



Benefits that ESCos Bring to Their Customers

Introduction

The growth of the ESCo business around the world indicates that customers recognise it as a competent tool to deliver energy efficiency and cost reductions. In markets that are new to ESCos, the values that ESCos bring in to their clients are not well understood, and many misconceptions persist in the market about what they do and how they benefit their customers (see the article "What ESCos are Not!" on our website <http://www.sudnya.com> for more information on this subject). This write up describes the non-monetary benefits that ESCos can bring to their customers. Ultimately these benefits do result in money savings to the clients, but they cannot be called "bringing in money for the project!"

Benefits that ESCos bring to their Customers

A good question to ask anytime is why should a client enter into a long-term relationship with an ESCo? The answer should be a list of benefits that an ESCo brings in to the client over a long-term. If these benefits are advantageous to all major groups or functions in the client organisation we believe that there is a basis for a substantive relationship between the client and the ESCo.

Comprehensive Solutions

ESCos understand this and therefore they strive to evolve measures that are comprehensive solutions to operating problems. Typically an ESCo would look at an Energy Efficiency Improvement measure as an opportunity to help alleviate or overcome other operating problems in the area, such as increasing the ease of maintenance, or improving operating parameters so that the quality of the product is improved, etc. Such improvements help operating staff to perform their functions better, and therefore increase their interest in the Energy Efficiency project. Most ESCos would have experienced such interest in their work and the enthusiastic co-operation that they receive when all benefits from the proposed Energy Efficiency Project are discussed with the operating staff.

Good Engineering

While generally stating what a system is expected to do might be simple, it is not easy to specify it in a manner that covers all the conditions in which it is expected to operate, including those few times when it is tested severely. It requires knowledgeable and experienced engineers to first imagine the situations that might arise, and then to design features so that the system will successfully operate under those conditions. The ESCo's engineers are focussed on delivering



performance and therefore weigh everything in light of the benefits that will be obtained.

Plant operating engineers are not usually accustomed to specifying equipment, design codes, and margins that must be provided for under different operating conditions, primarily because this is not a part of their daily function. An ESCo's engineers have this experience. What is more they are knowledgeable about what is essential and what is not, and therefore may be able to cut the "flab" out of a highly padded proposal from an equipment vendor who has provided all the "bells and whistles" that might be imagined. On the other hand they know what is essential and to demand that from a vendor who has quoted for the barest system in order to have a low price bid in a competitive environment.

Project Management

This is the least talked about area of an ESCo, but I think one of the greatest values that an ESCo brings in is that it ensures that its projects do not fail (see the companion article "Why Energy Efficiency Improvement Projects Fail" on our website <http://www.sudnya.com>). Since an ESCo is paid on a performance basis, its own interests drive it to take any action that will ensure that their projects succeed. Such actions typically fall into the following categories.

Planning

Good planning is a fundamental requirement for a successful project. In retrofit projects, such as most Energy Efficiency Improvement Projects, meticulous planning of details is important, because even a single point missed out may mean a longer implementation period and a loss of production, which might be unpardonable by the customer management.

Schedule Management

Having a good plan is the starting point. It is now necessary to implement the plan thoroughly. ESCos are accustomed to project management and can often anticipate what might go wrong, and take premeditated corrective action, thus saving the schedule. They are known to have "purchased" time by accelerating shut-down procedures in a customer plant so that more time is available for the actual work, for example, an ESCo pumped chilled air using a portable air-conditioning system to rapidly cool a furnace down so that workers could commence dismantling within 24 hours of shutting down the furnace rather than 96 hours that would have been otherwise needed! ESCos have learned many other such solutions through necessity, and the benefit of this learning is made available to customers.



Budget Management

Managing the schedule is one half of the implementation process; the other half is managing the budget. Here again, the ESCo's staff is accustomed to project management of which budget management is an integral part. Trade-offs under pressure of implementing a project on schedule are a normal part of an ESCo's life.

ESCOs do not like their projects to go over budget. This might seem surprising to those who have seen a cost-plus ESCo contract where the ESCo is paid a mark-up for project management based on the cost of the equipment and services procured to implement the project. But an ESCo will tell you that such an event leads to an increase in the amount of savings that have to be guaranteed, and often therefore, the amount of savings that are available for sharing, because the normal practice is to share the savings that exceed the guaranteed minimum amount. Thus the long-run loss of income coupled with the greater risk that has to be assumed makes to ESCo deeply conscious of the project costs – all to the benefit of the client!

Sustained Performance

When an investment is made a client expects that its benefits will be available over a long period. Rarely does one want to see and short quick return and then a resumption of the old pattern. There are a number of project design options, and a number of implementation philosophies. In the absence of a clear purpose, procurement staff is known to buy the cheapest goods that are available, often to the detriment of the company. Unless it is certain that the equipment procured will produce the desired results through the expected project life, or the projected life of the equipment, replacement costs of the item and the cost of lost savings will outweigh the savings in initial cost. Sustained performance is important to ensure that the investment brings in the savings that it is expected to bring in, and if does not or cannot do so, then why invest at all?

Since an ESCo's remuneration is tied to measured savings over a period, the ESCo in its own interest ensures that the equipment procured is able to perform the function that it is expected to. Here also the experience of the ESCo's engineers in seeing equipment perform under various operating conditions is a valuable input to the customer's decision making process. Clients are known to have ranted at ESCos "All you guys want is to buy expensive equipment!" But such comments may be withdrawn as they see the system performing reliably month after month, year after year.

