ESPC ENABLE Overview and Training

Ira Birnbaum
Federal Program Manager for ESPC ENABLE
Agenda

- FEMP Mission
- ESPC ENABLE Overview
- Comparison of Project Funding Options
- ESPC ENABLE Process
- Program Status
- Eligible ESCOs
- Enterprise Approach
- Next Steps
- FEMP Assistance
- Questions

Part of a 63-facility U.S. Forest Service ENABLE project across two national forests. Los Prietos Ranger Station, Santa Barbara, CA. Photo courtesy of U.S. Forest Service (Adam Furlow).
The U.S. Department of Energy’s Federal Energy Management Program (FEMP) works with key individuals to accomplish energy change within organizations, by bringing expertise from all levels of project and policy implementation, to enable Federal agencies to meet energy-related goals and to provide energy leadership to the country.
What are ESPCs?

Contracts that allow agencies to do energy projects with no up-front capital cost and no special appropriations from Congress

**Energy Service Company (ESCO)**
- Provides development and installation of energy and water conservation measures
- Guarantees resulting cost savings sufficient to cover project costs
- Acquires financing

**Agency**
- Pays ESCO over term of contract from guaranteed cost savings
- Contract administration → life of contract
ESPCs are Budget-Neutral

Reallocate the Government’s Utility Bill:
◊ Stop paying for waste and pollution ◊ Start paying for efficiency ◊

Before ESPC

Agency's Cash Flow ($)

$$$
for
Energy + Related Operations & Maintenance

Performance Period

Excess Savings

Payments to ESCO $$$

$$$
for
Energy + O&M

After ESPC Term

Savings $$$

$$$
for
Energy + O&M

E+O&M Cost Savings
DOE FEMP Project Contacts

FEMP Federal Project Executives (FPE)

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Doug Culbreth
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# ESPC ENABLE Contacts

<table>
<thead>
<tr>
<th>Roles/Responsibilities</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESPC ENABLE Program Manager</td>
<td>Ira Birnbaum – DOE-FEMP</td>
</tr>
<tr>
<td></td>
<td>202-287-1869 ♦ <a href="mailto:Ira.Birnbaum@ee.doe.gov">Ira.Birnbaum@ee.doe.gov</a></td>
</tr>
<tr>
<td>Federal Project Executives</td>
<td>Doug Culbreth – ORNL</td>
</tr>
<tr>
<td></td>
<td>919-610-8259 ♦ <a href="mailto:culbrethcd@ornl.gov">culbrethcd@ornl.gov</a></td>
</tr>
<tr>
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<td>202-256-5986 ♦ <a href="mailto:Thomas.Hattery@ee.doe.gov">Thomas.Hattery@ee.doe.gov</a></td>
</tr>
<tr>
<td>Scott Wolf – ORNL</td>
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</tr>
<tr>
<td>Audit Tool, Energy/Water Savings, Finance</td>
<td>Christine Walker – ORNL</td>
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<tr>
<td></td>
<td>865-241-4896 ♦ <a href="mailto:walkerce@ornl.gov">walkerce@ornl.gov</a></td>
</tr>
<tr>
<td>Acquisition Process and Contract Documents</td>
<td>Sam Espinosa – BGS</td>
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<tr>
<td></td>
<td>505-463-0942 ♦ <a href="mailto:samespinosa@comcast.net">samespinosa@comcast.net</a></td>
</tr>
<tr>
<td>Support Contractor</td>
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</tr>
<tr>
<td></td>
<td>603-828-7512 ♦ <a href="mailto:mronery@bgs-llc.com">mronery@bgs-llc.com</a></td>
</tr>
</tbody>
</table>

https://energy.gov/eere/femp/espc-enable
ESPC ENABLE Overview

ESPC ENABLE is an alternative energy performance contracting program:

• Intended for smaller projects at federal facilities (underserved market)
  — Or where ENABLE presents the best or only option for the agency to fund a project
  — Is suitable for Federal facilities with buildings under 200,000 square feet
  — Project size $200k - $18.5 million
  — No fixed minimum or maximum facility or $ size

• Standardized and streamlined process to quickly award projects and realize savings using the GSA Supply Schedule SIN 334512
  — Templates, IGA tool
  — No preliminary assessment

• Targets straight-forward ECMs including lighting, water fixtures, basic HVAC controls, HVAC equipment replacement including boilers and chillers, solar PV
  — Other ECMs available under “hybrid” projects

• Prescribes basic levels of measurement and verification (M&V) for each ECM
  — Primarily Option A
  — Solar PV and chillers use Option B
# ESPC ENABLE: ECM Summary

