Energy Savings Performance Contracting Best Practices - From the Experts

Energy savings performance contracting (ESPC) is a method of achieving energy & water saving infrastructure improvements by using guaranteed, annual energy & operational savings to repay the cost of installations. According to the legislation enabling the use of ESPCs by local governments:

> *'Energy savings performance contract' means a contract with a provider for energy or water conservation or usage measures in which the estimated energy savings, utility cost savings, increase in billable revenues, or increase in meter accuracy resulting from the measures is subject to guarantee to offset the cost of the energy or water conservation or usage measures over a specified period.*[1]

The Texas State Energy Conservation Office (SECO) developed a set of guidelines to serve state agencies through the procurement and implementation of an Energy Service Performance Contract. By statute, the guidelines govern state-level contracts, and by extension serve as an essential reference for other public sector entities considering an ESPC. The guidelines offer recommendations and tools for the 8 step ESPC process (See Figure 1).

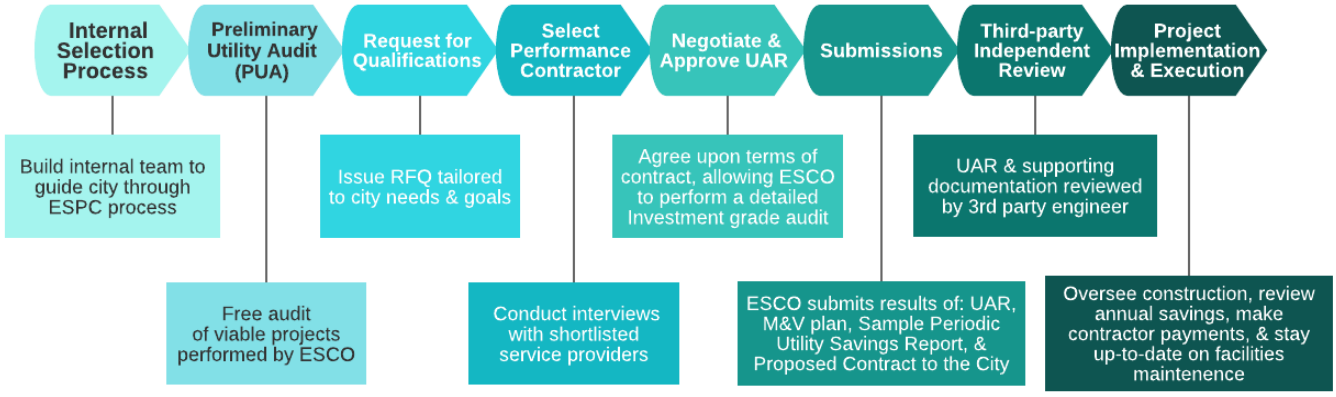

Figure 1

This study is intended to augment SECO's *Energy Savings Performance Guidelines for State Agencies* with a compilation of "best practices" from industry experts. Through a series of interviews with Texas city managers, energy managers, facilities staff, experts from energy services companies (ESCOs) and SECO staff we cultivated the following set of insights and recommendations.

Please note that this study is not intended to be exhaustive, and although ESPCs may be used across public sector markets (higher education, state, K-12, local governments, etc.) and by the private sector, our study focuses primarily on municipal projects.

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[1] Title 9, Texas Local Government Code §302.001(4): In Texas, enabling legislation stipulates definitions and some details of the process for state agencies, institutes of higher education, K-12 public school districts, and local governments pursuing ESPCs. For links to other statute language visit https://comptroller.texas.gov/programs/seco/resources/espc.php.

Is an Energy Services Performance Contract right for you?

The Texas Legislative Budget Board's (LBB) 2019 Staff Report encourages state agencies to use Energy Savings Performance Contracting to reduce energy consumption. The report cites the success of a recent Texas Facilities Commission ESPC, which is expected to save the agency $9.6 million over its useful life.

There are a variety of ways for a local government to procure energy efficiency upgrades including a standard design-bid-build arrangement, self-funding, or even the emerging energy-as-a service model. However, one city manager with experience on numerous ESPCs sees the two-fold value of performance contracting:

> *While a [performance contract] is beneficial as a funding mechanism by leveraging the savings from the improvements to cover project costs, an ESCO is also an expert and project manager in design/building projects with exposure to the product market for energy-efficiency measures and water meters. They are also able to customize a project's scope based on the city's needs and built environment.*

However, many of our interviewees encouraged extensive preparation as well as on-going internal project management as essential to the success of an ESPC. Performance contracts are not intended to be a panacea, but certain actions at each project step can help ensure a successful project.

