

Welcome to Today's Training on Energy Savings Performance Contracting Basics

Some Technical Tips Before We Get Started...

- To dial in: (888) 995-9859; access code: 79942#
- Session will be recorded
- All attendee phone lines will be muted
- Please submit your questions via the “Q&A” window
- Questions will be answered at the end of the session
- Presentation slides will be sent to attendees following the training



Energy Savings Performance Contracting Basics for State and Local Grantees

August 5, 2010

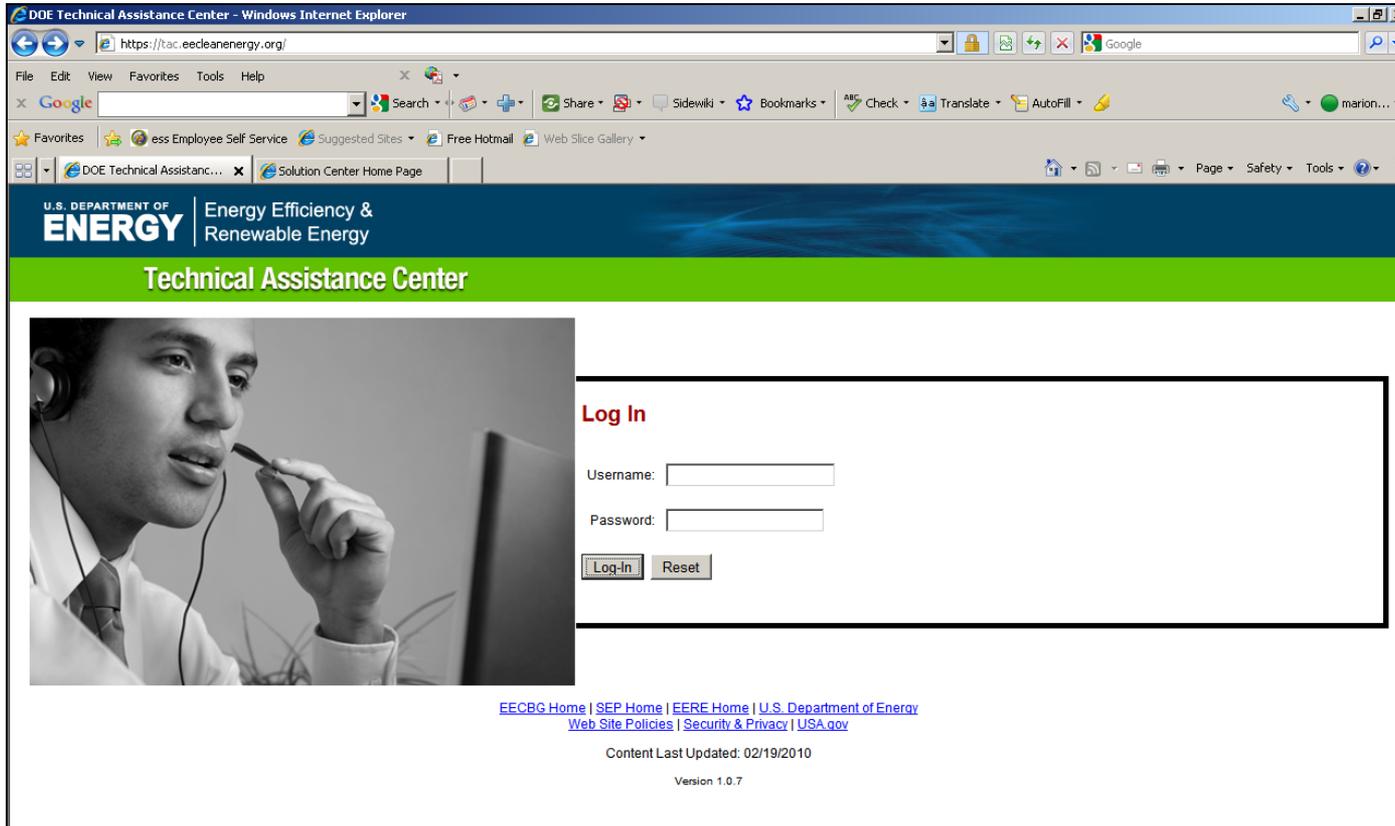
ARRA EECBG Recipient
ESPC Webinar Series

Goal: To provide SEP and EECBG recipients with the resources needed to swiftly implement successful and sustainable clean energy programs.

