Energy Efficiency Financing that Delivers Results for Businesses

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ABSTRACT

A key service in many utility energy efficiency programs is providing attractive financing for commercial, industrial, and institutional end users for project implementation. This paper describes a Paid-from-Savings option as part of a comprehensive program approach for project implementation.

Lack of capital is a key barrier to energy efficiency project implementation. Often, energy efficiency projects do not compete well for scarce capital resources in corporate America. Similarly, public entities such as schools, government buildings, and institutions have severely curtailed budgets in this economy and cannot allocate funds for project implementation. Similarly, the majority of bonding proposals for schools and local governmental entities have been rejected.

Utility provided and/or facilitated financing alternatives can overcome this barrier. However, typical program financing offers nothing better than financing from the marketplace (e.g., banks). The only difference may be that the program has screened financial institutions that are willing to provide financing for energy efficiency projects. As a result of this "no value added" service, typical financing programs are anemic.

Utility delivered Paid–from-Savings programs that use program funds to buy down interest rates rather than paying out cash incentives have proven effective at delivering results for customers who lack capital for energy efficiency. When combined with a program-backed guaranteed positive cash flow, they are an ideal mechanism since they not only provide the implementation funds, but also add credibility to savings claims. Unlike conventional performance contracting, utility delivered Paid from Savings programs provide transparency to the financial instruments overcoming skepticism about inordinate profiteering.

Background

As utilities strive for deeper energy savings to meet energy efficiency goals, key questions often include "how do we get more business customers to participate in our programs?" and "how do we get customers to go beyond lighting retrofits to higher impact technologies such as process or HVAC systems as a whole?"

Financing is commonly explored as a way to increase project implementation. In the past, it would be common for the utility to respond with a third party financing program or direct the customer to a financial institution participating in their program. In some cases, after about one or two years, a utility might evaluate the often poor participation in these programs and may declare financing was not the issue, it's too difficult for the utility to do, the utility shouldn't compete with the marketplace or there really aren't any more savings available and seek other means to increase participation. It may not be uncommon for a few years to pass, goals and targets to increase, or participation to erode and once again the question gets asked, "How do we increase participation and/or increase the penetration in customer facilities beyond lighting?"

So why don't business customers participate in energy efficiency programs? The answer is that there are barriers to participation that need to be addressed and rebate programs do not address all these barriers effectively. These barriers can be summarized as:

- Lack of knowledge
- Lack of time
- Lack of capital
- Risk aversion

Lack of knowledge: Beyond lighting and other widely understood conservation measures, many business customers do not really know what to do to save energy. They are constantly accosted by vendors and information about saving energy and the new gizmo that solves all their energy problems. There is so much information in the market place, that it is confusing to know what to do—especially how to apply that technology to the facility's specific needs. This is easier for simple technologies such as lighting and motors but gets very difficult when addressing HVAC, compressed air, refrigeration, or processes, and in particular, when looking at these sorts of "technologies" as systems. The way, in which these systems are designed and controlled; NOT improving the efficiency of the components, is where enormous savings potential resides.

Lack of time: Most companies are running very lean concerning staff. It is difficult for facility staff to devote time to research energy-saving technologies and claims in order to make an educated decision concerning implementation. As a result, customers spend precious time and capital on equipment sold by "trade allies", whose goal is to sell their products, and who do not to understand the energy implications.

Production is more important than energy efficiency. Customer satisfaction is more important. Sales are more important. Let's face it, for many facility staffers, energy efficiency is a distraction. They don't have the time to research potential projects let alone implement them.

To make matters worse, many utility rebate programs are difficult to participate in. Rebate program customer manuals that are fifteen pages long or longer are a prime example.

Lack of Capital: Most business customers have capital to invest. However, most energy efficiency projects do not compete well for corporate capital. Businesses prioritize their investments. First priority is projects that must be done—safety, environmental, facility visibility; for hospitals for example, the current need is the latest medical software. Next are projects that increase sales or develop more production capacity or reduce production costs. Examples of these are entering new markets, introducing a new product, new equipment to increase production, projects that reduce production costs. These projects have a much better and more significant impact on the customer's bottom line.

