

# **The Trend toward Outsourcing of Energy Services: Implications for Recruiting Participants in Utility C&I Programs**

*Robert M. Wirtshafter, Wirtshafter Associates, Inc.*

*Robert Bordner, Energy Market Innovations, Inc.*

*Pierre Landry, Southern California Edison*

*Mike Rufo, Xenergy Inc.*

## **ABSTRACT**

Commercial and industrial standard-performance-contract programs operated by California utilities have almost exclusively attracted only individual firms submitting projects invested on their own properties, and a small number of energy service companies many of whom focus their business on leverage utility incentive funds. This paper explores why program participation has not been attractive to other types of firms that supply businesses with energy services and related consulting services. This situation is surprising given that this paper identifies an increasing trend towards outsourcing of engineering services, property management, and facilities management. Interviews were conducted with various engineering and property/facilities management firms to determine the reasons for the low participation rates in utility-sponsored performance contracting programs.

## **Introduction**

This paper reports on the results of a study undertaken to identify opportunities for utility-sponsored programs to support the development of energy efficiency service providers (EESPs) within the large commercial and industrial (C/I) utility-sponsored programs. Utility-sponsored market transformation programs, particularly those using a standard performance contracting (SPC) approach, have thus far not attracted the full range of potential participants. The SPC model offers EESPs the opportunity to obtain a pre-set incentive based on a \$/kWh savings or in some on a fixed amount for a particular piece of installed equipment. The majority of the C/I SPC projects in California have been submitted by either individual firms (self-sponsored) that submit their own applications for work on their properties, or by a small collection of energy service companies, who submit projects for others.

There is a marked absence in the program on the part of more traditional engineering, HVAC design and maintenance, energy supply and service, and facility management firms that provide the bulk of energy system installation and maintenance services in this industry. The absence of these types of firms is even more surprising given the significant interest in the outsourcing of many “property” services, including: building maintenance, systems replacement, and operations. Outsourcing, the hiring of a full-service -- single source vendor to assume full responsibility for a service, is perhaps one of the most commonly cited business trends in our economy. According to claims by the Outsourcing Research Council (ORC), facilities and property management outsourcing now represents the fourth largest application of outsourcing in the United States.

Our research addressed the following issue: If large firms are turning to specialized energy service suppliers to handle their facility operations, why are these types of firms not

submitting the projects for participation in the utility programs? In our quest to identify new and emerging program opportunities to support the EESP industry, we examined trends in outsourcing and conducted primary research via telephone interviews with a variety of firms that either can or do provide energy efficiency services to large C/I customers in California.

This research indicates that outsourcing continues to be an important trend within our economy, and that a significant amount of energy-related economic activity is occurring among firms that are not typically involved with utility-sponsored efficiency initiatives. There are numerous opportunities that these firms are pursuing, and numerous ways that they are investing their marketing efforts. Importantly, none of these players are pursuing performance-contracting activities in the traditional sense that is supported by programs such as the California SPC program. Transaction costs associated with these arrangements, including a complex sales process and extended M&V, are cited as being too costly. Instead, these firms are leveraging their existing relationships in a variety of ways to develop energy efficiency projects with customers.

If utilities are interested in expanding their portfolio of participating EESPs, it will be necessary for them to develop new program models, and to significantly change their communication and marketing approaches. This paper provides detailed recommendations on how utilities should refocus these efforts if they want to attract these large players in this market into their programs.

## **Outsourcing Overview and Trends**

Outsourcing -- the hiring of a full-service, single source vendor to assume full responsibility for a service -- is perhaps one of the most commonly cited business trends in our economy. Judging from a review of the literature, there appears to be virtually no limit to what can be outsourced. Many property owners choose to transfer many of the facility-related functions associated with operating and maintaining the property to an outside firm. Thus, facility management is one of the most commonly outsourced services, ranking fourth in dollar expenditures behind transportation, human resources, and information technology (Outsourcing Research Council, 1999).

