Demystifying Energy Savings Performance Contracts (ESPCs)

Moderator:

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Speakers:

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- Donald Gilligan, President, NAESCO



BUILD ON EFFICIENCY

Colorado Energy Performance Contracting Program



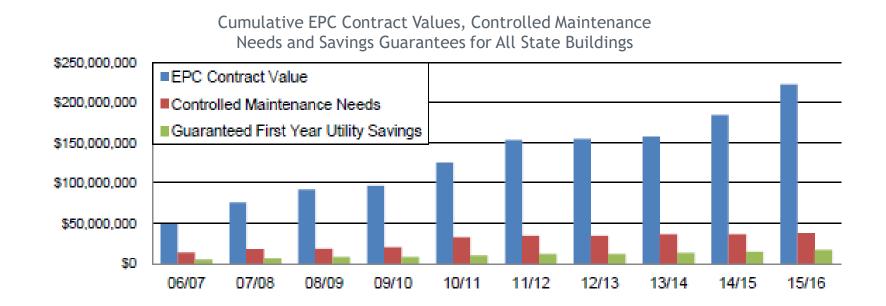
Policies with EPC Impact

Legislation and polices regarding energy for State Agencies:

- 1. EPC Enabling Legislation ('89, '99, '01, '09, '10, '13)
 - 24-30-2001,2002,2003
- 2. Colorado Tax payers Bill Of Rights (TABOR, 1992)
- 3. Colorado Energy Office -Financing of capital projects (2010)
 - 24-38.5-106
- 4. Dept. of Treasury Authority to Manage State Public Financing
 - 24-36-121
- 5. Office of State Architect- High Performance Buildings (2014)
 - 24-30-1305.5
- 6. Greening Government Executive Orders
 - D 014-03 (Owens)
 - D 005-05 (Owens)
 - D 0011-07 (Ritter)
 - D 0012-07 (Ritter)
 - D 2010-006 (Ritter)
 - D 2015-013 (Hickenlooper)
 - D 2018-026 (Hickenlooper)



EPC in State Buildings



EPC for State Agencies (No Higher Education):

- 21+ EPC Projects over this time period
- Over \$99.3 Million invested in state buildings using EPC



EPC By Agency

Agency / Department	Total Buildings	Buildings without EPC	Buildings <u>with</u> EPC	First EPC	Last EPC
CDOC	578	398	180	2010	2013
CDOT	1532	1323	209	2012	2012
CDHS	341	219	122	2005	2012
DNR	1880	1880	0	N/A	N/A
DMVA	68	68	0	N/A	N/A
CDPA	130	112	18	2003	2012
CDA	63	8	55	2011	2011
CDPS	56	56	0	N/A	N/A
CSDB	17	0	17	2009	2009
CHS	56	56	0	N/A	N/A
JUD	0	0	0	N/A	N/A
DOR	3	2	1	N/A	N/A
CDLE	3	2	1	2003	2012
CTBL	1	1	0	2010	2010
OIT	60	60	0	N/A	N/A
CDPHE	25	25	0	N/A	N/A
TOTALS	4813	4210	603	2003	2013

.......



Challenges with EPC in CO's State Buildings

- Financing Rules for State Agencies vs. State Institutes of Higher Education
- Incomplete Audits / Poor Project Development
- Bias towards more traditional project approaches (Design Bid Build)
- Lack of funds for Investment Grade Audit
- Inability to leverage equipment as collateral in EPC TELP

Treasury Authority for State Financing

In an effort to consolidate financing and debt related activities the Treasurers office was given authority and responsibility for the issuance, incurrence and management of state financial obligations.

Financing for EPC's prior had to 2014 has been solicited by individual State Agencies.

Combined with other factors, this change resulted in a considerable "knowledge gap" around how EPC financing for State Agencies should work.



Lack of Funds for Investment Grade Audit

The Colorado Energy Office's EPC program operates on a fee based IGA structure where a Square Footage based fee is calculated up front and identified in the IGA contract.

Colorado's State Agencies have been unable to pass budgets which include the funds for wholesale IGA efforts over the past 10 years.

This has resulted in "At-Risk" or small targeted IGAs that have failed to produce any significant EPC work.

