

ESPC ENABLE Overview and Training

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Agenda

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



FEMP Mission

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 Services Company (ESCO)

- Provides development and installation of energy and water conservation measures
- Guarantees resulting cost savings sufficient to cover project costs
- Acquires financing

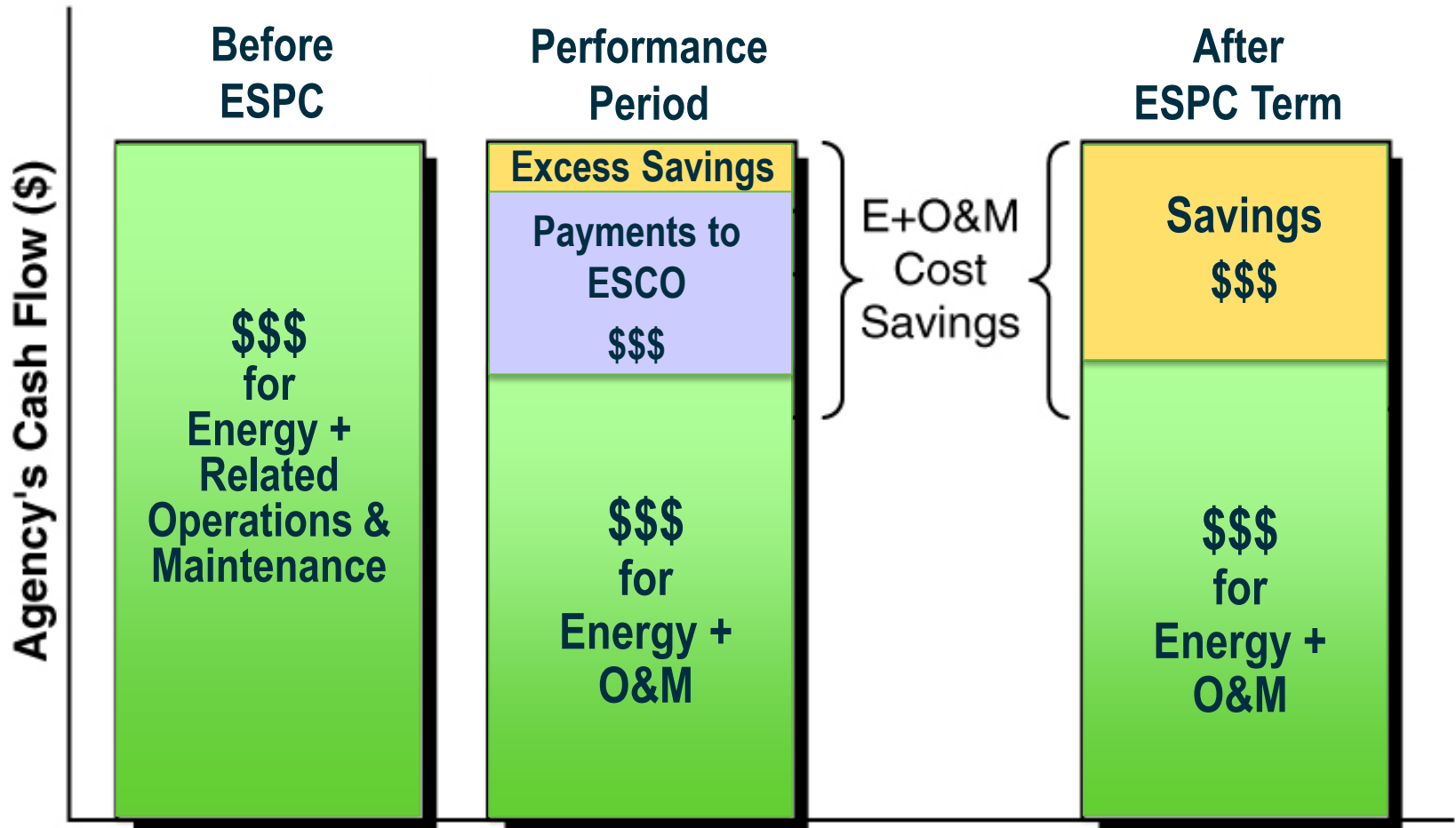
Agency

- Pays ESCO over term of contract from guaranteed cost savings
- Contract administration→life of contract