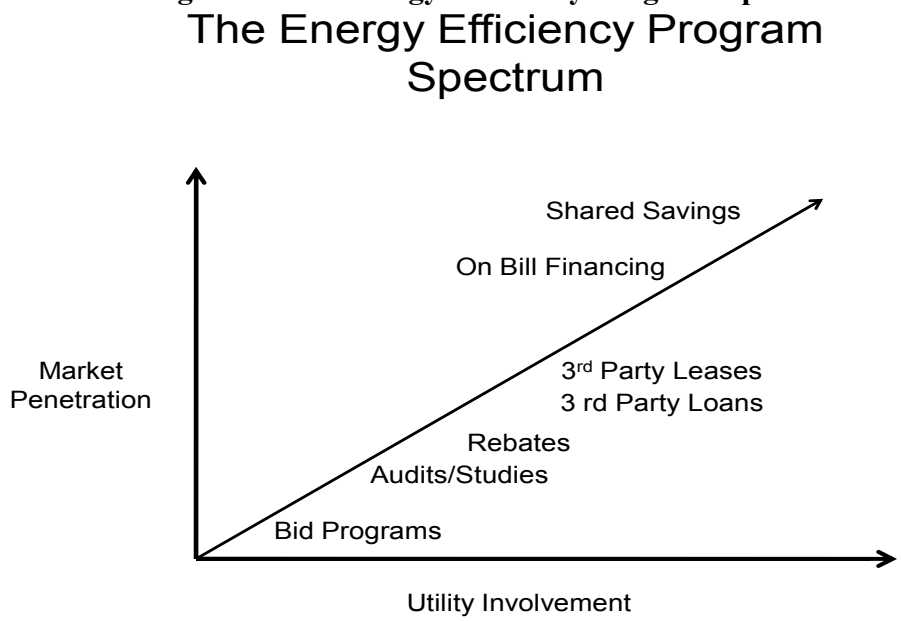
Risk aversion: Many times an internal coach is needed to help sell energy efficiency projects within the business. An internal coach will move a project through an organization and promote the project to skeptics. Simple projects such as most lighting and some others can be clearly defined and most people understand their impact. However, many technologies such as HVAC, process, and systemic and control changes are more complex and difficult to understand. Customer personnel are not quick to buy on to vendor claims of savings. Therefore, it is important that there is an unbiased, third party review to validate the savings. This is where the utility can provide a great service just by performing an audit or study or reviewing a vendor proposal. Giving this information to customer staff will increase their confidence that the project

will, indeed, generate the savings and the staffer won't be embarrassed or even compromise his career, if the savings do not materialize.

Utility Financing Programs

There have been many utility financing programs that have sought to address some or all of these barriers. The spectrum of solutions ranges from bid programs with no up-front support to shared savings programs that address most barriers. The figure below is my interpretation of how a utility's depth of involvement impacts program participation. Simply stated, the more comprehensive the program at resolving customer barriers, the more market penetration the program will realize. So why have these programs met with mixed results from businesses and rarely mobilized the market?

Figure 1. The Energy Efficiency Program Spectrum



Programs are cumbersome: Many utility financing programs, especially those using 3rd party financial institutions, are difficult to participate in. Processes for credit reviews can take forever and financial institutions are not very aggressive with financing even though these projects can be structured to improve the businesses cash flow. The whole process of applying for the loan/lease is very time consuming with many handoffs between the customer, the utility, and the financial institution. These processes can take months and many customers lose interest in the project along the way. Delay is a project killer.

Moreover, lending institutions quantify risk in their loans. Energy efficiency is an unknown to them and the capital they are investing has little collateral value. Even if approved, the interest rate charged by the financial institution is often no better than a market rate and may be worse. It should be noted that most vendor-provided financing has the same hurdles and issues.

There are line of credit issues: Many financers try to tie up the customer's assets with liens or similar language that the customer can't accept due to commitments to their normal

financing entity. And, of course, the original mortgage or line of credit entity sees the new comer as a competitor and is less likely to allow the transaction. Similarly, the structure of the financing may also be prohibitive. If the financing looks like a loan or capital lease, it will show up on the businesses' annual report and tie up their line of credit, which may prevent them from investing in production or expansion initiatives.

