

What Is Energy Performance Contracting?

Across the country, energy performance contracting (EPC) is a practical way for public sector entities to obtain and finance energy-saving projects for their facilities. EPC can provide the resources to finance and acquire needed capital equipment and improve energy efficiency and comfort in public buildings. Numerous states, including NH and the federal government, have enacted legislation that authorizes public facilities to use EPC for implementing energy improvement projects.

EPC is rapidly achieving widespread use primarily because it offers a mechanism for overcoming constrained capital budgets, aging and inefficient buildings and equipment, and limited maintenance staff resources. One of the most attractive and distinguishing features of certain EPC's is the ability to contract with an Energy Service Provider Company (ESCO) who will **guarantee** energy cost savings that pay for all associated project costs over the life of the contract. This provides an opportunity to free-up scarce budget resources for other needed services and activities.

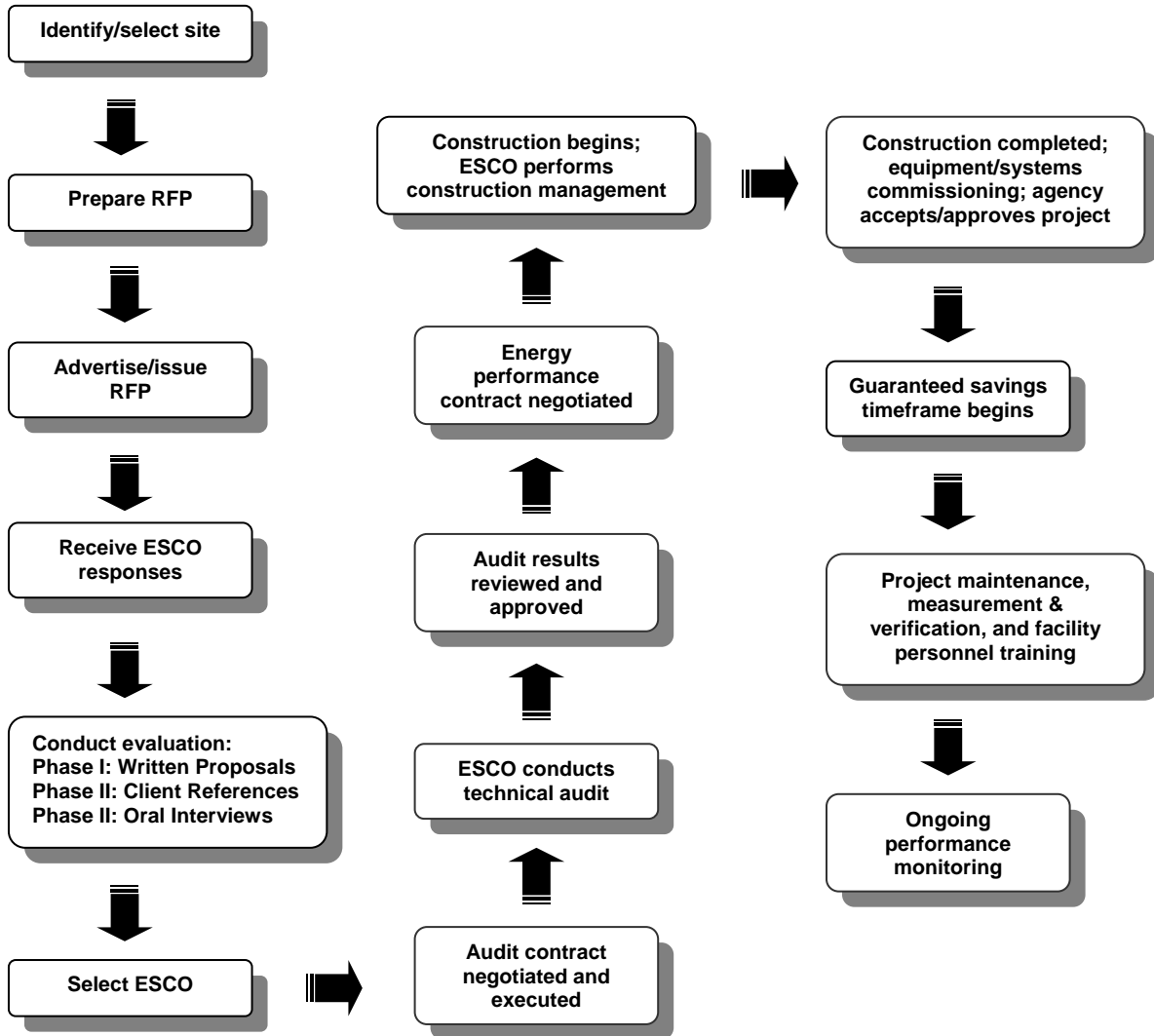
By allowing the building energy savings to cover all project and financing

The larger the annual energy costs and the potential for savings, the greater the opportunity for both the City and ESCO to benefit from energy performance contracting.

costs, EPC provides the ability to purchase comprehensive energy improvements (e.g., lighting, heating, air conditioning, and system controls, etc.) and services from qualified ESCOs. Often in the early years of the contract term, ESCOs structure the public building projects to generate a positive cash flow to the City.

