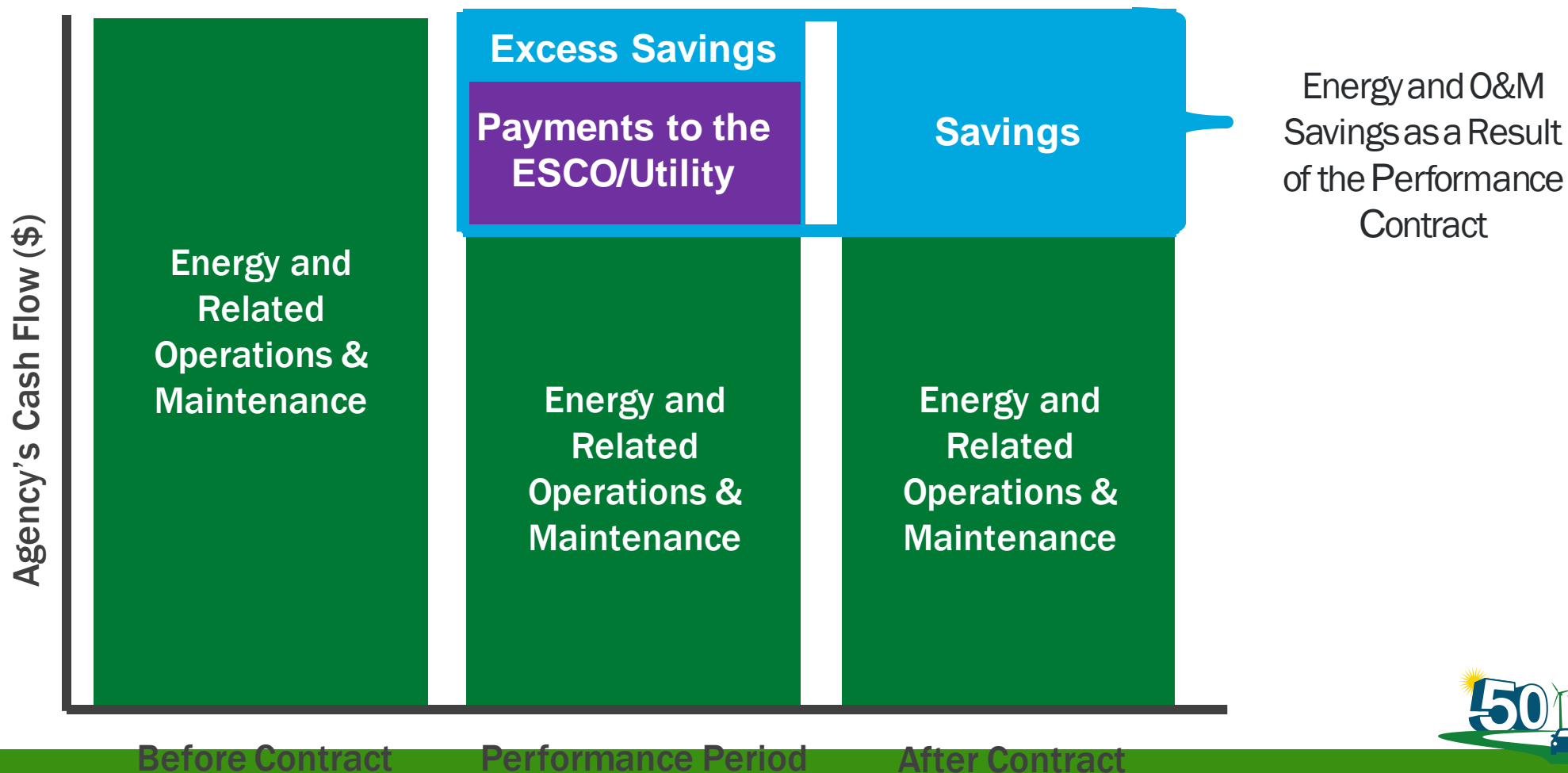


Provides support upon request:

- Financing
- Contracting
- Technical
- Performance Assurance / M&V

# Budget-Neutral Solution to Infrastructure Backlog

Performance contracts allow agencies to reallocate the utility bill to avoid paying for wasted energy and carbon emissions and start paying for efficiency, resilience CFE solutions.





# Performance Contract Characteristics

## Purpose: Achieve energy savings & ancillary benefits

- Max contract term is 25 years (starting with task order award)
- Financing and appropriations may be combined
- Utility/ESCO is responsible for obtaining financing
- Contracts are firm-fixed-price
- Multiple sites may be included in a single task order
- May include O&M, repair & replacement

## Energy Savings Performance Contract (ESPC)

- Prime contractor = Energy service company (ESCO) (DOE IDIQ, ENABLE, Army MATOC)
- Savings guarantees and M&V are required – savings must exceed payments each year
- ESCO is responsible for O&M regardless of who performs O&M

## Utility Energy Service Contract (UESC)

- Prime contractor = local serving distribution utility (electric, gas, or water)
- Performance assurance plan required – savings intended to exceed payments over contract term



# Example Energy Conservation Measures (ECMs)

ECMs must produce measurable energy, water, or demand reduction.