Property owners outsource facility and property management functions for a number of reasons, including: to concentrate on their core business, to obtain expertise and trained personnel that may be difficult to find and attract, and to take advantage of the efficiency gains (*e.g.*, where the size of a property cannot support a full-time position). Facility managers provide an array of functions including financial budgeting; real estate management; equipment and furnishing procurement; facility construction; health, safety, security, and environmental issues; telecommunications, tenant management, architectural and engineering planning and design, and building operations, maintenance, and engineering. These latter two functions -- architectural and engineering planning and design, and building operations, maintenance, and engineering -- are most often associated with energy efficiency and are regularly included as services to firms.

## **Outsourcing in the Energy Services Industry**

Facility management firms that provide energy-related services, such as building equipment maintenance, equipment design, and procurement, fall into the broad category of

potential energy efficiency service providers (EESPs), a designation that also includes contractors, product manufacturers, product vendors and distributors, and architectural/engineering firms. The EESP umbrella also includes Energy Service Companies (ESCOs), a term which is defined in this report as comprising those companies whose business model is based on accepting performance risks associated with the design, implementation, and financing of energy efficiency projects. There are perhaps as many as 100,000 EESPs in the U.S. (mostly contractors and distributors), as opposed to only about 100 major ESCOs. ESCOs probably deliver about 25 percent of all energy-efficient products and services in the United States and manage this despite the fact that these 100 active firms represents one-tenth of one percent of the nation's EESPs (XENERGY, 2001; Frost & Sullivan, 1999).

In this paper, we build upon the work of others and continue to differentiate the term "ESCO" from that of other service providers because the history of the industry shows that firms cannot casually engage in performance contracting as a business sideline – performance contracting is a specialty that differentiates ESCOs from other firms that provide engineering, installation, financing, or maintenance services (EESPs). The skills required to sell and manage the risks associated with performance contracting are significant. Because the California non-residential SPC program uses a performance-based model, understanding the special nature of the ESCO model is paramount if policy makers hope to attract new EESPs into the program.

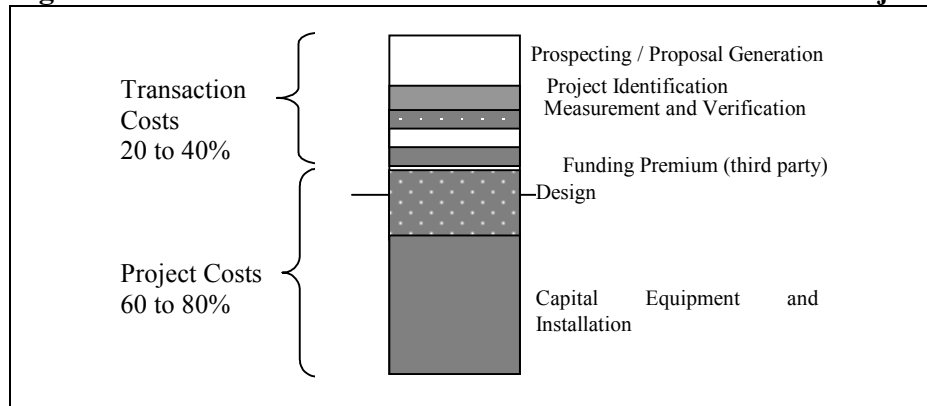
ESCOs generally offer either a shared savings or a guaranteed savings arrangement. The shared savings approach, where the ESCO receives a fixed share of the savings for a specified term, has diminished in popularity because most ESCOs and customers prefer what is termed a "guaranteed savings" approach. Under the guaranteed savings mechanism, an ESCO guarantees to the customer that the savings generated by the project will be adequate for the customer to cover the cost of the project, including an ability to meet any lease and/or debt service obligations. However, unlike a shared savings contract, the customer instead provides the capital for the project. ESCO contracts typically either place a portion of their fees into escrow, or defer payment until savings are verified. With either method, some of the investment risk stays with the ESCOs. The difficulty in closing sales, and retention of some performance risk makes the long-term prospects for ESCOs tenuous. The utility rebates become an important factor in the health of many of these firms.

