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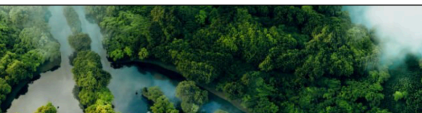
ENERGY SAVINGS PERFORMANCE AND
MEASUREMENT & VERIFICATION
ONLINE TRAINING COURSE

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ENERGY SPECIALIST CURRICULUM



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PERFORMANCE CONTRACTING
FOR ENERGY PROFESSIONALS

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WHAT SHOULD YOU LEARN



What is a Guaranteed Savings
Performance Contract?

What is an ESCO? What is an
ESPC?

How do I know if a
Performance Contract is right
for me?



WHAT IS A GUARANTEED SAVINGS PERFORMANCE CONTRACT?



A 'performance contract' is a contractual arrangement that guarantees some outcome that is important to the purchaser. A common use of this contract is for speedy delivery. For example, a conventional design-bid-build project may be able to construct a new building in a year's time and do a fine job of it. But if an owner has a vital business use for the building in six months they may be interested in a "design- build" method of getting the building built, if it can be constructed in six months. In this example, the guaranteed outcome is delivery time.

In this example speed of delivery is the focus and so quick decision making, fewer reviews and options, and other minor concessions are appropriate to enable the project goal to be achieved. With good partnering, this arrangement works well for many customers.



GIVE AND TAKE – HELPING EACH OTHER SUCCEED



One of the challenges to a customer considering an energy savings performance contract is the differences in project delivery. Some of the reasons for the differences are discussed here.

It is important to note that the owner, in prioritizing the speed of delivery, will need to cooperate with the design-build contractor to assure the outcome the owner and contractor become partners in this arrangement. For all performance based contracts, the customer needs to adopt the role of 'enabler' to give the contractor the means to succeed.

In many ways this is just common sense and fair, but it will feel different and take some getting used to. In general, the contractor will have a greater degree of control over the project details than traditional design-bid-build methodology.

This may be a culture change for larger facilities with in house review staff accustomed to influencing decisions and deliberating over details and options. In-house construction standards may or may not apply. The contractor may require expediting reviews, limiting options, quick-shipping, etc.



GIVE AND TAKE – HELPING EACH OTHER SUCCEED



There is usually a single point of contact for both parties to encourage quicker decisions than group consensus – the owner will be wise to attach technical experts to the project for guidance. Quality control may be limited to the contractor's own staff. Decisions will be formal but may simply be task orders or other abbreviated form of accounting for expenses and decisions.

Another difference is inherent to the industry. Projects will tend to be large and, except for work within large cities, will usually be remote. Project management remotely introduces new complications from unfamiliar contractors, local codes, etc. Usually there will be an on-site project manager, and this will help.

A performance contract related to energy savings is "guaranteed savings". In this case the assured outcome is energy savings. A direct application of this process is a contract that makes capital improvements to a facility targeting energy savings. Over some period of time, the cost of the work and the performance contractor's fee will balance with the energy savings. In this example the guaranteed savings performance contract would be "revenue neutral" and require no capital outlay or cash flow increase on the part of the owner – the energy savings pays for all of it.



GIVE AND TAKE – HELPING EACH OTHER SUCCEED



A variation of this strategy is used commonly in buildings with aging equipment, deferred maintenance, and no available funding to do the needed capital improvements. In these cases, energy savings from one area (such as lighting) pays for the lights plus helps pay for other needed improvements like replacing old HVAC units, repairing an elevator, or a new roof.

For the latter, energy savings alone cannot pay for the “normal replacement.” By ‘bundling’ the work and extending the payback from energy savings, more repairs can be done under the contract umbrella. A third variation that is quite common is for the ‘bundle’ of work to be even larger and the customer add some of their own money to the pot. Common to all methods is leveraging energy savings to pay all or part of the work and minimizing capital outlay and cash flow impacts.

Savings are normally measured in energy use units instead of cost, but then are adjusted for rate changes over time. Agree on assumptions of utility cost and increases, including escalation, during the life of the loan period.



GIVE AND TAKE – HELPING EACH OTHER SUCCEED



Integral to the savings guarantee is a provision that, if the savings do not come to pass, the contractor will pay the difference. Obviously, this is something the contractor will try to avoid. To reduce the chance of paying these penalties and losing their profit, a performance contractor will usually

- ✓ Maintain a specialized staff, skilled in energy projects and calculations
- ✓ Use sophisticated modeling to predict results
- ✓ Be conservative in the estimates, leaving a ‘buffer’ by understating savings
- ✓ Focus on measures with predictable savings

The essential ingredient in a guaranteed energy savings performance contract is M&V. Both parties want the savings to be what has been estimated. Agreeing to the M&V and ‘baseline energy use’ up front are the two most prevalent contract items to get right. Assuming the M&V protocol is appropriate and agreed upon up front, implementing the M&V is impartial and fair. If M&V is poorly defined or not well understood by both parties, the contract arrangement can become strained. Referencing the picture at the top of this paper, good M&V practice avoids the scenario of both parties pulling on the dollar bill.



