Energy Savings Performance Contracting: Guidelines for Developing, Staffing, and Overseeing a State Program

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FOR MORE INFORMATION

For additional resources and more information regarding *Energy Savings Performance Contracting Guidelines for Developing, Staffing, and Overseeing a State Program*, visit DOE's Technical Assistance Program's Solution Center at
http://www1.eere.energy.gov/wip/solutioncenter/performance_contracting.html

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Terminology

Common terms used throughout this document and the appendices include:

- **Client, Facility Owner, Agency, End-User,** and **Institution** all refer to the entities that you may assist through your ESPC program.
- **Energy Savings Performance Contract (ESPC), Energy Performance Contract, Performance Contract,** and **Guaranteed Energy Savings Agreement** are used synonymously.
- **ESPC Field Representative, Technical Assistance Provider, Third-Party Facilitator,** and **Owner's Representative** are used synonymously, except that an ESPC Field Representative has a less-involved role than the others in helping an owner through the ESPC process.

Common Acronyms

BTU	British Thermal Unit
CHP	Combined Heat & Power
DOE	United States Department of Energy
EPA	United States Environmental Protection Agency
ESC	Energy Services Coalition
ESCO	Energy Service Company
ESPC	Energy Savings Performance Contract
FEMP	Federal Energy Management Program
HVAC	Heating Ventilation and Air Conditioning
IGA	Investment Grade Audit
IPMVP	International Performance Measurement and Verification Protocols
kWh	kilowatt-hour
LBNL	Lawrence Berkley National Laboratory
LOC	Life of Contract
MOU	Memorandum of Understanding
M&V	Measurement & Verification
NAESCO	National Association of Energy Service Companies

O&M	Operation & Maintenance
ORNL	Oak Ridge National Laboratories
RFP	Request for Proposal
RFQ	Request for Qualifications
SEO	State Energy Office
TA	Technical Assistance

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The Program Guidelines include 30 customizable documents, templates, contracts, and checklists located in the Appendices. They are available for download at the DOE Solution Center (http://www1.eere.energy.gov/wip/solutioncenter/performance_contracting.html).

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Overview

The *Energy Savings Performance Contracting Guidelines for Developing, Staffing, and Overseeing a State Program* (Program Guidelines) provide information, best practices, and resources on how to develop an Energy Savings Performance Contracting (ESPC) program. The goal is to increase acceptance and use of ESPC by state and local governments to achieve large-scale and comprehensive energy-saving projects.

The intended audience of the Program Guidelines is State Energy Offices (SEOs). Other entities that might find this document equally useful include those who oversee or influence institutions, such as state building administrations, school district funding authorities, or associations with a government or buildings focus.

The Program Guidelines include 30 customizable documents, templates, contracts, and checklists in Appendices A through F, tailored for various possible stakeholder groups. For example, Appendix C-10 (Program Guidelines Template) might be particularly useful for entities seeking to develop an ESPC program. The Program Guidelines Template includes an outline and key introductory information to summarize and maintain information on key decisions and document development.

These Program Guidelines also include numerous hyperlinks to external websites with useful program resources.

The first chapter describes the key issues of ESPC, followed by a chapter describing the core elements of a program to promote ESPC. Subsequent chapters present more detail on program elements including developing an education and outreach program, establishing a standardized procurement and contracting process using model documents, providing technical assistance to oversee projects, and staffing a program.

1. ENERGY SAVINGS PERFORMANCE CONTRACTING (ESPC)

It is important to understand the many different aspects of performance contracting, presented in this section, in order to develop an effective ESPC program that will help facility owners overcome technical, financial, and process barriers to successful projects. This section presents an overview of the key elements of ESPC.

ESPC, or performance contracting, is a budget-neutral approach to performing building improvements that reduce energy and water use while increasing operational efficiency. ESPC enables owners to implement cost-saving projects now, without capital budgets. The resulting cost savings pay for efficiency projects over time. Projected annual savings are guaranteed to meet finance payments and any other project costs. Ideal candidates for ESPC include any large building or group of buildings such as city, county, and state buildings; schools; hospitals; commercial office buildings; and multifamily buildings.

1.1 How ESPC Works

Facility operating costs for utilities and maintenance may be higher than needed due to deferred maintenance, aging equipment, and inefficient operations. An ESPC project can put those dollars to better use.

Figure 1:
Annual Budget
Before Improvements

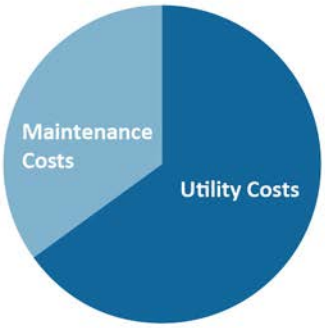
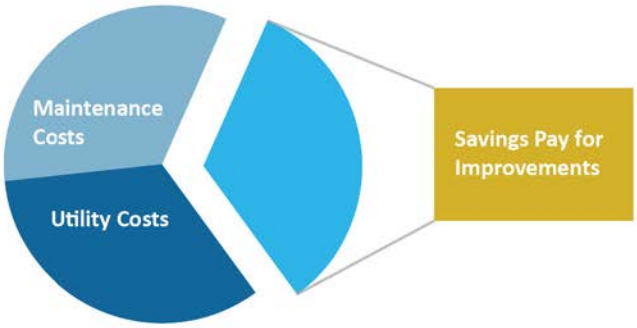


Figure 2:
Annual Budget
After Improvements



Facilities can redirect a portion of their utility and maintenance budgets to invest in the facility, as shown in the above diagram. Figure 1 shows an annual budget before improvements, where a portion of the budget pays for utilities and another portion pays for maintenance. Figure 2 reflects the same budget after installation of cost-saving improvements. Upgrading to equipment that is more efficient and optimizing operations reduces utility costs. Reduced demand for replacement parts and contracted services lowers maintenance costs. The resulting savings frees up a portion of the facilities' annual budget to pay for the improvements over time.

In an ESPC project, the projected savings are guaranteed. A third party generally finances the total project cost, using the guaranteed annual projected savings to pay for the improvements over time, often within 15 years. Therefore, facility owners can make the building improvements right away without asking for appropriations and without impacting the capital budget.

Figure 3: ESPC Project Costs and Savings over a 15-Year Period

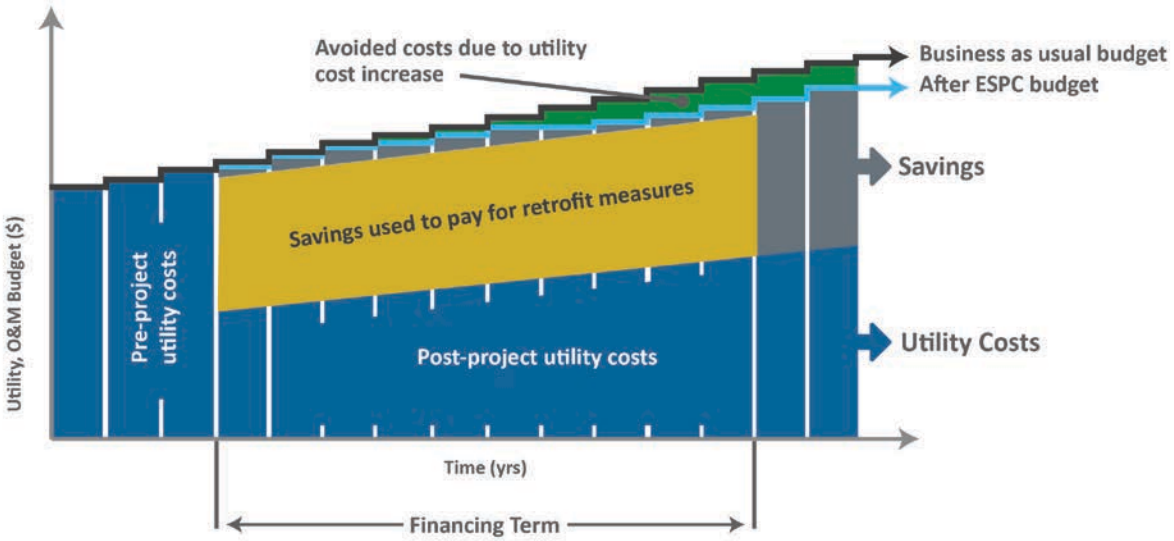


Figure 3 illustrates costs and savings over a 15-year period. The blue segments show the true utility costs before and after the retrofits. The yellow segments show the savings (or avoided costs) that pay for the project during the financing term. The gray segments show the savings that continues after the owner finishes paying for the ESPC project. This savings continues through the remaining useful life of the equipment. The green segment at the top reflects the typical circumstance in which utility costs escalate more than planned, leaving the owner with added "avoided costs" in the budget. As you can see, the bulk of the resulting savings is now available to make the annual payments on the cost-saving improvements. Following are links to documents that a state program may use to help explain the ESPC concept and process to staff and potential owners.

ESPC PROGRAM RESOURCES

- What Is Energy Savings Performance Contracting?
  This document is a US Department of Energy (DOE) fact sheet on ESPC.
  (www1.eere.energy.gov/wip/solutioncenter/pdfs/T2_ICF_FS1_WhatisESPC_FINAL_052311.pdf)
- Introduction to Energy Performance Contracting
  This document is a US Environmental Protection Agency (EPA) introduction to ESPC.
  (www.energystar.gov/ia/partners/spp_res/Introduction_to_Performance_Contracting.pdf)

1.2 Energy Service Companies (ESCOs)

An Energy Service Company (ESCO) typically implements the performance contract. The ESCO provides the following services in a turnkey approach:

- Identify and evaluate project opportunities
- Propose a project with a cash flow from savings to pay for all costs
- Educate about project financing
- Design, commissioning, installation, and construction management
- Train staff members
- Provide ongoing maintenance services (optional)
- Measure and verify savings

- Guarantee the projected savings
- Provide a fixed-cost project, carrying the risk and cost of change orders

The ESCO industry grew out of several industries: energy engineering firms, building controls manufacturers, and (in some cases) utilities. This mature industry uses standardized processes and approaches, but exhibits great flexibility and creativity in meeting the ever-changing challenges and interests of owners. ESCOs differ from other energy efficiency firms by taking on the technical and performance risk through an ESPC contract, and by applying the financial mechanism to develop large-scale, comprehensive projects.

ESPC PROGRAM RESOURCES

- Energy Services Coalition
  The Energy Services Coalition (ESC) is a non-profit organization, a public-private partnership dedicated to increasing the use of energy savings performance contracting.
  (http://energyservicescoalition.org/)

- National Association of Energy Service Companies (NAESCO)
  NAESCO is the industry association for ESCOs and oversees an ESCO accreditation program.
  (http://naesco.org)

1.3 Candidates for ESPC Projects

The size and scope of an ESPC project are governed by the facilities' savings potential, financing term, savings stream options, and the minimum project size an ESCO is willing to manage. As mentioned in Section 3.2, governments with limited small-scale projects can aggregate to overcome the size and scope barriers.

State and local government facilities are generally good candidates for ESPC projects. With long-term ownership of the facilities, governments typically allow for 12- to 25-year financing terms, which enable large-scale comprehensive projects. In contrast, owners of commercial facilities often have a shorter payback threshold (often three years) and may reject a comprehensive ESPC project that requires a longer term.

1.4 Typical Measures and Bundling of Measures

A wide variety of facility improvement measures can be part of an ESPC project. The ESCO will assess the cost-benefit of each measure and recommend a package of bundled measures.

Typical Measures

Cost-saving measures generate the savings to pay for the project. This arrangement presents a unique opportunity for a comprehensive approach to address all potential cost-saving improvements in each of the owner's facilities.