NH laws authorize the use of EPC by municipalities. Figure 1 on the next page outlines procedural steps for developing a performance contract.

FIGURE 1
Energy Performance Contracting
Project Implementation



ESCO Standard Services

ESCOs provide comprehensive technical services as a part of an EPC project. In addition to analyzing facility energy use and designing comprehensive projects, they provide ongoing equipment maintenance, project monitoring, and savings measurement and verification services that ensure persistent and reliable project performance. In essence, the ESCO becomes a partner to improve, efficiently manage, and maintain a facility's energy consumption throughout the term of the contract.

ESCOs design projects to use state-of-the-art technologies. They also provide extensive training for facility operation's personnel and provide or arrange for project financing. This will be repaid over the contract term from the energy cost savings. In the event that actual savings fall short of any contractual guarantee, the ESCO is liable to reimburse the agency for the shortfall.

Standard services offered by ESCOs under an energy performance contract:

- An investment-grade technical energy audit that analyzes current building conditions, establishes base-year energy consumption, recommends energy conservation measures (ECMs), and calculates associated energy cost savings
- A sound technical project, which includes capital equipment and ongoing energy services
- Project engineering and design
- Tax-exempt project financing options
- Construction bonding to comply with statutory and agency requirements
- Equipment acquisition
- Complete project installation and construction management
- Guaranteed savings for the life of the contract
- Project commissioning
- Savings measurement and verification
- Project monitoring services
- On-going equipment service and maintenance (if needed)
- Extensive training for building operators and facility personnel

Project Site Selection

There are a number of technical factors to consider when selecting a suitable project site for an EPC energy project. In general, the facility should have high annual energy use, coupled with sufficient energy saving opportunities to generate the necessary cash flow to amortize all project costs over the contract term and attract ESCOs' interest. Some ESCOs are willing to implement projects for smaller facilities, but they make those decisions on a case-by-case basis.

A facility that makes a good candidate for EPC will possess most of the following characteristics:

- Annual utility costs in excess of \$300,000
- Potential annual energy savings from \$45,000 to \$75,000 (15% to 25% of the project cost)
- Stable facility use and occupancy
- Consistent energy-use patterns over several years
- Access to several years of utility records
- A structurally-sound facility with no extensive building renovations planned, nor recently completed



Often, it makes economic sense to combine several facilities into a single project offering. Multiple building projects with excessive energy costs are usually very attractive to ESCOs and allow the agency to finance and obtain a greater number of energy improvements through a single procurement.

A simple rule of thumb to consider when selecting candidate project sites:

The larger the annual energy costs and potential for savings, the greater the opportunity for both parties to benefit from energy performance contracting.

Features of Energy Savings Guarantees

Since expected energy cost savings are expected to pay for **all** project costs over the term of the contract, ESCOs have a strong financial incentive to design optimal-performing projects. In addition, payment of ongoing ESCO service fees (e.g., maintenance services, project monitoring, savings measurement and verification, etc.) must also be paid from the facility savings. Therefore, if savings are not achieved the ESCO does not get paid.

At a minimum, any savings guarantee should meet the annual debt service payments (e.g., tax-exempt lease, bonds, bank loan, etc.). Typically, these savings guarantees are structured to be 85 percent to 90 percent or more of the predicted savings.

Savings guarantees are generally expressed in both dollars and fuel units. The dollar value attributed to fuel units should be the prevailing utility rate for that particular fuel at the time of contract execution. It is standard practice for ESCOs to establish the prevailing unit utility rate as a "floor rate" from which the dollar value of savings will not fall. This "floor rate"

protects the ESCO from future projected savings devaluation should utility rates drop during the contract term. This structure assumes that if utility rates fall, the facility will immediately benefit from an overall reduction in utility costs.

However the savings guarantee is structured, it is critical that both parties agree to and thoroughly understand the terms of the guarantee and how it will be applied throughout the contract term.

Benefits of Energy Performance Contracts

In addition to the savings guarantee, there are a number of other benefits for public agencies using EPC to implement capital energy projects:

- Preserves limited budget dollars for other services and activities
- Finances capital energy improvements from utility savings
- Reduces frequency of repairs and maintenance costs for inadequate, aging, or obsolete equipment
- Provides operating personnel with technical training
- Decreases indoor air quality (IAQ) problems
- Creates a more comfortable work environment and increases employee productivity
- Enhances the local economy with the ESCOs' use of local subcontractors
- Creates an incentive for ESCOs to develop efficient projects, since compensation is linked to project savings
- Improves the environment and conserves scarce energy resources



Project Financing

In general, it is more economical for public agencies to secure their own project financing and to require an ESCO financial guarantee that covers the annual debt service from the project energy cost savings. The tax-exempt status granted to a public agency, enables them to access lower-cost financing than that typically available to an ESCO. More favorable financing terms enhance the potential scope of work, the contract terms, and can reduce the overall cost of the project.