Inability to Leverage Equipment in EPC

State Agency's EPCs through 2013 covered nearly 40% of building space. Leveraging lighting, controls and other equipment for up to 20 years for financing.

2017 Legislation directed the Treasurers office to leverage ~\$2 Billion in real estate to fund transportation work.

Between existing EPC Tax Exempt Lease Purchase obligations and proposed Certificates of Participation there is a shortage of assets available for collateral under traditional EPC TELP financing.



Efforts to Overcome Project Barriers

- 1. Office of the State Architect (OSA) and Colorado Energy Office (CEO) are tracking Higher Education Project to continue to establish contracting and project best practices to be used for State Agencies.
- 2. OSA and CEO continue to discuss EPC with Attorney's General and Treasurer to educate them on contracting and financing efforts for EPC.
- 3. CEO is working with state agencies to submit formal budget requests to cover IGA Fees.
- 4. OSA and CEO continue to work with Treasures Office, ESCOs, and Financiers to evaluate alternative contract models and financing approaches to work around issues with collateral.



Tools & Resources for Successful ESPC

NGA Lead By Example Workshop Providence, RI

Alice G. Dasek October 3, 2019



Overview

- The ESPC Opportunity
- Snapshot of ESPC Toolkit
- Deciding About ESPC
 - ESPC or Design-Bid-Build?
- Implementing ESPC
 - Financing Decision Tree
 - ESPC Virtual Technical Assistant
- Establishing ESPC
 - ESPC Networking Toolkit
 - ESPC Champions Toolkit
- Evaluating ESPC Results New Additions





The ESPC Opportunity

- Tight budgets for energy efficiency retrofits
- Good energy savings track record
 - ESPC projects active in 2012 saved 34 million TWh and 224 million MMBtu or approximately 1% of total US commercial building energy consumption¹
 - A typical ESPC project in the MUSH market saves approximately 13% to 31% annually compared to its baseline consumption²
- High market growth potential for ESPC
 - Anticipated 2017 revenues of \$7.6 billion, representing an average annual growth of 13% over the period 2015-2017³
 - Estimated ESPC project investment opportunity in MUSH market:
 ~\$52-\$87 billion⁴





The ESPC Toolkit

- Published 2016
- 30 Tools & Resources
- 5 Phases of ESPC Decision-Making
- Updated continually



Coming soon: ESPC Guide for Small Projects

https://betterbuildingssolutioncenter.energy.gov/espc/home

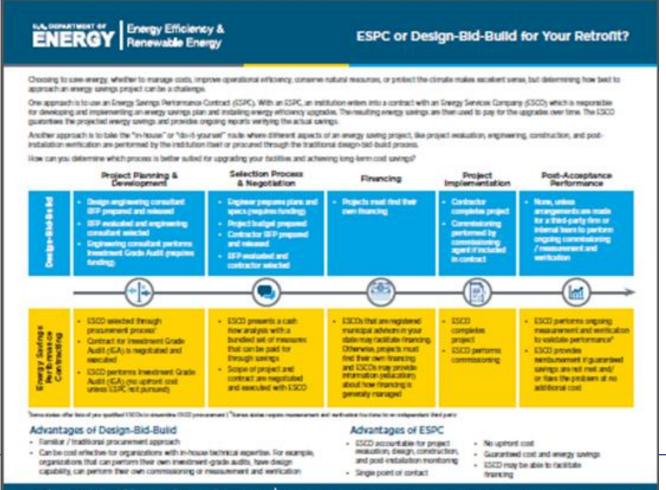




Tool: ESPC or Design-Bid-Build?

Barrier

"Which approach is better suited for our planned retrofit?"