Utility interest: Many utilities have financing programs but do not promote them for customer projects. In some cases they are uneasy with the perception they are competing with banks. In some cases they believe they shouldn't be in the financing business. And in some cases, the easy way is to provide a rebate proposal even though the project may die because it doesn't resolve the customer's issues. Lastly, the utility is afraid to get into the default line of responsibility.

Projects are too small for conventional ESCOs: The average size energy efficiency project for medium and large commercial and industrial customers is less than $100,000. This size project isn't attractive to the classical ESCOs who need project sizes of $500,000 or more. Some go as small as $100,000 if they believe they can leverage additional projects in the future. This size is necessary in order to cover their administrative and marketing cost. It's a cash flow issue for them. The same is true for many financial institutions. They need larger projects to cover their administrative fees and significant cash flows to cover interest and annual costs. This can sometimes be overcome by establishing a larger fund and streamlining the processes, but that requires utility program development.

ESCO transactions often lack transparency: Most businesses are very suspicious of claims that say energy savings will finance projects, especially if these bundle all the costs into a package. Customer staffs are afraid they are paying huge costs above what the project really costs and that someone will surface this as it goes through the internal review process. People want to know exactly what it is they are paying for. This is especially true of projects that incorporate maintenance or annual services into the contract term. Thus, the customer coach is less likely to be a project advocate with management and many projects die a slow death because of this.

And, of course, financing by itself does not address the other barriers to project implementation.

A Customer Centric Approach

While many utilities have financing programs, only a few have developed a customer centric approach that addresses the major barriers to project implementation—and the results show the impact. One such program has consistently delivered 1.5% to 2.7% savings compared to annual sales[1]. This is "Paid from Savings" financing incorporated into a comprehensive program offering. A comprehensive program design might include the following:

- The utility performs an audit or study and identifies potential projects for implementation. This includes estimating savings and implementation costs. An alternative approach to enroll projects is the utility will review vendor proposals and confirm energy savings.
- The utility provides limited implementation assistance. Customers need to implement projects. They have the knowledge of their facility and are familiar with how to get things done within their environment. In addition, their contracting and purchasing

processes are much more straightforward and efficient. Utility purchasing would add utility loadings and overhead, which far exceed most customer costs.

- The utility pays for the project or reimburses the customer for the cost.
- The customer pays back the cost of the project out of the savings over a contract term.
- A guarantee a positive cash flow during the contract term to alleviate perceived risk in the eyes of the customer.

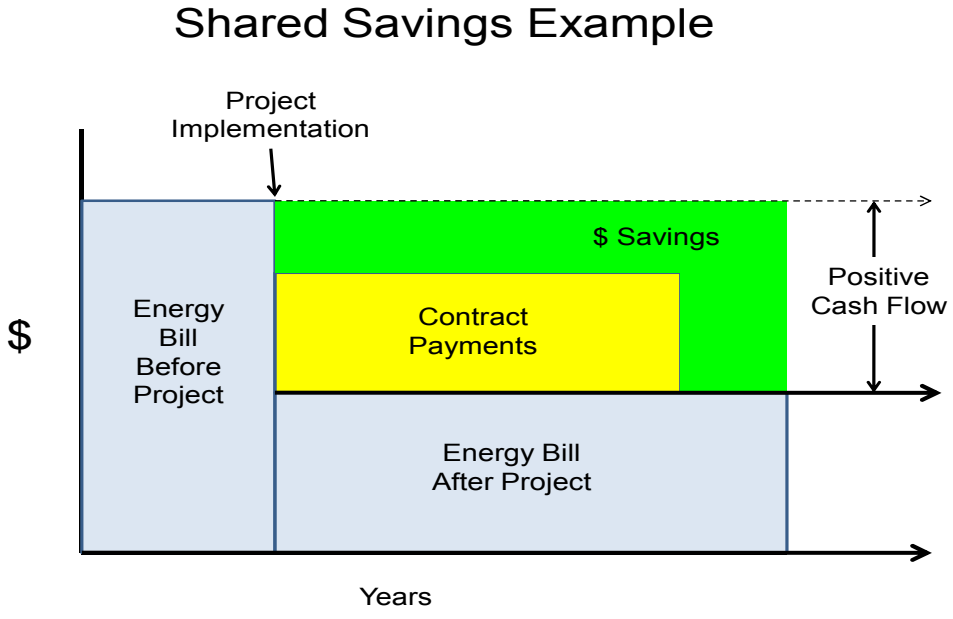
Promoting a program such as this to a business can accomplish significant energy savings results by increasing customer participation and expanding the measure list to more difficult measures such as systemic HVAC and process improvements. Such programs can also position the utility as a key business partner for the customer. In some cases, the utility account manager has been included in capital decision-making meetings because the account manager brought solutions to the table. So, how does such a program overcome the barriers?