## DOE ESPC IDIQ Technology Categories\*

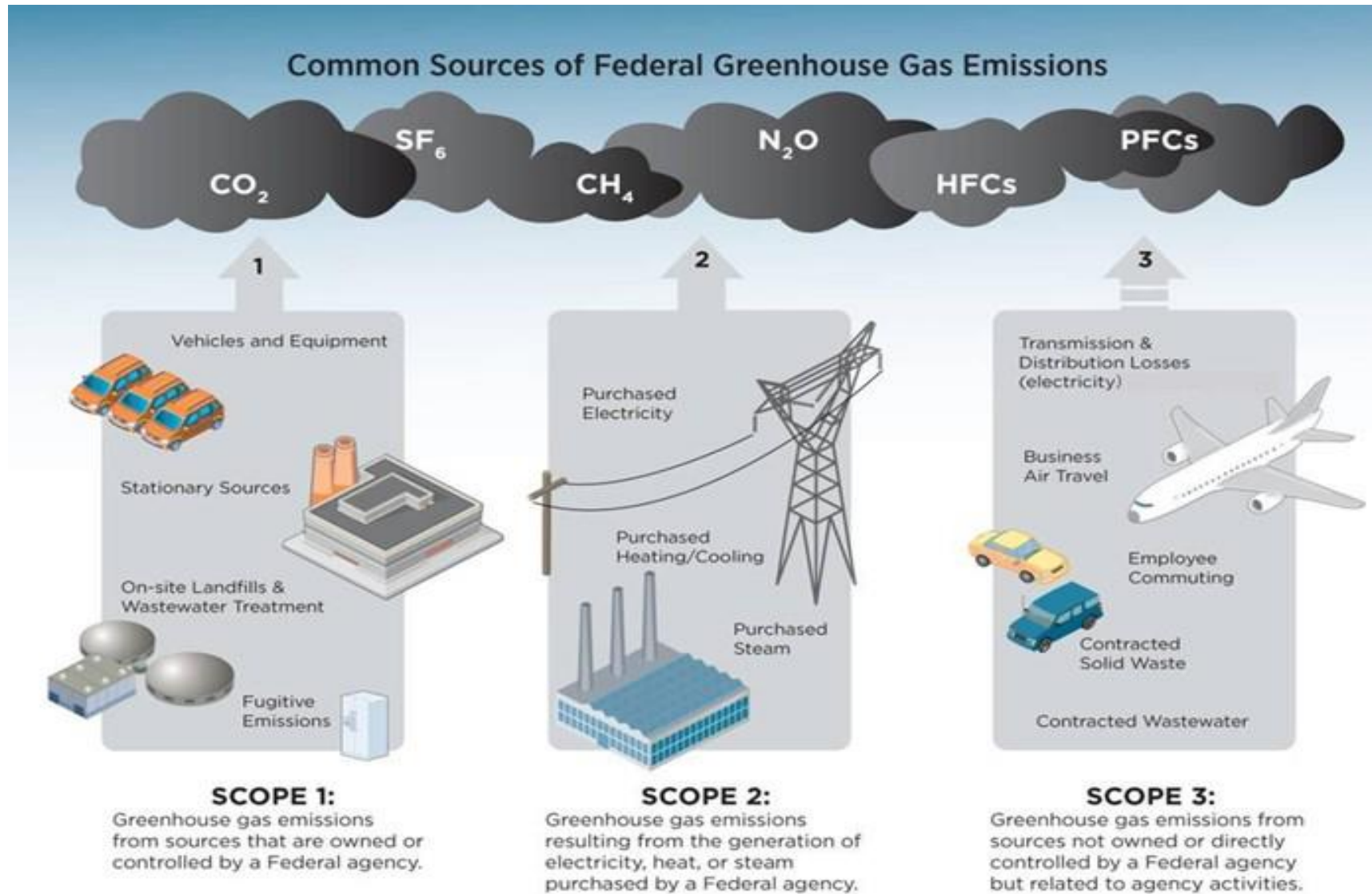
- **Boiler and chiller plants**
- Energy management control systems
- Building envelope
- **HVAC**
- **Chilled/hot water and steam distribution**
- Lighting
- Electric motors/drives
- Refrigeration
- **Distributed generation**
- **Renewable energy**
- Energy/utility distribution
- Water and sewer
- Electrical peak shaving/load shifting
- Rate adjustments
- Energy-related process improvements
- Commissioning
- Advanced metering
- **Appliance/plug load reductions**
- **Other**

\*This list taken from ESPC IDIQ, but has broad applicability.



# Decarbonization Overview

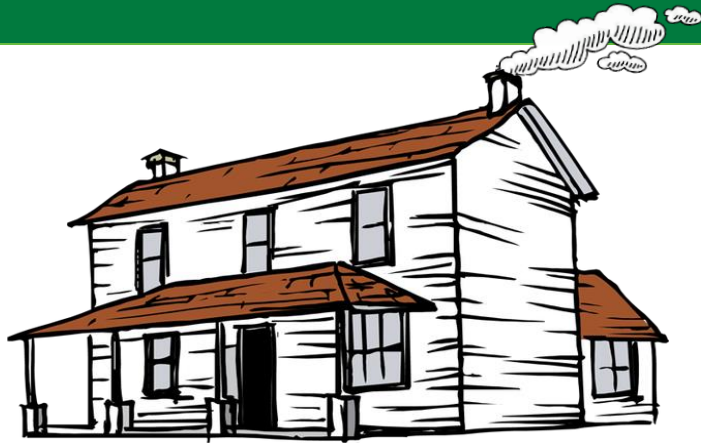
# Sources of Greenhouse Gas Emissions



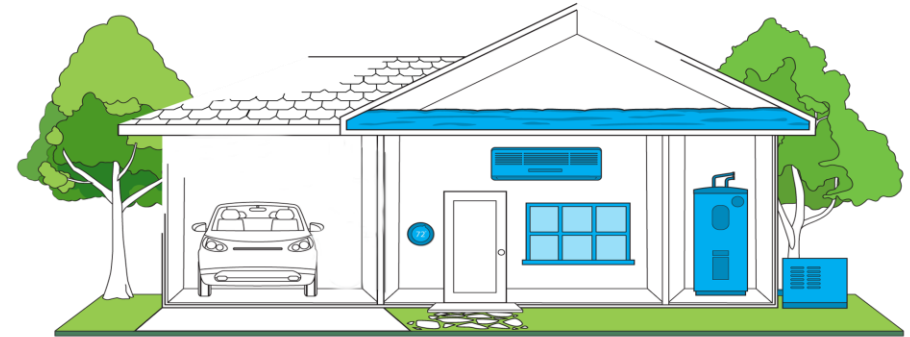
# Decarbonization Strategy - Technology

## Strategy is unique to each site

- Set your performance contract acquisition up for project phasing and broad scope
- Leverage appropriations, grants, and incentives (AFFECT, IRA, equipment changes)
- Primarily a function of on-site fossil fuel use (Scope 1)
- Influenced by serving utility's current and future generation mix (Scope 2)



Baseline Load



Optimized Load

### Step One: Deep energy efficiency and load reduction.

- Lighting, chillers, and load reduction
- When replacing inefficient fossil fuel-based equipment, begin with load reduction, then electrification and demand flexibility
- Avoid new long-lived fossil fuel burning equipment (boiler, etc.) when possible

### Step Two: Electrification (heat pumps, heat recovery chillers).

- Reduces emissions in most locations
- Largest reductions where current/future utility carbon emissions are relatively low

