

Energy Performance Contracting

“Across the country, energy performance contracting (EPC) is offered by Energy Service Companies (ESCOs) as 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 Florida and the federal government, have enacted legislation that authorizes public facilities to use EPC for implementing energy improvement projects.”

So opens the *Energy Performance Contracting Manual* for the state of Florida. The manual is designed to be an information resource for Florida's public agencies including state and local government agencies, school districts, community colleges and universities. The manual can be viewed in its entirety on the internet at: <http://www.energyservicescoalition.org/chapters/FL/resources.htm>.

What is it?

Energy Performance Contracting is a procurement tool - a way to obtain and finance energy improvement projects and services including detailed facility analyses, project design and engineering, equipment acquisition, construction management, equipment repairs and upgrades, project financing and long term savings guarantees. It can also include energy awareness and extensive training programs. It uses a "design-build" approach. With this type of contract the contractor, known in the industry as an energy service company or ESCO, guarantees that a certain amount of savings will be achieved. Engineering design is approached from a perspective of long-range operational efficiency and optimal energy use. The savings are generated from the increased efficiency of the new equipment that is installed. Performance contracting is addressed in Florida State Statute 1013.23 Energy Efficiency Contracting. This legislation authorizes the use of energy performance contracting and was designed to ensure appropriate protections to schools and ensure that the process will deliver a quality product and guaranteed savings over a contract term of up to 20 years. A special feature included with this type of contract is the ability for schools to use tax-exempt lease financing to accomplish the project with a guaranty from the ESCO that the savings achieved by the project will pay off the lease. In some cases, partial owner funding and partial financing has been shown to be an optimal approach to accomplishing a large volume of needed capital improvements and repairs. This approach is being used throughout schools and state and local governments in Florida and across the nation. The Federal government is using it extensively to improve its facilities.

How can it be used in schools?

You can use energy performance contracting to accomplish needed facility repairs and upgrades. If you review your "Five-Year Capital Improvement Plan" you may find that it identifies HVAC (air-conditioning equipment) and lighting repairs for several schools. You can use the performance contracting process to accomplish these repairs. During this process the ESCO will perform a detailed energy audit of the school facilities to evaluate the types of energy improvements and repairs needed and perform a detailed analysis of the opportunities for energy savings. The audit report will be presented to school administration officials with various technical recommendations for the project. You will determine and negotiate the final scope of work and enter into an "Energy Services Agreement" with the ESCO for the work to be accomplished. The types of items that could be included in the project include: air-conditioning equipment and control system repairs, replacements, and installations, lighting upgrades, and plumbing fixtures. Additional services may include system "re-commissioning," maintenance staff training, utility bill auditing, and advanced audit training for your technical staff.

What are the benefits?

HVAC and lighting systems are the largest users of energy in a school's energy utility budget - as high as 75%. When these systems become very old they become less efficient. It takes more and more energy to

produce the same level of output for which the system was designed. Some of these systems could be well past 20 or 25 years old. You pay for the extra energy these systems need every month and every year. When these systems are replaced with new and updated technology energy use goes down. In general, the minimum amount of savings realized from such projects range from 10% to 15%. If you are annually spending over \$3 million on electrical energy, a 10% savings on your energy bill would equal \$300,000 per year or \$6,000,000 over a 20-year contract period, the maximum allowed by law. These are significant savings and could pay the cost of the repair project.

What is the process and cost?

There is a very structured process for implementing performance contracting projects. The State of Florida has developed the *Energy Performance Contracting Manual* to assist Florida's public agencies in implementing successful projects and complying with the State's performance contracting statutes. Your district may also find it helpful to retain a third party consultant to help you with your procurement process, contracting documents, and assist you in conducting the necessary due diligence. Below is a list of steps that would normally be involved:

1. Obtain procurement assistance.

Before you begin the process you may want to hire a third party consultant to help you work through the procedures and documents that will be required. This may be well worth the cost.

2. Select an Energy Services Company (ESCO).

The State of Florida has developed a list of qualified ESCOs for you to choose from. This could help advance the request for proposal (RFP) process by allowing you to jump to the "short list" phase of the selection process. Three or four ESCOs could be selected from this list for final evaluation. Each company would then provide you a written proposal, an oral presentation, and client references. These would all be evaluated, scored, and ranked. The highest scoring company would then be awarded the project subject to requisite approvals.