Objectives:

- Accelerate implementation, by proactively providing assistance to grantees
- Improve the performance of programs and projects, by connecting grantees to technical expertise and sharing best practices
- Increase the return on Recovery Act investments, by focusing on highly-leveraged initiatives
- Increase the sustainability of Recovery Act investments, by assisting grantees in developing policies and programs
- Build protracted capacity at the state, local, and tribal level, by supporting and expanding a network of energy practitioners

Technical Assistance Center live now: <https://tac.eecleanenergy.org/>



Make a request for direct technical assistance here
or call 1-877-EERE-TAP (1-877-337-3827)

Solution Center 2.0 live now: <http://wip.energy.gov/solutioncenter>

The screenshot shows the Solution Center 2.0 website. At the top, it features the U.S. Department of Energy logo and the text "Energy Efficiency & Renewable Energy". Below this is a green banner with "Solution Center" and "Technical Assistance for EECBG & SEP". A navigation bar includes "Webcasts", "Project Map", and "Request Technical Assistance". On the left, a sidebar lists categories: Buildings, Electric Power and Renewable Energy, Energy Education, Industry, Policy, Planning, and Energy Security, Transportation, Financial Products, and Technical Assistance Services. The main content area includes a description of the Solution Center, an "Upcoming Webcast" titled "Getting to Net Zero Today" on March 18, 2010, and a "Need Help?" section with a "Click Here to Request Technical Assistance" button and the phone number 1-877-EERE-TAP. On the right, there is a search bar and two "FEATURES" boxes for "SEP Program Guidance" and "EECBG Program Guidance". At the bottom, an "Activities" section describes resources for EECBG and SEP activities, accompanied by a diagram showing various energy efficiency and conservation strategies like material conservation, methane capture, energy audits, and retrofits.

Resources include: best practices, templates, webinars, project map, events calendar, TAP blog

We encourage you to:

- Explore our online resources via the [Solution Center](#)
- Submit a request via the [Technical Assistance Center](#)
- Ask questions via our call center at 1-877-337-3827 or email us at solutioncenter@ee.doe.gov

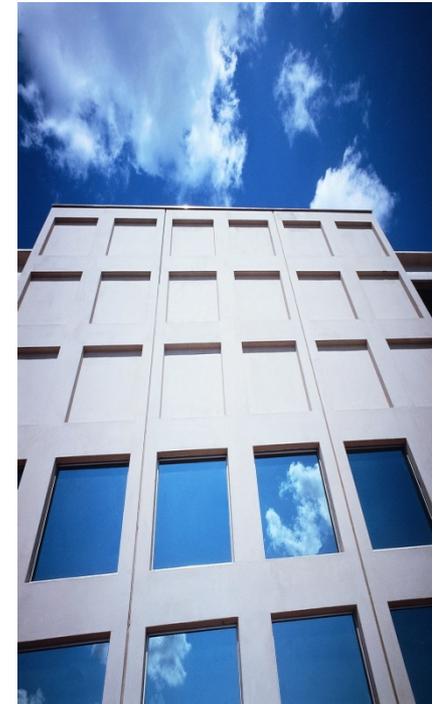


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ARRA EECBG Recipient
ESPC Webinar Series

- Provide subject matter experts and FREE direct technical assistance to Grantees
- Provide technical and other resource materials on DOE's Solution Center
- Develop and perform trainings (workshops and webinars)
- Assist with peer-to-peer information exchange



- ARRA Legal Provisions
- What is an ESPC and what it is NOT?
- Why do an ESPC and how to pay for it?
- The ESPC process
- Good ESPC candidates
- ESPC financial basics
- Enabling legislation
- Challenges you may face



- Buy American
- Davis Bacon Act (DBA)
- National Historic Preservation Act (NHPA)
- National Environmental Policy Act (NEPA)



What Is an ESPC and How Can It Help You?

What Is an Energy Savings Performance Contract (ESPC)?

