



2024 Energy Lawyers and Contracting Officers Forum (ELCOF)

Christine Walker, PNNL

Russ Dominy, Boston Government Services LLC

Tim Kehrli, NREL

August 22, 2024 | 1:00-2:30 PM (CDT)

Agenda

- 2024 Utility Escalation Rate Projections and Cost of Carbon
- Reducing UESC Cycle Times and Schedule Delays
- UESCs and Building Electrification



ELCOF Objectives

- Identify solutions and share lessons learned
- Establish connections between peers
- Facilitate dialogue between government and contractors around UESC challenges and opportunities
- Identify priority areas for FEMP support and resources



Topic 1: Utility Escalation Rate Projections

NIST Energy Escalation Rate Calculator

(Loaded 2024 dataset)

To use, complete all form fields. Computed results are shown immediately at the bottom of the page.
The EERC User Guide is here: [HTML](#) [PDF](#)

Percent of Energy Cost Savings

Coal 0 % Distillate Oil 0 % Electricity 0 % Natural Gas 0 % Residual 0 %

Total 0 %
Must equal 100%

Fuel Rate Information

Location Sector
Select US state Select Sector

Contract Term

Start Date Years Duration
Select start date 10 yrs 25 yrs

Social Cost of Carbon Assumptions

SCC
No carbon price

Annual Inflation Rate

2.9 %

Annual Energy Escalation Rate

RESULTS

REAL NOMINAL
Fix selections Fix selections

SAVE TO PDF

Estimating future utility escalation rates with changing landscape

- Challenges and unknowns
 - Past looking: unexpected natural gas prices due to fracking
 - Forward looking: move towards carbon-pollution free electricity
 - Only focuses on energy
- FEMP/NIST Tool: [Energy Escalation Rate Calculator](#) (EERC)
 - Future estimated price escalations (10-25 years)
 - Long-term inflation rates



Topic 1: Utility Escalation Rate Projections

- Implications of escalation rates
 - Including social cost of carbon
- Example (2024 EERC):
 - Texas, Commercial Electricity

	Nominal Electricity Escalation	Nominal Natural Gas Escalation
No Carbon (\$0/MT CO ₂)	2.10%	2.34%
Low Carbon (\$20/MT CO ₂)	2.38%	3.84%
Medium Carbon (\$66/MT CO ₂)	2.94%	6.24%
High Carbon (\$198/MT CO ₂)	4.44%	10.89%

Current FEMP Guidance

The EERC also allows for adjustment due to potential carbon pricing only to the extent that the applicable energy rates are influenced by an existing carbon pricing regime.