Preparation is Key

Do Your Homework

"You have to become a student of the project" - Texas city manager

Across our interviews proper preparation was encouraged to ensure success. A well-researched project, that has incorporated insight from third-party experts and from all internal departments that stand to be impacted by the performance contract, has the best chance of avoiding hiccups and maximizing the contract's full savings potential. One ESCO representative recommended a city "have a conversation about performance contracting at least three times before making any sort of moves on a contract itself."

ESCO staff are experts in ESPCs. As such, they can offer considerable support in getting city staff and elected officials familiar and comfortable with the process. If a city is looking for objective, third-party guidance, our interviewees suggest referencing SECO's *Energy Savings Performance Contracting Guidelines for State Agencies*, seeking out conversations with other cities that have completed projects, or utilizing resources from industry groups such as the Energy Services Coalition (ESC), the National Association of Energy Services Companies (NAESCO) or the South-central Partnership for Energy Efficiency as a Resource (SPEER).

One of our contributors encouraged awareness of alternative, market-available contract models that are similar to the legislatively-enabled ESPC, but may diverge from standard contract arrangements. Variations may include power purchase agreements (PPA), energy-as-a-service (ESA), public-private-partnerships (P3), and shared savings models among others. The city should consult the ESCO and third-party experts to understand their options and what arrangement best serves their needs.

It is also important to do proper research regarding the needs of the city and what you are hoping to accomplish with the ESPC. The projects highlighted as the greatest successes amongst our interviews were those that improved a core function of the city. Those projects included automated metering, water, and

wastewater system improvements that were also celebrated for robust financial performance. It is beneficial to have a handle on the state of city assets prior to beginning the conversation with an ESCO. SECO's free Preliminary Energy Assessments were recommended as an available resource to get a good picture of energy saving opportunities.

Building a Team

Public sector contributors, SECO, and ESCOs agree it is crucial to establish a strong, cross-functional, and multi-level team of city officials and staff to guide the city through the performance contracting process. The team will identify project opportunities, vet ESCOs, select funding sources, manage project construction, ensure proper operations and maintenance, and oversee measurement and verification.

A team needs support and engagement from city leadership to build buy-in. A former Texas city manager recommended the planning team include at a minimum:

- City Manager
- Chief Financial Officer
- City Attorney
- Public Works Director (or director over facilities to be upgraded)

Additional stakeholders may be engaged throughout or at key points in contract development and implementation phases. These may include the city's purchasing office, building official, financial advisor, and any department heads of specific facilities to be upgraded. Some contributors recommended on-the-ground facilities managers be included in the process from an early stage, to both provide insights about the day-to-day needs of city operations and encourage buy-in from the staff who will actually operate and maintain new equipment.

Ultimately, elected officials make final decisions about major city contracts and need to be an integral partner in the process from the onset. "If the executive does not care then neither will anyone else."

Multiple experts from ESCOs and municipalities agree that having an internal "champion" or advocate for the project on the team maintains momentum and support for the project process. It is best if that champion is "political," meaning someone adept at building broader buy-in. If this member is identified early on, they may serve as the primary point person with the ESCO partner as the city proceeds through contracting, construction, and operations. As SECO staff advised, a city "need(s) someone within the organization to communicate and internally advocate for the projects, matching the need to the solution, and understanding issue areas."

Many of our contributors value ESPCs as a turnkey service informed by sophisticated technical expertise. This does not necessarily mean a city should turn over all oversight to the ESCO. Experts recommended cities have an in-house project manager with technical credentials to oversee the project. This project manager should have the technical expertise and latitude to be able to keep a close and informed eye on the project from procurement through measurement and verification.

Be Realistic and Open Minded

Finally, in preparing to develop an energy savings performance contract, our experts encourage being both realistic and open-minded. One contributor suggested "keep it within 5-10 facilities to manage project scope and [so the project won't] get out of hand, especially for folks that are working on their first projects." For larger cities, it may be beneficial to implement projects with groupings of like-use facilities such as public safety, libraries, community centers, etc.