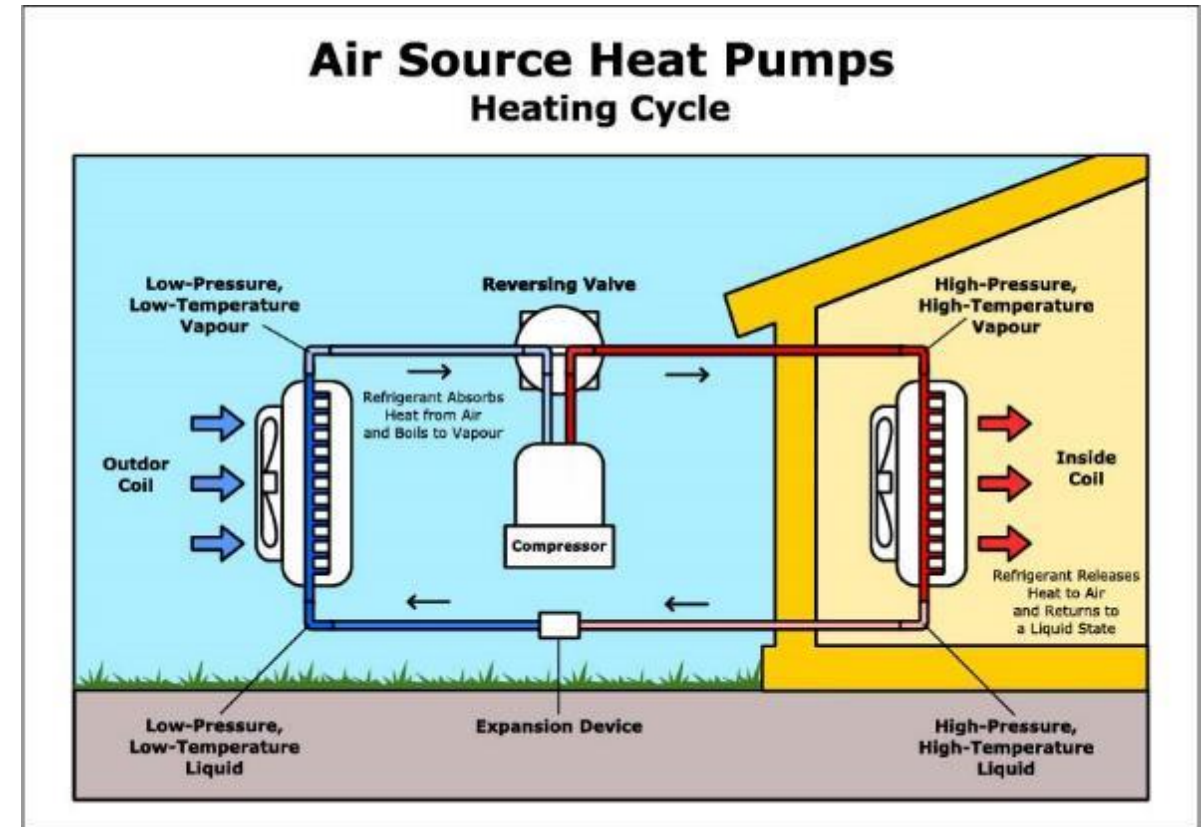
### Step Three: On-site carbon free energy generation/storage.

- Largest emissions reduction where current/future utility carbon emissions are relatively high



# Electrification – Heat Pumps

- **Air source heat pumps**
  - Ducted and ductless mini-split, AHU, RTU
  - Variable Refrigerant Flow (VRF) –
    - Good for variable load buildings
  - Reduced performance in cold weather below ~20F
  - Heat pump water heaters
- **Water source heat pumps**
  - Consider sewer water, waste heat recovery
- **Ground source heat pumps (GSHP)**
  - Good for mixed climates
  - Good for very cold or very hot climates
  - Can be open or closed loop (vertical or horizontal loop); can use in bodies of water
- **Avoid electric resistance heat**
  - Will increase carbon emissions with dirty grid
  - Will increase electric demand and cost



[DOE Energy Saver: Air Source Heat Pumps](#)



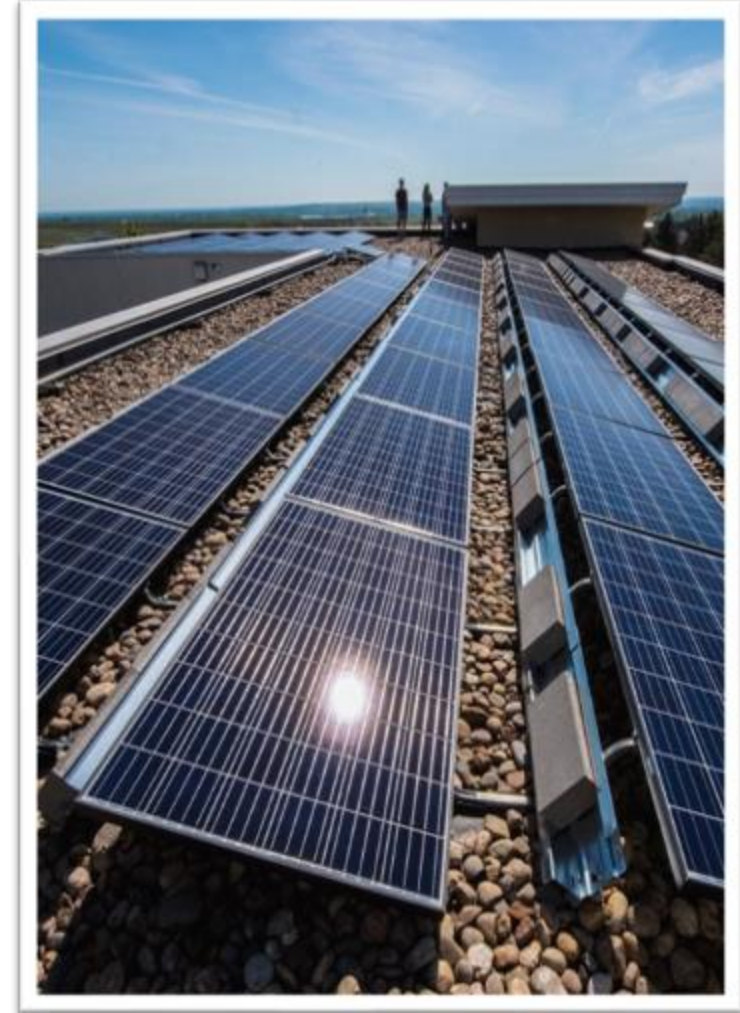
# Paying for Decarbonization in Performance Contracts