<table>
<thead>
<tr>
<th>ECM</th>
<th>Included</th>
<th>Outside IGA Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighting</td>
<td>• Lamps, Ballasts, Fixtures</td>
<td>• Solar Lighting (off-grid installations allowed)</td>
</tr>
<tr>
<td></td>
<td>• Controls: Occupancy, Day lighting (on/off, dimming)</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>• Sanitary plumbing fixtures: sinks, toilets, urinals, showers</td>
<td>• Heating/Cooling system improvements (cooling towers, once through cooling, condensate reclaim)</td>
</tr>
<tr>
<td></td>
<td>• Irrigation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Leak repair</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Domestic/commercial hot water heaters</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Water based appliances: dishwasher, ice machine, clothes washer, etc.</td>
<td></td>
</tr>
<tr>
<td>HVAC Controls</td>
<td>Whole building control strategies including:</td>
<td>• Advanced Controls 1: Energy Management Control Systems (EMCS) / Building Automation Systems (BAS)</td>
</tr>
<tr>
<td></td>
<td>• Time/Temperature Set-back</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Demand/Night Ventilation</td>
<td></td>
</tr>
<tr>
<td>HVAC Equipment</td>
<td>Basic whole building/system one-for-one replacement * of:</td>
<td>• Central Boiler/Chiller Plants</td>
</tr>
<tr>
<td></td>
<td>• Window AC units / Electric Baseboard heat</td>
<td>• Retro-commissioning based activities</td>
</tr>
<tr>
<td></td>
<td>• Split AC/Furnace</td>
<td>• Non-building related heating/cooling/ventilation</td>
</tr>
<tr>
<td></td>
<td>• Heat Pumps</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Packaged Terminal Air Conditioner (PTAC)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Packaged Single Zone Air Conditioner (PSZ)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Roof Top Units (RTU)</td>
<td></td>
</tr>
<tr>
<td>Solar PV</td>
<td>• Ground, Roof, Parking Canopy mount</td>
<td>• Solar Thermal (Hot Water)</td>
</tr>
<tr>
<td></td>
<td>• Fixed and Tracking Arrays</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Grid Tied and Off-grid</td>
<td></td>
</tr>
</tbody>
</table>

1. Advanced Controls may be considered; however, savings calculations within the ENABLE IGA tool are limited to time/temp set-back, demand/night ventilation
2. Current ENABLE IGA tool is presently configured to model one-for one replacement of whole system(s) across an entire building with “like” systems (ex: replace (3) RTU’s with (3) higher efficiency RTU’s.) IGA Tool not presently configured to model partial replacement of building HVAC systems or replacement/modification of sub-systems (ex: VFD’s on select fan units).
Projects may combine the ESPC ENABLE ECMs with other ECMs available under GSA Supply Schedule SIN 334512 under a hybrid approach:

- Would fall under same award; no need for different funding
- Agency and ESCO must come to agreement about how ESCO will calculate guaranteed savings outside IGA Tool for non-ENABLE ECMs; ESCO must also propose an M&V methodology for non-ENABLE ECMs
- Your NOO should state that ESCO must demonstrate capability to do this for your particular ECMs
- FEMP ENABLE team will review ESCO savings and cost estimates and M&V plans
- ENABLE plans to expand the IGA Tool to address some ECMs currently outside of ENABLE, such as motors; until then these ECMs would be treated under a hybrid approach
- Note that FEMP cannot provide the same level of confidence for non-ENABLE ECMs’ savings as for ECMs run through IGA Tool
## Comparison of Project Funding Options