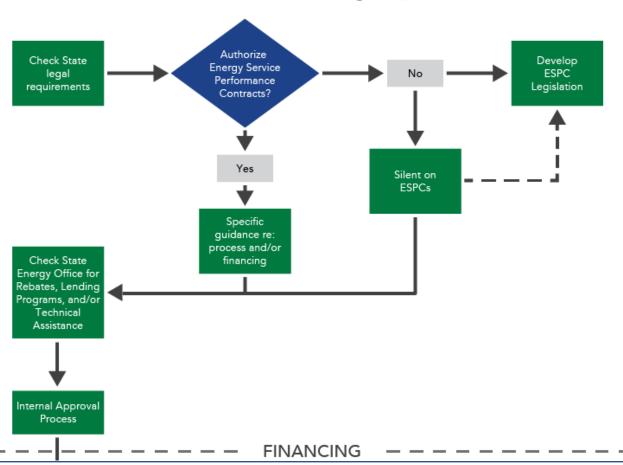




Tool: Financing Decision Tree

Barrier

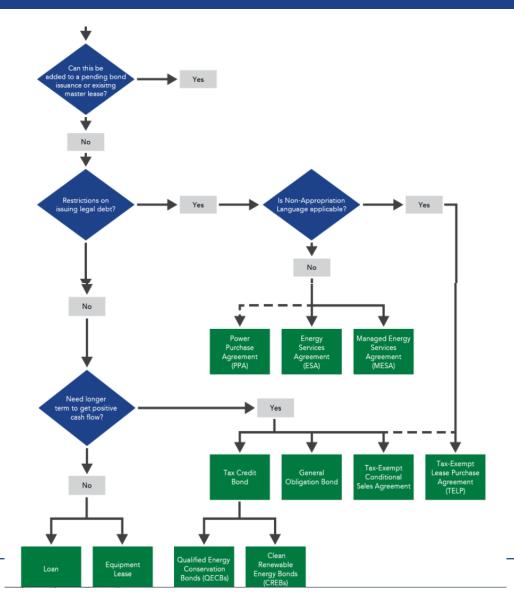
"Have we considered all financing options available to us?"







Financing Decision Tree contd.







Tool: Virtual Technical Assistant

Barrier

"We have one staff person and a limited budget. How can we offer a technical assistance program for ESPC?"



Home » Welcome to the ESPC Virtual Technical Assistant

Welcome to the ESPC Virtual Technical Assistant







Virtual Technical Assistant contd.

ESCO SELECTION PROCESS



If you've decided to proceed with an ESPC opportunity identified in the previous step, you'll select an ESCO from the list you have identified.

Step 1: Engage owner's representative

One of the biggest keys to a successful project is to have an expert by your side. Unless your organization has experience with ESPC, having an expert to help guide you through the process and avoid the pitfalls has proven to be a major factor in achieving a favorable ESPC outcome.

MORE

Step 2: Develop the Request for Proposal (RFP)

You may want to consider developing the RFP to consider multiple phases based on the facilities to be included in the overall project. This is particularly useful for larger campuses or entities with multiple facilities.

MORE

Step 3: Select ESCO / negotiate IGA contract

Depending on the number of responses, the exact nature of the evaluation process may vary. In general though, you should review the ESCOs' submissions and develop a short list of ESCO s you wish to interview.

MORE



Proceed to the next phase, Project Development.





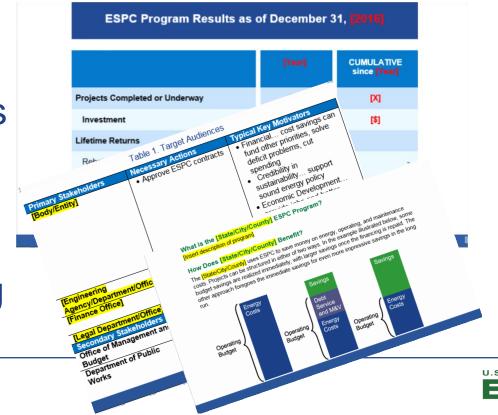
Tool: ESPC Networking Toolkit

Barrier

"How do we establish ESPC as our go-to vehicle for advancing energy efficiency projects, especially through leadership and staff transitions?"

Solution

Tools to make the business case for ESPC and a plan for sustained outreach to critical ESPC stakeholders in the community, including for new leaders and staff.





ESPC Networking Toolkit contd.

ESPC NETWORKING TOOLKIT

Smooth and successful ESPC projects result directly from engaging experts in many different technical and professional areas. With a typical ESPC project running 15-20 years, success depends on the continued support of these critical stakeholders. In the project development phase, stakeholders need to understand ESPC and their roles in the process to initiate projects successfully. Over the long term, positive project progress and measurable benefits will reinforce stakeholder support. Providing information about ESPC, the process, and regular updates on ongoing projects can build and maintain this support for ESPC. Regular and ongoing communications about ESPC build relationships with key stakeholders that can form a permanent ESPC network. To that end, this toolkit contains four tools to build a formal, permanent ESPC network. It provides a plan and resources to explain the ESPC process to stakeholders and provide regular reports on local ESPC program results. Let's get started!