ESPCs are Budget-Neutral

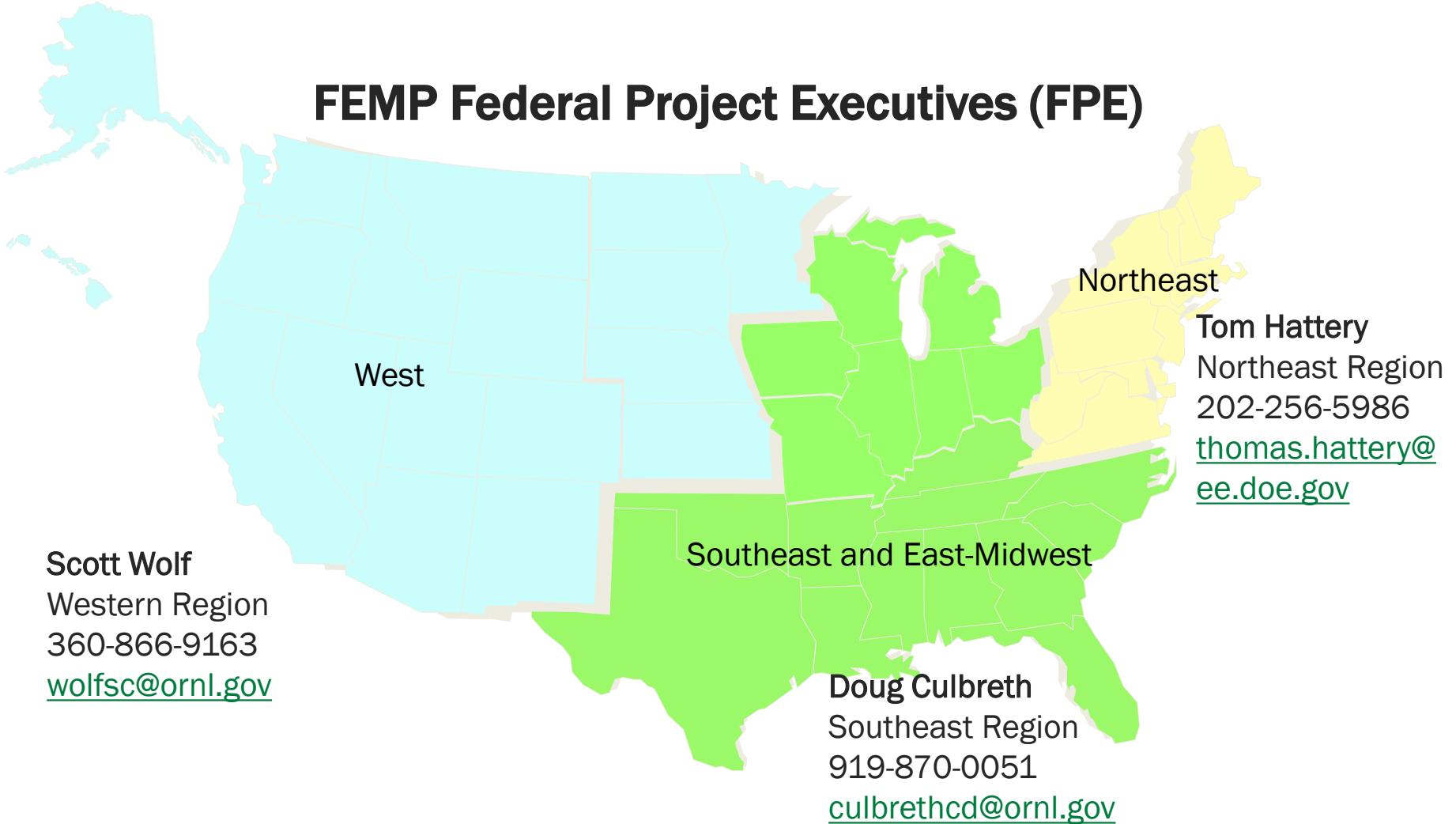
Reallocate the Government's Utility Bill:

- ◆ Stop paying for waste and pollution ◆ Start paying for efficiency ◆



DOE FEMP Project Contacts

FEMP Federal Project Executives (FPE)



<https://www.energy.gov/eere/femp/energy-savings-performance-contract-federal-project-executives-0>

ESPC ENABLE Contacts

Roles/Responsibilities	Contact Information
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Audit Tool, Energy/Water Savings, Finance	Christine Walker – ORNL 865-241-4896 ♦ walkerce@ornl.gov
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Support Contractor	Matt Roney – BGS 603-828-7512 ♦ mroney@bgs-llc.com

<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 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

*Formerly GSA Schedule 84, SIN 246-53. In 2019, GSA transitioned to a more consolidated, NAICS-based system for contracting—the Multiple Award Schedule (MAS)—requiring special item number (SIN) changes.

ESPC ENABLE: ECM Summary

ECM	Included	Outside IGA Tool
Lighting	<ul style="list-style-type: none"> Lamps, Ballasts, Fixtures Controls: Occupancy, Day lighting (on/off, dimming) 	<ul style="list-style-type: none"> Solar Lighting (off-grid installations allowed)
Water	<ul style="list-style-type: none"> Sanitary plumbing fixtures: sinks, toilets, urinals, showers Irrigation Leak repair Domestic/commercial hot water heaters Water based appliances: dishwasher, ice machine, clothes washer, etc. 	<ul style="list-style-type: none"> Heating/Cooling system improvements (cooling towers, once through cooling, condensate reclaim)
HVAC Controls	Whole building control strategies including: <ul style="list-style-type: none"> Time/Temperature Set-back Demand/Night Ventilation 	<ul style="list-style-type: none"> Advanced Controls ¹: Energy Management Control Systems (EMCS) / Building Automation Systems (BAS)
HVAC Equipment	Basic whole building/system one-for-one replacement ² of: <ul style="list-style-type: none"> Window AC units / Electric Baseboard heat Split AC/Furnace Heat Pumps Packaged Terminal Air Conditioner (PTAC) Packaged Single Zone Air Conditioner (PSZ) Roof Top Units (RTU) Single building Boiler/Chiller 	<ul style="list-style-type: none"> Central Boiler/Chiller Plants Retro-commissioning based activities Non-building related heating/cooling/ventilation
Solar PV	<ul style="list-style-type: none"> Ground, Roof, Parking Canopy mount Fixed and Tracking Arrays Grid Tied and Off-grid 	<ul style="list-style-type: none"> Solar Thermal (Hot Water) Hybrid PV/Hot water systems

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).

ESPC ENABLE: Hybrid Approach

Projects may combine the ESPC ENABLE ECMs with other ECMs available under GSA Supply Schedule SIN 334512* under a hybrid approach:

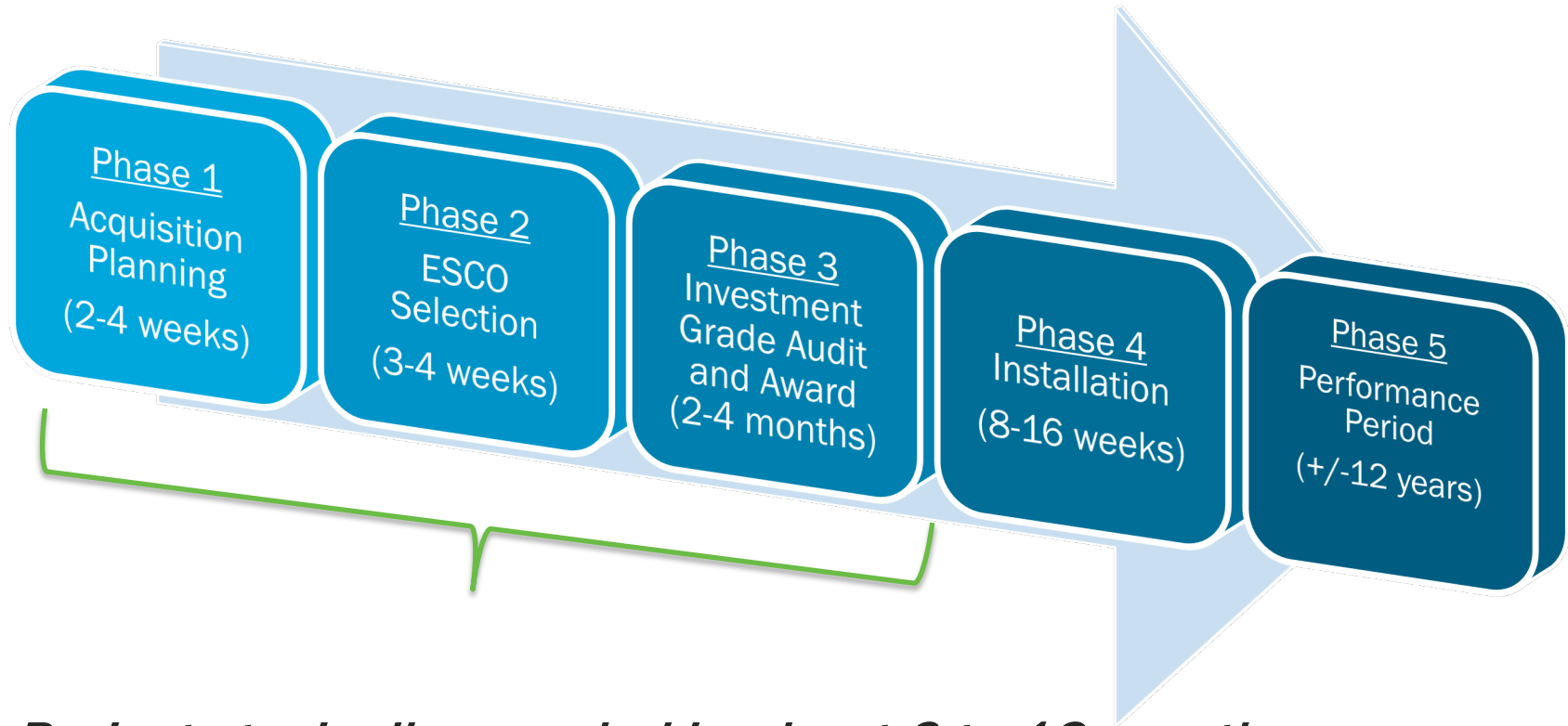
- Would fall under same award; no need for different funding
- Agency and ESCO must come to agreement about how ESCO will calculate guaranteed savings outside IGA Tool for non-ENABLE ECMs; ESCO must also propose an M&V methodology for non-ENABLE ECMs
- Your NOO should state that ESCO must demonstrate 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

*Formerly GSA Schedule 84, SIN 246-53. In 2019, GSA transitioned to a more consolidated, NAICS-based system for contracting—the Multiple Award Schedule (MAS)—requiring special item number (SIN) changes.

Comparison of Project Funding Options

	DOE ESPCs	ESPC ENABLE	UESCs
Contract type	TOs under DOE IDIQ	GSA Supply Schedule SIN 334512	Task Order issued under a GSA Area-wide contract; Basic ordering agrmt.
Private-sector partner	ESCOs: 21 on IDIQ	ESCOs on GSA Supply Schedule SIN 334512: 26 ESCOs - 8 small business, 11 on IDIQ	Serving utility company
Eligible facilities	Federally owned worldwide	Federally owned worldwide	Where government pays utility bill including leased buildings; where offered/authorized
Project size	\$2 million or larger	No fixed size or \$ limits; suitable for smaller projects	Any
ECMs	Unlimited	Lighting, water, basic HVAC controls, HVAC equipment, solar PV, boilers, chillers; motors being added	Unlimited
Savings guarantees and M&V	Required	Required; simplified M&V	Performance assurance (<u>or</u> savings guarantees) and M&V through commissioning or retrocommissioning required for annual scoring
O & M	ESCO responsible; tasking negotiable	Government or ESCO; ESCO provides training	Negotiable
Preliminary assessment and IGA Requirement	Both PA and IGA required	Only IGA required	PA recommended, IGA required
FEMP ESPC Life of Contract Service	Included	Not included	Not applicable
Use Fee	none	\$7,500 for each \$1M contract value – paid by ESCO to GSA	none