Utility demand side-management programs and the Federal Energy Management Program have fueled development of the ESCO industry. Deregulation of utilities also encouraged numerous utilities to acquire or initiate their own ESCOs, many of which have either been abandoned or sold.

ESCOs compete with direct providers of energy-efficient products and services by trying to add value to customers through various turnkey services such as construction management and risk mitigation through performance contracts. This added value must compensate for the extra costs of monitoring and verification, external financing, and the risks assumed by the ESCO. As shown in Figure 1, Easton (1999) estimated that the typical transaction costs for arranging and completing a project (*i.e.*, excluding capital and installation costs) represent 20 to 40 percent of an ESCO project. Moreover, it is estimated that this percentage is roughly twice what is spent on transaction-related expenses in a non-ESCO project (Easton, 1999). Thus, what really drives the economics of performance contracting projects is the fact that the relatively fixed transaction costs associated with delivering the contract (including sales) must be paid for out of project savings. This is generally not difficult to do with large projects that have large

savings streams; it becomes virtually impossible to achieve, however, with smaller customers from whom only smaller energy savings can be secured.

**Figure 1. Relative Costs Associated with Elements of ESCO Projects**



Source: Easton, 1999

## ESCOs and Performance Contracting Programs

At present, performance contracting continues as a niche product within the much larger market for a wide range of energy efficiency services. By understanding the nature of this niche market, and the extent to which performance contracting has both succeeded and failed to succeed in penetrating specific market segments and energy efficiency opportunities, we can better understand how program interventions might be designed to improve not only performance contracting but, even more importantly, public purpose energy efficiency programs.

Performance contracting is a mature contracting product that is widely offered to large and institutional customers. However, it remains a niche product representing only one-third to one-half of a typical ESCO revenue, with the remainder derived from fee-for-service, guaranteed savings, or other arrangements. The traditional shared savings performance contract, which typically requires significant M&V expenditures, is a product that has shown an ability to significantly penetrate only the institutional sector. Guaranteed savings contracts have broader appeal but are often found to be unnecessary by many customers who prefer to simply pay for services and equipment as they are delivered. Importantly, performance contracting in the institutional sector has not been driven by the fact that these customers have greater performance uncertainty about savings than do other customers, but rather by the fact that institutional customers lack the ability to pay for efficiency upgrades directly because of limited capital budgets and restrictions on self-financing.

Performance Contracting (PC)-promoting programs are often implemented within portfolios of public purpose programs. Programs that promote performance contracting are unique from other energy efficiency programs in their focus on the contracting vehicle between a customer and an EESP. This is an important consideration because a majority of funding for other energy efficiency programs, besides the PC-promoting programs discussed in this paper, are focused on increasing the provision of specific types of energy-efficient products (e.g., high-efficiency air conditioners) or services (e.g., compressed air leak reduction). Notable exceptions to this trend are newer programs that address equipment specification (e.g., sizing), building

operations (e.g., commissioning) and various maintenance issues that can impact energy efficiency.

Programs that promote *standard* performance contracting are unique, however, in their focus on the contract mechanism by which high-efficiency goods and services are procured. Such programs are often designed in a way that presumes that performance contract-based energy efficiency products and services should be generally favored over those procured with fee-for-service/product contracts, or even guaranteed savings contracts. Current programs designed to promote performance contracting are descended from the demand-side management (DSM) bidding programs that were popular from 1987-1997. However they differ from these forerunners in a number of significant ways. First, PC-promoting programs attempt to reduce some of the administrative costs and responsibilities that the bidding process imposed on both the ESCOs and the utilities. PC-promoting programs encourage EESPs to market and develop projects and rely less on utility staff as middlemen.

One assessment indicates that PC-promoting programs generally deliver energy and demand savings at levels sometimes comparable to traditional utility rebate programs. However, important limitations have been identified for those programs that have undergone comprehensive evaluation. Importantly, the evidence consistently indicates that PC-promoting programs have not been successful to date at engendering significant, sustainable changes in EESP business practices. In California, an already-established EESP and ESCO industry consistently reports that the SPC programs have not affected their business strategies and have had only marginal effects on the volume of business they would otherwise be doing.