Typical measures include the following equipment replacements and optimization of management and operational strategies:

- Lighting equipment replacements
- Building automation system upgrades
- Distributed generation systems
- Combined heat and power systems

- Boiler and chiller replacements
- Central plant improvements
- Renewable energy systems
- Landscape irrigation systems
- Plumbing fixture replacements
- Commissioning
- Demand-response technologies
- Utility rate adjustments
- Traffic and street lighting systems
- Occupant training programs
- Energy management services

The list of potential facility improvement measures is extensive. State legislation is often open-ended about the types of measures that may be included, but legislation may restrict the budget categories that can be used to pay for such measures.

Expanded Measures

Some states have expanded the potential scope beyond typical facility improvements to include:

- Vehicle conversions and fueling/charging station infrastructure
- New construction, to help fund energy efficiency improvements in new buildings
- Greater operational savings, including projects that are 100% funded through operational savings
- Power purchase agreements to secure lower-rate utility costs through solar systems
- Waste management services
- Data Management Systems
- Staff and occupant training programs

Bundling of Measures

The ESCO will identify each potential measure and estimate its individual itemized costs and savings for cost-effectiveness, but the bottom line is what determines which bundle of measures can be included in the ESPC project. That is, the sum of annual cost savings for all measures must be able to meet or exceed the annual finance payment over the maximum financing term. For example, lighting and controls projects have short payback periods which, when bundled, offset the higher payback periods of boiler and chiller replacements or renewable energy systems. Even measures that add costs, such as installing first-time air-conditioning in a school, can be included if balanced-out by short-payback measures that deliver savings to offset this new cost. On the other hand, the project might need to eliminate some long-payback measures if overall project savings are not sufficient to offset those costs.

1.5 Funding Sources

Cost savings resulting from selected facility or improvement measures often come from several government budget categories. Each budget category must be defined and approved in order to apply the savings to the financing payments. Facilities should consider all funding sources to leverage the savings for optimum value.

Budget Savings Streams

State legislation often specifies the budget sources that can be tapped to pay for projects through savings, determining which measures can be included in the ESPC.

Budget savings streams often include:

- Utility cost savings

- Gas, electricity, steam, chilled water, etc.
- Water and sewer savings

- Operational budget cost savings
  - Maintenance cost savings (e.g., budgeted maintenance items that are no longer needed, such as replacement ballasts after a lighting improvement project)
  - Outmoded maintenance contracts (e.g., maintenance contracts on replaced equipment)
  - Other (any savings stream associated with an improvement could potentially be included where not disallowed by legislation, such as phone system savings, vehicle fueling savings, etc.)
- Personnel budget cost savings – Maintenance staff reductions (e.g., when a staff position is eliminated due to a measure, such as a stationary boiler operator position eliminated after a central boiler is decommissioned in favor of smaller distributed boilers; the displaced staff members are usually reassigned to fill vacant positions)
- Capital avoidance cost savings (e.g., when capital improvement funds are scheduled for a future boiler replacement, and the boiler replacement can instead be folded into the ESPC project, the capital avoidance cost savings can be included as a funding stream)

Leveraging Funds

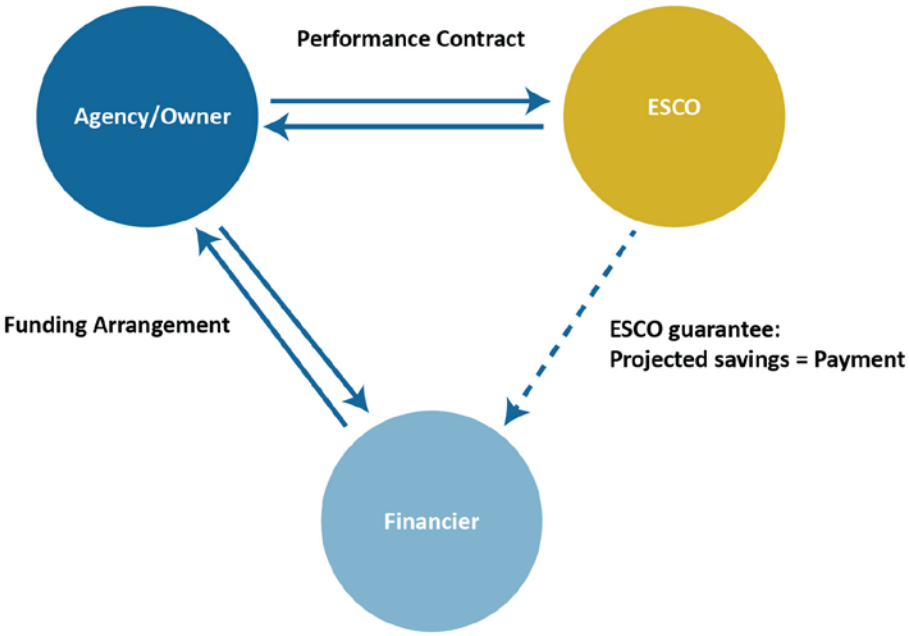
An ESPC project is intended to be self-funding through its projected savings. However, if other funding sources can augment the savings streams, the project scope can expand. For example, internal funding, utility rebates, grants, emission reduction credits, tax credits, or other funding sources may serve as a project buy-down. Supplemental funding could allow for additional measures that did not make the final cut of bundled projects.

1.6 Financing

Figure 4 displays the contractual arrangements between the ESCO, the facility owner, and the financing institution (financier). The facility owner has a performance contract with the ESCO and another contract with a financing company. The Financier relies on the ESCO's guarantee as a backstop to ensure payment from a credit-worthy owner. The ESCO's guaranteed projected savings are intended to exceed the annual financing payment. In the event of a shortfall in actual savings in any year, the ESCO, via the performance guarantee in the contract, bears the financial risk if the projected savings do not materialize and pays the owner the difference.

The ESCO can educate the owner about the financing arrangement if desired, but recent federal regulations prohibit the ESCO from taking an advisory role. The ESCO typically does not provide project financing for public projects, as governments can usually obtain better financing terms from financiers.

Figure 4: Two Contractual Agreements



Financing Mechanisms

One of the most common financing mechanisms for a government ESPC project is a municipal tax-exempt lease-purchase agreement. A number of national-level financing companies are knowledgeable about the ESPC approach. Owners also consider internal financing or bonds. Due diligence is needed to compare rates and benefits.

Financing - Minimum Amounts

ESPC projects typically range in the millions of dollars. The minimum project cost varies depending on what local ESCOs and financing companies will consider. Financing companies offering a municipal tax-exempt lease purchase agreement have a minimum threshold (often $500,000 or more) so smaller-cost ESPC projects may not be financially feasible using this mechanism. This minimum financing level can vary regionally and with the national economic climate, so ask national financing firms that specialize in financing ESPC projects about the minimum financing level for your project area. Some ESCOs are willing to do small-scale projects, as low in value as $100,000, which may be financed through local commercial banks.

Financing Term

Several key factors define the maximum financing term for an ESPC project:

- Legislation in most states restricts the financing term to 10–25 years. The federal government established a 25-year maximum term, which some states have adopted. Most states have updated legislation from the 10-year maximum, common a decade ago, to today's generally accepted 20-year maximum.

- The financing term should not exceed the average useful life of the equipment.
- Financial institutions set the maximum finance term based on the project value and risk.

Debt and Multi-Year Financing Issues

A lease-purchase agreement is renewable annually and is subject to annual appropriations because the finance payments come from the annual operating budget. While it is difficult to use this financing method where there are limits on multi-year financing, state legislation that enables ESPC projects in state and local governments can overcome these limits.

ESPC PROGRAM RESOURCES

- How to Finance an ESPC
  This is a fact sheet from DOE on ESPC financing options.
  (www1.eere.energy.gov/wip/solutioncenter/pdfs/T2_ICF_FS4_HowtoFinance_FINAL_052311.pdf)
- Appendix A-2: Overview of Debt
  A stakeholder group of ESPC financing specialists led by DOE developed this overview.

1.7 The Annual Guarantee

Annual cost savings in the ESPC contract and financing agreement are structured to exceed the annual project costs, including the financing payment and other associated costs (such as the annual measurement and verification cost) over the entire financing term. The cost savings projections include escalation rates for future years based on typical weather years and agreed-upon operational practices. With so many variables, the ESCO usually does not guarantee annual cost savings directly, but rather guarantees performance in terms of unit efficiency savings such as kWh savings in electricity, therm savings in natural gas, or gallons of water saved—not dollars. (Some programs require a dollar savings guarantee.)

For future years, the ESPC contract establishes projected unit rates that escalate with inflation. The projected unit cost, whether higher or lower than the actual unit cost for the specified year, determines the guaranteed cost savings.

If unit efficiency savings are not met, the ESCO will make up the cost difference, using the projected unit cost, as guaranteed (i.e., the deficiency in unit efficiency savings for a contract year times the projected unit rate for that year).

1.8 Measurement and Verification (M&V)

The *International Protocol for Performance Measurement and Verification* (IPMVP) is a standardized approach to measuring and verifying savings of ESPC projects. It provides four options for measuring performance, with varying levels of cost and accuracy for all types of measures. Depending on the option chosen, savings are determined for an individual measure or for the whole facility as shown below.

Individual Measure Options

Option A - Retrofit Isolation Key Parameters: Savings are determined by field measurement of a key parameter.

Option B - Retrofit Isolation All Parameters: Savings are determined by field measurement of all parameters of the system.

Whole-Building Options

Option C – Whole-Facility: Savings are determined by measuring energy use at the whole-facility or sub-facility level.

Option D - Calibrated Simulation: Savings are determined through simulation of the energy use of the whole-facility or sub-facility.

It is important to apply an appropriate level of rigor to each type of measure—that is, to avoid over-simplification for a dynamic and high-cost system, and avoid excessive measurements for a simple low-cost measure. A simple method may be most appropriate for determining the straightforward savings from lighting upgrades, whereas a more complex method may be appropriate for determining savings from a chiller or boiler plant.

The ESCO will develop a baseline and measurement & verification (M&V) plan, applying the IPMVP approach to establish pre-retrofit and post-retrofit energy use of each measure. The contract documents incorporate the M&V plan to establish a procedure for verifying savings. The ESCO will follow the M&V plan and prepare an annual M&V report to verify achievement of the guaranteed level of projected savings. If the project does not reach projected savings, the ESCO will pay for the deficiency as guaranteed.

A measurement or calculation process is preferred over stipulated savings for all measures. Basing reported savings on actual measured results, ensures that the performance guarantee assigns the risk of performance to the ESCO.

Measurement and verification reports are often required annually for the life of the contract, which is usually more than 12 years. Continued training is important in the event of personnel changes.

ESPC PROGRAM RESOURCES

- International Performance Measurement and Verification Protocol, Volume 1
  This document is the internationally recognized protocol on M&V for ESPC projects and is available free from DOE.
  (http://apps1.eere.energy.gov/buildings/publications/pdfs/corporate/29564.pdf)

- Sample M&V Plan
  DOE's Federal Energy Management Program (FEMP) developed this M&V plan as an example.
  (http://energy.gov/sites/prod/files/2013/10/f3/sample_mv_plan.pdf)

- M&V Guidelines
  FEMP developed M&V Guidelines for federal projects that are also applicable to non-federal projects.
  (http://energy.gov/sites/prod/files/2013/10/f3/sample_mv_plan.pdf)

1.9 Annual Budgeting

Annual finance payments for ESPCs come out of annual appropriated utility and operating budgets. The annual financing payment is carved out of each year's appropriation (i.e., itemized as a component of

the utility and operating budgets) to meet annual financial commitments. In the typical payment structure, the sum of financing payments, annual M&V costs and (lowered) utility payments is no greater than the pre-ESPC utility payments.