Communications Plan Guidance

This plan serves as the toolkit guide and includes primary information that will be used to maintain the local ESPC network. It spells out the

communications goals, target audiences (i.e., key stakeholders), messaging, workplan, and resources.



Overview Presentation Guidance

This brief PowerPoint presentation provides an overview of local ESPC efforts to date, including the process and key players. It includes speaker's

notes and can be tailored for any audience.



Summary Handout Guidance

This two-page template is intended as a leave-behind after the overview presentation or as a handout for a smaller meeting where the overview presentation might not be necessary. The summary follows the outline of the presentation and includes more details.



Annual Report Guidance

Use this two-page report template to summarize the jurisdiction's cumulative ESPC progress and highlight annual results and recent

successes. It is intended for distribution to stakeholders, as well as for media release. It can also be used as a companion leave-behind to the Summary Handout.



Education, Local Government, State Government

BARRIER:

Financing or paying for a project, Motivating my organization

TOOL TYPE:

Outreach Materials

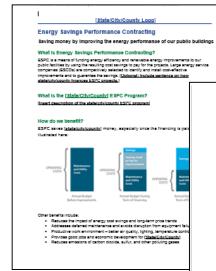






ESPC Networking Toolkit contd.

Table 1. Target Audiences				
Primary Stakeholders	Necessary Actions	Typical Key Motivators		
[Body/Entity]	Approve ESPC contracts	Financial cost savings can fund other priorities, solve deficit problems, cut spending Credibility in sustainability support sound energy policy Economic Development provide jobs and better quality of life		
[Engineering Agency/Department/Office]	Lead ESPC efforts	Facilities Improvement at no upfront cost		
[Finance Office]	Issue revenue bonds	 Financial no upfront costs and possibly no formal debt 		
[Legal Department/Office]	 Review all agreements 	Legal propriety		
Secondary Stakeholders	Desired Actions	Typical Key Motivators		
Office of Management and Budget	Adjust budgets	 Financial no upfront costs and possibly no formal debt 		
Department of Public	Responsible for all	Reduced O&M costs		



What is Energy Savings Performance Contracting?

- Energy efficiency and renewable projects for public facilities
- Projects are contracted to an Company (ESCO)
- ESCO guarantees the energy up any shortfall
- City funds projects with reven with cost savings

What Is ESPC's Track Record?

- Nationwide, ESPC is approximately an \$8 billion/year industry
 - Originated in the 1970s; 49 states have enacted ESPC legislation
- [State/City/County] is making good progres
- Bullets of [state/city/county] projects and successes

How Does [State/City] Benefit?

- Budget savings especially once cost is paid back
- Lowers energy costs, and reduces impact of energy price swings
 Decreases operating costs (e.g., automated controls save on
- Reduces maintenance costs (e.g., LED bulbs are
- Generates positive cash flow payback covered



Who Is Involved with ESPC?

 List the stakeholders for your [state/city/county] and points of contact at each





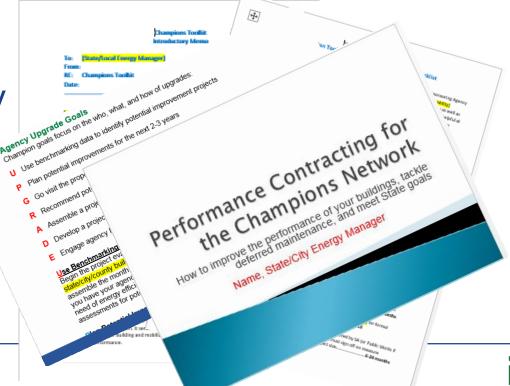
Tool: ESPC Champions Toolkit

Barrier

"We have one staff person but 17 agencies that own buildings. How can we cultivate ESPC projects to help us meet our ambitious state energy savings goals?"

Solution

Tools to empower agency staff to be the SEO's eyes and ears on the ground for developing energy efficiency retrofits via ESPC







ESPC Champions Toolkit contd.