<table>
<thead>
<tr>
<th></th>
<th>DOE ESPCs</th>
<th>ESPC ENABLE</th>
<th>UESCs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contract type</strong></td>
<td>TOs under DOE IDIQ</td>
<td>GSA Supply Schedule SIN 334512</td>
<td>Task Order issued under a GSA Area-wide contract; Basic ordering agrmt.</td>
</tr>
<tr>
<td><strong>Private-sector partner</strong></td>
<td>ESCOs: 21 on IDIQ</td>
<td>ESCOs on GSA Supply Schedule SIN 334512: 24 ESCOs - 7 small business, 12 on IDIQ</td>
<td>Serving utility company</td>
</tr>
<tr>
<td><strong>Eligible facilities</strong></td>
<td>Federal buildings worldwide</td>
<td>Federal buildings worldwide</td>
<td>Where government pays utility bill including leased buildings; where offered/authorized</td>
</tr>
<tr>
<td><strong>Project size</strong></td>
<td>$2 million or larger</td>
<td>No fixed size or $ limits; suitable for smaller projects</td>
<td>Any</td>
</tr>
<tr>
<td><strong>ECMs</strong></td>
<td>Unlimited</td>
<td>Lighting, water, basic HVAC controls, HVAC equip. incl. boilers &amp; chillers, solar PV; motors being added</td>
<td>Unlimited</td>
</tr>
<tr>
<td><strong>Savings guarantees and M&amp;V</strong></td>
<td>Required</td>
<td>Required; simplified M&amp;V</td>
<td>Performance assurance (or savings guarantees) and M&amp;V through commissioning or retrocommissioning required for annual scoring</td>
</tr>
<tr>
<td><strong>O &amp; M</strong></td>
<td>ESCO responsible; tasking negotiable</td>
<td>Government or ESCO; ESCO provides training</td>
<td>Negotiable</td>
</tr>
<tr>
<td><strong>Preliminary assessment and IGA Requirement</strong></td>
<td>Both PA and IGA required</td>
<td>Only IGA required</td>
<td>PA recommended; IGA required</td>
</tr>
<tr>
<td><strong>FEMP ESPC Life of Contract Service</strong></td>
<td>Included</td>
<td>Not included</td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Use Fee</strong></td>
<td>none</td>
<td>$7,500 for each $1M contract value – paid by ESCO to GSA</td>
<td>none</td>
</tr>
</tbody>
</table>
ESPC ENABLE: Process Cycle

- Projects typically awarded in about 6 to 12 months
- Energy/cost savings in 8-12 months
Acquisition Planning

Activities: Estimated timeline – 2-4 Weeks

• Essential members of the acquisition team are identified
• Agency hosts kickoff meeting with acquisition team members
• Agency procures Project Facilitator
• Agency develops an Acquisition Plan*
• Agency develops the Request for Quotation/Notice of Opportunity*

*Indicates FEMP-provided template
Activities: Estimated timeline – 3-4 Weeks

- Request for Quotation/Notice of Opportunity is released
- ESCOs expression of interest (EOI)*
- Agency evaluates responses based on best value criteria outlined in the RFQ/NOO*
- Agency notifies unsuccessful offerors* and issues the notice of intent to award (NOITA)*

*Indicates FEMP-provided/required template
Use the ESCO Selector for ENABLE Tool

- New web-based tool to help agencies create a Notice of Opportunity (NOO)
  - Uses the FEMP ESPC ENABLE templates
  - Produces an editable NOO in Microsoft Word
  - Generates NOO response evaluation forms

https://esco-selector-enable.ornl.gov/
ESCO Selector for ENABLE

- Step-by-step instructions
- Downloadable documents
General Best Practices for an Effective NOO

• Use the **ESCO Selector for ENABLE tool** to quickly create a fully editable draft NOO that complies with federal requirements and meets agency needs:
  
  https://esco-selector-enable.ornl.gov/

• Also available for download and editing: **ENABLE Notice of Opportunity (NOO) Template**:
  
  https://www.energy.gov/eere/femp/downloads/espc-enable-request-quotenotice-opportunity-template

• Involve your FEMP Federal Project Executive in drafting NOO

• Keep NOO as broad as possible to allow ESCO to propose comprehensive, innovative solutions using standard ECMs
General Best Practices (cont.)

- Ask ESCOs to provide examples of familiarity with any non-standard (“hybrid”) ECMs you would like to consider

- Identify two or three site-specific needs or wish-list items, such as renewable ECMs. ESCO responses will allow agencies to match ESCO capabilities with site needs

**Require the ESCOs’ responses to the NOO to include description of the following:**

- ESCO’s management approach (how they’re going to get the job done)

- The ESCO’s approach to developing energy baselines and the M&V approach for this project
Evaluation Factors and Selection Criteria

• Each ESCO response must address the ESCO’s Qualifications, Past Performance, and a Price Component, plus any other requirements the agency deems necessary, such as experience working with local subcontractors; or, where applicable, experience with projects in coastal, maritime and/or island locations.

• Keep evaluation factors and selection criteria to the minimum necessary. Evaluation factors should be weighted to reflect the agency’s priorities, rather than all factors being weighted equally.

• Weight Qualifications more heavily than Past Performance, because ENABLE is still a relatively new program and not all ESCOs will be able to report Past Performance under ENABLE.
• **Weight the Price Component less heavily than ESCO Qualifications.**
  ESCO has not yet walked the facility(ies) and can only rely on the data provided with the NOO.

• **Require ESCO to demonstrate ability to obtain low-cost financing,** reflecting:
  – Interest rate index and spread of last 3 projects, with term and size of loan
  – Whether ESCO has Master Purchase Agreement with at least one financier
  – Any credit ratings issued by Moody’s, S&P, or Fitch
  – Whether ESCO is covered under a parent company guarantee
  – Who underwrites ESCO’s performance/payment bond, and that firm’s credit rating

*See end of next slide for exception.*
Evaluation Factors and Selection Criteria (cont.)