Easton (1999) identifies three alternative models that have broader appeal to energy users. The models are:

- **Energy Partners** – Companies provide value to the end user by offering a set of services that are consistent with the long-term energy and operations goals of the end-user. The relationship is deep, strong and flexible enough to react to changing circumstances.
- **Operations and Maintenance Outsourcers** – Companies that outsource these functions believe it is in their interest to do so (lower cost and / or higher quality, and no competitive disadvantages).
- **Supply / Comprehensive Solution Providers** – In this model the energy services provider seeks to take on all functions related to energy purchase and consumption including, for example, supplying energy, consolidating bills for purchase leverage and control, and reducing demand through performance contracts or other types of energy efficiency projects.

## **Summary of Interviews with Facility Management Companies**

Interviews were conducted with ten of the largest facility management (FM) firms that work in California. FM companies control the finances and bill paying, and often the physical operation and maintenance, of thousands of large and small buildings throughout California. As such, these firms may serve as an effective liaison to energy efficiency programs offered by the utilities.

Facility management firms come in all sizes, operate locally to globally, and provide a range of services from investment management to rental agent to building maintenance. Some of these firms are essentially real estate and investment services that began providing property

and facility management services to the buildings they manage. Others are primarily FM firms that manage buildings for clients.

A key element to remember about property management firms is that they most often do not own the buildings they operate. It is the owner who will make the decisions about whether to partake in any substantial energy efficiency investment. Since these FM firms manage buildings for a number of different building owners, they will likely have many different owners with differing investment strategies. To be effective in this market, utility energy efficiency initiatives should be able to supply to the property managers an assortment of flexible tools and programs so that the program can be adjusted to fit the owner's needs.

None of the facility management firms we spoke with are currently offering performance-based contracts involving energy products. Several of the firms do have performance contracts involving work force and rental levels. Importantly, these represent much larger cost centers in their operations than do energy costs.

Each of the interviewees was asked if they were aware of the programs offered by the California utilities to promote energy efficiency. Of the ten interviewed, only two answered in the affirmative, and neither of these two interviewees knew any details about the California SPC Program.

While the SPC program offers financial benefits, it also inserts additional complications into the process. One of the more astute of the interviewees voiced concerns about the program requirements. He noted that the costs of compliance, both in time and the potential disruption to the approval process, did not make it worth pursuing the rebate.

## **Summary of Interviews with Large Engineering Firms**

In our research, we talked with representatives from ten general engineering firms with offices in California. In response to the energy problems in California during the period we were conducting this research, firms cited a big upswing in larger energy using clients aggressively exploring cogeneration and self-generation options. Among the firms interviewed, there is considerable interest in fuel cell technology, and many firms anticipate that fuel cells will be 'on the table' as a viable economic option within five years. The recent energy situation has also sparked an interest in backup generation.

Nearly every firm with which we spoke identified staffing as a key constraint to the expansion of their energy related business services. One firm suggested that, as a program opportunity, utilities and state agencies could work together with the engineering profession to support the development of additional programs that would focus on training engineers.

These engineering firms noted that they have partnered with ESCOs on specific projects. At the same time, these firms are seen as competing with engineering firms. Larger ESCOs and EESPs are investing in their own in-house engineering capabilities that will eventually, as one person noted, "put a bit of a squeeze on our business model."

The engineering firms with which we spoke were also generally not familiar with the details of energy efficiency programs in California. It was noted that, if the programs are geared toward ESCO business models, then this was not likely to fit with their needs. Specifically, any programs that overlay additional time constraints upon a project (in addition to already plentiful regulatory constraints) will be viewed dimly. In spite of these caveats, there is considerable interest in understanding the requirements of existing energy efficiency programs.

The two large HVAC engineering firms we spoke to supplied an interesting perspective. These firms provide engineering services centered on the mechanical systems of buildings and their perspective may be even more relevant to this study on how to attract EESPs to participate in utility programs. These firms were well aware of utility programs, though the bulk of that experience was limited to new construction incentives.