ESPC ENABLE: Process Cycle



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

ESPC ENABLE Process, Acquisition Planning



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*

ESPC ENABLE Process, ESCO Selection



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*

Tools can be found at:

<https://energy.gov/eere/femp/espc-enable-procurement-process>

General Best Practices for an Effective NOO

- Use the ENABLE Notice of Opportunity (NOO) Template!
<https://www.energy.gov/eere/femp/downloads/esp-enable-request-quotenotice-opportunity-template>
- Involve your FEMP Federal Project Executive in drafting the NOO
- Keep NOO as broad as possible to allow ESCO to propose comprehensive, innovative solutions using standard ECMs.
- 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.

General Best Practices (cont.)

Require the ESCOs' responses to the N00 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

Evaluation Factors and Selection Criteria (cont.)

- **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.

ESPC ENABLE Process, IGA to Award



IGA and Award

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

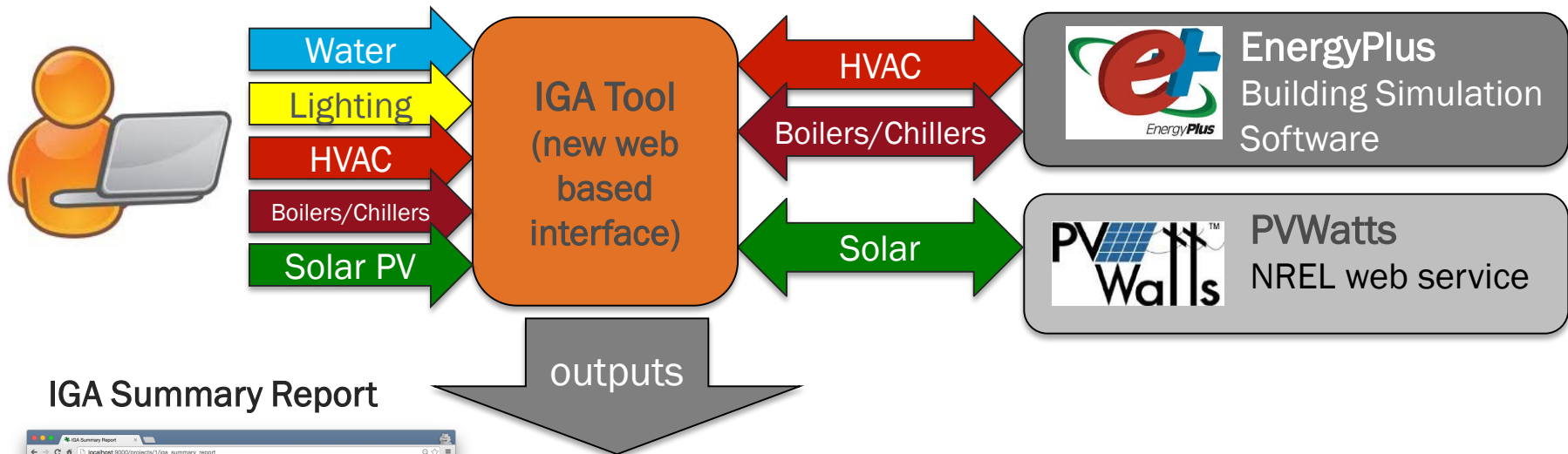
**Indicates FEMP-provided template*

ENABLE Investment Grade Audit (IGA) Tool

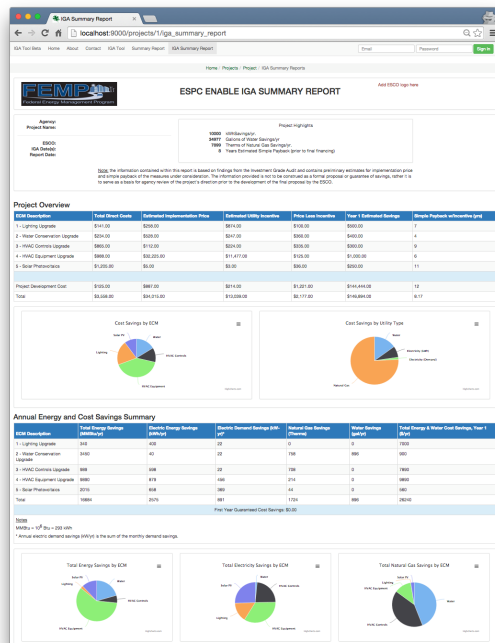
- **Intended Users:** ESCOs
- **Purpose:**
 - Standardize energy and cost savings methodology across the set of ENABLE ECMs.
 - Standardize outputs for inclusion in prescribed final proposal outline.
- **Intention:** Minimize need for customer's technical review of proposals
- **Functionality**
 - The 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

Project Summary Report Tables

The following tables are for use in the Final Proposal (M&V Plan), Post Installation Report and Annual M&V Report as indicated

Proposed Annual Savings Summary

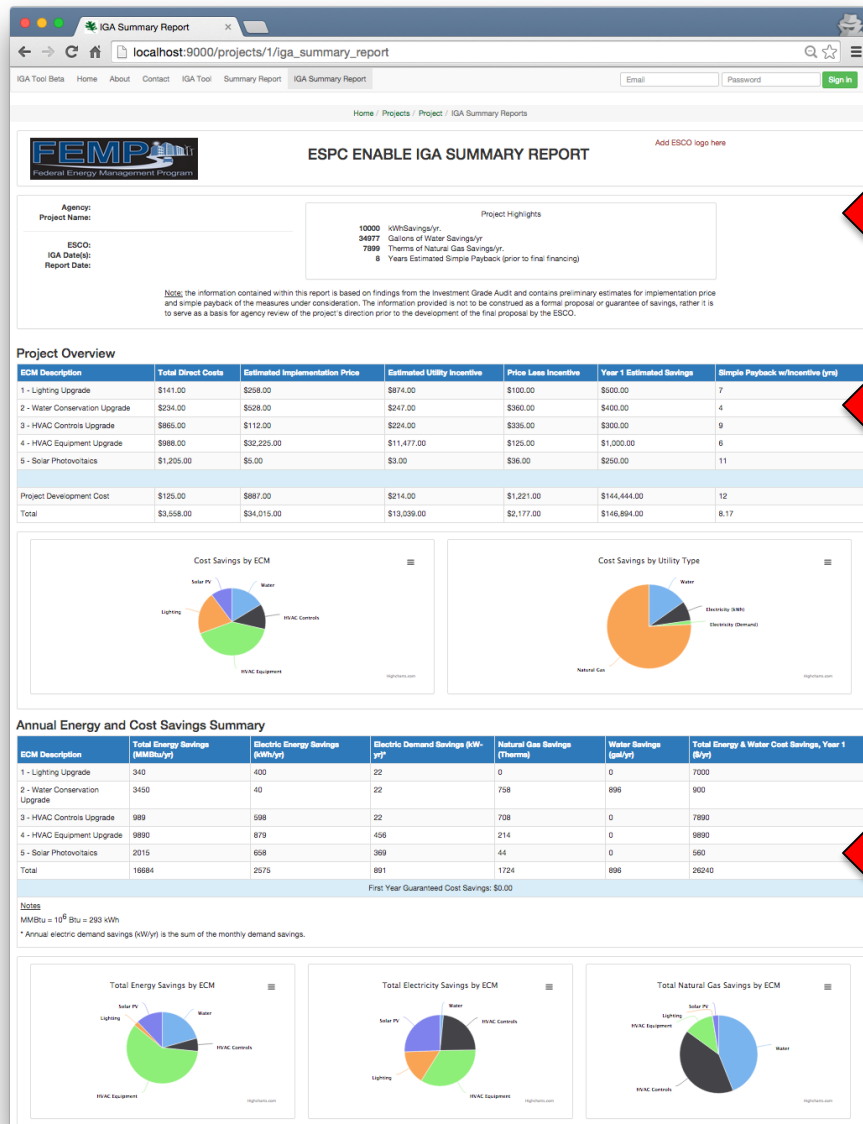
Table utilized in:

- Final Proposal
- Post Installation Report (ref. M&V Report Outline, Table 1)
- Annual M&V Report (ref. Annual Report Outline, Table 1)

ECM	Total energy savings (MMBtu/yr)	Electric energy savings (kWh/yr)	Electric demand savings (kW/yr)	Natural gas savings (MMBtu/yr)	Water savings (gal/yr)	Other energy savings (MMBtu/yr)	Total energy & water cost savings, Year 1 (\$/yr)	O&M cost savings, Year 1 (\$/yr)	Total cost savings, Year 1 (\$/yr)
Lighting	123	292	125	456	365	125	2545	\$1,524.00	\$2,548.00
Water	554	32255	1147	0	1122	7785	5584	\$124,578.00	\$2,366.00
HVAC Controls	112548	112354	112558	22345	600	3220	200	\$2,300.00	\$1,257.00
HVAC Equipment	125	1123	2145	2212	9521	8423	554	\$664.00	\$2,212.00
Solar PV	1111	22455	23288	1005	5500	32	900	\$10.00	\$100,254.00
Total Savings	114461	168439	136263	25018	17109	19565	9686	\$129,076.00	\$108,637.00

First Year Guaranteed Cost Savings: \$0.00

IGA Summary Report



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

NEW! ENABLE IGA Tool

- New web-based interface (no longer Excel)
- Allows for multiple project sites under one project
- Additional ECMs - Boilers and Chillers
- Ability to add “other” ECMs (ENABLE Hybrid projects)

The screenshot displays the IGA Tool Beta web interface. The top navigation bar includes links for Home, About, IGA Tool, Summary Report, IGA Summary Report, Project Members, and Logout. The main content area shows a breadcrumb trail: Home / Projects / Project. On the left, there are three sections for Energy Conservation Measures (ECMs): Lighting ECMs, Water ECMs, and HVAC ECMs. The Lighting ECMs section shows energy savings of 357.1 kWh, cost savings of \$44.63, total cost of \$2,108.59, and payback of 47.2 years. The Water ECMs section shows water savings in gallons, hot water energy savings in kWh, cost savings, total cost, and payback in years. The HVAC ECMs section shows HVAC electricity savings in kWh. The main form area includes a 'Remove' button and an 'Update' button. The form fields are: Name (ORNL Main+NTRC Campus), Description (ORNL ENABLE project), Esco (Test), Agency (ORNL), and Iga completed date (12/31/2016). On the right, there is an 'Add Site' button and two site summary boxes. The 'Main Campus' box shows 3 structures, description 'Validation', and last modified '7/18/17 1:54 PM'. The 'NTRC Campus' box shows 2 structures, description 'test', and last modified '7/18/17 1:55 PM'.

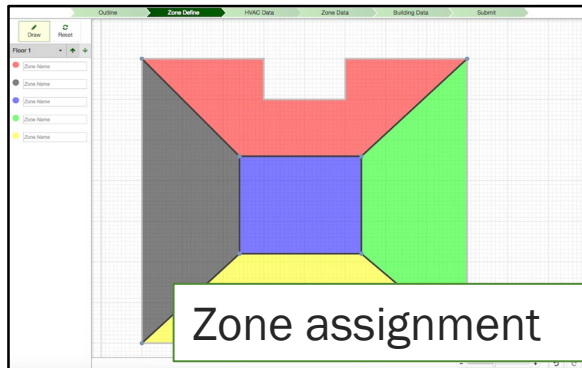
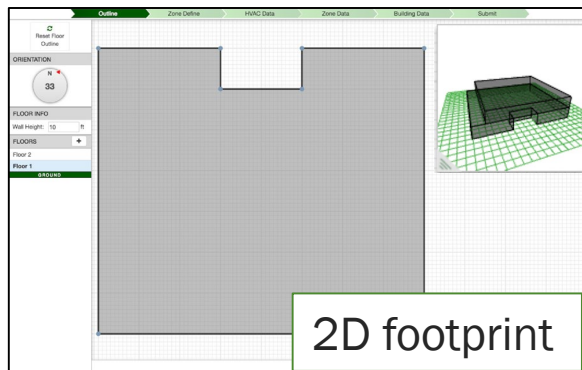
ECM Category	Value
Lighting ECMs	Energy savings: 357.1 kWh Cost savings: \$44.63 Total cost: \$2,108.59 Payback: 47.2 years
Water ECMs	Water savings: Gallons Hot water energy savings: kWh Cost savings: Total cost: Payback: years
HVAC ECMs	HVAC electricity savings: kWh

