Demystifying Energy Savings Performance Contracts (ESPCs)

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Speakers:
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• Donald Gilligan, President, NAESCO
Policies with EPC Impact

Legislation and policies regarding energy for State Agencies:


2. Colorado Tax payers Bill Of Rights (TABOR, 1992)

   • 24-38.5-106

4. Dept. of Treasury - Authority to Manage State Public Financing
   • 24-36-121

   • 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

Cumulative EPC Contract Values, Controlled Maintenance Needs and Savings Guarantees for All 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

<table>
<thead>
<tr>
<th>Agency / Department</th>
<th>Total Buildings</th>
<th>Buildings without EPC</th>
<th>Buildings with EPC</th>
<th>First EPC</th>
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<td>603</td>
<td>2003</td>
<td>2013</td>
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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
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.
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.
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 consumption\(^1\)
  - A typical ESPC project in the MUSH market saves approximately 13% to 31% annually compared to its baseline consumption\(^2\)
- High market growth potential for ESPC
  - Anticipated 2017 revenues of $7.6 billion, representing an average annual growth of 13% over the period 2015-2017\(^3\)
  - Estimated ESPC project investment opportunity in MUSH market: ~$52-$87 billion\(^4\)

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\(^2\) LBNL/NAESCO database of ESCO projects
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.
Barrier

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

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!

<table>
<thead>
<tr>
<th>TOOLS</th>
<th>Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications Plan</td>
<td>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.</td>
</tr>
<tr>
<td>Overview Presentation</td>
<td>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.</td>
</tr>
<tr>
<td>Summary Handout</td>
<td>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.</td>
</tr>
<tr>
<td>Annual Report</td>
<td>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.</td>
</tr>
</tbody>
</table>

SECTOR:
Education, Local Government, State Government

BARRIER:
Financing or paying for a project, Motivating my organization

TOOL TYPE:
Outreach Materials
What is Energy Savings Performance Contracting?

- Energy efficiency and renewable energy projects for public facilities
- Projects are contracted to an Energy Services Company (ESCO)
- ESCO guarantees the energy savings, up any shortfall
- City funds projects with revenue from 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 progress
  - Bullets of [state/city/county] projects and successes

How Does [State/City] Benefit?

- Budget savings – especially once cost is paid back
- Lower energy costs, and reduces impact of energy price savings
- Decreases operating costs (e.g., automated controls save on HVAC)
- Reduces maintenance costs (e.g., LED bulbs last longer)
- Generates positive cash flow – allows more capital for other projects

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
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!

**Program Design Outline**
This plan spells out the vision for the Champions Network and explains the

**Prompt to Action Template**
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.

**Overview Presentation to Champions**
This brief PowerPoint presentation summarizes the impetus, strategy, and plan for the Champion Network. It includes speaker notes and is intended for presentation to the corps of champions at an in-person program kickoff meeting.

**Introduction for Champions**
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**
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)**
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**
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.
ESPC Champions Toolkit cont'd.

Retrofit Project Proposal in [Agency/Department]

- Improving the performance of our buildings, to maintenance, and meeting [State/City/Code] (Champion Name, Title)

What Project Have We Identified?
- As Champion for our [agency/department], one of my
  - Profits 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 their and project proposal.
- Based on preliminary

Why ESPC?
- [List any other factors that have used ESPC, as well as experiences with successful projects or results]

Who Has Used ESPC?

Next Steps?
- Review project proposal
- Decide whether to move forward with project

Questions?

<table>
<thead>
<tr>
<th>[Agency Champion]</th>
<th>[State/City Energy Manager]</th>
</tr>
</thead>
<tbody>
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<td>[Champion Name]</td>
<td>[Energy Manager Name]</td>
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Champions Toolkit

Champion Tool: EPC Project Implementation Checklist

<table>
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<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Assemble a project team</td>
</tr>
<tr>
<td>B</td>
<td>Develop a potential project description</td>
</tr>
<tr>
<td>C</td>
<td>Recommend potential Energy Conservation Measures (ECMs)</td>
</tr>
<tr>
<td>D</td>
<td>Go visit the proposed buildings and talk to the facilities team</td>
</tr>
<tr>
<td>E</td>
<td>Plan potential improvements for the next 2-3 years</td>
</tr>
<tr>
<td>F</td>
<td>Use benchmarking data to identify potential improvement projects</td>
</tr>
<tr>
<td>G</td>
<td>Engage agency leadership</td>
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</table>

U.S. DEPARTMENT OF ENERGY

Better Buildings
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
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

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