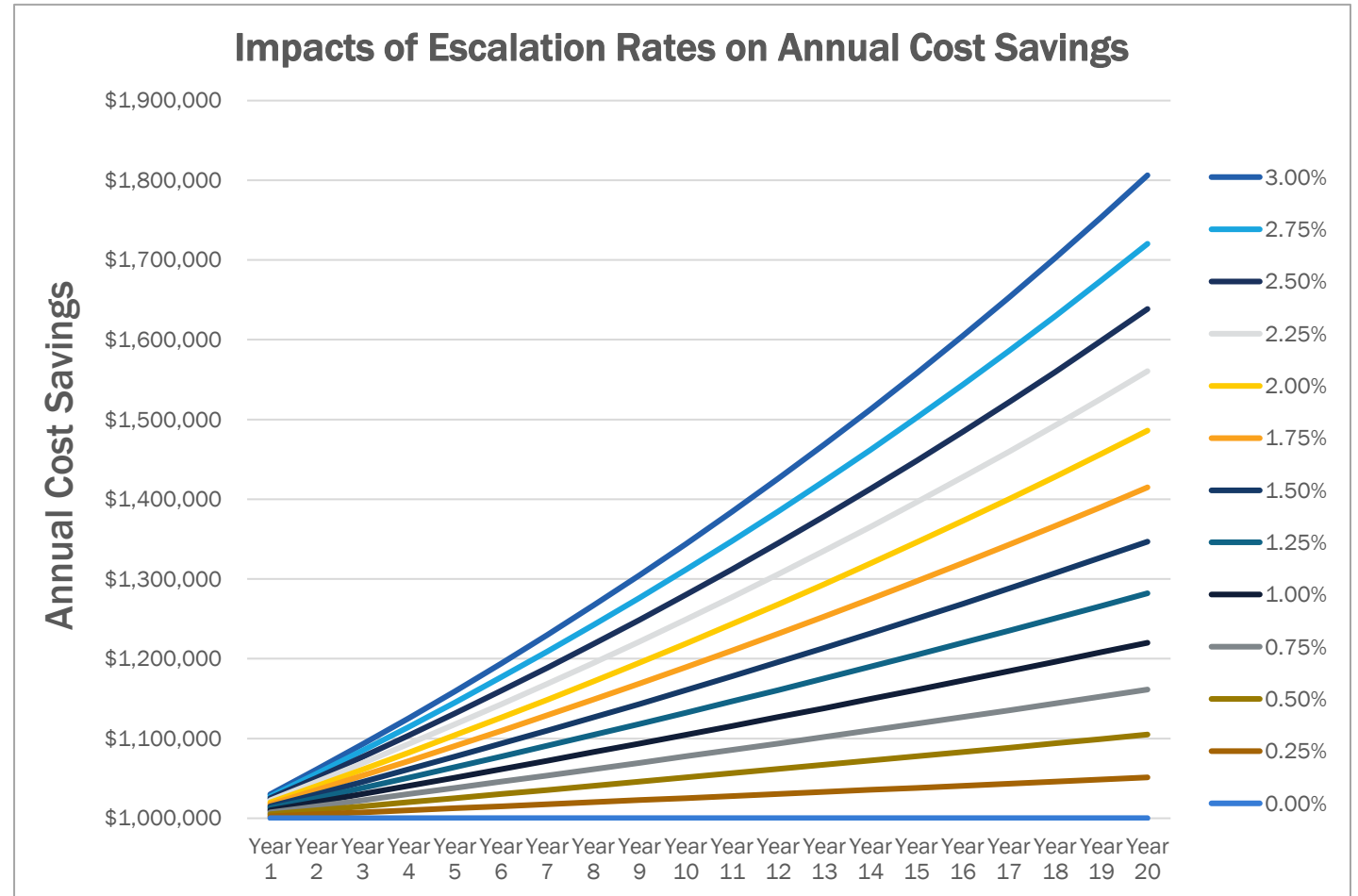
Carbon pricing that is speculative must not be included in the contractor payment calculation.

FEMP Guidance on Utility Rate Estimations and Weather Normalization in Performance Contracts (March 2024)