## Allowable savings

- **Energy and water cost savings**
  - Efficiency improvements, reduced usage, demand reduction, load management, load shifting, fuel switching, on-site generation, water/wastewater efficiency
- **Energy- and water-related cost savings**
  - Reduced O&M costs – contracts, materials
- **Avoided costs**
  - Avoided/obviated equipment replacement

## Capital contributions or cost offsets

- Appropriations
- Grants – FEMP AFFECT, state, etc.
- Rebates/other incentives
- Renewable energy credit (REC) sales/swaps

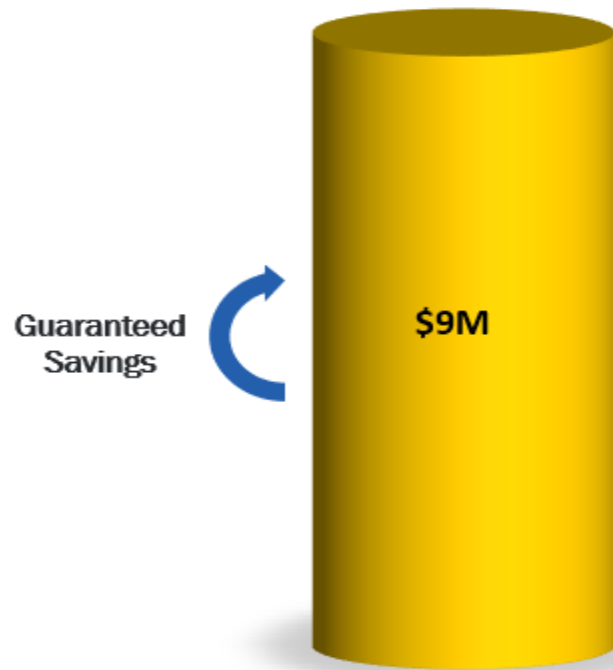




# Leveraging Appropriations to Maximize Project Scope

## Original Performance Contracting Project (\$9M)

Funded through (guaranteed) savings generated by the project ECMs



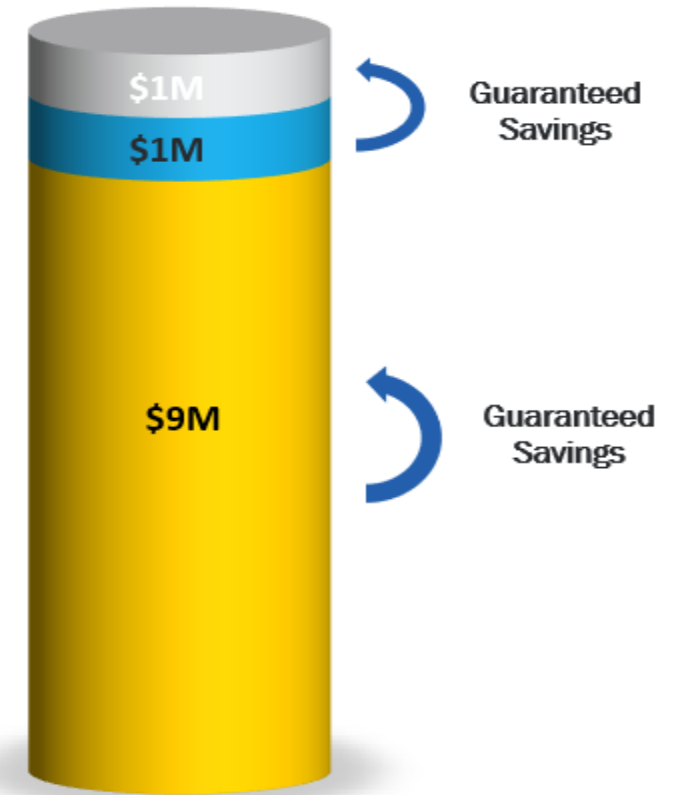
## Appropriations-Funded Project (\$1M)

Energy costs are reduced, but savings cannot be captured to fund additional scope



## Combined Performance Contracting / Appropriations Project (\$11M)

Over project term, savings from the appropriations are captured in the project, leveraged to fund additional scope



New Report (<https://info.ornl.gov/sites/publications/Files/Pub192303.pdf>)

# Success Stories

# U.S. Army Fort Knox UESC

## Project Award

- 811,435 square feet across 38 facilities
- Initially completed in 2005; total cost of \$10.4 million, and 11-year payback
- Over 50 buildings that are Energy Star certified
- Annually saves Fort Knox over \$10 million due to energy initiatives

## Energy Conservation Measures:

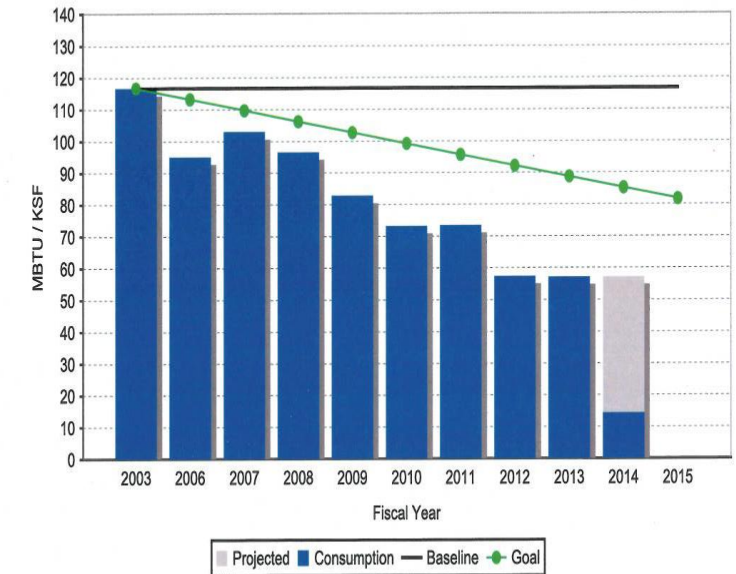
- Geothermal heat pumps (GHP) with automated ventilation and control systems
  - Replaced 70 percent of the existing HVAC systems with GHP to one building that feeds into a larger district heating/cooling loop fed by multiple GHP plants
  - Result is creation of a thermal microgrid for between 12M-16M sq. ft. of facilities
- 2.1 MW solar array
- Water conservation strategies
- Building envelope improvements, infrared heating systems, lighting improvements, insulation upgrades, energy efficient windows

Installation awarded over 100 UESC task orders during a 20-year period and achieved over 50% savings from the 2003 baseline

PROGRESS GRAPH  
For FORT KNOX

22 January 2014

21405 FORT KNOX



If a projected bar is shown for the current fiscal year, the blue area is based on actual consumption and KSF data entered, while the gray area projects the year end consumption per unit area if consumption continues at the same rate.