Each firm commented on how the standard performance model does not fit well with the types of jobs that the firms are involved in. In existing buildings, mechanical jobs involve replacement or expansion of existing systems. These jobs often have accelerated time schedules with little or no slack. The time lags built into the SPC program are not compatible with these internal project time requirements. These interviewees also felt that the incentives offered would not cover the additional M&V expenses and increased project risks.

Both of these interviewees have participated in the more traditional rebate programs, and it is that experience, along with the additional requirements of the SPC program, that discourages their participation in the SPC. In both cases, the firms had the experience of quoting prices to clients based on the availability of incentives from the utilities, only to learn subsequently that the funds were no longer available.

## **The Role of the Utility Customer Representative**

One of the underlying themes that has emerged from discussions with both engineering and facilities management firms is the necessity of addressing the role of the utility customer account representative. Executives that we interviewed at both engineering and facility management companies commented repeatedly that the present arrangement with customer account representatives is less than effective. Among the weaknesses in the current operation, we highlight the following:

- **Single Point of Contact** – Representatives from facility management companies do not have a single point of contact to which they can turn for answers to questions they may have about energy efficiency services and programs
- **Quality of Information Provided** – Executives from the engineering and facility management companies we interviewed report that, when they do have contact with the utilities, the quality of information provided is often not satisfactory. According to the interviewees, it is unusual to find a customer account representative who is informed about the various programs offered and understands the actual application requirements for the various programs.
- **Understanding of Business Needs** – Executives report that the customer account representatives with whom they have dealt often do not have the business sense of urgency and the incentive to initiate projects and close deals. Implementing potential energy efficiency projects, they stress, requires management time, which is often being pulled in numerous competitive directions. Those projects that are successfully implemented must move forward quickly when the opportunity is right, or risk that other projects will quickly absorb the attention of these managers. These managers are interested in partnering with other firms and individuals who share their appreciation for the value of time and the need to keeping projects moving.
- **Turnover in Staff** – Numerous respondents noted that the turnover rate is too high among the utility account representatives. This may be because of actual turnover or

reassignment of personnel, but the effect is that facility management firms do not establish long-term relationship built on familiarity and a record of past performance.

- **Seniority of Assigned Staff** – Many of the decision makers with whom we spoke at the facility management and engineering firms are vice-presidents responsible for millions of square feet of commercial and industrial properties. It would be more appropriate if the communication lines were between these individuals and similar ranked personnel at the utilities.

As the liaison between the utility and these firms that provide energy services, the customer account representative could (if these issues are addressed) be an effective communication link to promote and develop projects that are mutually advantageous to both the utility and the private firm.

## **A Framework for Program Innovation**

In our quest to identify new and emerging program opportunities to support the EESP industry, we examined trends in outsourcing and conducted primary research with a variety of firms that either can or do provide energy efficiency services to large C/I customers in California. This research indicates that outsourcing continues to be an important trend within our economy, and that a significant amount of energy-related economic activity is occurring among firms that are not typically involved with utility-sponsored efficiency initiatives. There are numerous areas that these firms are pursuing, and numerous ways that they are investing their marketing efforts. Importantly, none of these players are pursuing performance-contracting activities in the traditional sense that is supported by programs such as the California SPC program. Transaction costs associated with these arrangements, including a complex sales process and extended M&V, are too costly. Instead, these firms are leveraging their existing relationships in a variety of ways to develop energy efficiency projects with customers.

The large engineering and facility management firms are more comfortable with traditional direct rebate programs. Many of the firms noted that they have submitted projects using the Express Rebate model and, when given up-to-date information on fund availability and program requirements, this model suits the needs of these firms.