The utility provides the trusted, unbiased source of projects or validation of vendor claims. The customer perceives the utility has a stake in the energy savings since it is providing the capital with the intent of a positive cash flow for the customer. This is true even if the utility does not provide a cash flow guarantee.

Although the customer is still responsible for implementing the project, the utility has provided unbiased information on types of equipment, energy utilization, and can provide some limited implementation assistance further reducing the time that needs to be invested by the customer. The utility's primary interest is the same as the customer's; to maximize return on investment and profit/savings – NOT the sale of equipment.

The capital is provided by the utility and paid for by the customer out of the utility bill savings. This provides a positive cash flow for the customer from day one as demonstrated in the following graphic.

Figure 2. Shared Savings Example



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Capital provided by the utility potentially solves some of the other financial issues for the customer. Many customers treat their monthly payments as an operating expense, thus avoiding any line of credit issues or issues with their mortgage holder. This is especially true for On Bill financing programs where the monthly payment is on the customer's utility bill.

Risk aversion answers the question of "Why the utility?" In most jurisdictions, the utility is viewed positively by businesses. They are unbiased concerning technology, product, vendor, and they are not making a profit on energy efficiency projects. They can be viewed as a credible resource if positioned as such. This unbiased position gives the utility a unique ability to sell energy efficiency projects. The utility provides studies and audits that identify measures, estimate savings, and estimate implementation costs in an unbiased manner. Or, the utility is reviewing a vendor proposal. In either case, the customer's perception is that the utility is reviewing the savings and has a stake in ensuring a positive cash flow exists or the project will stress the customer. In some cases, providing a cash flow guarantee totally removes the risk barrier.

Similarly, the utility has provided estimated implementation costs or reviewed vendor cost and is only providing financing with a positive cash flow. Thus, transparency of the transaction is accomplished and the customer doesn't have the worry that they are paying more than they should. This vendor lack of confidence kills many projects.

Additional benefits from Paid from Savings programs exist – including an increase in non-lighting projects. As customers become familiar with the program and gain confidence from successful projects, businesses are more willing to implement projects that touch their core operations—process and HVAC. Expanding to these types of technologies increases the potential for energy savings and makes goal achievement easier.

The Utility Perspective

A program can be designed to deliver a comprehensive Paid from Savings approach for C&I customers. The major utility barriers are funding projects and how to minimize and handle defaults

The utility can obtain the capital in a number of ways. Some utilities use their own capital to fund projects and treat these investments the same as investments in generation, transmission, and distribution. This requires regulatory approval for investor-owned utilities in order to realize the utility's authorized rate of return. Another source is to use outside financing but run the cash flow through the utility. The utility can pass payments through to the financer as customers make their monthly payments. The latter has the advantage of removing the utility from the default stream.

Minimizing defaults needs a well thought out and comprehensive process. Using a third party to evaluate credit worthiness, not the source of funds, provides an unbiased analysis of credit worthiness and insures a quick turn around time. The utility can specify a risk portfolio that most financial and accounting entities can work with. Using a third party removes the tendency of utility account staff to sell projects that take unwarranted risk. Also, with regulatory approval, the contract can include termination of utility service if payments are not kept current. Liens on the property being installed as part of the measure work as well but may have difficulty with the current mortgage or line of credit holder. All of these methods minimize defaults but defaults are bound to occur. It is appropriate to use energy efficiency funds to cover defaults as long as the utility has demonstrated due diligence in minimizing their occurrence. Of course, the

funds can be outsourced to a financial institution who will accept the default liability, but that will incur delays and confidentiality issues that the customer may not want. Experience indicates that defaults are rare as the projects improve the customer's cash flow and financial position and the potential penalty has a major impact.