• More Best Practices for Price Component:
  – For the ECMs likely to be included in project, require ESCO to estimate the extent to which work will be self-performed vs. subcontracted (%)
  – Require ESCO to describe methods, procedures used to obtain competitive prices on ECMs and financing
  – Projects with a single or predominant ECM can select ESCO based on anticipated project price by including price component of unit installed cost, e.g., $/kWh for solar PV, or $/installed LED fixture. In these cases, weight price component more heavily.
Activities: Estimated timeline – 2-4 Months

- Agency prepares Scope of Work (SOW)*, then hosts Investment Grade Audit (IGA) kickoff meeting
-ESCO performs IGA using FEMP-provided survey tools*
-ESCO submits final proposal*, final negotiations occur
- Agency awards task order*

*Indicates FEMP-provided template
ENABLE Investment Grade Audit (IGA) Tool

• **Intended Users:** ESCOs

• **Purpose:**
  – Standardize energy and cost savings methodology across the set of ENABLE ECMs.
  – Standardize outputs for inclusion in prescribed final proposal outline.

• **Intention:** Minimize need for customer’s technical review of proposals

• **Functionality:**
  – The tool will be used to identify pre- and post-retrofit conditions and estimate energy and cost savings for the project via embedded equations, Energy Plus and PV Watts.
  – Generates a Summary Project Report
  – Generates outputs that form the basis for contract documents
    • Summary data tables by ECM for M&V Plan
    • Completed TO Schedule #4 (data needed for entry into ePB)
    • ECM equipment summaries (quantities by type)
ENABLE IGA Tool

IGA Summary Report
- Energy and Cost Savings Tables (M&V Plan)
- Financial TO Schedule #4 (TO-4)
- ECM Equipment Summaries

Boilers/Chillers
- EnergyPlus
  Building Simulation Software
- PVWatts
  NREL web service

IGA Tool
(Coming soon: web-based interface)

Water
Lighting
HVAC
Boilers/Chillers
Solar PV

outputs
High Level Project Details
- Total kwh, Gal. Water, Therms
- Simple Payback (before financing)

ECM level detail on:
- Direct cost
- Estimated Implementation Price
- Incentives
- Cost Savings by Utility Type
- Simple Payback

ECM level detail on:
- Energy savings by utility type

Submitted to the agency prior to final proposal
Coming Soon! Web-based ENABLE IGA Tool

• Moving from Excel to web-based interface
• Similar to eProject Builder
• Allows for multiple project sites under one project
• Additional ECMs - Boilers and Chillers
• Ability to add “other” ECMs (ENABLE Hybrid projects)
Improved Building/Equipment Representation

Enhanced tool interface to allow for 2D and 3D representation of building floors and heating/cooling zones.

- Allows for more complex HVAC, boiler and chiller scenarios
- Can represent buildings with multiple/dissimilar HVAC systems
- Assignment of equipment by zone
ESPC ENABLE Process, Installation and Acceptance

Activities: Estimated timeline – 8-16 Weeks

- Installation
- Commissioning*
- Measurement and Verification (M&V)*
- Agency Acceptance*

* Indicates FEMP provided plan templates and report outlines
Activities: Annual M&V audit performed to verify achievement of annual cost savings
- ESCO or agency must perform annual audit
- Equipment inspections are performed as prescribed in the M&V plan to verify savings achievement
  - Primarily Option A (Option B for solar PV and chillers)
- An annual M&V Report* is generated by the ESCO and submitted to the agency

* Indicates FEMP provided report outline
ESPC ENABLE: Available Templates by Phase

**Acquisition Planning**
- Acquisition Plan
- Request for Quotation/Notice of Opportunity (RFQ/NOO)

**ESCO Selection**
- ESCO Expression of Interest
- Unsuccessful Offerors Letter
- Notice of Intent to Award (NOITA)

**IGA and Award**
- Scope of Work (SOW)
- Final Proposal
- Task Order award

**Installation**
- Commissioning
- M&V Plan
- Agency Acceptance

**Performance Period**
- M&V Report (Outline)

[https://energy.gov/eere/femp/espc-enable-procurement-process](https://energy.gov/eere/femp/espc-enable-procurement-process)
ESPC ENABLE: Program Status as of December 2021

ESCOs in the Program

• 24 qualified ESCOs under GSA Supply Schedule
  – Seven Small Business contractors
    • Two Service-Disabled Veteran-Owned Small Business contractors
  – Twelve IDIQ contractors