- Contract between an organization (owner) and an Energy Service Company (ESCO)
- Method of paying for today's improvements with tomorrow's energy savings
- Mechanism where no up-front capital is required
- Separate financing contract (e.g., net-financing with an interest bearing escrow account)

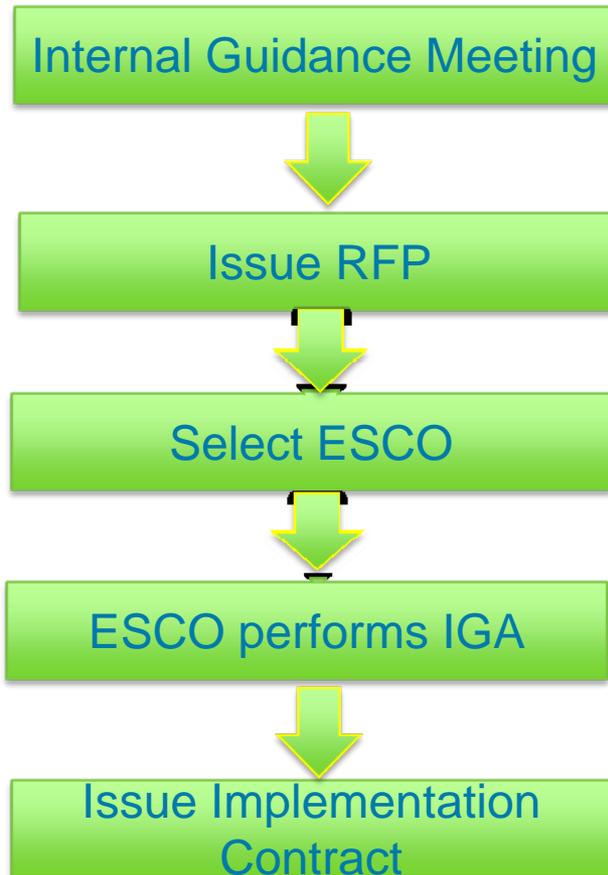


- Construction Contract
- Engineering Services Contract
- Design-Build Contract
- Architectural Services Contract
- Service Contract



Basic ESPC Flow Chart

ESPC Process



Financial Process



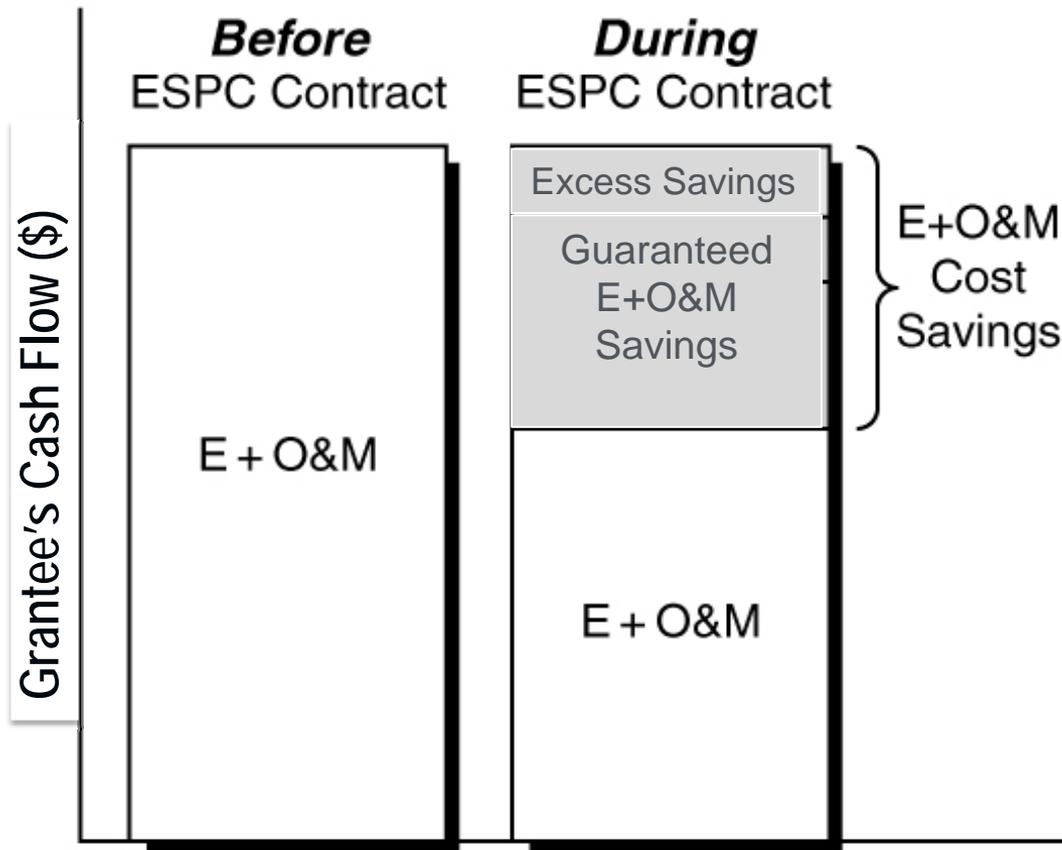
- Facility energy audit
- Facility energy usage statistical analysis
- Architectural design including ADA design and construction
- Mechanical design and construction including plumbing system
- Electrical design and construction
- Civil design including ADA design and construction
- Demolition
- Service
- Maintenance
- Building management system design and installation
- Complete facility commissioning
- Facility maintenance and operator training
- Facility performance measurement and verification
- All owners's general conditions that apply