What, then, may be recommended in the way of innovative program initiatives that will further the transformation of the market for Large C/I energy services? At present, there is no single business model that we can recommend promoting. Indeed, much of the current policy research in this area recommends *against* supporting a single business model (*e.g.*, performance contracting), and we support this recommendation as well. Rather, we feel that it is important for utilities and others who are interested in supporting the development of this market to develop close relationships with the wide array of market actors who are involved in this market and to remain on the lookout for innovative developments that may need an extra push to overcome short-term market barriers. Program funding could be allocated, for example, using an approach similar to the Third Party Initiatives (TPI) program, wherein proposals are solicited from the community of EESP firms that we seek to support.

A central requirement to the above-outlined approach is staying close to the market – understanding the breadth of players, their customers, their business models, their services, and, importantly, their business development challenges. Doing so, however, requires that the utilities and others take proactive steps to improve communications with these firms. At this



point in time, neither the regulatory process nor the utility account representative structure adequately involves, for example, the facility management or engineering community in a proactive manner. To engage these firms in a more proactive manner, we may need to consider focused outreach and marketing efforts with these firms, including seminars, management-level presentations by utility account representatives, and networking with interested service providers.

## **Improving Communications With Potential EESPs**

If the utilities and the EESPs are to act in partnership to grow the EESP industry and deliver services to customers, then it is essential that the lines of communication be strengthened. The fact is that very few of the Vice Presidents at the firms we contacted are aware of programs offered by the utilities or even have any routine contact with utility officials. To improve upon this situation, a number of recommendations are provided, below.

- **Undertake wider dissemination of information on available efficiency programs** – In talking with executives at the largest facilities management firms, as well as some of the largest engineering firms in the country, there was very little awareness of available energy efficiency programs. Conducting outreach among these firms may generate additional interest in existing programs. It should be noted, however, that these firms are generally not involved with performance contracting approaches. Moreover, any program that is perceived as imposing additional time constraints on a project will not be viewed positively.
- **Increase the priority given to facility management firms in customer outreach** – One of the problems with the current strategy for communicating with large facility management firms is the fact that marketing priority favors the individual accounts with the biggest loads. Marketing to these firms, and leveraging their relationships with a multitude of customers, may be a far more effective means of communication than trying to reach the individual accounts. Utilities need to begin to consider these large service companies as "accounts" based on the total loads they represent as opposed to the individual account level.
- **Establishing formal relationships with facility management community** – Executives at the facility management firms that we interviewed are interested in forging new relationships with utilities interested in promoting energy efficiency. To accomplish this, however, may require a new approach that includes working within the top levels of each corporation. We talked with vice presidents in large corporations who are interested in establishing relationships at a peer level. Such relationships will likely lead to a greater understanding of specific new incentives or programs that will support their efforts to implement energy efficiency.
- **Establish a formal relationship with professional engineering community** – Executives at engineering firms are similarly interested in understanding energy efficiency programs that may be of use to them or their clients. A representative from the Consulting Engineers and Land Surveyors Organization of California (CELSOC) noted that they were interested in establishing a formal liaison between their group, the CPUC, CEC, and the utilities, so that they may play a more active role in policy and program development. Such relationships will likely lead to a greater understanding of

specific new incentives or programs that will support their efforts to implement energy efficiency.

- **Coordinate efforts to promote distributed generation** – Facilities management firms and engineering firms are both responding to client interested in distributed generation. If the utilities are developing programs to promote distributed generation, these entities are clearly strong allies in such an effort.
- **Develop a Web-Based or Fax Dissemination System for Communication of Current Program Requirements** – These large firms need current information on program requirements when presenting costing information to their clients. The utilities need to have this information available on an as needed basis. When requirements or funding availability are about to change, the utilities should provide immediate notification to these firms.
- **Enhance the Role of the Utility Customer Representative** – The customer representative is a logical liaison between the utilities and the energy service firms. These reps could communicate program opportunities, keep firms abreast of program modifications, serve as a single-point of contact to all of the buildings these firms manage, and facilitating and partnering in the development of new energy efficient projects. To be effective, however, the utilities must strengthen their roles by designating a permanent single high level representative to each property/facility management and engineering firm, and keeping these representatives current on program requirements and fund availability. Furthermore these representatives will need the training, experience, and motivation to be effective communicators and partners in developing energy efficient projects.

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