Site Name	# of Structures	Description	Last modified
Main Campus	3	Validation	7/18/17 1:54 PM
NTRC Campus	2	test	7/18/17 1:55 PM

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



	Name	Outside	HVAC Pre	HVAC Post	Light Intensity	Plug Intensity	Window-Wall Ratio	People
FLOOR 2								
<input type="checkbox"/>		<input type="checkbox"/>			1	1	47.7	265
<input checked="" type="checkbox"/>		<input type="checkbox"/>			1	1	47.7	265
<input type="checkbox"/>		<input type="checkbox"/>			1	1	47.7	265
<input type="checkbox"/>		<input type="checkbox"/>			1	1	47.7	265
<input type="checkbox"/>		<input type="checkbox"/>			1	1	47.7	265
FLOOR 1								
<input type="checkbox"/>		<input type="checkbox"/>	HVAC System 1	HVAC System 5	1	1	47.7	265
<input type="checkbox"/>		<input type="checkbox"/>	HVAC System 1	HVAC System 5	1	1	47.7	265
<input type="checkbox"/>		<input type="checkbox"/>	HVAC System 4		1	1	47.7	265
<input type="checkbox"/>		<input type="checkbox"/>			1	1	47.7	265
<input type="checkbox"/>		<input type="checkbox"/>			1	1	47.7	265

Equipment assignment by zone

IGA Tool: Additional Details

User Permissions/Access similar to eProject Builder

- Agency establishes project in IGA tool
- ESCO granted access to project
- ESCO can grant access to subcontractors
- Agencies/ESCOs only have access to their projects



New tool available for testing at:

https://femp-test.ornl.gov/iga_tool

Live ENABLE Project Tool:

https://femp.ornl.gov/iga_tool

ESPC ENABLE Process, Installation and Acceptance

Installation

Activities: Estimated timeline – 8-16 Weeks

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

** Indicates FEMP provided plan templates and report outlines*



ESPC ENABLE Process, Performance Period



Performance
Period

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: Program Status as of July 2020

ESCOs in the Program

- 26 qualified ESCOs under GSA Supply Schedule
 - Eight Small Business contractors
 - Two Service-Disabled Veteran-Owned Small Business contractors
 - Eleven IDIQ contractors

Project Status

- 21 projects awarded: USAF, USN, GSA (6), USFS (4), State Dept, CBP, BoP, DOE HQ, DEA, ICE, NOAA, NIST, FAA (\$0.2-\$18m)
 - 2 solar PV projects under ESPC ESA
 - Awards have gone to 5 small business ESCOs (including 2 Disabled Veteran ESCOs), 6 ESPC IDIQ ESCOs
- Multiple projects underway (Pipeline: 9 projects, 7 agencies)
- Scopes range from one to multiple ECMs

ESPC ENABLE: Eligible ESCOs as of July 2020

ABM Facility Support Services	*	Legatus6	**
AECOM Technical Services	*	Leidos, Inc.	*
AMERESCO Federal Solutions	*	M.C. Dean	
Brewer-Garrett Co	*	METCO Engineering	**
Climatec, LLC		Orion Energy Systems	
Constellation NewEnergy	*	Pacific Lighting Management	**
Control Technology & Solutions		Siemens Industry	*1
CTI Energy Services	**	SitelogIQ (formerly ADI Energy)	
The Efficiency Network	**	Stronghold Engineering Inc.	
ENGIE Services U.S.	*	Trane U.S.	*
Green Generation Solutions	**	Utility Systems Solutions	**
Honeywell International	*	Williams Electric Co	
Johnson Controls	*	Woodstone Energy	**

* = 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.

FEMP Assistance: Available Templates

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)

Questions?