# Ronald Reagan Building and International Trade Center ESPC

## Key Electrification Strategies

- Heat recovered from building exhaust air provides efficient heat source for heat pumps to produce 130°-150°F water
- Heat recovery chiller also produces 130°F water while supplying chilled water for cooling needs
- Supplemental electric boilers raise water temperature to up to 170°F for VAV coils as needed, eliminating the need for steam
- Water heating provided by efficient heat pump water heaters

Implemented as a modification to a deep energy retrofit baseline project using FEMP's ESPC IDIQ contract. Project will save over \$6.3 million in energy costs annually.

Proposed Project Results	Total energy (MMBtu/yr)	Scope 2 GHG (Metric Tons CO <sub>2</sub> e)
Usage for entire site (FY19)	239,551	18,342
Usage after baseline ESPC	145,820	11,395
Percent reduction after baseline ESPC	39.1%	37.9%
Usage after electrification	124,952	10,871
Total reduction after electrification	47.8%	40.7%



# ESPC ENABLE ESA Case Study: NIST Campus (Gaithersburg, MD)

## Site

- National Institute of Standards and Technology

## System

- 5 MW-DC fixed-tilt ground-mounted PV system
- Contract vehicle through ENABLE with an Energy Sales Agreement (ESA) for PV (no other ECMs)
- Awarded May 2018
- Accepted/Completed Dec. 2018
- Estimated First Year Production ~6.1 million kWh
- Guaranteed Annual Cost Savings from PV ~\$500,000



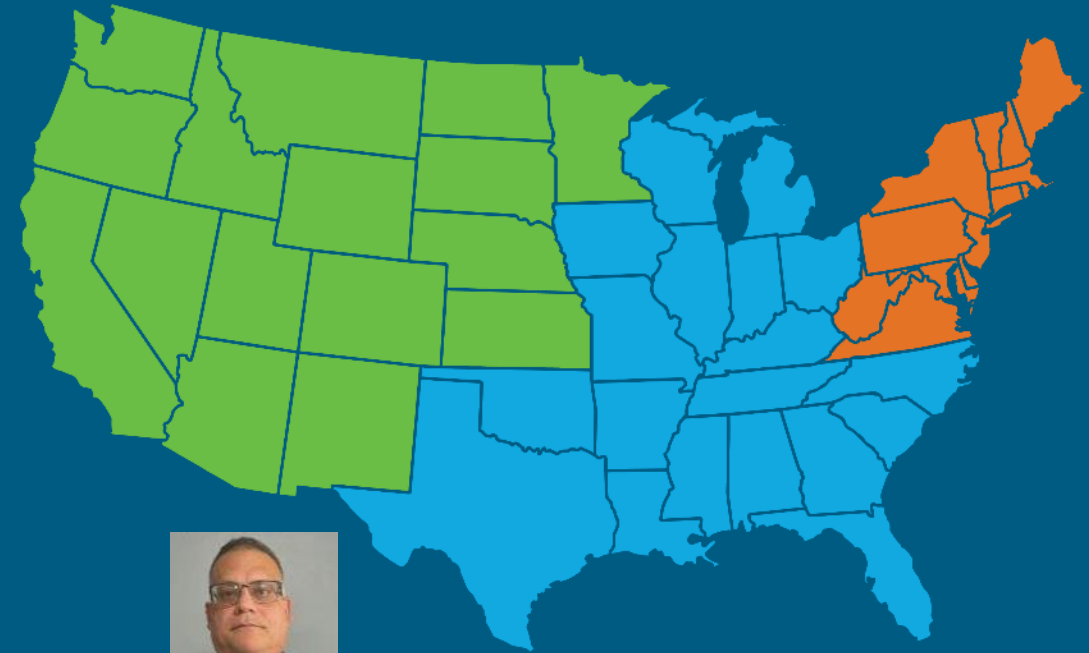
**NIST Case Study**





# First Point of Contact: Your Federal Project Executive (FPE)

- Help with all performance contracting: ESPC, ENABLE, and UESCs
- Connect you with lab, Subject Matter Experts (SME), resources



## Western Region

### Scott Wolf

Western Region plus East Asia and the Pacific; Near, South, and Central Asia  
360-866-9163  
[wolfsc@ornl.gov](mailto:wolfsc@ornl.gov)



## Southeast Region

### Doug Culbreth

Southeast Region plus Europe and Western Hemisphere  
919-870-0051  
[culbrethcd@ornl.gov](mailto:culbrethcd@ornl.gov)



## Northeast Region

### Tom Hattery

Northeast Region plus State Dept.  
202-256-5986  
[thomas.hattery@ee.doe.gov](mailto:thomas.hattery@ee.doe.gov)



## General Support

### Michael Mungal

All Regions  
954-812-7082  
[mungalmj@ornl.gov](mailto:mungalmj@ornl.gov)

Click [here](#) for more information about how FPEs can help you.



# FEMP Training and Resources



# Performance Contracting Training



FEMP ON-DEMAND TRAININGS



PERFORMANCE CONTRACTING  
TRAINING



DISTRIBUTED ENERGY AND ENERGY  
PROCUREMENT RELATED TRAINING



# FEMP ESPC and UESC Resources

A banner image showing a utility worker in a white uniform and hard hat working on a power line. The text is overlaid on the image.

## Utility Program and Utility Energy Service Contracts for Federal Agencies

Federal Energy Management Program

A banner image showing three people in hard hats and safety glasses looking at a laptop screen. The text is overlaid on the image.