Improved Processes

As I had mentioned earlier, an ESCo tries to bring in as many benefits to its client as it can through its projects. The benefits are not only energy cost reduction, but improving quality, removing bottlenecks to



increased throughput, increasing safety, improving productivity, etc. are actively sought because they address real needs and because incorporating them into their projects makes the projects more acceptable to clients' staff.

Larger Throughput

Often utility systems are bottlenecks to increasing throughput. By increasing the efficiency of energy use in the plant the bottleneck in the energy supply system might be removed and larger production may be possible. The ESCo's global view of the system allows it to bring such benefits to its clients.

Sometimes application of energy in a piece of equipment such as a furnace is not correct; the supply system is capable of delivering all the energy required, but the distribution of energy in the furnace may not allow the product to absorb all that it should, thus limiting the capacity of the furnace. An Energy Efficiency project is the right time to address such issues, and ESCos are sensitive to such benefits that they might deliver to their customers and often will go out of their way to design and build equipment to help their clients derive such benefits.

Improved Quality

To sustain Energy Efficiency an ESCo might need to use advanced controls in the process. A side effect of such controls might be a considerable improvement in the quality of the product through the monitoring and control of one or two additional parameters. The marginal cost of such additional control may be negligible in terms of the total system cost and the benefits that might be obtained. ESCos often design projects that include such quality improvement features.

Productivity Gains

Increasing production from existing plants directly results in increased productivity. Improving quality results in lower rejections and therefore, also results in increasing productivity. ESCos who contract to reduce total plant-wide energy use would certainly look at such opportunities to reduce energy costs, and the resulting productivity benefits. These benefits certainly please their clients.

Increased Safety

Since ESCos deliver sustainable projects, safety is the paramount consideration in their projects. An unsafe project may "die" as a result of an accident, or it may lose the favour of the operating staff because of the hazards it poses, and therefore, have death of a different kind.



Greater Comfort

Often energy efficiency projects result in greater operator comfort, e.g. a better insulated kiln or furnace reduces the heat loss from the furnace, but it also reduces the temperature in its surroundings, thus providing the operators a more comfortable working environment. In their desire to win approval of operating staff, ESCos often ask what would convenience an operator and then build those features into their projects, in the form of a more convenient equipment layout, features in the control or data logging system, alarms, stand-by facilities, etc.

Trained Staff

Another benefit of the ESCos' performance based projects is that they ensure that the staff are trained properly in operating and maintaining the equipment delivered by them. This is purely in their own interest: they know that ill-trained operators will not be able to manage the plant operations in a manner that will bring in the greatest savings, thus they would be injuring themselves if they are sparing in spending on the training of operators.

Greater Insight

Anyone who has the experience of closely monitoring operations will confirm that close monitoring provides insight into the operations and more importantly, the interaction between operations of equipment and processes. The ESCos' close monitoring of performance, if only to establish that they are delivering what they contracted for, leads to greater insight into the operations and often shows methods by which savings (or revenues) could be increased through minor modifications in operations.

Up-to-Date Information

Management often requires current information to base their operating decision on. When machine loading programmes are to be drawn up, it is necessary to know the relative efficiencies of each type of equipment. If new plant is to be added, what type of plant should be added on? The ESCo's monitoring may provide the necessary information on relative efficiencies of various types of plant and machinery installed in a plant. Often the trend of changing performance over time is also available where an ESCo has been monitoring performance. Such information can save the client large sums of money in capital or operating costs (or both).

Lower Costs

This is the primary purpose of contracting with an ESCo. What is good about the ESCo operation is that not only lower costs are obtained but also there is quantitative evidence to demonstrate the saving.



Guaranteed Performance

The ESCo's guarantee of performance shelters the client from the technical performance risks of the project. When in-house project development methods are not adequate to justify investment, an ESCo might be able to demonstrate the potential benefits to a client in its Reports. While the project may appear to be attractive on paper, the client yet may not be willing to assume the technical performance risks. This risk is assumed by the ESCo and a project becomes feasible, by shielding the client from that risk, and savings which would otherwise not have been achieved are now available to the client.

Temporary Augmentation of Skilled and Experienced Personnel

The entire project development, engineering, implementation, and monitoring process requires skilled manpower which may not be available with a client, or if available it is deployed in functions that are more valuable to the client. Withdrawing such manpower from the vital business functions is rarely a choice available to clients, as it would usually affect current operations. Taking on additional staff with these specialised skills is also not usually an acceptable solution, for what does a company do with such staff after the project is done? An ESCo contract is a good solution to this problem. An ESCo brings in the staff necessary when the projects demand such staff and withdraws it when the need is over. This staff then is deployed at another customer site. Thus the client is not burdened with the liability of hiring staff permanently for a short-period work.

Conclusion

Companies such as ours, who provide comprehensive energy cost reduction programmes to their customers, who guarantee minimum performance standards, and who link their remuneration to the actual measured performance of their projects are known as Energy Services Companies or ESCos. We are well versed with all aspects of Energy Management discussed here and we can help you to reduce your energy usage substantially (as much as 25%).

Besides the benefits that are described above, which we generally bring to our clients, there are many other ways in which we could be of help to you, as other customers have experienced.

Contact us to learn how we can be of help to you!