3. Commit to an Audit Agreement.

This is the first point at which a financial commitment must be made. The company will perform an investment grade energy audit of the buildings you designate. This audit is required by the state statute because the ESCO must guaranty savings. This audit is a very detailed and comprehensive technical and economic analysis of the potential project. It provides the basis for the scope of work to be accomplished under an Energy Services Agreement (a later step). When the audit is completed, the ESCO will present a list of technical recommendations for repair and upgrade. They will also identify project costs and the amount of savings that they will guaranty. The investment grade audit conducted by an ESCO is similar to an engineering study that is done at schools prior to design and construction. The cost can also be about the same. However, this audit contains much more engineering and procurement detail and allows for a much quicker project start when notice to proceed is given. Payment for these audits is not normally required by the ESCO until the project begins and the first progress payment is requested. However, if no projects are initiated, then payment may be due after a specified number of days of receiving the audit report. Therefore, it is best not to enter into an audit agreement unless you are committed to accomplishing the project.

4. Receive the Audit Report.

The ESCO will present the final audit report which will contain the technical and economic recommendations for the project sites identified in the audit agreement. It will then be incumbent for you to conduct a technical and financial review of the report within the period

of time specified on the agreement. Once you agree to the scope of work and exactly what will be accomplished, an Energy Services Agreement (ESA) is then negotiated and executed.

5. Commit to an Energy Services Agreement (ESA)

Execution of the ESA will commence with the design and construction periods. At the conclusion of construction, project commissioning and your acceptance that the project is operable and fully functioning, the guarantee period begins (start of contract term).

6. Savings Monitoring and Verification

Once the projects are completed, a process will be set in place to make sure that the savings guaranteed by the ESCO are actually realized. There will be a cost for this phase that will be determined by which verification process you select. In most cases, the ESA has a provision that the energy savings achieved by the project cover the costs of ongoing savings measurement and verification.

How can you be sure that the savings will actually occur?

This is a very important consideration, especially if you intend to use the savings to cover the project financing costs. There are several important components of the performance contracting process that enable you to determine what the amount of savings will be and that they will actually be achieved.

1. Investment-Grade Energy Audit

This is a very detailed and extensive engineering and economic study of the specific facility(s) and forms the basis of the savings guarantee provided by the ESCO. Florida's laws require that ESCOs guarantee that energy savings must meet or exceed the cost of the project and in the event that the guaranteed savings are not achieved, the ESCO is contractually liable for the shortfall. Savings shortfall is rare, but when they do occur ESCOs must make payment to the owner of the project.

2. Measurement & Verification (M&V) Plan

This is a very important part of the contract documents for the Energy Services Agreement. The plan provides details on how energy will be measured (pre and post-project), how it will be valued (calculations and rates), and who will be involved in the process. Unless you have some resident expertise, it is highly advisable that you obtain a third party industry professional to help review these documents. Further details on this subject are provided under the article "Familiarize Yourself with the IPMVP [International Performance Measurement and Verification Protocol]."

Concerned about borrowing money?

Many school district officials are concerned about increasing the debt service to their districts. Energy Performance Contracting is unique since the most common source of financing projects in schools is through the use of tax-exempt lease financing and the annual lease payments are covered by savings which are guaranteed by the ESCO. If you have to finance a project using tax-exempt lease financing, this is the best kind of financing to use and it is *guaranteed* to be paid off.

In many cases it is more economically advantageous to borrow money for at least a portion of the project cost (33% to 50%) because the amount of the interest payments is less than the amount of savings that will NOT be achieved if the project is NOT implemented. In such a case it actually pays to borrow money to do the project. However, this is only true of projects that have the potential to save operational expenses. This is why energy savings projects are so unique. Projects such as roof repairs, parking lot and road repairs, painting, would not typically be good performance contract projects because they do not produce savings on the energy utility bill when completed.

Although one of the most beneficial features of performance contracting is the ability to obtain financing, some schools have chosen a fully funded approach. There are still several advantages to performance contracting even if financing options are not included, such as, the economy of the design-build approach to repair projects, knowledge of energy savings accomplished by the project (which could help to sell future such projects), and opportunities for installing energy savings technology.