## Energy Savings Performance Contracts for Federal Agencies

Federal Energy Management Program

[www.energy.gov/eere/femp/utility-program-and-utility-energy-service-contracts-federal-agencies](http://www.energy.gov/eere/femp/utility-program-and-utility-energy-service-contracts-federal-agencies)

[www.energy.gov/eere/femp/energy-savings-performance-contracts-federal-agencies](http://www.energy.gov/eere/femp/energy-savings-performance-contracts-federal-agencies)

## Essential Education

- Project Implementation and Best Practices
- Case Studies
- Fact Sheets
- On-Demand Webinars
- On-site briefings

## Topic Specific Resources

- Distributed Energy Screening Tools
- Guidance for Measurement & Verification
- Performance Assurance Planning
- Cybersecurity for Performance Contracts
- [Decarbonization Considerations: Performance Contracting](#)
- [Decarbonization Considerations: Onsite](#)

## Access to FEMP Services

Technical Assistance | Training | Events

# Thank You!

**Kurmit Rockwell**

[Kurmit.rockwell@hq.doe.gov](mailto:Kurmit.rockwell@hq.doe.gov)

**Tracy Niro**

[Tracy.niro@hq.doe.gov](mailto:Tracy.niro@hq.doe.gov)



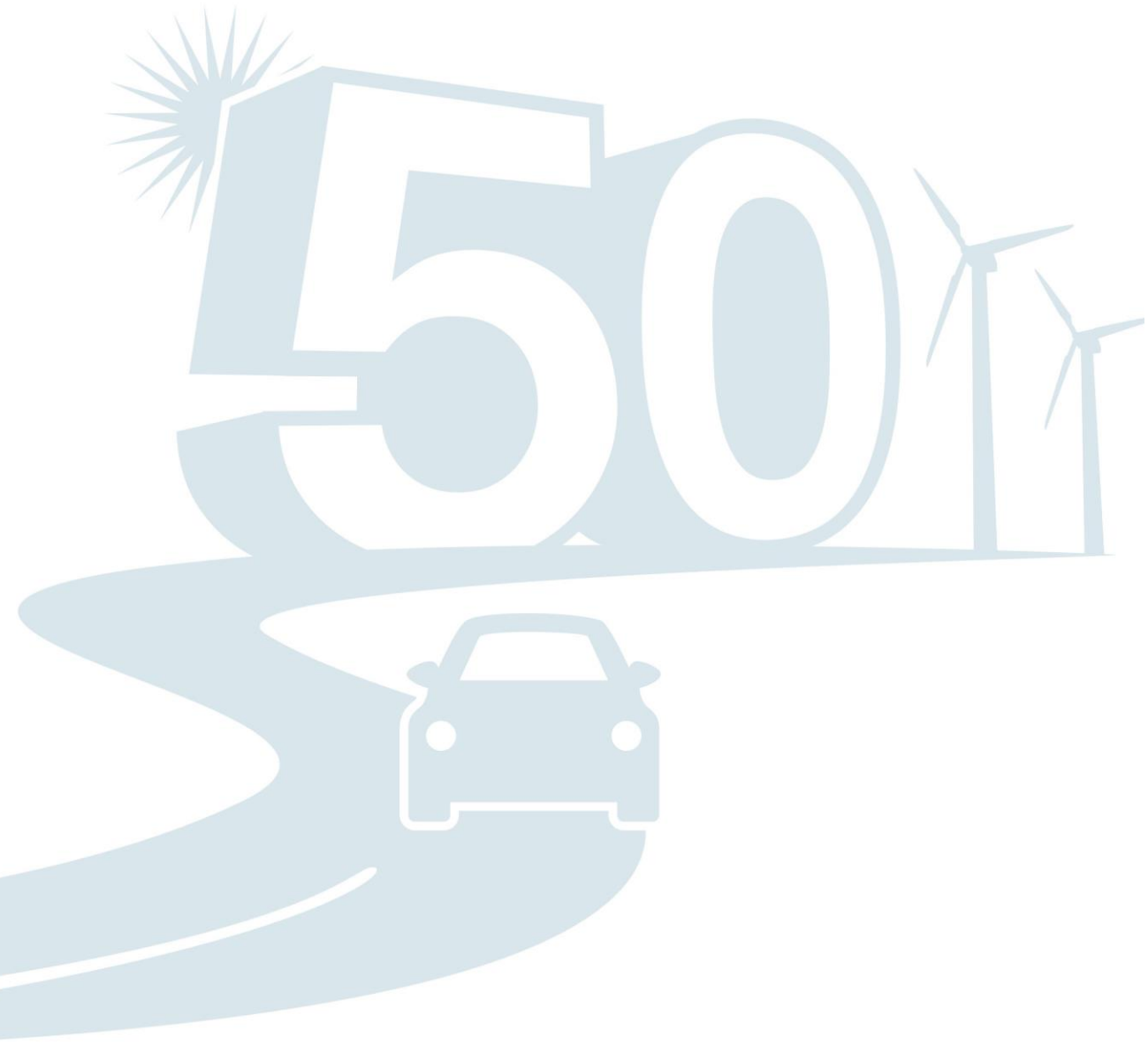
**FEMP** 50<sup>th</sup>  
50 Years of Federal Energy Management



# Performance Contracting National Resource Center

Laura Carpenter

Office of State and Community Energy Programs



# Introduction



**Laura Carpenter**

DOE Office of State and Community  
Energy Programs (SCEP)

[Laura.Carpenter@hq.doe.gov](mailto:Laura.Carpenter@hq.doe.gov)



# Performance Contracting Initiative Landscape

## Climate Smart Buildings Initiative

- Federal buildings
- Catalyze over \$8 billion of private sector investment through performance contracts
- Leverage Infrastructure Investment and Jobs Act (IIJA) funding through DOE's Assisting Federal Facilities with Energy Conservation Technologies (AFFECT) program

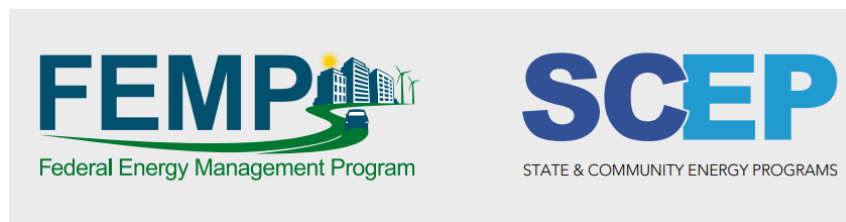
## ESPC Campaign

- State/local buildings
- Achieve \$1 billion in measured and verified savings through performance contracts
- Leverage IIJA and Inflation Reduction Act funding, including through DOE's State Energy Program, Energy Efficiency and Conservation Block Grant, Renew America's Schools Grant