- Capital improvement without spending capital dollars
- Save energy, guaranteed
- Lower operating (utility) costs and stabilize budgets
- Handle deferred maintenance (finally)
- Improve indoor air quality, comfort, and productivity
- Avoid the cost of delay
- Leverage EECBG funds



What Pays for an ESPC?

ESPC Project Cash Flow



Source: FEMP ESPC Training Program

- Long-term partnership
- Agreement on the energy baseline
- Annual savings must exceed annual payments
- ESCO pays in the event of shortfall
 - Savings in future years cannot pay shortfall for earlier years

- Guaranteed project cost
- Guaranteed equipment performance
- ESCO warrants the installed equipment for the payback period of the loan

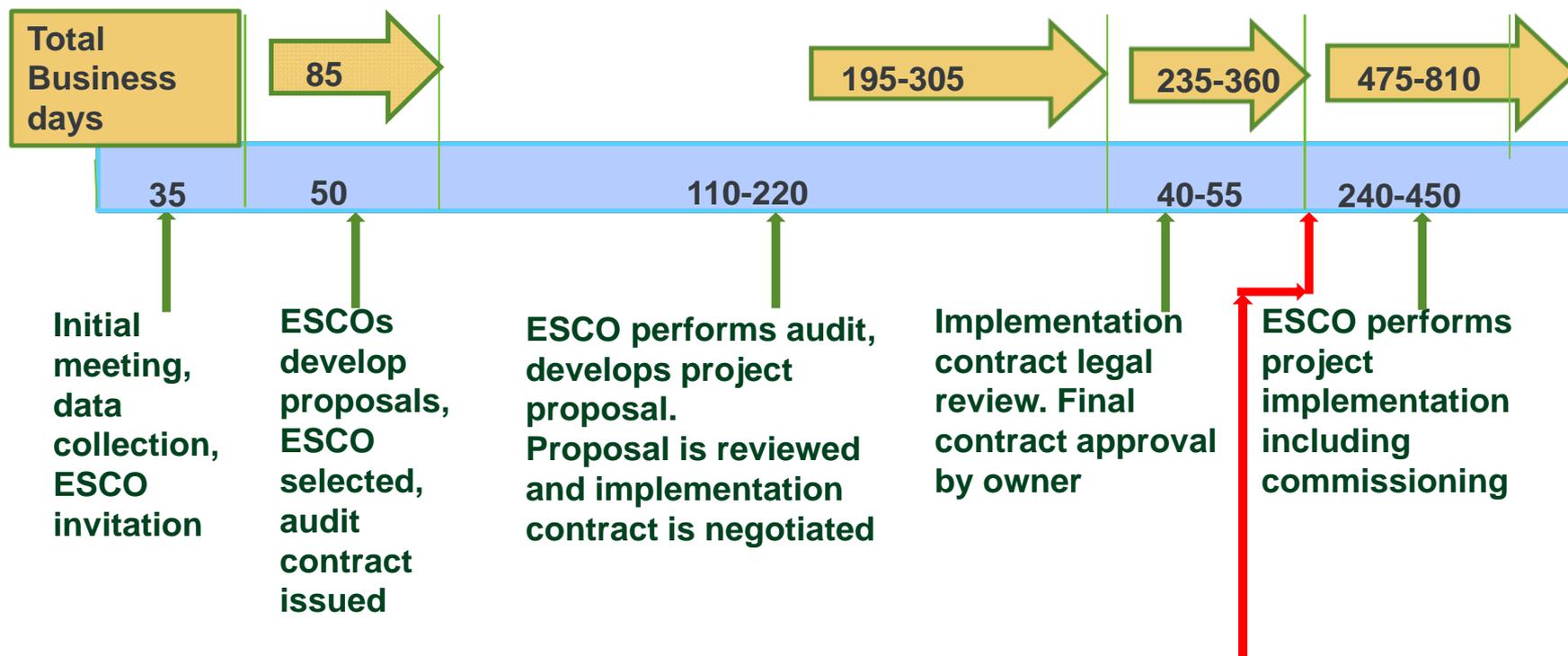


- Time-effective, cost-effective approach for completing facilities energy upgrades
- Future energy savings pays for facility upgrades now
- Guarantee of energy savings
 - Off-loads financial and performance risk
- One stop shop = single point of accountability (ESCO)
 - ESCO selected for best value, not lowest bid
- Owner participation in final equipment and subcontractor selection
- Low-interest financing options available
- Annual savings verification done per International Performance Measurement & Verification Protocol (IPMVP)

The ESPC Process

- Preliminary audit (broad project scope planning)
- Facility owner selects an ESCO
 - RFP
 - Contractor evaluation
- ESCO performs Investment Grade Audit (IGA)
 - Baseline established and agreed to
- ESCO installs and commissions the Energy Conservation Measures (ECMs) selected
 - ESCO guarantees the project cost and energy savings
- ESCO can arrange financing
 - Tax-exempt lease-purchase financing is typical

ESPC Timeline and Milestones



Typical earliest funding commitment = 235 days or 47 weeks

Good ESPC Candidates

- Buildings or facilities with:
 - Energy Use Index (EUI) over 100,000 BTU/sq ft annually
 - Very outdated Energy Management System (EMS), HVAC systems, or lighting systems
 - Utility bills over \$500,000 annually