The guarantee of savings is not a budget guarantee. It does not ensure that the guaranteed cost savings will remain as a positive budget balance. A number of cost drivers outside of the ESCO's control can impact the actual budget from year to year, such as changes in utility rates, weather or building operating hours, additions to buildings, and changes in facility use (e.g., installing a computer lab that is energy-intensive). Further, an appropriated budget may not be accurately adjusted to account for such changes, so budget savings are not fully realized.

A number of budget scenarios may also occur in future years. For example, in a year with a particularly cold winter, heating costs will increase and managers would need to recognize the added budget requirement. Even though this unpredicted anomaly impacts the budget, a more efficient heating system delivers greater savings. For a year with a particularly warm winter, utility bills may be lower than anticipated so the appropriated budget may suffice to make the financing payment, which is based on a typical weather year. Additionally, the annual facility energy and water budget should account for escalation in energy prices for the portion that is not affected by the ESPC project (e.g., if an ESPC project reduces facility energy use by 25%, the annual budget should reflect the increasing costs for the remaining 75%).

ESPC PROGRAM RESOURCES

- ESPC Overview, Cash Flows, Scenarios and Associated Diagrams for Energy Savings Performance Contracts
  This publication describes the various real-world cash-flow scenarios. It is a National Renewable Energy Laboratory (NREL) resource developed for DOE.
  (www.nrel.gov/docs/fy11osti/51398.pdf)

1.10 Due Diligence to Understand Risks

It is important for the owner to understand potential risks and to mitigate these risks when negotiating a successful ESPC contract. Risks fall into three general categories: financial, operational, and equipment performance. Several steps can mitigate these risks: detailed contract documentation to outline responsibilities, a detailed measurement and verification plan, use of standardized procurement and contracting documents, and a good understanding of the financial arrangement and contract clauses by finance, facilities, and administrative personnel.

Financial risks can include uncertainty in savings or construction costs. Several measures can alleviate financial uncertainty: establishing the level of rigor for M&V of each measure; establishing a fixed price or guaranteed maximum price for project construction and implementation costs; establishing a schedule to reduce delays that could impact cost or savings; clarifying how any future changes in facilities will be handled; and understanding the real-world scenarios presented in Section 1.9 (Annual Budgeting).

Operational risks can include changes in building operating hours, energy management system schedules, weather, equipment loads, or maintenance practices. Operational risks are generally the responsibility of the owner, unless the owner has contracted the ESCO to operate its building on a day-to-day basis. Operational risks may be mitigated by training staff in proper operations (particularly important in projects that derive savings from building energy management systems), monitoring-based commissioning, and establishing a

clear methodology for how the baseline will be adjusted to account for any operational changes and determine the actual savings.

Equipment performance risks can include a deficient design of the retrofit project, malfunctioning equipment, and equipment not maintained according to manufacturers' specifications. Equipment performance risks are generally the responsibility of the ESCO, unless the owner takes responsibility for the maintenance of the equipment or related systems. Several procedures can mitigate performance risks: documenting maintenance responsibilities, following maintenance plans, and establishing a measurement and verification process that distinguishes between equipment performance and operational changes.

ESPC PROGRAM RESOURCES

- M&V Guidelines: Measurement and Verification for Federal Projects; Section 3 – Risk and Responsibility in M&V
  This DOE FEMP publication describes M&V, outlines risks, and describes ways to mitigate risks. (www1.eere.energy.gov/femp/pdfs/mv_guidelines.pdf)
- Model Procurement and Contracting Documents
  These model ESPC documents evolved from many states. Massachusetts, Washington and Illinois developed the first documents in the 1980s. Colorado expanded them in the 1990s, and the Energy Services Coalition distributed them as a recommended model set of documents. Minnesota has adapted and refined the documents to meet the state program's needs. Most recently, DOE facilitated stakeholder groups of public and private experts, including representatives of state energy offices, to refine, streamline, and update these documents.
  (http://energy.gov/eere/wipo/model-documents-energy-savings-performance-contract-project)

1.11 Developing a Project

The process for an owner to develop an ESPC project involves competitively selecting an ESCO, then following through with a two-stage contract process. Through an Investment Grade Audit (IGA) contract, the ESCO will identify and evaluate potential cost-saving measures and present a proposed ESPC project scope with costs, annual guaranteed projected savings, and a financing plan. After the parties negotiate the scope and project terms, a performance contract directs the ESCO to implement the measures, conduct annual M&V to guarantee long-term annual savings, and deliver annual M&V reports to the owner. The owner and ESCO execute a financing agreement concurrently with the performance contract.

ESPC PROGRAM RESOURCES

- Appendix A-1: Owner Process Steps
  This document outlines the owner's steps from deciding whether ESPC is a good fit for implementing a project.

1.12 Life of Contract

A Life of Contract (LOC) Plan captures the performance data from the acceptance phase of the contract. Based on the data, the plan provides guidance on how to manage the contract for its remaining term to ensure proper performance of the equipment and verification of the savings guarantee for the life of the contract.

Chronological data collection serves to:

- Document the Operation & Maintenance (O&M) and Repair & Replacement (R&R) requirements to monitor and verify the execution of necessary actions to maintain equipment performance, ensuring savings.
- Define activities to support annual M&V and true-up processes to allow confirmation that all testing and inspections are accomplished and that the M&V report can be accepted or rejected annually for the life of the contract.
- Document results of initial commissioning of the project equipment and subsequent commissioning of controls.

Personnel responsible for the project's success can use these documents to monitor and document activities over the contract term. This documentation provides continuity in the event of personnel changes.

ESPC PROGRAM RESOURCES

- ESPC Life of Contract (LOC) Plan - Hawaii
  The Hawaii Energy Office developed this document with funding from DOE. It provides guidance to project staff members during the ESPC's post-installation performance period.
  (http://energy.hawaii.gov/wp-content/uploads/2012/06/ESPC-Life-of-Contract-Plan.-12-19-12.pdf)

2. ESPC PROGRAM OVERVIEW

Many state energy offices and state building administrations across the nation have some form of an ESPC program (see Section 2.5). Some states have parallel programs, in which the state buildings administration focuses on state facilities and the state energy office focuses on local governments. Other entities that might develop programs include those who oversee or influence a number of institutions, such as school district funding authorities, large local governments, or associations with a government or buildings focus. All ESPC programs, regardless of their origin, succeed in generating more projects, achieving greater efficiency, establishing a standardized process, and taking an approach that sets a high bar of performance for ESCOs and owners.

An ESPC program may provide a variety of services to increase the use of performance contracting. Services could include providing information and education about the ESPC process; establishing a standardized process for procuring and contracting ESPC services; providing a recommended procurement approach or pre-qualify ESCOs to streamline the selection process for owners; and providing technical assistance to increase accountability for all owners in development, implementation, and M&V of ESPC projects.

Programs differ in their level of technical assistance and their authority to oversee/approve projects and establish a required process. Programs are scalable, from a website to provide education and information, to one-on-one technical assistance. Owner fees could support costs to build and sustain a self-funded ESPC program.

2.1 Why Consider an ESPC Program?

An ESPC program can achieve many different goals by offering services that help government decision-makers develop successful ESPC projects in their facilities. Statewide progress in advancing ESPC will move the state forward on many fronts.

High-level goals may include:

- Reducing energy use in state and local government buildings
- Upgrading facilities without capital budget appropriations
- Ensuring successful energy efficiency projects
- Optimizing energy efficiency (through a comprehensive ESPC approach)
- Achieving quantifiable emissions reductions (through ESPC projects that measure and verify savings)
- Creating jobs (through large-scale ESPC projects)
- Meeting climate change goals
- Meeting budget reduction goals
- Opening new markets for ESPC
- Transforming the market for ESPC acceptance and institutionalize the process in state government
- Facilitating use of ESPCs by local governments and others

ESPC PROGRAM RESOURCES

- Appendix B-1: Program Goals and Services
  This document lists ESPC program goals and associated services to achieve the goals.

- US DOE–Energy Efficiency and Renewable Energy–Solution Center – Energy Savings Performance Contracting
  US DOE's Solution Center maintains fact sheets and other informational resources specific to ESPC.
  (http://www1.eere.energy.gov/wip/solutioncenter/performance_contracting.html)

2.2 Who Should Develop an ESPC Program?

The **state energy office** often has a broad scope to influence any market sector in the state. It is well suited to work with both state and local governments, providing education and training, technical assistance, recognition, and a variety of other services to help develop projects.

The **state buildings administration** is typically the lead authority for state agencies, setting requirements and standards to guide state agencies through the ESPC process. With an aggressive program for state agencies, the state can demonstrate the approach in its own facilities and "lead by example" for other governments to follow. Examples of successful programs through the state buildings administration include Kentucky, Louisiana, Maryland, Massachusetts, Utah, and Washington.

The state energy office often works in partnership with the **state buildings administration**, adopting the state's processes as a template for local governments. Successful energy programs include those of Colorado, Hawaii, Kansas, and Massachusetts. State legislation on ESPC may specify the responsible or lead authority to develop administrative processes, approve projects, or provide guidance.

Associations or organizations with goals related to buildings or government may also take on some elements of a program, particularly the educational and training functions, while sharing the model documents developed by the state.

Regional or local governments could develop programs to reach other government or commercial owners, thus leading by example.

ESPC PROGRAM RESOURCES

- Model State Legislation
  ESC and NAESCO developed model state legislation documentation, with funding from DOE.
  (http://energyservicescoalition.org/Data/Sites/1/documents/resources/tools/practice02/Model_EPC_Legislation.pdf)

2.3 Who Benefits from an ESPC Program?

The most common market sectors that ESPC programs serve are state and local governments (e.g., state agencies, higher education institutions, school districts, cities, and counties). These markets are also attractive to ESCOs. Other market sectors that benefit include public hospitals and government-managed multi-family apartment building complexes.

2.4 What Does an ESPC Program Do?

An ESPC program may provide a variety of services to guide owners through the ESPC process, including:

- Offering education and training on the ESPC approach
- Introducing pre-qualified ESCOs as a way to streamline the procurement process and ensure qualified providers
- Establishing a procurement and contracting process and sharing model documents for owners to customize for a specific project
- Delivering technical assistance to owners
- Partnering with associations, governments, and utilities to leverage existing relationships and communication avenues to highlight the value of performance contracting

The Energy Services Coalition, with funding from DOE, identified some best practices that state ESPC programs have adopted to ensure success. When developing and implementing a statewide ESPC Program, consider using the following recommended best practices and resources.

Programs vary from state to state, based on the available staff and budget resources, as well as the authority to conduct some tasks. Not every successful program has implemented each best practice. As further described in Section 2.8, a program can be effective with only a few best practices, such as state leadership, legislative support, and education and outreach through web-based educational information.

Figure 5: ESPC Program Best Practices

Best Practice	Description
State Leadership	Establish the state (state energy office) as the source for information on energy performance contracting. Establish savings requirements for state buildings and stipulate that ESPC can be used to meet the requirement.
Strong Legislative and Gubernatorial Support	Utilize legislative and gubernatorial powers to establish ESPC as a priority for the state agenda
Consensus Support for State Decision-Makers	Establish consensus support among key state decision-makers (legal, procurement, finance)
Public/Private Partnership	Establish a stakeholder group
Pre-qualified ESCOs	Pre-qualify ESCOs
Pre-approved Contracts	Obtain state attorney general pre-approval of model contracts for ESCOs and financiers
Project Oversight and Technical Assistance	Ongoing support to facility owners' ESPC projects
Education and Outreach	Educate potential owners in performance contracting processes and benefits
Program Funding Strategies	Implement a fee-based technical assistance service such that the fees sustain the cost of the program
Data Collection and Project Tracking	Establish simple tracking guidelines for projects and the program to demonstrate program success through measurable results

For additional information, visit the Energy Services Coalition website (www.energyservicescoalition.org).