ESPC CHAMPIONS TOOLKIT

DOE considers ESPC a promising tool to undertake retrofit projects across the country toward energy savings goals. Like all retrofits, ESPC projects start with an idea for an improvement. Making retrofits a reality requires strong project planning and a commitment to getting it done. Landlord agencies require a team of people to continually identify the energy savings potential in each agency's buildings. Each project needs a dedicated project advocate or champion to shepherd the retrofit from idea to completion. Project champions are a way to magnify local efforts to cultivate energy efficiency retrofits. Champions will be motivated to develop retrofit projects to benefit their individual agencies. By organizing individual agency champions into a formal network and empowering them with the tools they need to develop strong retrofit projects, state and local governments can harness their efforts in a powerful, concerted drive toward their energy savings goals. To that end, this toolkit contains several resources to cultivate a formal, permanent network of ESPC champions. It provides presentations for state and local governments to introduce the program to champions and their agency leaders. It also contains a separate set of tools for the champions themselves as they plan, develop, and build support for local ESPC retrofit projects. Let's get started!

TOOLS



Program Design Outline Guidance

This plan spells out the vision for the Champions Network and explains the



Prompt to Action Template Guidance

The Program Design Outline suggests using a prompt in the form of a magnet or certificate to summarize the building UPGRADE plan in seven

steps and hang in the Champion's workspace. It reminds Champions of their daily responsibilities as part of this network to advance local energy savings goals. Network Leads can use this template to design and produce their own prompts for distribution to the Champions.



Introduction for Champions Guidance

This introductory summary welcomes champions to the network and explains the tools available for their role as Champion for their agency.



Strategic Plan for Champions Guidance

The strategic plan spells out the program goals, the Champion role, strategic plan, and tactical steps, summarized in the acronym UPGRADE. It

serves as the guide for Champions to accomplish energy efficiency retrofits in their agencies using ESPC.



Overview Presentation to Agency Leadership (Champion Version)

Guidance

Once champions have a promising retrofit project planned, they can use this short PowerPoint presentation to gain approval from their agency's leadership for carrying out the improvements as an ESPC project.



Project Implementation Checklist for Champions Guidance

When a retrofit project gets the green light to proceed, this checklist supports the Champion in moving the project through the ESPC process

and can be customized for the specific process in the jurisdiction.



Overview Presentation to Champions Guidance

This brief PowerPoint presentation summarizes the impetus, strategy, and plan for the Champions Network. It includes speaker notes and is intended

Buildings for presentation to the corps of champions at an in-person program kickoff meeting.



ESPC Champions Toolkit contd.

Retrofit Project Proposal in [Agency/Department]

Improving the performance of our buildings, to maintenance, and meeting [State/City/Co

[Champion Name, Title]

What Project Have We Identified?

· As Champion for our [agency/department], one of my rofits in partnership with the Energy Manager

following potential project

The Project in Numbers

- · We can't know the full scope of work until we select an ESCO and receive the
- and project proposal Why ESPC?
- Based on preliminary

nance costs ls disruption of

Who Has Used ESPC?

· [List any: have use well as er

Next Steps?

- · Review project proposal
- · Decide whether to move forward with project

Questions?

[Agency Champion]	[State/CityEnergyManager]
[Champion Name]	[Energy Manager Name]
[Phone]	[Phone]
[E-Mail]	[E-Mail]

Champions Toolkit Champion Tool: E8PC Project Implementation Checklist

Det	Berral		
Targer	Actual	1.	Preliminary selection of a location or set of locations for ESPC – Spansoring Igency (\$40) does this with help from the [Sates(City/Countri)] [DescriptSparsings(liby)] Manager. Selection based on apportunity for improvement and sovings as well as commitment of the \$5. The Leadership Engagement: Presentation may be helpful at this step on in the new one. Some discussion may open as on what locations to include in the notice. I should be approximately approximately selected the set of t
		2.	Assembling the RFP and project timeline - The (State/City/County)
Target	.Cours	-	[<u>Control Sectional Hot</u>] office assists the S.I. as needed in developing the RFP or providing a samplete. Informal approach are needed from S.I. management and <u>by affects</u> ; keep their informed discuspices, with the <u>lotate informational information</u> . The RFP is coordinated information (<u>Information</u> SFP is coordinated information).
		2.	Biddens' conference, walkfirroughs, and O&A -95 gets informal approval of
Targes	Acquai	-	building coverations game to conduct walkthroughs. Hold conference and grell minary walkthrough. It weeks after lessing RTP Detailed walkthroughs. 3-threets:
			Olid period. I mealer. Preliminary review of proposals for completeness and compliance – Done by
Targer	Acqual	•	9th with <u>lectate ictivitosumbil</u> scalesonce as needed, dealerance may also be regular from (<u>paragovitastalisability</u>) office, parchasing, Public Works, andior