 - Small ESPC projects have difficulty attracting capital due to high transaction costs (to bid, to design, etc.)
- Incandescent traffic signals and street lights

- Energy Management Systems
- Interior and exterior lighting
- Steam distribution system repair
- High efficiency HVAC systems
- Building envelope improvements
- Boiler repair/replacement/efficiency controller
- LED traffic and street light systems
- Water and wastewater treatment plant pumps and motors
- Variable Frequency Drives (VFD) on motors 5 hp and over



ESPC Financials Are Important!

- ESCO can, but does not have to, arrange financing
- Tax-exempt lease-purchase financing is typical
- Large project scope is in everyone's interest
 - Owner: Achieves most capital improvement, energy savings
 - ESCO: Lower performance risk
- Separate Financing Contract
 - Net-financing with interest bearing escrow account



ESPC Cash Flow Analysis

SAMPLE ESPC CASH FLOW ANALYSIS - NET FINANCING

This Sample spread sheet containing four Tabs depicts an ESPC project that is financed up front, the funds are put into an interest bearing Escrow account, from which payments are made to the ESCO on a monthly basis during the construction period, based on work completed. In this scenario the Lease-Purchase loan is less than what is owed to the contractor because the interest earned on the Escrow account will make up the difference. This is referred to as "Net Financing".

ENERGY PERFORMANCE PROJECT
Project # 12345

Updated: date

Finance Details	Amount	Remarks
Lease-Purchase Loan	\$ 18,858,410	
Interest accrued	\$ 998,066	
Escrow Interest Earned	\$ 514,185	See Tab 3
Payback Amount	\$ 19,856,476	See Tab 1
Interest Rate	3.406%	
ESCO Capital Cost	\$ 19,672,595	
Total ESCO award	\$ 27,668,129	Capital cost plus service, M&V and letter of credit for 13 yrs
Capital Funds	\$ -	
Revolving Loan fund Loan	\$ 500,000	includes \$200,000 for SEO Project Management
Period (yrs.)	13	Payments due at the beginning of every 6 month period
Energy Cost Escalation (per yr)	0%	
Labor Cost Escalation (per yr)	2%	