Though the optimal size and scope of the project may vary based on the size of the city and its resources, the general recommendation is to approach a performance contract with the understanding that the city may not be able to achieve all available opportunities in their first contract.

One ESCO representative encouraged cities to be honest and flexible, “If you have a need, be open with your needs, be open about what your challenges are” and “keep an open mind and allow a service provider to identify areas for savings.”

Selecting an ESCO

ESCO Selection Criteria

“It is a marriage, you need to be engaged to this for a while” - ESCO Representative

The city’s relationship and satisfaction with their energy services company (ESCO) can enhance or tarnish perception of energy savings performance contracts long after the work is complete. Selection of the right ESCO partner is key.

ESCOs come in a variety of sizes with an array of business models. One city representative noted that some ESCOs are equipment-brand agnostic whereas others have partnerships with technology companies or manufacture components used within the ESPC. He advised that the “ESCO partners should be open to discussing why they believe their recommended technology is best-suited for your needs.”

Most ESCOs will perform a no-cost preliminary audit, prior to entering a selection process, to help cities understand available energy and water saving projects. Some experts suggested running multiple preliminary audits may reveal a broader range of project opportunities. However, additional audits require time and staff resources and often reveal similar answers. It can help to have a neutral third-party engineer review the preliminary audit. SECO’s Preliminary Energy Assessment (PEA) service provides a preliminary audit from a third-party provider and may be a good place to start the process. Regardless, the ESCO providing the review should also be able to talk through how they chose the systems to be audited and the results.

Most of all, our experts advise checking references from potential ESCO partners in detail. The ESCO should be willing to share contact information for previous projects and the city should have in-depth conversations with these provided references. One city manager advised site visits of previous projects.

It is highly recommended that the city conduct in-person interviews with each shortlisted ESCO and the team of staff that they will be working with directly. Request the ESCO send personnel who will actually manage the on-the-ground to the interview as well as company leadership. These interviews should be carried out by various members of the cross-functional team formed to manage the performance contract process.

Our contributors recommended exploring the following questions in selecting an ESCO.

- What is the primary focus of the company? Are ESPCs their core business?
- How long has the ESCO been in business?
- Do I feel confident they will be in business long enough to serve my contracting needs? - “Make sure that they have financial stability, be conscious of the guarantees that they give you, especially when looking at the financials.”

- What other projects have they completed and are they similar to my needs?
- "How many of their projects have met the projected savings and if they have engaged in litigation to challenge the performance guarantee?"
- Do I trust and feel comfortable with the sales people, engineers, and project managers who will work directly with my city staff?

It is important to establish trust and partnership with whichever vendor is chosen. One expert asserted, "the ESCO team you work with should operate as an extension of your staff." By establishing this type of relationship as early as possible in the project process, the city can ensure maximized value and savings.

Procurement Process

"The procurement method should be based on local conditions." - Texas city manager

There are many ways that a city can go about procuring ESCO services. The best route depends on the city context (size, staff expertise, etc.), level of familiarity with the ESPC process, and unique needs of the city. Generally, contributors recommended a Request for Qualifications (RFQ) process where cities select their preferred ESCO based on a set of core competencies. The specific project scope and approach is fleshed out after the selection of the ESCO. The legislation enabling the use of ESPCs points to a qualification-based selection process.[2] An RFQ process allows for a more holistic partner selection process that is based on the needs of the city, financial history of the potential ESCO, and their proven ESPC success.

In practice, other procurement options may be preferable. One city manager recommended using a municipal purchasing cooperative, as they may have already vetted and shortlisted ESCOs which can narrow options throughout the search. Contracts may be negotiated and executed outside of a formal procurement process based on established relationships with ESCOs. While this can help avoid the time and expense associated with an RFQ process, selection transparency may be a consideration. Two of our contributors shared negative experiences they partially attributed to not having used a competitive process.

Contract Development

Negotiate

The scope and terms of the performance contract relationship may be determined before or after the final selection of an ESCO partner. In either case, our experts advised it is important to negotiate with the provider to help ensure contract value. Two experts recommended requiring ESCOs to present multiple project options, with several courses of action or technologies, to encourage the ESCO to reach beyond standard project approaches. This strategy may also reveal new perspective to the city, as one ESCO indicated sometimes clients are not aware of the "breadth of options available to them and what might be the best-suited to their needs."