2.5 Which States Have ESPC Programs?

States began formalizing ESPC programs in the 1980s to set standards and to help state agencies and other owners complete successful ESPC projects. Model documents began with the early state pioneers of Massachusetts, Washington, and Illinois. Western states followed in the mid-1990s including Hawaii, New Mexico, Colorado, and Utah. A later wave of states developing programs included Kansas, Louisiana, and more recently, Montana. As of 2014, more than 17 states have in place active and robust ESPC programs, including Alabama, Colorado, Connecticut, Georgia, Hawaii, Kansas, Kentucky, Massachusetts, Michigan, Minnesota, Montana, Nevada, New Mexico, North Carolina, Virginia, Washington, and many other states with varying degrees of involvement.

State energy offices, and/or counterparts in the state buildings administration divisions, have been instrumental in increasing market acceptance for ESPC in government sectors. In many states, the state energy office was the driving force to establish a program to serve all government sectors (e.g., Colorado, Hawaii and Kansas). In some states, the state buildings administration was the pioneer to establish a program (e.g., Utah and Maryland). As programs evolve, the state buildings administration maintains its own program but often partners with the state energy office for training and technical assistance, and the SEO continues to serve local governments.

ESPC PROGRAM RESOURCES

- DOE funded the following State ESPC program success stories (state program descriptions as of 2010):
  - Colorado Success Story
  - Hawaii Success Story
  - Massachusetts Success Story
  - Pennsylvania Success Story
  - Utah Success Story
  - Washington Success Story

  (http://www1.eere.energy.gov/wip/solutioncenter/performance_contracting.html)

- Appendix B-2: State ESPC Programs List
  This list contains states with active ESPC programs and the related website addresses.

2.6 What Can an ESPC Program Achieve?

Establishing and maintaining an active ESPC program in your state or organization is important for many reasons. State ESPC programs can help lower the owner's utility bills, increase energy efficiency, reduce greenhouse gas emissions, and improve tenant satisfaction and productivity. Developing an ESPC program demonstrates your state's commitment to operating sustainably and supports others in doing the same. A program can greatly increase the number of ESPC projects by increasing awareness and setting a high bar for ESCO performance. A mature program, or a program in a state with high ESPC activity, has the potential to open new markets or usher in new approaches or technologies (e.g., renewables, water efficiency, etc.) that can help achieve goals in other state programs.

2.7 How Should an ESPC Program Be Staffed?

A program manager is critical to the success of the ESPC program. This person should be well versed in government processes, with some energy efficiency, financial, or buildings expertise.

A truly successful program also provides technical assistance to owners (e.g., state agencies, municipalities, school districts). Program staff members, and contractors hired to support the program, may provide technical assistance or the program may maintain a list of contractors that owners are encouraged to hire on their own.

ESPC PROGRAM RESOURCES

- See Section 6. Program Staffing for more detail.

2.8 How Can an ESPC Program Be Funded?

Funding an ESPC program does not need to be an obstacle. Two strategies offer a low-cost approach to funding a program. The first strategy is to develop ESPC resources and post them on the website, i.e., a virtual program. The second strategy is to develop a program funded by service fees paid by the project owner, which provide funds for staff member services and technical assistance contractors.

2.8.1 Scaling an ESPC Program Based on Funding Levels

A state ESPC program can match funding availability. The following are options for designing a program, ranked in terms of program cost and complexity.

- **Program for very little cost:** Develop a website to provide state and local government decision-makers with information and resources to move forward on their own. The website layout in these guidelines (Appendix C-6) can provide great value to anyone interested in doing an ESPC project in the state. The website directs viewers to the nationally recognized template documents, case studies from around the nation, and informational resources.
- **One-time effort for a program that continues at virtually no cost:** Set up a process encouraging interested parties to hire a project facilitator as described in these guidelines. Consider pre-qualifying such providers. This approach offers owners the option to pay for assistance as needed, and allows programs a means of offering owners technical assistance.
- **With a continual, but minimal time commitment, add a public-private partnership such as a state chapter of the Energy Services Coalition:** Your program representative would be a required participant/officer as a chapter co-chair for the public sector. After hosting a start-up meeting and engaging ESCOs and others to participate, chapter members can do the work through various committees. Educational events are often the top activity, which can go a long way to kick-start projects that then rely on the provided resources to support owner projects.
- **Start a self-funded program:** This is a "full-blown" ESPC program in which the program contracts with (or hires) project facilitators, and charges a fee to owners for the combined services of the project facilitators and program oversight. The state of Washington began this process in the 1980s, is now 100% self-funded, and supports a staff of fourteen (14) professionals. Other states have also had success with self-funded programs. These include Kansas (well developed), Pennsylvania (past program) and Louisiana (a new program, but off to a strong start with big projects bringing in substantial fees to support the program).
- **Commit to budgeting for a full-blown program, offering free technical assistance:** A full-blown program may be justified in terms of the program cost and time commitment when compared to the outcome. As mentioned above, a number of states with full-blown programs have delivered $100 per capita in successful projects, or well over $100 million in projects. Such a program needs a program manager, assistant, and project facilitators

(technical personnel or contract consultants) to assist owners. Section 6. Program Staffing discusses staffing roles and responsibilities in detail.

2.8.2 Building a Self-Funded Program

Just as savings in an ESPC project pay for equipment upgrades and related services, the savings may also support an oversight fee to cover the state program costs. The ESPC project funding can finance a modest fee as a project cost element, and the guaranteed savings stream serves to repay the fee just as any other project cost.

The incoming fees typically support project facilitators to provide technical assistance to owners through the process, generating more and higher-quality projects, while ensuring the longevity of the program and continuing project oversight. The fees can accumulate to sustain the program expenses, achieving a self-funded program within about three years.

ESPC PROGRAM RESOURCES

- Self-Funded Program
  This document describes key elements in self-funded programs as of 2010 in Washington, Pennsylvania, Kansas, and Louisiana. Nevada's energy office has the authority to develop a self-funded program. The Energy Services Coalition, under funding from DOE, developed this document.
  (http://energyservicescoalition.org/Data/Sites/1/documents/resources/tools/practice09/Self-funded_ESPC_Programs.pdf)
- Appendix B-3: RFP and Contract for Project Facilitators
  Appendix B has a sample RFP and subsequent contract for the program (or an owner) to contract with a project facilitator to provide project technical assistance on a project. This document was adapted from the RFP issued in 2012 by the State of Louisiana's Department of Administration.

2.9 How is the Success of an ESPC Program Measured?

One metric of a successful ESPC program is the *total dollar value of ESPC projects initiated* divided by the *cumulative program costs*. This metric easily justifies continued program funding, as it delivers a big bang for the buck. The State of Hawaii used this metric in promotional materials and press releases as independent validation of the program's accomplishments.

Other program success metrics may include:

- **Detailed project information:** cost (excluding financing costs), guaranteed cost savings, list of measures, square footage, number of buildings, units of energy saved (converted to BTUs), greenhouse gas emissions prevented, dates/years of critical stages (RFP issued, audit contract executed, performance contract executed, construction completion, M&V reports), and actual cost savings achieved
- **Program sum of projects served:** sum of costs, sum of guaranteed savings, sum of energy cost savings, sum of energy units (converted to BTUs), and the number of owners served (in total and by sector)

Social impacts also play an important role – educating/training owners, developing an approved/standardized process for procuring and contracting services, providing technical assistance to

guide owners through the decision-making and implementation process, and establishing criteria for the project and ESCO performance are all program results worth measuring.

- **Metrics for measuring social impacts could include**: number of outreach events (trainings, webinars), number of information-sharing activities (email blasts, presentations at conferences), number of owners to engage in ESPC projects, and number of jobs created

A mature program, or a program in a state with extensive ESPC activity, could set other goals, such as opening new markets (multi-family buildings, commercial sector buildings, small-scale government projects) or ushering in new technologies or approaches that may help achieve goals in other programs (renewables, water efficiency, woody biomass for heating plants, energy data collection, multi-family building services, etc.).

The ESCO should also report ESPC project information to eProject Builder, a national database of ESPC projects maintained by Lawrence Berkeley National Laboratory (LBNL). The information is not identifiable by owner, rather by generic facility type and geographic zone. The eProject Builder database can provide information on relevant comparable ESPC project experience, including costs and savings.

ESPC PROGRAM RESOURCES

- eProject Builder – Standardized Data Collection Template and LBNL Database
  LBNL hosts a database, with DOE funding, including ESPC project data from many projects over several decades. LBNL has expanded the database with a portal for states to present project data and retrieve state reports. Use the recommended project data reporting template to standardize project reporting.

  (https://eprojectbuilder.lbl.gov/)

- Race to the Top
  The Energy Services Coalition (ESC) posts data on the sum total of ESPC projects completed in each state and ranks states based on the project dollars per capita.
  (http://energyservicescoalition.org/espc/map/)

3. EDUCATION AND OUTREACH

Education and outreach are critical to the success of an ESPC program. Education involves increasing the awareness of ESPC and using a wide variety of outreach activities to overcome real or perceived ESPC barriers. These strategies also involve program promotion and informing potential owners about the services to help achieve success. Below are factors to consider in developing education and outreach activities.

3.1 Build a Marketing Plan

A marketing plan is an essential component of education and outreach. Factors to include in a marketing plan are:

- Program goals
- Targeted market sectors
- Level of awareness of ESPC within the targeted markets
- Perceived barriers or concerns that hinder market acceptance
- Real barriers such as prohibitive legal or administrative processes or opposition from critical decision-makers
- Presence of ESCOs in the state and level of activity
- Perceived level of success of past ESPC projects or distrust of the industry
- Staff capabilities and resources to carry out activities

The marketing plan lays out the materials and activities to develop and conduct, along with an implementation schedule. The plan also identifies the program goals, target markets and messaging.

ESPC PROGRAM RESOURCES

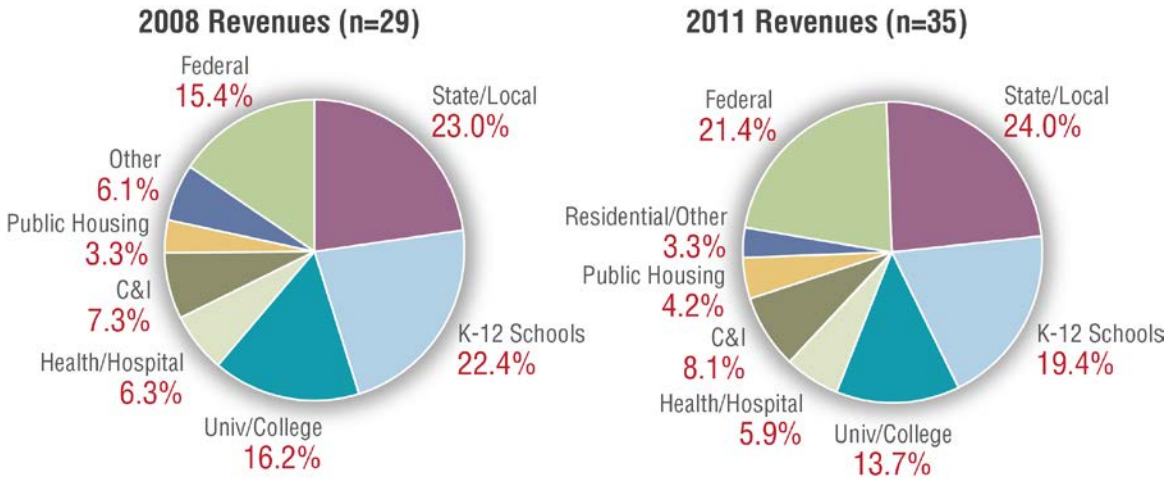
- Appendix C-1: Marketing Plan
  Appendix C-1 is a template for developing a marketing plan for the program, to define and schedule education and outreach strategies, and to stay on track.
- Appendix B-1, Section 2.1: Program Goals and Services
  This section lists many possible program goals that ESPC can help achieve.
- Appendix C-2: Barriers and Solutions to Market Acceptance of ESPC
  Appendix C-2 lists many common barriers and typical solutions for overcoming the barriers.
- "Current Size and Remaining Market Potential of the US Energy Services Industry"
  LBNL and NAESCO conducted this research for DOE. LBNL published it as Publication No. 6300E.
  (http://emp.lbl.gov/sites/all/files/lbnl-6300e_0.pdf)

3.2 Define the Audience

There are three main approaches/steps to define the audience for outreach efforts. First, identify the market sectors to target. Second, define the ESPC project owners within that market sector. Lastly, identify the individuals who are the most likely leaders and champions. The ultimate target audience is the individuals who will be instrumental in getting an ESPC project started.