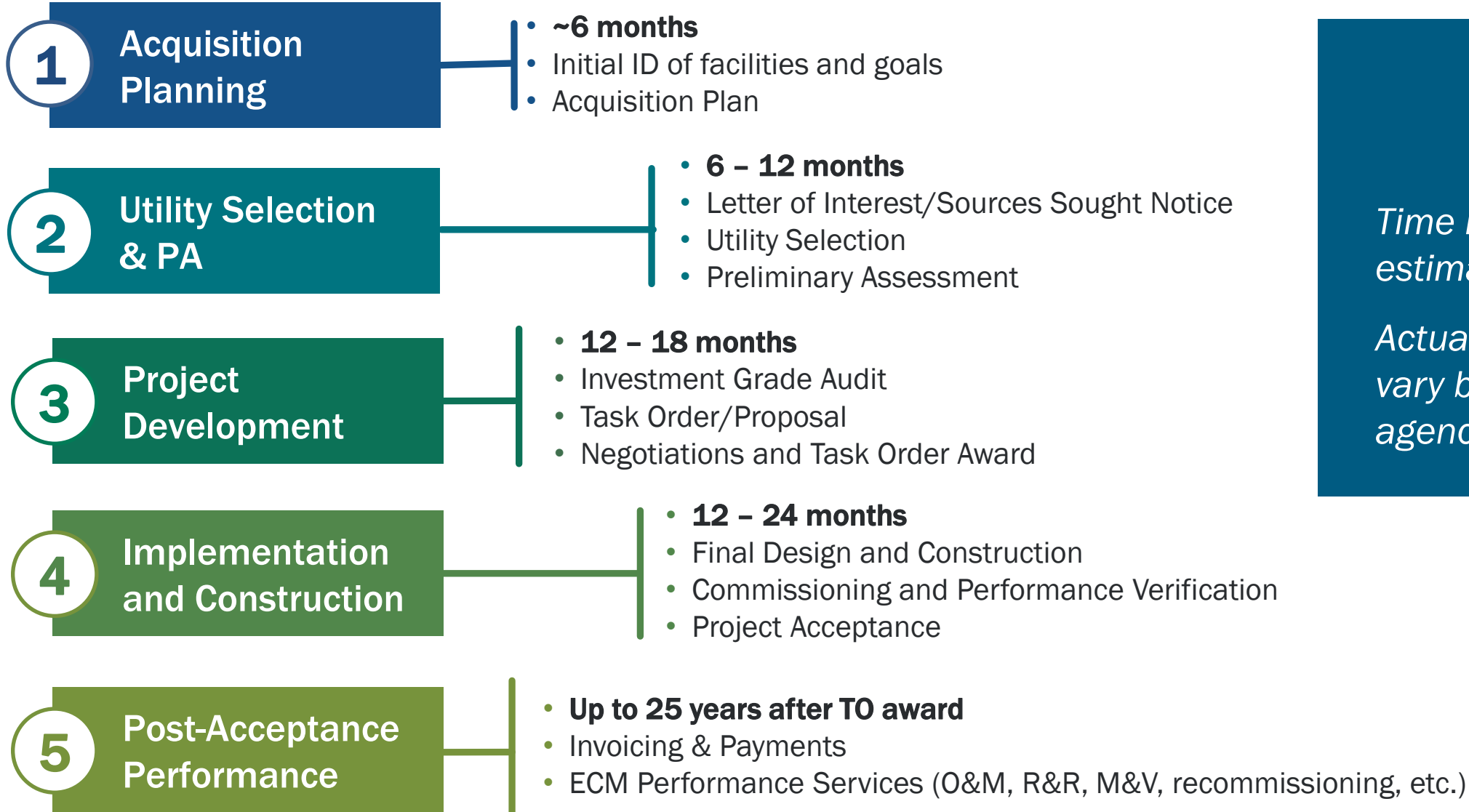


Topic 1: Utility Rates and Cost of Carbon (Discussion)

- Challenges, concerns with using EERC?
- Trepidations with cost of carbon?
- How is cost of carbon being used?
 - Evaluation considerations?
 - Level of carbon pricing used?



Topic 2: UESC Cycle Times and Schedule Delays



Time ranges are estimates only.

Actual timeline will vary by project and agency.



Topic 2: Potential Causes of Schedule Delays

- **More complicated ECMs, with additional required engineering**
- **Excessive time to get from PA to IGA**
 - Longer time to complete PA
 - PA review time and time to obtain approval to move to IGA (especially if IGA paid up-front)
- **IGA development time delays**
 - Getting sufficient ECM subcontractor bids
 - Agency review of 50%, 90% IGA
 - Task Order development starting too late
 - J&A and other approvals
 - Endless proposal revisions
- **After contract award**
 - Equipment lead time
 - Time to complete design and obtain agency review/approval
 - Interconnection studies and interconnection agreement (for onsite generation)

- **What are the causes (staffing, process, logistics)?**
- **Which of these is causing the longest delays?**
- **What is missing from this list?**



Topic 2: Solutions to UESC Cycle Times and Schedule Delays

- **What are solutions?**
 - Skip the preliminary assessment (PA)
 - Reduce complexity of PA to expedite process
 - Expedite PA/IGA review process –firm schedule and accountability established at kickoff
 - Interim reviews during IGA development
- **How can FEMP assist?**
 - Types of resources and guidance?
 - Technical assistance?
 - Training?
 - Other?