One city manager critically reviewed the ESCO's project management charges as well as the "back-out" fee, a penalty leveraged by the ESCO to recuperate the cost of investment grade audit services if the city chooses to not follow through with construction. Another expert encourages cities to "keep in the contract that the entity can cancel measurement and verification at any point of the project."

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[2] See Title 9, Local Government Code §302.005 (a) and Title 10, Texas Government Code §2254.004.

Above all else, one city manager encouraged cities to not be intimidated by the technical aspects of the contract. Municipalities should make sure the city attorney is closely involved in the contract negotiation to advocate for the best terms to meet project needs.

Understand Energy Savings Calculations

Once the ESCO has been selected, they will provide an investment grade audit—a detailed analysis of energy savings opportunity that includes the engineered solution. The details of this analysis provide the basis for energy savings and should be evaluated carefully. Review any assumptions about how the facility is operated and occupied, being mindful of how future changes may impact energy savings. Additionally, understand escalators and utility rate structures used to formulate conclusions of the audit.

In particular, assess “hard” versus “soft” savings. “Hard savings” result from direct reductions in energy or water use due to an equipment efficiency upgrades. “Soft savings” are cost savings associated with adjustments in behavior, such as fewer maintenance calls or improved occupant comfort. A city manager recommends “to rely on hard savings, and not use soft savings when creating the project scope. This is a disciplined and conservative approach based on actual savings and not ‘stipulated’ savings.”

By statute, energy savings calculations must undergo a third-party review by a licensed professional engineer who “(1) has a minimum of three years of experience in energy calculation and review; (2) is not an officer or employee of a provider for the contract under review; (3) and is not otherwise associated with the contract.”[3] It is important to choose a third party reviewer that is familiar with energy savings performance contracts. The ESCO may be able to recommend a third-party reviewer. Many of our contributors had positive experiences using the recommended engineering firm, though municipalities are not obligated to use a reviewer that is recommended by the ESCO. Others indicated they had trouble finding an engineering firm providing this type of third-party review service. SECO may be able to provide guidance in finding qualified third-party engineers with familiarity of performance contracts.

Regardless, the city should make sure the reviewer provides, at a minimum, an in-depth review of the savings calculations and project costs. Experts also encourage rounds of review by either staff engineers or other experts sufficient to confirm the provided savings calculations can be reasonably achieved.

Be Clear on Roles and Responsibilities

One common misstep identified by a seasoned ESCO representative is failing to clearly establish the city’s and the ESCO’s responsibilities in maintaining the savings guarantee. Part of a successful contract negotiation is sorting out roles and responsibilities to avoid confusion during and after construction. Conditionally, all parties must understand project management responsibilities, the submittal review process, operations and maintenance requirements, and communication expectations throughout the relationship.

[3] Title 9, Local Government Code §302.005 (b)

Financing Energy Savings Performance Contracts

Energy Savings Performance Contracting is often thought of as a financing mechanism. Although ESPCs enable local governments to acquire energy-saving improvements without expending capital budget, ESPCs can be financed through a number of methods and therefore may be more accurately considered a contracting or procurement mechanism. An ESPC can also be self-funded by the city, avoiding financing entirely. The State Energy Conservation Office's LoanSTAR Revolving Loan program, tax-exempt lease purchase agreements, bonds, and certificates of obligation were used to finance the projects referenced in this study. There is no one best way to finance an ESPC.

The primary advice of our experts: keep it simple and use trusted advisors. Rely on the advice of the city's financial advisor, bond counsel, and Chief Financial Officer. As one city manager suggested, "there are enough nuances to explain with a [Performance Contract], so keeping the financing straightforward is best to not add additional complexity into the project."

Operations and Maintenance

"What am I on the hook for?" - Texas city manager

Often an ESPC will introduce new technology and systems into facilities. It is important to ensure city facilities staff are well prepared to operate and maintain the new equipment properly. Many performance contracts stipulate a certain level of maintenance and upkeep be performed by the city in order to maintain the savings guarantee. During the contracting phase, cities should develop a clear understanding of expectations of their facilities department. Additionally they should seek to find areas where ESCOs, or a trusted third-party, may be able to support the city in filling any knowledge or resource gaps through additional training or support. Some experts recommend including annual service or operations and maintenance training in the contract.