Market Sectors to Target

The graphic below shows the market segments served by ESCOs in 2008 and 2011, excerpted from a recent report by Lawrence Berkeley National Laboratory and funded by DOE.



Before working with a market sector to encourage entities to develop an ESPC project, it is important to know which sectors are best suited for ESPC projects. This varies with the interests of local ESCOs as well as local utility rates and project incentives that impact the bottom-line attractiveness of projects.

As evidenced by the graphic, government entities are good candidates for ESPC projects because governments maintain buildings for many decades, justifying the long-term project financing. Most have large-sized buildings with central HVAC systems and extensive lighting, which provide sizable upgrade opportunities for ESPC projects.

Within the government sector, however, small towns and small rural school districts may not have enough potential for an ESCO to justify a project. A strategy proven in Massachusetts and elsewhere is to aggregate several small projects, providing the economy of scale to attract an ESCO while maintaining separate contract commitments with each entity.

It may be desirable to select a very specific segment of the government market sector, such as wastewater and water treatment plants.

The commercial sector often limits energy efficiency projects to short payback periods (often three years), so ESPCs with a ten-year or more financing term may be a hard sell. Nonetheless, there are many examples of successful projects in the commercial and industrial sectors, and this market, especially large buildings, has potential for ESPC.

The most common market sectors ESPC programs serve include:

- State agencies
- Higher education institutions
- School districts
- Cities
- Counties

Additional market sectors for program consideration may include any of the following, provided their building stock has ESPC project potential:

- Housing authorities
- Public hospitals
- Other state or local governments, including special districts
- Commercial building and industrial facilities owners

Owners to Target

The target owner is the party with authority over all of the organization's facilities. In this way, all buildings under the owner's jurisdiction become part of the ESPC project, thereby maximizing the project scope and providing an economy of scale to attract ESCOs.

The target individual is the person with the highest level of decision-making authority. For example, it is most appropriate to target the school district superintendent with responsibility over all the district's schools rather than a principal who likely has no authority related to facilities, or consider targeting a university's facilities manager who is responsible for all university facilities rather than the manager of a particular university building.

Before identifying specific owners to implement ESPC projects, it is important to establish the types and sizes of projects that local ESCOs are willing to develop. Direct outreach needs to target those with enough building inventory and potential savings to develop a project.

Individuals to Target

Successful ESPC projects usually have a champion who persevered in getting buy-in from other decision-makers to proceed with an ESPC project, and who continued to drive the process through project completion.

Targeted professionals can vary with the sector. The best and most likely candidates to champion an ESPC project in each sector (in priority order) include:

- State agency (state buildings administration department which may have oversight authority over agencies, agency facilities director or agency director)
- School district (district superintendent, school boards)
- Higher education institution (facilities director, environmental division)
- City or county (city/county manager, facilities director, environmental coordinator, elected officials)

Other professionals may be involved in the owner's decision-making process and sometimes become the project champions. Part of the marketing plan may include reaching these professionals through their associations:

- Financial and budget officers
- Procurement officers
- Environmental managers or sustainability directors
- Maintenance managers
- Division managers of fleets, recreational facilities, etc.

Influencing Agents

Entities that have influence or authority over the markets or professionals described above should also be targets in the outreach effort, as their support can be crucial in gaining the interest and trust of specific owners. Examples include a state department of education's capital construction unit that provides project funding to school districts, state buildings administration that oversees state codes and construction processes, and organizations and associations representing the target markets.

3.3 Craft the Message

Crafting a message for developing an ESPC program starts with understanding the barriers, articulating the program solutions, and reaching decision-making professionals with hot-button messages that resonate.

Key barriers to the adoption of performance contracting range from lack of awareness and lack of familiarity with the process, to skepticism about savings materializing, as well as distrust of the ESCO or concern over losing control of facility operations. Discussions with ESCOs, target market representatives, and individuals who have implemented successful projects can reveal barriers in your state, as well as provide advice on how to overcome such barriers.

Communicating program solutions can go a long way in overcoming real and perceived barriers. A state energy office or other lead agency's stamp of approval on the ESPC process may push down many barriers at once. Model documents with informational materials provide a roadmap for those unsure of how to get started. A clear process for M&V increases confidence about ESPC's ability to deliver on its claims. Independent technical assistance from an ESPC professional supports an owner through the process for those who do not have staff capability or expertise to interact with the ESCO.

Consider hot-button messages for each market sector. For example, a city may have sustainability goals, a state may have target energy-reduction goals, and a school district may want a better learning environment offered through upgraded lighting and HVAC systems. Research the unique interests of each sector and tailor your messaging to address those interests.

Consider hot-button messages to reach specific professionals who participate in the decision-making process such as financial officers, facility managers, environmental leaders, and high-level decision-makers, such as mayors or school district superintendents. There may be some messages appropriate for reaching all of these groups, but if the marketing plan singles out certain decision-maker groups, then messages should specifically address their interests.

Barriers, solutions, and hot-button messages should be included in the marketing plan.

ESPC PROGRAM RESOURCES

- Appendix C-3: Key Benefits to Convey
  Appendix C-3 lists key ESPC benefits to include in communications with various audiences.

3.4 Leverage Resources

Leveraging resources is a key component in improving the efficacy of your marketing efforts. You can leverage the resources of like-minded individuals in both the public and private domains. Leveraging resources expands the capability of your program.

Associations and Organizations

Individuals representing your target market sectors are likely to include members of associations or organizations. One way to reach these individuals is to engage the support of these organizations to help share your message. A good role for the associations is to distribute program information and success stories through their website and newsletters, invite your participation in their conferences, and co-sponsor events.

Public-Private Partnership Forum

A proactive approach to leveraging resources is to set up a public-private partnership for stakeholders. Regularly scheduled forums could address regional barriers to market uptake for ESPC and solutions to overcome them. Together, the partnership can develop related action plans to support the program's goals.

Public participants may include lead influencing agencies or organizations involving your target markets. Private participants may include ESCOs as well as others who benefit from the ESCO industry, such as financiers involved in ESPC lending, energy efficiency firms, and vendors of energy-efficient equipment.

ESPC PROGRAM RESOURCES

- Appendix C-4: Key Strategic Partners
  Appendix C-4 identifies national associations and organizations involving professional staff of school districts, higher education institutions, municipalities, and others. Many of the organizations have active state chapters.

- Energy Services Coalition State Chapter
  The Energy Services Coalition aids states to create a state chapter to establish a public-private partnership and encourage open communications and program support.
  (http://energyservicescoalition.org/resources/tools/practice04)

3.5 Reach the Audience

Your marketing plan will outline strategies to reach your target audiences, starting with a program website to post information. Beyond that, a sampling of strategies includes: hosting outreach events to directly interact with potential owners through webinars and workshops; developing success stories to distribute through website postings and newsletter articles; hosting an annual recognition event; setting-up a peer-to-peer mentoring process; leveraging activities of a public-private partnership; marketing the program services; and meeting one-on-one with prospective owners.

ESPC PROGRAM RESOURCES

- Appendix C-5: Outreach Strategies
  This is a detailed list of outreach strategies to consider, with links to some past events hosted by state programs.

- Appendix C-6: Program Website Layout
  This website outline includes a program overview, services provided, and links to ESPC information and case studies.

- Appendix C-7: Slideshow – *What is ESPC and How Does it Work?*

This slideshow includes an overview of ESPC that can be easily adapted and posted on your website or presented at workshops.

- Appendix C-8: Handout – 5 Steps to Successful Energy Savings Performance Contracting
  This handout can serve as an introduction to ESPC on your website.

- Appendix C-11: Handout – What Is ESPC?
  This handout can explain ESPC as a companion document to Appendix C-8.

- Workshop Planning Guide
  This identifies all the steps to developing a formal workshop as well as a simple one, as presented by the Energy Services Coalition.
  (http://energyservicescoalition.org/Data/Sites/1/documents/resources/workshop_box/Workshop_in_a_Box.pdf)

- Workshop Resources
  This toolbox presents a variety of support materials, including a sample workshop announcement and training certificate.
  (http://energyservicescoalition.org/workshop-in-a-box)

3.6 Customize Program Guidelines for Your State

Several states have developed and posted their program guidelines on their websites. These program guidelines describe aspects of their programs that are useful for program staff members, owners, and partnering organizations. Program guidelines may include program goals, state legislation, model documents, available technical services, program partners, the marketing plan, and project recommendations for owners or other interested parties.

ESPC PROGRAM RESOURCES

- Appendix C-9: Program Guidelines of States
  This provides links to program guidelines developed by Connecticut, Florida, Georgia, Hawaii and others.

- Appendix C-10: State Program Guidelines Template
  This is a template including an outline, suggestions for what to include, and some introductory text to get you started on developing guidelines for your state program.

4. ESTABLISH A PROCESS

A core service of an effective state or regional program is to establish a standardized process for implementing ESPC projects by providing a recommended set of procurement and contracting documents for owners to develop successful projects.

4.1 Legislation

Most states have legislation that enables or codifies ESPC. In some states, legislation uniformly applies to all government sectors. In other states, legislation may differ by sector.

Legislation may lay out requirements for procurement, contracting, and budgeting. Legislation often specifies the maximum financing term, multi-year financing provisions and allowable funding sources. It often lists allowable measures with a "not limited to" option to incorporate other measures. It frequently includes a requirement for measurement and verification and reporting and terms of the guarantee. It also enables multi-year financing, exempting other prohibitive laws.

It is important to review and understand your state legislation to ensure all requirements are integrated into the process and model procurement and contracting documents.

If there is a reason to revisit the legislation, consider proposing updates. Updates could include establishing the state energy office or state buildings administration as the lead entity to provide project guidance, adding to the list of allowable measures – new construction, vehicles, operational savings, renewables, combined heat and power, non-energy benefits; and adding to the list of allowable savings streams – operational, personnel, transportation, and capital budgets.

Key elements of state legislation:

- **Authority:** Establish authority for government units to enter into performance contract agreements, applying to all state and local government units, and asserting that it is the preferred method to increase energy and operational efficiency.
- **Savings Streams:** Establish the cost savings categories that can be applied to the project, which may include utility cost savings (energy and water), operational and maintenance savings, personnel savings, non-energy benefits, and other savings.
- **Facilities:** Define facilities to include all facilities and grounds, existing and new.
- **Measures:** Establish the types of measures that can be completed, including, but not limited to:
    - Energy-saving measures
    - Water and sewer-saving measures, including landscaping and water recycling measures
    - Measures involving renewable energy, alternate energy systems, fuel switching, cogeneration, waste handling, etc.
    - Measures to reduce operational and maintenance costs
    - Measures to reduce future equipment replacement
    - Other measures that augment savings such as training programs, metering equipment, building operations programs, hazardous waste handling, and utility bill auditing
    - Additional measures to support state priorities, such as life safety measures

- Any other measure meeting the definitions and intent of the project.