# Performance Contracting National Resource Center (PCNRC)

- Established in 2020 at the direction of Congress as a hub for DOE best practice resources and solutions for energy savings performance contracts (ESPCs)
  - Collaboration between the Federal Energy Management Program (FEMP) and the Office of State and Community Energy Programs (SCEP)
- Supports federal as well as municipal and state government, university, school & hospital (MUSH) market ESPCs
- Provides guides, tools, templates, and trainings focused on performance contracting & workforce development



# PCNRC Training Certificate Series Overview

- Free, on-demand, accredited & interactive trainings
  - Developed by FEMP, in collaboration with SCEP, National Laboratories, DOE contractors, and experts in MUSH market ESPCs
- Created to support the build-out of a larger ESPC workforce
  - Applicable for both public and private sector professionals
- Focuses on roles and responsibilities, particularly those of the Owner's Representative (OR), throughout the ESPC project cycle
  - ORs provide vital technical expertise in each phase of an ESPC project
- CEUs, certificate & downloadable takeaways available
  - Certificate demonstrates completion & understanding of the curriculum





# PCNRC Training Certificate Series Overview

- Supports professional development for a wide range of users
  - » Engineers or technical consultants
  - » Energy analysts at State Energy Office or Department of General Services
  - » Facility managers
  - » Energy managers or champions
  - » Finance, budget, legal professionals
- Supports the following learning outcomes:

## Benefits

- Describe how ESPCs are tools to achieve energy and cost savings, facility improvements, resilience and more

## Process

- Understand the steps to plan, scope, implement, and verify the performance of an ESPC project

## Risks and Best Practices

- Understand the activities that set the stage for successful ESPC projects, including the responsibilities of all actors

## Technical Awareness

- Build familiarity with all tools, roles, resources, and applicable statutes necessary to facilitate a project



# PCNRC Training Certificate Series Content

Module #	Title and Key Learning Objectives
1	<b>Overview of ESPCs</b> <ul style="list-style-type: none"> <li>Identify the ESPC process and steps; Describe Owner's Representative's role</li> </ul>
2	<b>Getting Started with an ESPC Project</b> <ul style="list-style-type: none"> <li>Identify financial, operational, and performance risks and responsibilities</li> </ul>
3	<b>Developing Scope for Project and Request for Proposal (RFP)</b> <ul style="list-style-type: none"> <li>Identify information, constraints, and resources to develop the project scope and RFP</li> </ul>
4	<b>Measurement &amp; Verification for ESPCs</b> <ul style="list-style-type: none"> <li>Describe importance of M&amp;V and how to choose an appropriate M&amp;V option for each ECM</li> </ul>
5	<b>Facilitating the Investment Grade Audit (IGA)</b> <ul style="list-style-type: none"> <li>Understand the OR roles in facilitating the IGA and developing baselines</li> </ul>
6	<b>Reviewing the IGA and Project Proposal</b> <ul style="list-style-type: none"> <li>Explain allocation and mitigation of risk; Describe how to balance M&amp;V costs and benefits</li> </ul>
7	<b>Construction, Performance Verification, and Project Acceptance</b> <ul style="list-style-type: none"> <li>Understand these ESPC project steps and the OR's tasks and responsibilities</li> </ul>
8	<b>Performance Period</b> <ul style="list-style-type: none"> <li>Explain annual M&amp;V activities, reviews, resolution of issues, and the importance of documentation</li> </ul>

Trainings Available Now

Arriving Fall 2023



# PCNRC Training Certificate Series Content

## OR Roles and Responsibilities

Overarching role of the OR is to ensure project:

Click each Role/Responsibility button to view information  
You must review all information before proceeding

<b>VALUE</b>	Offers good long-term value to the customer (owner) and meets their objectives
<b>LEADERSHIP</b>	Has been explained to all primary owner stakeholders (from executive leadership down to O&M shops)
<b>ANALYSIS</b>	Is built upon a strong energy and water consumption baseline and strong engineering analyses
<b>COSTS</b>	Ensures project costs and markup structures are reasonable
<b>RISK MANAGEMENT</b>	Identifies, minimizes and manages customer risk
<b>SUCCESS</b>	
<b>RESPONSIBILITY</b>	



U.S. DEPARTMENT OF ENERGY Slide 48 11% Complete

Owner's Represent

## Review Question

The components of an ESPC project are: buildings, facility type, and equipment; selected ECMs; risk and responsibility allocation; staff training; project performance; repair and replacement; and

Choose the best answer and drag and drop the box into the empty space above.

- Finance Options
- Staffing Options
- Operations and Maintenance (O&M)
- Funding



U.S. DEPARTMENT OF ENERGY Slide 16 of 51

# Training Process

1. Pre-training survey
  - 7 question survey on user training objectives and professional experience
2. Knowledge check questions before each training module
  - Assessment to gauge user baseline knowledge; directs user to alternate resources to prepare for training, if needed
3. Post-module test
  - Take the optional post-test after the module to obtain IACET accredited CEUs

**~ Repeat steps 2-3 for every module ~**
4. Certificate assessment
  - Users who complete all eight modules and module post-tests are eligible to complete a post-training assessment to obtain a Certificate



# PCNRC Training Certificate Series Benefits

Training Series Offers:	Benefit for Prospective Customers & ESPC Program Managers	Benefits for Industry Professionals
Education on ESPC process, risks & best practices	<ul style="list-style-type: none"><li>• Feel empowered to negotiate contracts &amp; maintain strong relationship with ESCO</li><li>• Strengthen staff / stakeholder understanding of ESPC process, roles and responsibilities, and best practices for mitigating risk, including:<ul style="list-style-type: none"><li>– Benefits of hiring an owner’s representative</li><li>– Measurement &amp; verification importance and options</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Support emerging professionals entering the industry</li><li>• Aid mid-career professionals seeking career pivots toward performance contracting</li><li>• Develop more effective partnerships with Owners knowledgeable about ESPCs</li></ul>



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Certificate	<ul style="list-style-type: none"> <li>• Demonstrate understanding of the material through post-training assessments &amp; a comprehensive exam</li> <li>• Leverage training certificate to identify trained ORs</li> </ul>	<ul style="list-style-type: none"> <li>• Indicate ESPC proficiency and knowledge of DOE tools, resources and recommended best practices through obtaining the certificate</li> </ul>





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Accreditation	<ul style="list-style-type: none"> <li>• Earn CEUs to maintain professional credentials (e.g., Professional Engineer, Certified Energy Manager)               <ul style="list-style-type: none"> <li>- Note: CEUs can be obtained on per-module basis, with a total of 2.4 CEUs available for the entire series</li> </ul> </li> </ul>	





# PCNRC Training Certificate Series Resources

## Quick Start Guide

- Step-by-step enrollment guide
- Available on:
  - FEMP PCNRC website
  - Training Certificate Series homepage

**Table of Contents**

1. Create a free WBDG account.
2. Enroll in the series.
3. Take the series pre-survey.
4. Enroll in individual modules.
5. Complete the knowledge check.
6. Start the module.