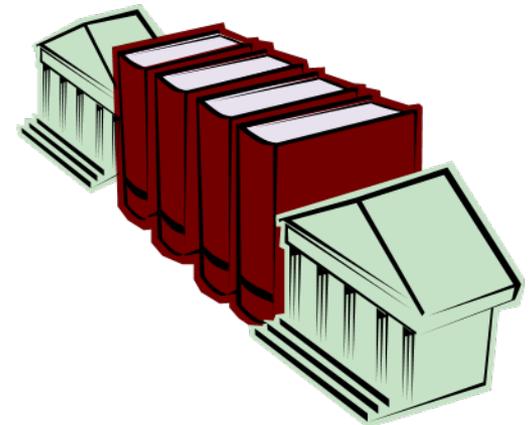
0% interest - 1% admin fee

CASH FLOW ANALYSIS

Year	Savings			Costs					Total Savings - Total Costs		Net Cash Flow Agency
	ESCO Guaranteed Energy Savings	Service & Contract/Repair Savings	Total Savings	Est. Loan Payment P & I	Revolving Loan Payment	ESCO Service Cost	ESCO M & V	SEO M & V	Guarantee Letter of Credit	Total Agency Costs	
1	\$ 2,392,341	\$ 382,022	\$ 2,774,363	\$ 1,896,641	\$ 70,000	\$ 415,125	\$ 103,698	\$ 50,000	\$ 29,157	\$ 2,564,621	\$ 209,742
2	\$ 2,392,341	\$ 389,662	\$ 2,782,003	\$ 1,896,641	\$ 65,000	\$ 423,428	\$ 105,772	\$ 51,000	\$ 29,157	\$ 2,570,997	\$ 211,006
3	\$ 2,392,341	\$ 397,456	\$ 2,789,797	\$ 1,896,641	\$ 60,000	\$ 431,896	\$ 107,887	\$ 52,020	\$ 29,157	\$ 2,577,601	\$ 212,196
4	\$ 2,392,341	\$ 405,405	\$ 2,797,746	\$ 1,896,641	\$ 55,000	\$ 440,534	\$ 110,045	\$ 53,060	\$ 29,157	\$ 2,584,437	\$ 213,309
5	\$ 2,392,341	\$ 413,513	\$ 2,805,854	\$ 1,896,641	\$ 50,000	\$ 449,345	\$ 112,246	\$ 54,122	\$ 29,157	\$ 2,591,510	\$ 214,344
6	\$ 2,392,341	\$ 421,783	\$ 2,814,124	\$ 1,896,641	\$ 50,000	\$ 458,331	\$ 114,491	\$ 55,204	\$ 29,157	\$ 2,603,824	\$ 210,300
7	\$ 2,392,341	\$ 430,219	\$ 2,822,560	\$ 1,896,641	\$ 45,000	\$ 467,498	\$ 116,781	\$ 56,308	\$ 29,157	\$ 2,611,385	\$ 211,175
8	\$ 2,392,341	\$ 438,823	\$ 2,831,164	\$ 1,896,641	\$ 40,000	\$ 476,848	\$ 119,116	\$ 57,434	\$ 29,157	\$ 2,619,197	\$ 211,968
9	\$ 2,392,341	\$ 447,600	\$ 2,839,941	\$ 1,896,641	\$ 35,000	\$ 486,385	\$ 121,499	\$ 58,583	\$ 29,157	\$ 2,627,265	\$ 212,676
10	\$ 2,392,341	\$ 456,552	\$ 2,848,893	\$ 1,896,641	\$ 35,000	\$ 496,113	\$ 123,929	\$ 59,755	\$ 29,157	\$ 2,640,594	\$ 208,299
11	\$ 2,392,341	\$ 465,683	\$ 2,858,024	\$ 1,896,641		\$ 506,035	\$ 126,407	\$ 60,950	\$ 29,157	\$ 2,619,190	\$ 238,834
12	\$ 2,392,341	\$ 474,996	\$ 2,867,337	\$ 1,896,641		\$ 516,156	\$ 128,935	\$ 62,169	\$ 29,157	\$ 2,633,058	\$ 234,280
13	\$ 2,392,341	\$ 484,496	\$ 2,876,837	\$ 1,896,641		\$ 526,479	\$ 131,514	\$ 63,412	\$ 29,157	\$ 2,647,203	\$ 229,634
14											\$ -
15											\$ -
Total	\$ 31,100,433	\$ 5,608,210	\$ 36,708,643	\$ 24,656,330	\$ 505,000	\$ 6,094,172	\$ 1,522,321	\$ 734,017	\$ 379,041	\$ 33,890,881	\$ 2,817,762