- **Financing Term:** Establish the maximum financing term, typically up to 25 years, reflecting the useful life of the measures.
- **State Energy Office Authority and Funding:** Establish authority and funding for the state energy office to lead program activities for state and local governments. Provide authority for the state energy office to charge and collect fees from government units in exchange for technical assistance, or as a way to sustain the energy office's technical assistance. Although the authority for state projects resides in the designated state building administration, and higher education institutions have authority over their own projects, the state energy office can play an important role in accelerating the use of performance contracting in the state and helping the state lead by example. An overarching program can provide education and training, develop project guidelines and other resources, help establish consensus for state-approved procurement and contract documents, and provide technical assistance to help develop projects with state and local governments.
- **Single Procurement for Investment Grade Audit and Performance Contract:** Allow a single procurement to provide these two functions.
- **Investment Grade Audit (IGA):** Define the IGA such that an ESCO prepares the IGA and rolls the cost of the audit into the performance contract (if a performance contract does not result, the government pays for the audit).
- **Performance Contract:** Define the Performance Contract such that the ESCO that conducts the IGA also installs the measures and provides continued services.
- **Third-party Reviewer:** Provide for third-party review of savings by a professional engineer.
- **ESCO Qualifications:** Define the qualifications of an ESCO and outline the selection process of a Request for Qualifications followed by a Request for Proposals from up to three providers.
- **Financing:** Provide for third-party financing and define the allowable financing vehicles, including installment payment and lease-purchase agreements or other funding or financing mechanisms. Provide for multi-year financing.
- **Allocations:** Provide for payments made over time, with money allocated each fiscal year to meet annual payments such that the sum of annual payments and utility bills does not exceed the baseline cost of energy bills, including escalation.
- **Performance Guarantee:** Require an ESCO Guarantee, in which projected savings must be sufficient to meet or exceed the total annual payments under the assumed rate structure and facility usage patterns. The ESCO is required to measure and verify savings annually and is required to pay the difference in the event of a savings shortfall.
- **Excess Savings:** Establish that the government unit retains any excess savings beyond the annual payment obligation.

ESPC PROGRAM RESOURCES

- State Legislation on ESPC
  In 2013 DOE developed this document, which provides quick links to statutes in each state.
  (http://www1.eere.energy.gov/wip/solutioncenter/performance_contracting.html)

- Model State Legislation
  The Energy Services Coalition and the National Association of Energy Service Companies (NAESCO) developed model state legislation in 2008 through funding from DOE. (http://energyservicescoalition.org/Data/Sites/1/documents/resources/tools/practice02/Model_EPC_Legislation.pdf)

4.2 Consensus

When developing a set of customized program documents, it is important to establish consensus between key decision-makers from each of the targeted market sectors. Key decision-makers include lead representatives from buildings management, procurement, legal, budget, finance, and facilities divisions. They have decision-making, rule-making or approval authority over many different entities (e.g., the state buildings administration has authority over all state agencies).

Processes vary by state and by market sector within the state, each with particular procurement rules and governing legislation.

Build consensus between key decision-makers:

- The lead buildings management division will need to incorporate construction requirements and necessary approval processes for the entities the division oversees.
- The purchasing official will need to comment on the RFP process, whether an individual RFP or a pre-qualification process can be used, and on the specific process elements that need to be followed.
- The state's legal department will need to do a preliminary review of the three contract documents (investment grade audit, performance contract, financing agreement). Most likely, the department will not conduct such a detailed review and grant approval until it receives the first project for review. At that time, the first approved contract can become a template for use by others.
- The controller or budget office will need to develop a process for handling the multi-year payment obligation and freezing the appropriation level such that annual appropriations allow sufficient savings to make the financing payments. The Controller should communicate this to the Joint Budget Committee or similar legislative body that sets annual agency appropriations.
- The administrative office responsible for buildings will need to develop a payment process regarding the drawdowns from the escrow fund established for required construction payments.

If the program includes serving state agencies, consider developing pre-approved documents for state government facilities. This process enables the state to lead by example. Then follow a consensus-building process with other market sectors involved in the program. If it is not feasible to develop customized documents for other market sectors, provide the state-approved documents for customization. Although many state agency requirements would not apply, local governments view adopting state documents as a sound approach.

4.3 Model Documents

Model documents represent best practices for states to launch and administer energy efficiency programs through Energy Savings Performance Contracting. An ESPC program manager does not need

to start from scratch to develop these documents. As discussed below, the Department of Energy presents a model set of documents distilled from successful ESPC program experience over the last two decades. Any state program can customize the model documents to meet its needs.

ESPC PROGRAM RESOURCES

- Model Program Documents
  These include procurement and contracting documents to develop ESPC projects as well as supporting program documents.
  (http://www1.eere.energy.gov/wip/solutioncenter/performance_contracting.html)

History of Model Documents

The model state ESPC documents presented by DOE have a long history. The procurement and contracting documents evolved from those developed in the 1980s by Massachusetts, Washington, and Illinois. They were expanded by Colorado in the 1990s, with funding support from DOE and distributed by the Energy Services Coalition as a model for other states to use as a basis for their own model documents. DOE supported three different rounds of targeted updates from 2009 to 2011. States have continually adopted, updated, and expanded the documents to incorporate local legislative requirements, administrative practices, and program interests. In 2013, Minnesota adopted the model documents and streamlined them for easier state oversight and for easier uptake by state and local government project managers. Some states developed their own documents, providing good material to incorporate into the model, including North Carolina. In 2013–2014, DOE staff interviewed some SEO representatives who concurred with the need for an updated set of model documents. DOE facilitated stakeholder groups of public and private experts to refine, streamline, and update these documents, incorporating many improvements from states.

Steps to Customize Documents

Develop a set of model documents for customization by the target market sectors involved in the program. The recommended steps following this plan include:

- Use a single set of documents as a master, rather than creating a different document set for each sector. Use highlighting and insert notes that direct the owner to delete non-applicable segments, resulting in a customized document for the sector. This makes updating the documents easier.
- Incorporate legislative requirements. In some states, legislation is uniform across state and local governments. In other states, legislation differs by market sector.
- Incorporate program process requirements, such as project reporting, methods for developing the investment grade audit, recommended measurement and verification approaches, etc.
- Establish consensus within the market sectors, as feasible, and further refine the documents to incorporate requirements and approval processes.

If state government is a target market sector, develop the master for state use. This will enable the state to lead by example in state facilities. Local governments can further tailor the state-customized model documents for their use. Although some state processes and requirements will not be applicable to local governments, local governments can amend the documents and get final approval through their own attorneys.

Program Administration Processes

- Develop an ESCO pre-qualification process (if this is not feasible, develop a model RFP for each owner to use).
- Develop a final ESCO selection process (for owners to select an ESCO from the pre-qualified list).
- Develop customized contracts (audit contract and performance contract) incorporating requirements and recommendations.
- Establish recommendations and requirements for projects.
- Establish a protocol for interacting with owners, such as the owner Memorandum of Understanding (MOU).

Owner Processes

- Agree to participate in the program.
- Select an ESCO from the pre-qualified pool of ESCOs following the established final selection process (or issue an RFP if a pre-qualified pool of ESCOs does not exist).
- Execute an Investment Grade Audit Contract, customizing the contract provided by the program.
- Negotiate and execute an Energy Savings Performance Contract to implement the projects.
- Establish a means for project financing, including the option for the ESCO to issue an RFP through the Financing Solicitation Package provided.

4.3.1 Program Administration Process Documents

The program can streamline the process for owners by pre-qualifying ESCOs and establishing an agreement with qualified ESCOs.

4.3.1.1 Request for Qualifications (RFQ) to Pre-Qualify ESCOS

The Request for Qualifications (RFQ) to pre-qualify ESCOs sets the stage for a streamlined procurement and contracting process in the state, and establishes a clear role for the program to launch, administer, and oversee a program. The list of pre-qualified ESCOs resulting from this RFQ helps owners procure qualified service companies. This step has streamlined many state programs including in Arizona, Colorado, Hawaii, Kansas, Maryland, Montana, North Carolina, Oregon, South Carolina, Utah, Virginia, Washington, Wisconsin, Wyoming and others.

ESCOs pre-qualified through an RFQ will be eligible to provide services to owners that choose to participate in the ESPC program. The primary intent of this selection process is fourfold:

- To ensure minimum qualifications of ESCOs to implement successful ESPC program projects
- To offer qualified firms the opportunity to engage in an ESPC agreement
- To provide owners the opportunity to procure services of qualified firms in a timely and cost-effective way
- To increase the number of successful performance contracts in the state, as a means to implement comprehensive energy efficiency projects in existing buildings

To establish a streamlined process, a program should include the following elements in the RFQ:

- Solicitation to enable the state program to establish a pre-qualified list of ESCOs, so that any participating owner can select an ESCO from this pre-qualified pool to complete a performance contracting project in its facilities
- Contract templates, which can be pre-approved by the state to reduce the time and difficulty for owners to obtain such services
- Evaluation criteria, such that the list will include all ESCOs deemed qualified. It is a pass/fail test rather than a screening to select the top three or so ESCOs.
- Savings requirements for state buildings and the stipulation that ESPC can be used to meet the requirement.

To set the stage, a program should include the following elements in the RFQ:

- How pre-qualified ESCOs participate in the processes and responsibilities of parties
- How owners participate in the processes and the role of the program in any follow-on oversight
- An agreement with pre-qualified ESCOs to define processes, establish responsibilities, and outline the state energy office's role in any oversight
- An agreement with owners to describe the process, the services to be provided by the ESPC program, and the role and requirements of the participating owner
- Pre-qualified ESCOs may participate in the program for a four-year term, subject to an annual review

ESPC PROGRAM RESOURCES

- Model RFQ to pre-qualify ESCOs with evaluation forms
  A program can use this model RFQ to pre-qualify ESCOs.
  (http://www1.eere.energy.gov/wip/solutioncenter/performance_contracting.html)

- Appendix D-2: At-A-Glance – RFQ to Pre-Qualify ESCOS
  This document briefly describes each segment of the model document, along with negotiating items and recommendations for developing an RFP for your state.

4.3.1.2 ESCO Base Contract for Pre-Qualified ESCOs

After selecting the pool of pre-qualified ESCOs and defining the final selection process, develop a contract with each pre-qualified ESCO. The contract establishes program requirements for each pre-qualified ESCO to provide performance contracting services, including how to solicit projects, use approved contracts, report data, adhere to proposed or negotiated maximum rates, and work with program participants. The model energy performance contracting agreements can be customized for any project.

Program administrators should meet annually with each pre-qualified ESCO to review projects and program policies.

ESPC PROGRAM RESOURCES

- ESCO Base Contract
  This sample contract establishes roles and requirements for pre-qualified ESCOs participating in the state's program.
  (http://www1.eere.energy.gov/wip/solutioncenter/performance_contracting.html)

- Appendix D-4: At-A-Glance – ESCO Base Contract (Contract for Pre-Qualified ESCOs)
  This contract briefly describes each segment and clause of the model contract, along with negotiating items and recommendations for developing an ESCO base contract for your state.

4.3.2 Owner Process Documents to Develop a Project

The following set of model documents is available for owners to solicit an ESCO, solicit a financier, and contract with the ESCO to conduct an Investment Grade Audit and an Energy Savings Performance Contract. The program can provide the documents to prospective owners in the state or region as-is or customized by the program to the extent possible for owner use.

4.3.2.1 Request for Proposals (RFP) to Select an ESCO – Standard RFP

Where there is no process in place to pre-qualify ESCOs, each owner needs an individual Request for Proposals (RFP).