Our experts recommend including operations staff early in ESPC development to make sure their insight into the day-to-day management of facilities is considered in the project approach, and can confirm they have departmental bandwidth to take on any new responsibilities. Multi-level involvement from facilities management may also help build buy-in to the energy and cost saving effort, leading to a stronger energy management program overall.

Clarity of responsibility between city staff and the ESCO is crucial, especially in regard to maintenance. Pinpointing any gaps in knowledge or resources early on will help ensure the city will actually achieve the predicted savings.

Measurement and Verification

Measurement and verification (M&V) is the performance phase following the construction of the project. It is the process by which energy-use data is evaluated to confirm estimated savings are actually being achieved. M&V services may be provided by the ESCO or a third-party provider within a fee-structure set out in the ESPC. The appropriate depth and length of the M&V phase of an ESPC varies by project based on the complexity of the technology, the payback period, and other needs of the city. The projects shared by

our experts remained in M&V anywhere from two to seven (or more) years. It is not uncommon for cities to realize consistent savings, or even full payback, within a few years of construction and choose to suspend M&V services. In Texas it is up to the city how long they want to continue M&V. It is important to keep in mind though that ending formal M&V typically ends the ESCO's contractual savings guarantee.

SECO requires the use of the International Performance Measurement and Verification Protocol (IPMVP) for M&V of state agency ESPCs. In practice, IPMVP is followed in other public sector contracts and is recommended by city representatives to ensure a standardized M&V methodology. The M&V methodology is submitted as part of the ESPC so that it receives approval during the separately-contracted third-party review.

Operations staff encouraged careful consideration of expectations during M&V. "Know exactly what is included in the contract and what implications that will have for maintenance...they can include many exceptions to guaranteed savings, understand how future changes will affect consumption." In some cases, utility bills may increase even when the ESPC is performing as expected due to changes in building use and operation after construction. In the case of one Texas project, M&V helped alert the ESCO when installed equipment was not functioning as intended, which then enabled the issue to be quickly resolved. Careful and detailed understanding of the M&V methodology and communication with the ESCO partner can help the city stay on track with savings and make a well-informed decision to end the service.

Long-term Best Practices

Keep Staff up to Speed

It is important to ensure that the value of the performance contract is understood beyond M&V through the performance period of the ESPC improvements. One recommendation is to perform periodic, scheduled updates through the life of the improvements. Project performance updates should be written with a variety of stakeholders in mind, detailing implementation costs and energy and water savings. Consider breaking out performance details by measure, facility, and department, especially for larger projects.

On-boarding of new employees involved in facility operations should include review of the performance contract and its status. It is crucial that facility operations and maintenance (O&M) staff are regularly refreshed on the measures implemented and their operation. Future savings may be lost if building operators are not operating and maintaining installed equipment and systems in an efficient manner.

Similarly, it is crucial that city finance and accounting departments are updated on project status through the performance phase. This is necessary for all projects regardless of funding source but especially when it is financed with debt as is often the case. A scenario cited by contributors is a disconnect between the savings from the ESPC and the loan payments associated with financing the ESPC. Reporting of actual project financial performance as compared to predicted performance, explanation for any difference in expected performance, and updates on any accounting rule changes can help city CFOs remain supportive of ESPCs.

Keep in Touch with Service Providers

The ESCO can be an ally following construction, providing continued engagement and guidance. One ESCO recalled a new city CFO reaching out years after construction of a project for clarification on associated debt. The representative was readily willing to meet with the CFO to review the contract, and recommends any ESCO should provide this level of ongoing support. Revisiting predicted project cash flow as compared to its actual performance may be the first step in developing the next project.

Don’t be Discouraged by a Bad Experience

A number of the public sector representatives we interviewed could point to a subpar aspect of a previous energy savings performance contract; this is not atypical for any large complex construction project. However, they were all supportive of ESPCs under the right circumstances as an effective mechanism to implement necessary facility upgrades and achieving real energy savings.

Conclusion

Energy Savings Performance Contracts are successfully used by governmental entities across Texas to save taxpayer dollars by conserving energy and water. With appropriate preparation, the right partners, and incorporation of lessons learned, an ESPC is a path to a more efficient and well-managed city.

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