Don't Allow Legislative and Legal Language to Scare You

- 49 States have enacted ESPC legislation
 - Many different models, not necessarily like federal model
- Local governments generally covered by State legislation
- Information on state ESPC status
 - www.ornl.gov/info/esco/legislation/newesco.shtml



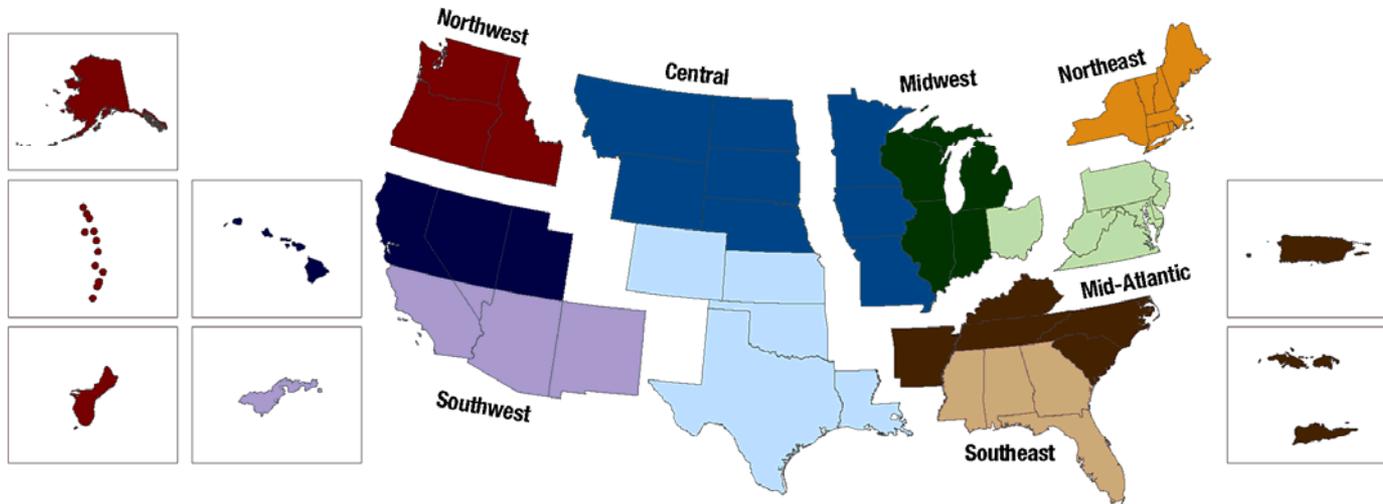
- Internal stakeholder objections and delays
- Extended negotiations
- Verification of ESCO's cost proposal
- Measurement and Verification (M&V) method selection
- Required maintenance agreements
- Savings reconciliation vs. budget cycle

DOE Coordination and Next Steps

- Identify opportunities for deploying block grants and obligating funds in a timely manner
 - Including for projects that will have sustained energy savings
- Target, prioritize, and implement strategies to leverage technology deployment resources
- Make grantees aware of ESPCs
- Determine if project is a good ESPC candidate
- Assist you with various steps of the ESPC process

- The ESPC technical assistance team will reach out to grantees for follow up to:
 - Determine if your projects are good candidates for ESPCs
 - Optimize your projects and goals
 - Discuss individually the services we can offer you
 - Make you aware of peer exchange and training opportunities
- If you do not want the follow up call, please let your Regional Coordinator know with a quick email

EECBG/SEP TTA Regional Coordinators



State Regional Coordinators

Northeast	Chuck Guinn, straguinn@aol.com 518-478-0748
Mid-Atlantic	Chuck Clinton, cclinton@naseo.org 703-299-8800 x19
Southeast	Brian Henderson, bhenderson@naseo.org 518-469-7497
Midwest	Jeff Pillon, jpillon@naseo.org 517-580-7626
Central	Jim Ploger, jploger@naseo.org 785-383-2557
Northwest	Bill Nesmith, wnesmith@naseo.org 503-580-4499
Southwest	Jim Arwood, jarwood@naseo.org 602-468-1702

Local Regional Coordinators

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 Mid-Atlantic	Leigh-Golding DeSantis, LDeSantis@icfi.com 202-862-1202	 South Central	Micah Brill, MBrill@icfi.com 202-862-1177
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