Project Financing Considerations

There are a number of factors to consider when assessing financing options for EPC projects:

- Size of project investment
- Length of financing term
- Source of funds (e.g., bonds, tax-exempt lease, commercial lease, ESCO corporate fund or line of credit, etc.)

- Interest rate
- Flexibility of financing instrument to fund project "soft costs" (e.g., design, engineering, construction management, etc.)
- Creditworthiness of the agency and ESCO



- Length of construction period
- Construction financing options/interest rate
- Equipment ownership
- Buy-out schedule
- Required security interest/project collateral
- Project bonding requirements
- Risk premium charges for ESCO financing (if applicable)
- Preferred project repayment schedule (e.g., monthly, quarterly, annually)
- Ability to time the debt repayment schedule to coincide with the guarantee period

Available Sources of Project Financing

One of the primary benefits of EPC is the ESCOs savings guarantee. This guarantee makes the ESCO financially liable for any project performance savings shortfall. If the guaranteed level of savings does not materialize, the ESCO is contractually bound to reimburse the agency for the difference between the actual and guaranteed savings. This feature reduces the agency's financial risk.

There are a variety of sources available to public agencies for financing EPC projects. Since public agencies are tax-exempt, it makes economic sense to use some method of tax-exempt financing. Most ESCOs offer to assist with project financing arrangements, since many have established relationships with financial institutions willing to provide financing. While the repayment obligation resides with the agency, the ESCO should provide a guarantee that the agency's annual financial obligation will be met during the contract duration, regardless of the financing method chosen.

The primary project financing sources available to public agencies include:

- **General Obligation (G.O.) Bonds**
These are typically the least expensive source of funds available for agencies with the authority to issue general obligation bonds. The bonds are attractive to the financial market because they are backed by the full-faith and credit of the issuer. This means that the issuer pledges its' authority to tax, raise, and collect sufficient funds to satisfy the bond obligations. There have been a number of instances where

energy projects have been financed as a part of a larger G.O. bond issue that included other capital projects. In those cases, the project costs were paid outright and the energy performance contract was structured to provide a guarantee that corresponds to the bond retirement schedule agreed to by both parties.

While general obligation bonds offer the lowest interest rates, there are statutory debt restrictions that limit their availability. Approval to issue the bonds must be obtained by the state legislature or by public referendum. This can impose project implementation delays. Also, the financing of capital energy projects must compete with the financing of other essential government services and capital project needs.

- **Revenue Bonds**

Revenue bonds are another option for energy project financing. They carry attractive interest rates, although the rates are slightly higher than G.O. bonds. Also, revenue bonds are not backed by the full faith and credit of the institution and are therefore considered a method of "off-budget" financing. In addition, revenue bonds require the identification and availability of a dedicated revenue source to retire the bond debt. While guaranteed savings would appear to fulfill that requirement, energy savings are not considered actual revenue by the financial markets. Appropriated payments dedicated specifically to revenue bond retirement would have to be secured to fulfill the revenue obligation. Approval by the state legislature or public referendum often is required prior to issuing revenue bonds; however, there is rarely a statutory limitation on the use of such bonds for public use. Similar to G.O. bonds, the performance contract would guarantee the retirement of the revenue bonds on a schedule agreed to by both parties.

- **Tax-exempt Lease Purchase**

The use of tax-exempt lease financing is the most common method used by public agencies to finance EPC projects. The interest rates associated with tax-exempt lease financing are significantly lower than commercial lease-purchase interest rates because the interest payments are tax-exempt income to the investor. A tax-exempt lease typically does not require public approval or constitute a long-term debt obligation for the agency. This type of financing also allows the agency to retain the equipment title with an equipment security interest held by the investors. The ESCO industry and financial institutions typically accept lease payments subject to annual appropriations with a standard non-appropriations provision included in the lease agreement. This ready access to tax-exempt lease financing makes this method the most attractive and commonly used method of financing EPC projects by public agencies.

- **Bank Financing**

A conventional installment-payment loan obtained from a local bank or financial institution also can be used to finance an EPC project. Depending upon the agency's relationship with the bank, interest rates and contract terms could be negotiated to make this an attractive and economical means of project financing. Under an installment payment loan, the bank retains title to the equipment for the loan term. At the conclusion of the loan, the title is turned over to the agency subject to the agreed-upon terms. This type of financing is considered a long-term debt obligation and is credited against the agency's outstanding debt limitation.

- **ESCO Financing** (Commercial Leases, Internal Corporate Funds or Credit Lines)
ESCO financing is generally the most expensive financing available for EPC projects - particularly for tax-exempt public agencies. Since ESCOs do not have direct access to tax-exempt financing sources, they must use commercial sources or their own internal funds or credit lines. Commercial credit lines carry higher interest rates. And, using an ESCO's internal corporate fund is subject to required rates of return for corporate shareholders. Additional financial risk premiums also may be charged to the project in exchange for the ESCO bearing all the financial risks associated with project repayment. The high cost of ESCO financing can impose limitations on the technical scope of the project and may place restrictive conditions on the terms of the energy performance contract.