ESPC PROGRAM RESOURCES

- RFP for facility owner to select an ESCO (single use)
  Owners can use this RFP to competitively select an ESCO for a specific project.
  (http://www1.eere.energy.gov/wip/solutioncenter/performance_contracting.html)

4.3.2.2 RFP to Select an ESCO – with Pre-Qualified ESCOs

If ESCOs are pre-qualified to provide performance contracting services to owners, a final selection process establishes how an owner can competitively select an ESCO from the pre-qualified pool to meet the needs of the specific project.

The secondary ESCO selection process may vary to meet the requirements of particular procurement policies and the specific project needs. For example, if a state develops a process to follow its state procurement rules, cities or school districts will need to apply their own procurement rules.

The process represented in the ESPC Program Resources will likely meet a state's minimal procurement requirements. It retains flexibility and simplicity to streamline the ESCO selection process for owners and ensures that the process will meet procurement requirements of the state or the intended users. The final selection process can easily be customized to add more rigor if needed.

However, avoid going to the other extreme of requiring an ESCO audit competition. Such a requirement puts the burden on competing ESCOs to invest a lot of time with no clear return, and on the state to review and evaluate the lengthy and technically detailed responses. Further, because all the ESCOs were pre-qualified to meet performance standards, the responses may not provide added value in the selection process.

ESPC PROGRAM RESOURCES

- Secondary/final selection process and evaluation forms
  An owner can use this process and forms to draw from the pre-qualified list of ESCOs for a final competitive selection.
  (http://www1.eere.energy.gov/wip/solutioncenter/performance_contracting.html)

- Appendix D-3: At-A-Glance – Final ESCO Selection
  This appendix briefly describes each segment and clause of the model document, along with negotiating items and recommendations for developing a final selection process for your state.

4.3.2.3 Investment Grade Audit and Project Proposal Contract

The contract for the Investment Grade Audit and Project Proposal is the first of two contracts to develop a project with the selected ESCO. As a part of this process, the ESCO completes an Investment Grade Audit, which identifies and evaluates each potential cost-saving measure with projected energy cost savings and itemized project costs. The parties will agree on an M&V plan at this time to establish savings verification procedures for each measure. They will also develop a project proposal to reflect aggregated measures that may be financed through guaranteed savings with a projected cash flow over the financing term. The results of the audit will form the basis for negotiating the second contract, the Energy Savings Performance Contract for project implementation.

ESPC PROGRAM RESOURCES

- Technical energy audit and project proposal (Investment Grade Audit contract and project proposal)
  This document includes the terms of payment and a detailed scope of work.
  (http://www1.eere.energy.gov/wip/solutioncenter/performance_contracting.html)

- Appendix D-5: At-A-Glance – Investment Grade Audit (IGA) and Project Proposal Contract
  This document briefly describes each segment and clause of the model contract, negotiating items and recommendations for developing an IGA contract for your state.

4.3.2.4 Energy Savings Performance Contract

The Energy Savings Performance Contract, sometimes referred to as the Implementation Contract, follows satisfactory completion of an Investment Grade Audit Contract to implement the negotiated projects. The Energy Savings Performance Contract defines the final agreed-upon scope of work, the guarantee, the savings verification process, and project cash flows. It also includes the improvement measures, the equipment and labor costs associated with them, and associated energy and maintenance costs and savings. Other important components include a construction schedule, design parameters, equipment specifications and warrantees, maintenance requirements, and responsibilities of the ESCO and the facility owner.

To meet the needs of the state program and users, the model Energy Performance Contract should be customized (e.g., include legislative requirements and recommendations, changes from the legal department and the state buildings authority).

ESPC PROGRAM RESOURCES

- Energy Performance Contract
  This document addresses all aspects of a performance contract, including schedules and appendices to define the project, savings measurement protocols, and roles and responsibilities of the ESCO and the owner.
  (http://www1.eere.energy.gov/wip/solutioncenter/performance_contracting.html)

- Appendix D-6: At-A-Glance – Energy Savings Performance Contract
  This appendix briefly describes each segment and clause of the model document, along with negotiating items and recommendations for developing an Energy Savings Performance Contract for your state.

4.3.2.5 Financing Solicitation Package

The financing agreement is a standalone agreement, separate from the Energy Savings Performance Contract, between the owner and a financial organization and signed by the owner at the same time as the performance contract. The two agreements link through the payment schedules and the guarantee.

Financing is possible in a number of ways, including the owner's internal financing processes, a competitively selected financing company, bonds or other funding sources, or a combination of sources. Typically, financiers that specialize or have experience in performance contracting projects provide the financing.

Another option for obtaining financing is a Financing Solicitation Package, which can be issued by the owner or by the ESCO on the owner's behalf. This method meets the need for competitive procurement, eliminates the owner's need to issue a separate RFP for financing, and positions the financing as an integral part of the performance contracting approach.

ESPC PROGRAM RESOURCES

- Financing Solicitation Package
  This document includes an RFP to competitively select a financing company and protocols to include in a lease agreement.
  (http://www1.eere.energy.gov/wip/solutioncenter/performance_contracting.html)

- Appendix D-7: At-A-Glance – Financing Solicitation Package
  This appendix briefly describes each segment and clause of the model document, along with negotiating items and recommendations for developing a Financing Solicitation Package for your state.

5. OVERSEEING A PROJECT

ESPC can be an unfamiliar process involving numerous individual projects under one contract. To address issues associated with comprehensive ESPC projects, state programs often offer direct technical assistance from ESPC experts to guide owners through the process and ensure project success. Multi-faceted ESPC projects can have a high overall cost (often in the millions), and numerous processes involving multiple disciplines (procurement, contracting, project management, budgeting, financing, and long-term maintenance). ESPC projects typically include many years of measurement and verification to monitor the performance guarantee. ESPC usually entails a comprehensive approach involving most, or all, of the owner's building portfolio, and addresses most or all of the electrical, plumbing and controls systems. It involves project oversight of the investment grade audit, selection and installation of efficiency measures, and savings verification. State technical assistance resources can help owners work through these issues for a successful outcome.

ESPC programs can put in place the following practices depending on resources and the level of owner involvement.

5.1 Owner Memorandum of Understanding

A Memorandum of Understanding (MOU) between the program and its participants establishes clear expectations and requirements for both the owner and the program. It establishes requirements and guidelines for a participating owner and establishes the program's authority.

If the program charges a fee for its services, or if it intends to do so in the future, this formal agreement can easily be adapted to include fee collection (see the Self-Funded Program segment).

The MOU establishes the program's commitment to provide specific technical assistance for each phase of the project. Moreover, it commits the owner to engage the program's services at critical stages in the project, an important point, since owners often do not seek assistance at critical times when issues can be pre-empted.

It is important, however, not to let the MOU become a barrier that delays discussions and restricts the owner's efforts to pursue performance contracting.

ESPC PROGRAM RESOURCES

- Owner Memorandum of Understanding
  This document, initially developed by the State of Wyoming, presents the roles and responsibilities of the program and the owner.
  (http://www1.eere.energy.gov/wip/solutioncenter/performance_contracting.html)

- Appendix D-1: At-A-Glance – Owner Memorandum of Understanding
  This appendix briefly describes each segment of the model document.

- Colorado's Standards for Success
  This document serves as an alternative to the MOU and lists roles and expectations without the need for a formal signature.
  (http://www.colorado.gov/cs/Satellite?blobcol=urldata&blobheadername1=Content-Disposition&blobheadername2=Content-Type&blobheadervalue1=inline%3B+filename%3D%22Standards+for+Success+%28EPC%29.

doc%22&blobheadervalue2=application%2Fmsword&blobkey=id&blobtable=MungoBlobs&blobwhere=1251915897822&ssbinary=true*)*

5.2 Technical Assistance Services

A performance contracting program may provide professional project facilitators to advise owners on every step in a performance contracting project. A project facilitator is an experienced, unbiased advisor who helps owners avoid obstacles and expedite projects, guiding the team through the process of developing, implementing, and verifying savings from Energy Savings Performance Contract (ESPC) projects. Responsibilities may include project development, guidance on the processes, audit review of savings and pricing estimates, contract negotiations and contract review, data tracking, and annual measurement and verification.

Providing technical assistance gives the program the option of collecting a fee from a project's guaranteed savings to support the cost of technical assistance.

The scope of technical assistance will vary based on funds available for this service. Funding options include:

- **Program-Supported Technical Assistance**
    - Low-cost option: High-level guidance from program staff members with an emphasis on web-based resources and on-call assistance as needed. It also includes pre-qualification of third-party consultants to provide owner-funded technical assistance.
    - Medium-cost option: High-level guidance from a performance contracting specialist at critical stages in each step of the process (as identified below).

- **Owner-Funded Technical Assistance** (some or all of the costs may be rolled into the performance contract such that savings pay for an owner's agent to provide technical assistance on the project)
    - Minimal option: Third-party monitoring of the ESCO's measurement and verification process to ensure that protocols in the performance contract are followed, and that savings are achieved per the contract and guarantee guidelines. This option should begin with oversight of the measurement and verification plan developed in the audit phase.
    - Medium-cost option: High-level professional guidance at critical stages in each step of the process (as identified below).
    - High-cost option: In-depth guidance and technical review, service as the owner's representative.

Technical assistance by project facilitators who serve as field representatives may include the following (at the medium-cost level):

- **Project Development Phase:** Determine if performance contracting is a realistic option and reach a "go" or "no-go" decision to proceed with an RFP. This determination involves a phone discussion to pre-screen the project, a site visit to discuss how performance contracting could meet the needs of the owner, and a high-level feasibility study to present the cost and savings potential for a few key measures.

- **RFP Phase:** With a "go" decision from the owner, the RFP phase involves customizing the model RFP and capturing facility and utility use data to enable responding ESCOs to assess whether to submit a proposal.
- **Investment Grade Audit Phase:** Guide the owner through the audit process, providing a template document, attending the kick-off meeting with the ESCO, and reviewing and commenting on several iterations of the audit report to validate cost and savings estimates.
- **Financing Phase:** Guide the ESCO through a competitive solicitation on the owner's behalf so that the ESCO can help the owner select a provider with the best financial terms and services to finance the project.
- **Performance Contract Phase:** Interact with the owner and the ESCO to review and comment on iterations of the contract to ensure mitigation of the owner's risks and thorough documentation in the contract.
- **Measurement and Verification Phase:** Review, comment on, or approve the ESCO's savings reports to validate for the owner that the guarantee was satisfied on either a quarterly or an annual basis.
- **Project Data Collection:** Collect detailed technical data on the project to document the success of the project and the success of the program.

ESPC PROGRAM RESOURCES

- Appendix E-1: Technical Assistance Tasks for Field Representatives (Medium-Cost Option)
  This appendix outlines the technical assistance tasks that a program could consider providing through field representatives to assist owners through the process, including the number of hours for each service (medium-cost option).

- Appendix E-2: Sample RFP and Contract to Solicit Field Representatives (Project Facilitators)
  The program could use this RFP to hire one or more project facilitators to serve the program. Alternatively, project owners can use the document to solicit their own project facilitators.

5.2.1 Project Screening

It is important to pre-screen potential projects to ensure there is potential for an ESPC project, and to determine if technical assistance is needed and justified. Because the goal is to develop a performance contracting project, a project must have the size and scale for at least one ESCO to be interested. Experienced program staff or a project facilitator can usually conduct project screening over the phone.

ESPC PROGRAM RESOURCES

- Appendix E-3: Project Screening
  This appendix is a detailed list of items to consider when assessing projects for technical assistance.