- U Use benchmarking data to identify potential improvement projects
- P Plan potential improvements for the next 2-3 years
- G ovisit the proposed buildings and talk to the facilities team
- R Recommend potential Energy Conservation Measures (ECMs)
- A Assemble a project team
- Develop a potential project description
- E Engage agency leadership





Evaluating ESPC Results – New Additions

- The Business Case for Applying M&V in State and Local Government ESPC Projects
- Energy Savings Performance Contracting for State and Local Governments: Strategies for Successful M&V
- Understanding your ESPC Savings Guarantee
- Guide to Verifying Operating and Maintenance
 Savings in Energy Savings Performance Contracts





Thank You!

Questions?

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Implementing a State Buildings ESPC Program

NGA Lead-by-Example Workshop Providence, Rhode Island October 3, 2019





Presentation Outline

- ESCO View of ESPC
- Potential Market
- Ample Funding Available
- Keys to Success
- Tale of Two States



ESCO View of ESPC

- States have huge building maintenance backlogs
 - 25-40% is energy-related
- ESPC repurposes currently wasted money to pay for privately financed capital improvements
 - Wasted energy
 - Maintaining obsolete equipment
- ESPC delivers energy and maintenance savings
 - + Resilience cyber security, CHP, renewables
 - + Emissions reductions
 - + Grid modernization and demand response
 - + Improved productivity, reduced absenteeism
 - + Thousands of high-paying jobs





Potential Market for ESPC



- Lawrence Berkeley Lab study 2017
 - 3.7 to 5.2 billion square feet of state/local gov't buildings
 - Up to \$65 billion of potential investment
- Current market size estimate
 - Less than \$2 billion being implemented today

Source: Updated Estimates of the Remaining Market Potential of the U.S. ESCO Industry, LBNL, April 2017





Funding Available

- Institutional investors looking for opportunities
 - ESPC is stable low risk and long terms
- Historically low interest rates
- Competitive private finance market offers many different products and structures
 - Bonds, Loans, Leases
 - Guaranteed or Shared Savings structures
 - PPAs for powerhouses, renewables or CHP
 - ESA and EaaS
 - On or off balance sheet





Keys to ESPC Program Success

- Governor makes program a priority
 - Executive Order
 - No new capital until ESPC (waste reduction) exhausted
 - Budget office monitors and enforces
- Landlord agency buys into the program
 - Entrenched opposition in many states
 - ESPC disrupts historical construction practices
 - ESPC is more work and more risk
 - Management fees for ESPC projects much lower
 - State Energy Office no match in a bureaucratic fight





Tale of Two States - Pennsylvania

- Governor Rendell Exec Order made ESPC a priority
- Appointed DGS to run the program
- Established and enforced aggressive targets
- Streamlined ESPC project development system
- Implemented \$600 million of projects
- Governor Corbett had other priorities
- DGS killed the program with about 20 projects in development process





Tale of Two States - Michigan

- Almost unanimous legislation in a conservative legislature promoting waste reduction
 - Established DTMB to run the program
 - Approved by Governor Snyder
- Department of Technology, Management and Budget (DTMB) help up process
 - Disassembled rather than streamlining the ESPC development process
 - 10 prison projects teed up a decade ago
 - 2 projects implemented over 4 years
 - Waited out term-limited legislative sponsors





Conclusion

- ESPC offers large benefits to states
 - Billions of dollars of privately-financed facility improvements paid by repurposing wasted dollars
 - Energy savings and major Non-energy Benefits
 - Thousands of high-paying jobs
- Governor can drive an ESPC program without legislation or new taxes
 - Requires aggressive goals and management
- Support of the landlord agency is essential for ESPC program success