GIVE AND TAKE – HELPING EACH OTHER SUCCEED



Guaranteed savings brings with it the rigor and effort to measure and document energy use – all this takes time and costs money. The guarantee can be for the life of the loan and this intuitively makes sense, but can also be looked at another way: what if the money saved by stopping the M&V activities after a few years are used to do something else? It's a tough question because in return for no M&V the customer gives up the guaranteed savings.

Guaranteed savings provisions can be for the life of the loan but are more typically carried through 3-5 years – the assumption being that if the work has proven itself for that period, a properly trained staff can be expected to sustain those savings without the cost of annual testing.



WHAT IS AN ESCO? WHAT IS AN ESPC?

ESCO – Energy Service Company
ESPC – Energy Savings Performance Contractor

How do I know if a Performance Contract is right for me?

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The funding aspect is a key element in energy savings performance contracting. In essence, a performance contract borrows money from someone else and uses energy savings to pay it back, plus interest, plus the contractor's profit. So, if you have the money, why borrow it? Maybe you'd rather keep it in the bank. Maybe your focus is cash flow, and this serves that nicely for you.



WHAT IS AN ESCO? WHAT IS AN ESPC? +

Some customers do not have money for needed repairs and this is a viable way to make repairs. An important component for most performance contracts is the duration of the repayment period, commonly 10-25 years. For 'permanent institutions' like schools and government buildings this is not an issue, but many private companies have a shorter business horizon. For this reason, long repayment periods will be a red flag for both the private company and the performance contractor (who wants to be sure you'll be around.).

Truth is there is no one single way of funding improvements that is best for all customers. Whether to borrow, lease, use a performance contract, or sell and move to a new building are all options each customer can weigh and decide.

Bearing in mind that a performance contract is akin to design-build, the relationship is largely based on the concept of partnering. The owner must be prepared to take an active role in the process. The contract provisions will be there but for it to truly work the two parties must work well together – get along. Thus, as you consider different contractors for this, meet with them and get to know them, getting a sense for the comfort level you would have if joined together for five years or more. Communication and personality play a significant role.



MORE THAN FUNDING

There is more to performance contracting than funding. This section shows some ways the ESCO strengths can bring results to customers.

Energy Audit :

The energy savings performance contract requires a very good understanding of what the costs and savings will be – without it the guarantee provision is not possible. Thus, the program begins with a detailed audit and study of the facility, aimed at identifying viable projects capable of generating savings. The cost of the audit study is usually incorporated into the overall project cost. Sometimes the audit costs are identified separately and become a fee if the project work does not move past the audit phase.

Numbers :

Consider things you or your staff have identified that can save energy. This is the 'inspiration' part. The 'perspiration' part is identifying how much savings, how much cost, payback period, ranking the measures, etc. The true business case for energy savings depends entirely on numbers like these.



MORE THAN FUNDING

Expertise Many businesses do not have the luxury of in-house energy savings expertise. ESCOs and ESPCs are specialists in the field of energy savings, practical solutions, and the ability to quantify answers and evaluate options for customers. Some measures are easy to identify, but others are not. Even the most basic retrofit, lighting, has several paths to take for best outcome. Consider:

- ✓ Lighting source efficiency
- ✓ Lighting fixture efficiency
- ✓ Lighting control options
- ✓ Indirect energy effect on the building heating and cooling energy consumption
- ✓ Light levels – sometimes there is more light or less light than is needed
- ✓ Expected life of fixtures – sometimes new is very close to the cost of a retrofit
- ✓ Lighting problems that can be corrected during the project

The last item is of special value to a customer, and it applies to lighting and all other systems. Where there are existing problems, hasty choices in efficiency programs can leave root problems intact – or, worse, upgrade and sustain them so they stick around for another 20 years. Thorough evaluation and customer interviewing up front can identify building 'sore spots' and provide options to correct them during the project. Utilizing an ESCO / ESPC brings that level of expertise into the facility.

TRANSPARENT

Few businesses can claim that energy savings and building improvement projects are their core business. Utilizing an ESCO can allow the energy savings work and its benefits to occur with minimal distraction to the core business. In entering this type of agreement, the customer gains the expertise for this niche market for the duration of the work, while they continue to focus on what their company does.

Sooner than Later :

Because of the focused expertise and experience, ESCOs and ESPCs can deliver projects quickly. This can be an important differentiator since the sooner the project is done the sooner the savings benefits are realized.

TRANSPARENT +

Energy savings performance contracts bring energy system expertise, provide a detailed energy audit, quantify costs and savings for you, make funding available, and deliver projects that save energy - all in exchange for a fee. The project scope can include more than just the energy saving items if desired. Energy savings pays for or subsidizes the work and fees over a period of time. If there is interest in this type of program, contact a few ESPCs and get to know them better.

Business decisions involve money. The table below provides some cross-check concepts for evaluating your proposed ESPC contract.