Topic 3: UESCs and Building Electrification

Issue: Electrification requirements are creating challenges to implement projects that will reduce use of fossil-fuel based energy, but often cost more than fossil fuel-based or like-for-like replacement solutions.

Definitions:

- **Electrification:** Substituting electric alternatives for traditionally fossil-fueled applications
 - Examples include electric vehicles for transportation and heat pumps for space and water heating
- **Decarbonization:** Moving away from fossil fuel combustion and associated release of CO₂ emissions towards a more efficient use of emission-free energy sources



Topic 3: Building Electrification - Challenges

- **Cost Challenges**

- Infrastructure electrification improvements often cost prohibitive for energy performance contracts
 - Site infrastructure often requires upgrades - transformers, switchgear, distribution lines
 - Savings from upgrades are not sufficient to cover costs
- Utility distribution upgrades require extended timelines and increased construction period costs

- **Scope Challenges**

- Infrastructure upgrades may not be not directly tied to energy projects
- Identification of infrastructure requirements not considered in past EISA audits
- How do resiliency requirements limit electrification opportunities?



Topic 3: Building Electrification - Opportunities

- **Project package may include a combination of appropriations and third-party financing**
- **Site Master Electrification Plan – has one been created?**
- **Energy Performance Contracts allow for “Support Equipment” to be included in the contract**
 - Adding larger transformers to project scope to service a larger electrical load
 - Adding distribution power lines for PV arrays not connected to system loads
- **Escalation rates play a factor in project feasibility**
 - Boiler to heat pump example: natural gas escalation rate for savings higher than electricity escalation rate for heat pump electricity use
- **Including a full scope of potential ECM’s will reduce site loads and may lower need for infrastructure enhancements**
 - The first step to effective resilience and electrification is to reduce loads
 - A longer payback on a large ECM may be more valuable to the electrification goal



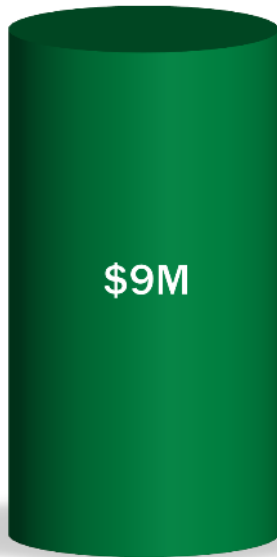
Leveraging of Funds in Performance Contracts

Performance Contract
without Appropriations

Standard Appropriations-
Funded Project

Combined Performance
Contracting /Appropriations
Project

Savings
from ECMs
fund \$9M
project



Appropriations
fund \$1M project



Savings* from
appropriations funded
measures leverage another
\$1M in additional measures