5.2.2 Assess ESPC Project Potential

The opportunity for an ESPC project to be developed depends on a number of factors:

- Interest and buy-in from the owner to proceed with a comprehensive ESPC project involving multiple buildings where practicable.

- Interest of local ESCOs (interview ESCOs to learn the minimum size and scope that fits their business model; some ESCOs have a lower threshold than others do).
- The size and scope of the project is the first indicator to match-up with the minimum level that any ESCO will entertain:
    - Overall utility and operational budget
    - Size of buildings
    - Remaining energy/water/cost-saving opportunities (lighting and controls upgrade opportunities are usually most cost-effective, enabling bundling of other less attractive measures for a larger project)
    - Facility needs for equipment upgrades or replacements (being able to incorporate a project on the owner's wish-list helps to get buy-in for a project)
- Large-scale buildings generally have greater opportunity than residential-scale or warehouse-type buildings (large-scale buildings have more complex HVAC systems with more upgrade opportunities).
- Congregated buildings versus widely dispersed buildings (buildings that are located close together enable economies of scale).
- Available funding to augment energy savings (if the project is marginal, any added funding will enable an ESCO to increase the scope to make the project more attractive to the ESCO and more beneficial to the owner).
- There may be significant opportunities in niche applications, such as streetlighting and water/wastewater systems. These sectors may require specialized ESCOs.

5.2.3 Prioritize Projects to Receive Technical Assistance

Prioritize projects after the pre-screening assessment to ensure you are getting the best value for any program services you provide.

Program Criteria

Programs should prioritize projects applying for technical assistance based on whether they:

- Pass the screening test above (within program market sectors; potential for an ESPC project)
- Fall into the most desired market sectors (if the program's mission and goals define specific market sectors), such as:
    - State government (state departments, higher education institutions, auxiliary funded state buildings such as college dormitories)
    - Public school districts
    - Cities
    - Counties
    - Special districts (recreation centers, libraries)
    - Non-profits (on a case-by-case basis)
- Present an opportunity for upgrades in lighting, energy management controls, and heating/cooling systems, or combination of all; maintenance problems; comfort problems; equipment replacement needs; funding to buy-down cost of performance contract (if

project potential is low, infusion of funds compensates for this); no near-future plans to demolish, sell or replace facilities; etc.

- Have an interest in performance contracting or need for funding
- Demonstrate a willingness to pursue performance contracting (or similar comprehensive, large-scale approach)
- Set an end goal of investing in energy-saving projects (a focus on results)

Figure 6: Preliminary Self-Diagnosis to Prioritize Projects

Preliminary Self-Diagnosis

Does your facility have more than 50,000 square feet of floor area?

Do you spend more than $60,000 each year on energy bills?

If so, an energy performance contract may work for you. It is likely to benefit you even more if you have:

- Aging buildings or equipment
- Recurring maintenance problems or high maintenance costs
- Comfort complaints
- Scarce budget resources
- Too little energy management expertise
- Too many demands on your maintenance personnel
- No recent upgrades of your lighting or controls systems
- Energy-using equipment that is ready for replacement

Local conditions matter, so what may work in one state or region may not work in another. Adapt this mini-audit for your state.

ESPC PROGRAM RESOURCES

- Appendix E-3: Project Screening
  This appendix includes a detailed list of items to consider when assessing project potential for technical assistance.

5.3 Conduct a Feasibility Study

If funds and expertise are available, consider developing a feasibility study for owners as an effective marketing tool. A feasibility study conducted by a project facilitator uses simplified estimates, assumptions, and recommendations to show the estimated savings of a potential project. Feasibility studies often address energy savings, highlight the types of improvements that may be made, and identify the owner's top needs.

The information collected in this step is valuable for inclusion in the RFP.

Feasibility studies paint a vivid picture of what an ESPC project could look like and can influence owners to implement large-scale, comprehensive ESPC projects. Feasibility studies are not intended as a substitute for an Investment Grade Audit. ESCOs can utilize the study as background information,

however, with the caveat that it is not an investment grade assessment.

ESPC PROGRAM RESOURCES

- Appendix E-4: Sample Feasibility Study
  This appendix includes a template for developing a feasibility study.

5.4 Project Tracking

It is important to track the progress of interactions and services with owners. A Project Tracking Log is for program staff and project facilitators who have direct contact with potential owners.

The log can serve many purposes. It can be:

- A program communications tool
- A way to track involvement of various team members with a single owner
- A way to track development of a project
- A way to update the team on a project that is restarting after lagging for years
- A resource for project details in future success stories, program information, and data projections
- A record of work performed that is useful for invoicing by project facilitators or program reporting

The resources accompanying this document include a Project Tracking Log. Staff should use the log after every interaction with an owner, capturing events as if writing a journal entry.

ESPC PROGRAM RESOURCES

- Appendix E-5: Project Tracking Log
  This appendix contains a template format for logging project communications over time.

5.5 Checklist for Technical Assistance

Technical assistance providers should review project documents at critical milestones during the Investment Grade Audit and the contract phases. (These reviews are not part of the legal review of the documents and do not replace the due diligence needed by the owners.)

Appendix E-6 provides an itemized technical assistance checklist.

ESPC PROGRAM RESOURCES

- Appendix E-6: Technical Assistance Checklist
  Adapted from a State of Colorado document, this appendix provides a checklist for field representatives to track each critical step for technical assistance.

5.6 Data Collection

Collecting project data is a valuable exercise. Posting project information on your website can demonstrate that performance contracting is a viable and proven approach, influencing other facility managers to move forward on a project. Such a record of program success can also support future program funding requests. A “return on investment” of ESPC project costs versus program costs helps

justify program expenses. Establishing simple tracking guidelines for projects and the program allows for sharing of newfound success and demonstrating measurable results to the public.
At minimum, track information on:

- Owner name, market sector, contact information
- Total ESPC project cost (excluding financing)
- Annual guaranteed savings
- Financing term
- Year the contract is signed

Track other information, as available – additional project details may be useful to the program in the future or to organizations that conduct data analyses on ESPC projects:

- Amount of grants or rebates
- Square footage of buildings
- Unit energy savings – annual guaranteed amounts
- Actual energy savings achieved each year
- Benchmarking information
- Emissions reductions achieved

Request or require that ESCOs commit to providing data to the program annually.

ESCOs should also report ESPC project information to eProject Builder, a national database of ESPC projects maintained by LBNL. The ESPC contract can include a requirement for the ESCO to report data into eProject Builder. The information in the database is not identifiable by owner, rather by generic facility type and geographic zone. The eProject Builder database can provide information on relevant comparable ESPC project experience, including costs and savings.

ESPC PROGRAM RESOURCES

- eProject Builder – Standardized Data Collection Template and LBNL Database
  LBNL hosts a database, using US DOE funding, that includes ESPC project data from many federal ESPC projects over several decades. LBNL is expanding the database to enable states, cities and other public-sector entities to present project data and retrieve analyses and reports. A project data reporting template is recommended to standardize project reporting.

6. PROGRAM STAFFING

Staffing plays an important role in any program. A state energy office may consider assigning or hiring a program manager to develop and oversee an ESPC program. Supporting staff members or consultants, if the budget allows, include technical assistance professionals and a program assistant.

A description of these positions is included in Appendix F, along with sample job announcements, task lists, and an RFP to solicit consultants.

6.1 Program Manager

The program manager is a management and energy efficiency professional who will design, develop, and manage a government program to promote ESPC for commercial/institutional buildings throughout the state. The program manager will lead a multi-faceted effort involving program marketing, technical assistance for target market sectors and procurement and legal applications. In an education/outreach capacity, the project manager works with public and private sector stakeholders and functions as the state's advocate and trouble-shooter for ESPC.

A program manager typically has a four-year college or master's degree in a related field. Desired experience may include management, technical, and outreach skills. Experience or expertise may involve a combination of any of the following: energy efficiency in institutional buildings, energy engineering, strategic planning, construction project management, finance, government decision-making processes including procurement and contracting, government program management and training. See a detailed task list in Appendix F-1.

PROGRAM RESOURCES

- Appendix F-1: Program Manager Job Announcement with Task List
  This announcement includes academic requirements, required experience, capabilities, and a detailed task list for two categories of management/outreach and owner services.

6.2 Administrative Program Assistant

Budget permitting, consider hiring an assistant to aid the program manager in all administrative tasks involving procurement, contracting, budget monitoring, coordination of contractors (project facilitators), event logistics, program data collection, and program reporting. A program assistant could also perform other more technical tasks, including processing facility owner agreements, coordinating project facilitator services, and managing the process to pre-qualify ESCOs. See the sample job announcement in Appendix F-2.

ESPC PROGRAM RESOURCES

- Appendix F-2: Program Assistant Job Announcement
  This appendix includes a job announcement for a Program Assistant, including an announcement, job description, required capabilities, and a detailed task list.

6.3 Technical Assistance Field Representatives (Project Facilitators)

Technical Assistance Field Representatives (project facilitators) have expertise in building energy efficiency and ESPC. They provide one-on-one consultation services to help owners initiate and follow through with the performance contracting process. They also provide technical support to the overall program.

Program approaches and budgets can vary widely and can influence the type of project facilitation. For example:

- Without funding to support a project facilitator, a program can rely on a well-developed website to provide information, guidance, as well as process documents. Skilled staff can provide on-call support. For further owner support, the program can encourage owners to hire a project facilitator directly.
- When a program contracts (or hires) project facilitators to provide free technical services on behalf of the program, the facilitators will take a high-level approach to technical assistance to keep costs reasonably low.
- When a program directs owners to pay for their own project facilitator, a more intensive and costly approach would be followed as explained in Section 2.8.2 – Self-Funded Program
- A program may have a hybrid of the above, offering free front-end services to help owners through internal decision-making and the RFP process and then expecting the owner to hire its own project facilitator.

A project facilitator's main focus is to get projects started, provide initial consultations to help the owner work through internal decision-making processes, and obtain consensus from the owner's team of professionals who will be involved at some point during the process (facilities, administration, procurement, legal, budget, environment, and other representatives). Further support, as budget allows, may require a project facilitator to take a high-level approach to technical assistance to keep costs reasonably low. Other duties and responsibilities may include providing guidance at critical stages in the process and focusing on key issues based on the facilitator's experience, without much detail. The sample RFP identified in the Program Resources takes this approach.

The project facilitator can also be very helpful in program development, advising on effective outreach to owners to ensure successful projects, and identifying barriers and solutions to a streamlined process.

The project facilitator should be well versed in ESPC and able to serve as an independent advisor, with no affiliations (present or future) with ESCOs. Whether an individual consultant or a firm provides these services, a single point of contact is preferred to maintain consistency and build owner relationships.

ESPC PROGRAM RESOURCES

- Sample RFP and contract for technical assistance field representatives
  See Section 5.2. *This document is a sample RFP and contract. The RFP includes response criteria, evaluation factors, and the selection process. The contract includes performance requirements, a sample task order with associated funding letter, and reporting requirements.*

7. CONCLUSION

The large-scale energy savings made possible through ESPC can contribute significantly to funding state operations and reducing strain on limited state budgets. To date, more than 16 states have developed and implemented successful ESPC programs providing education, model procurement and contracting documents, and technical assistance to help state agencies and local governments develop successful performance contracting projects. Several state-level ESPC programs have begun to achieve self-sufficiency, such as the State of Washington's program, which is now a fully self-funded program, able to support a staff of 14 engineers, using fees collected from project owners for technical assistance services.

The US Department of Energy is committed to helping states realize the benefits of energy efficiency through performance contracting by supporting innovative, state-led initiatives. To that end, these Guidelines provide valuable information and more than 30 resources, including customizable documents, templates, contracts, and checklists to help State Energy Offices develop successful ESPC programs and start reaping the benefits of energy savings through ESPC today.