**Step 1. Create a Free Account**

Create a free WBDG account to register for trainings, bookmark pages, and subscribe to updates. Fill out the required details including your contact information and professional details, then click submit.

**WBDG** Whole Building Design Guide

USER ACCOUNT USER ACCOUNT

To create an account on the WBDG, please fill out the form below. There is no cost and having an account allows you to take continuing education, bookmark pages, and subscribe to updates on Federal Facility Criteria. Upon completing the form, you will be sent an email for verification. Thank you for using the WBDG.

**User Account**

Create new account | LOGIN | REQUEST NEW PASSWORD

**Username \***

Spaces are allowed. Punctuation is not allowed except for periods, hyphens, apostrophes, and underscores.

**E-mail address \***

A valid e-mail address. All e-mails from the system will be sent to this address. The e-mail address is not made public and will only be used if you wish to receive a new password or wish to reset your password. An e-mail address cannot be used for more than one account.

You will receive an email at the address provided with two links. The first link will have you create a password for your account. After setting your password, sign in by either clicking the second link from the email or by navigating back to the WBDG site.

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## Fact Sheet

- Provides series overview and highlights key takeaways & target audience
- Available on:
  - FEMP PCNRC website

**U.S. DEPARTMENT OF ENERGY**

**Performance Contracting National Resource Center Training Certificate Series**

The Department of Energy (DOE) Performance Contracting National Resource Center (PCNRC) Training Certificate Series is an accredited, on-demand, interactive series that offers users valuable performance contracting resources and best practices.

Energy savings performance contracts (ESPCs) have a well-established track record of delivering energy and water cost savings to building owners, without requiring up-front capital. Owner's Representatives (ORs) are valuable additions to any energy team looking to conduct a successful ESPC. As third-party consultants, ORs provide vital expertise, guiding the owner through each phase of an ESPC project, reviewing technical details, and minimizing risk. Using ORs or trained in-house energy project staff can greatly improve project outcomes.

The PCNRC is a collaboration between the Federal Energy Management Program (FEMP) and the Office of State and Community Energy Programs (SCEP) and serves as a hub for DOE's best practice resources and solutions to enhance ESPC use and quality. The PCNRC Training Certificate Series provides foundational instruction on energy savings performance contracting to support energy financing and workforce development. By combining interactive learning features and content checks, users can gain an understanding of project roles and processes and demonstrate their ESPC proficiency.

**Training Topics:**

1. Overview of ESPCs
2. Getting Started with an ESPC Project
3. Developing Scope for Project and Request for Proposal
4. Measurement & Verification for ESPCs
5. Facilitating the Investment Grade Audit (IGA)
6. Revisiting the IGA and Project Proposal
7. Construction, Performance Verification, and Project Acceptance
8. Performance Period

**Training Takeaways**

**ESPC Benefits**  
ESPCs can provide cost savings and enable facility efficiency, resilience, decarbonization, and electrification by converting energy waste to new infrastructure.

**ESPC Process**  
Understand the steps to scope, plan, implement, and verify the performance of an ESPC project to ensure timeliness and realization of savings.

**Best Practices**  
Discover lessons learned from past projects and how to achieve high performance projects.

**Technical Expertise**  
Become familiar with tools and resources, applicable statutes, and the roles and responsibilities of involved parties to ensure success of technically complex projects that can include efficiency, renewable energy generation, storage, microgrids, and more.

**Who Should Take This Training?**

The PCNRC Training Certificate Series serves a broad array of public and private sector professionals.

- Experienced energy analysts, engineers, owner's representatives, and other technical professionals can use the training certificate to demonstrate their ESPC proficiency
- Emerging professionals can use the series to cultivate ESPC knowledge to advance future careers
- Prospective customers can take the training to educate themselves on ESPC, even if planning to hire an OR.
- State and local ESPC program administrators and workforce programs can integrate the series into training programs and resource guides
- Energy service companies (ESCOs) staff can learn about the role and value of the OR, and how they can be helpful to the objective of developing and executing a successful ESPC

**FEMP** Federal Energy Management Program

**SCEP** Office of State and Community Energy Programs

Learn More and Discover Additional Resources  
energy.gov/femp/performance-contracting/  
national-resource-center  
DOE/OIG-100223-8922 • July 2023



# Other PCNRC Resources

- [An Ally in Your Corner](#): Describes the benefits of using an Owner's Representative and key considerations for retaining one for an ESPC project.
- [eProject eXpress](#): Designed specifically for the MUSH market to provide efficient, secure, and standardized ESPC project and program data management, and track and demonstrate measured and verified results.
- [ESPC Legislation Library](#): Provides information on ESPC legislation across 50 United States and 5 U.S. territories.



# Other PCNRC Resources – Coming Soon

- **ESPC Model Documents**: Updated collection of procurement and contracting document templates that incorporate recommended best practices for MUSH ESPCs. Adaptable to meet state/local and customer requirements. *(existing templates still available)*
- **Owner's Representative Model Documents**: Template solicitation and contract documents for MUSH market stakeholders to retain an owner's representative.

# Additional Resources

- **Performance Contracting National Resource Center**

Tools, resources, and best practices for federal and MUSH ESPC

- **Federal Energy Management Program**

Explore the FEMP training catalog

- **State and Local Solution Center**

Resource hub for states, local governments, and K-12 school districts

- **Better Buildings Solution Center**

Wide range of resources and trainings available by topic and sector, including the [ESPC Toolkit](#)

Visit the PCNRC  
homepage



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# Thank You



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Federal Energy Management Program