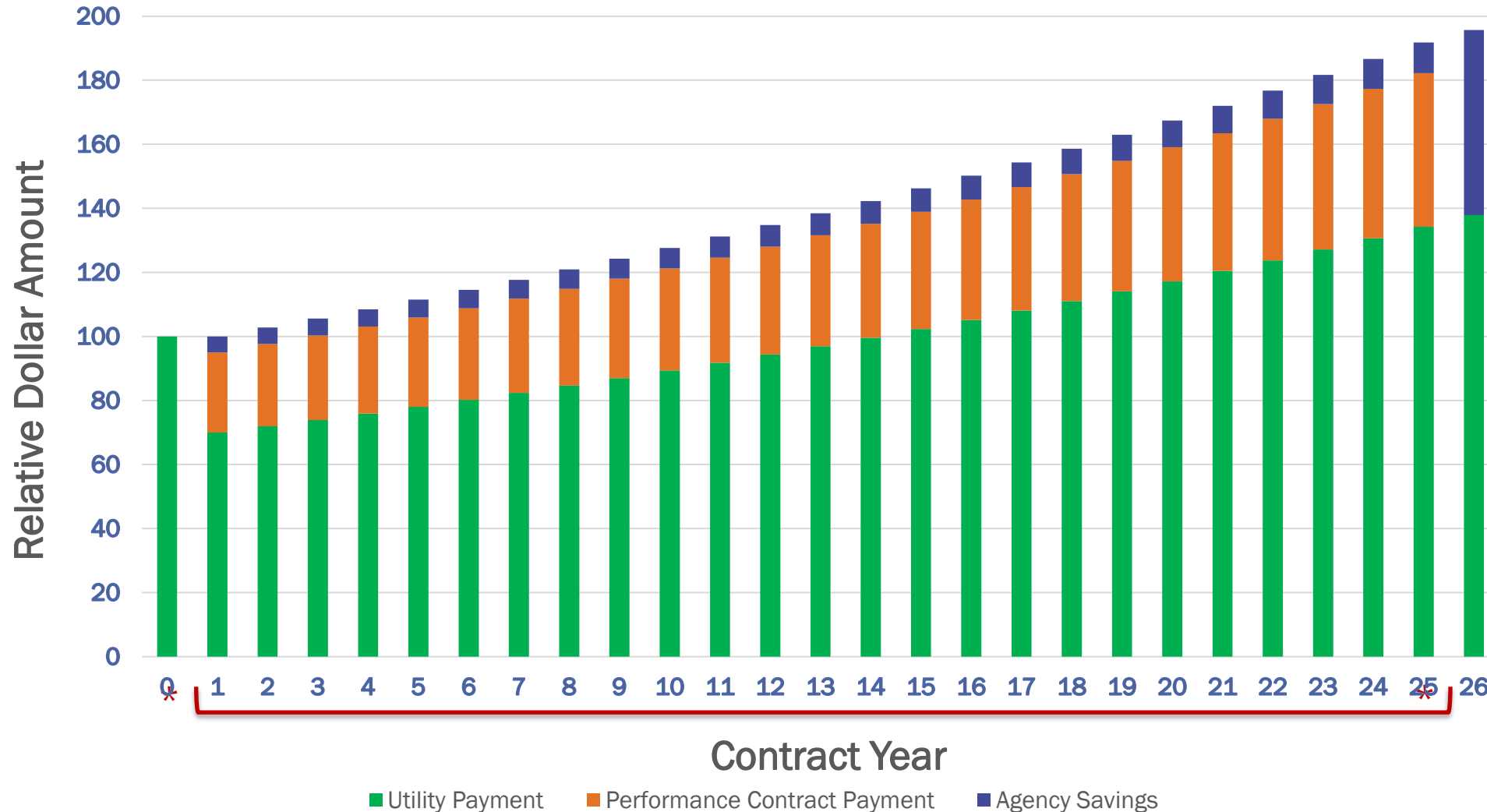
Appropriations fund \$1M
in additional measures

Savings from ECMs fund
\$9M project

**Analysis of DOE ESPC IDIQ project awards indicates that leveraging appropriations can as much as double the impact of appropriated funds*



Utility Bill Savings Over Time



Contract years 1-25 represent the post construction performance period



Performance Contract Support and Resources

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

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



How much does FEMP support cost?

Nothing!

Most support can be provided at no cost*

**Free PF services are limited.*



Stay in Touch

Ask Questions

Visit FEMP's [Technical Assistance Portal](#) to ask questions ranging from general to project-specific.

Find More Trainings

Search the [FEMP Training Catalog](#) to find upcoming live trainings, events, and on-demand courses.

Sign Up for FEMP Updates

Receive periodic emails to [stay informed](#) of FEMP news, trainings, tools, resources, and more.

Follow FEMP

[Follow FEMP on LinkedIn](#) for event announcements, examples of agency success, and of-the-moment news.



Thank You



FEMPO 
Federal Energy Management Program