Project Status

• 22 projects awarded: USAF, USN, USACE, GSA (6), USFS (4), State Dept, CBP, BoP, DOE HQ, DEA, ICE, NOAA, NIST, FAA ($0.2-$18.5m)
  – 2 solar PV projects under ESPC ESA
  – Awards have gone to 5 small business ESCOs (including 2 Disabled Veteran ESCOs), 7 ESPC IDIQ ESCOs
• Multiple projects underway (Pipeline: 9 projects, 8 agencies)
• Scopes range from one to multiple ECMs
# ESPC ENABLE: Eligible ESCOs as of December 2021

<table>
<thead>
<tr>
<th>Company</th>
<th>Status 1</th>
<th>Notes 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABM Facility Support Services</td>
<td>*</td>
<td>Legatus6 **</td>
</tr>
<tr>
<td>AECOM Technical Services</td>
<td>*</td>
<td>Leidos, Inc. *</td>
</tr>
<tr>
<td>AMERESCO Federal Solutions</td>
<td>*</td>
<td>M.C. Dean</td>
</tr>
<tr>
<td>Brewer-Garrett Co</td>
<td>*</td>
<td>METCO Engineering **</td>
</tr>
<tr>
<td>Constellation NewEnergy</td>
<td>*</td>
<td>Orion Energy Systems</td>
</tr>
<tr>
<td>CTS Group</td>
<td></td>
<td>Pacific Lighting Management **</td>
</tr>
<tr>
<td>CTI Energy Services</td>
<td>**</td>
<td>Siemens Industry *1</td>
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<td>Energy Systems Group</td>
<td>*</td>
<td>SitelogIQ Government Solutions</td>
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<tr>
<td>ENGIE Services U.S.</td>
<td>*</td>
<td>Trane U.S. *</td>
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<tr>
<td>Green Generation Solutions</td>
<td>**</td>
<td>Utility Systems Solutions **</td>
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<tr>
<td>Honeywell International</td>
<td>*</td>
<td>Williams Electric Co</td>
</tr>
<tr>
<td>Johnson Controls</td>
<td>*</td>
<td>Woodstone Energy **</td>
</tr>
</tbody>
</table>

* = DOE IDIQ ESPC ESCO  
** = Small Business  
1 Same parent company as IDIQ contractor
ENTERPRISE APPROACH: WHAT AND WHY?

What is an Enterprise Approach?

• An effort to integrate and align the project development and approval process across organizations' various administrative and operational units.

Why Develop an Enterprise Approach?

• Agencies can award more and larger projects, with shorter development times, than agencies that follow a standard project-by-project approach.
BENEFITS OF AN ENTERPRISE APPROACH

• Set and enforce policies and goals agency-wide
• Add clarity in an ambiguous decision-making setting
• Provide centralized go-to resource for navigating ESPC process
• Promote consistency across the agency by reducing inter-regional differences in interpretation of the same rules and guidance
• Reduce burden on local facility staff who may be unfamiliar with ESPC process
ESPC ENABLE: Next Steps

- Call or email your FEMP Federal Project Executive
- Identify potential project sites
- Assemble acquisition team
- Project kick-off meeting
- Procure Project Facilitator
  - DOE procurement via GSA Schedule 871 211, with IAA to reimburse DOE
  - Agency procurement via GSA Schedule or other (DOE model SOW is available)
- Develop acquisition plan
- Develop and issue Notice of Opportunity (NOO)
- Select ESCO
- Develop Scope of Work (SOW) document
- IGA kick-off meeting with ESCO
FEMP Assistance

FEMP Resources Available to Federal Customers

• Assistance to build an ENABLE program
• Tools and guidance to train, educate, and motivate
• Project management support to guide you through the ESPC ENABLE process*
• Procurement subject matter experts to support project execution*
• ESPC ENABLE webpage resources, including training
  http://energy.gov/eere/femp/espc-enable

*Note: Project Facilitators are optional. Agencies may procure PFs directly or via DOE/FEMP. If via FEMP, agencies must sign an inter-agency agreement (IAA) with FEMP stipulating that the agency will either reimburse FEMP via up-front payment, or via guaranteed savings built into the project contract.
An ESPC ENABLE LED lighting retrofit project at the James Forrestal Building, DOE’s headquarters in Washington, DC, resulted in a 50% reduction in lighting energy use and more than $250,000 in annual energy cost savings. Photo courtesy of DOE.

Questions?

More information on ENABLE:
- Contact your Federal Project Executive
- ENABLE Homepage
- Project Development Process
- Eligible ESCOs
- Awarded Projects

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