Another potential issue is that customers may believe they are not seeing the savings. Performing a quality study and analysis of savings minimizes this issue substantially. Establishing a quality baseline for consumption is also necessary to enable a utility to effectively address a customer inquiry. Lastly, the economy helps as well since utility rates are increasing which positively impacts the cash flow.

Is Anyone Doing This?

Are there utilities providing this type of Paid from Savings program? Yes. Let's look at one example using data from Wisconsin Power & Light Company's (WPL) July 22, 2003 testimony to the Wisconsin Public Service Commission.

WPL's program is comprehensive in providing project identification, savings verification, and financing. It also provides a positive cash flow guarantee in about half of its contracts. WPL uses internal capital to fund projects. The PSCW allowed WPL to use its authorized rate of return for the energy efficiency investments. WPL uses energy efficiency funds to buy down this rate to a less-than-market rate. This low-interest, utility-backed financing is the only customer incentive in this program.

From 1997 through the end of 2002, 2,300 customers had participated in the program with over 4,100 contracts. This implies significant multi-contract customer participation. In fact, 18% of the participating customers had multiple contracts. These 4,100 contracts invested over $319 million in energy efficiency improvements. Average savings were 8.1% per customer. The average contract is $95,000. This program targets WPL's 1,309 C&I customers with over 10,000 accounts. These customers represent 69% of the non-residential sales in 2002. Statistics for five years from 1997 through 2002 included:

Number of Participants	781 (59% of eligible customers)
MWh Saved	601,545 MWh
Therms Saved	24,676,562 Therms
Program Cost	0.134 $ per Annual kWh Saved
	0.82 $ per Annual Therm Saved

By comparison, a Navigant Consulting report for the Vermont Department of Public Service[3] indicates Investor Owned Utility and Agency Medians achieved medians of 0.8% energy savings as a percent of sales at a cost of $0.21 per kWh. Although not conclusive, this report indicates that WP&L's program is at least competitive in producing cost effective energy savings.

It should be noted that over 65% of the energy savings come from process or process related technologies. This penetration in non-lighting technologies is impressive to say the least.

Defaults have been negligible due to the diligence of credit review, customer buy-on to energy savings and the assumptions built into those savings on the front end.

The verification for 2001 indicated realization (Net to Gross) rates of 92% for electric savings and 108% for natural gas savings.

This program has mobilized vendors and trade allies, as they know projects will be funded by the utility if they provide the end user and the utility with a quality project. They also understand that proposals will be reviewed and have established standards to ensure they are providing quality information in their proposals. Many coordinate with the utility prior to submitting proposals. This greatly expands the sales force for energy efficiency and participation increases along with the penetration of non-lighting technologies.

This program continues to deliver consistent results via customer interaction. The latest activity for 2010 and beyond is contained in a letter to the Wisconsin Public Service Commission in June, 2010 ands outlines WP&L's plans.[2]

Summary

In summary, is a Paid from Savings program the right answer for all customers? No. Rebate programs can generate substantial energy savings and satisfy many customer issues to project implementation. However, there is a need to go deep to achieve increased goals in a cost effective manner. A Paid from Savings program can deliver the results by increasing customer participation and adding non-lighting technologies to the portfolio. Utilities with "On Bill" financing programs are 90% of the way to providing a comprehensive Paid from Savings program. They already have the billing, funding, and collection issues resolved. The key is a comprehensive approach to removing barriers to participation. Some utilities implement Paid from Savings programs but eliminate some of the elements in the program design. Others have separate programs that provide elements of a comprehensive program. These efforts produce rather anemic results, as they do not provide the customers with a value proposition that addresses their needs in a manner that allows them to proceed.

In order to be aggressive with energy efficiency and begin to solve this nation's energy crisis, customers need programs that dig deep into energy utilization and are cost effective for utilities. A Paid from Savings program has proven effective and can invigorate a utility energy efficiency program portfolio.

References

1-**Testimony of Jill Osterholz to the Wisconsin Public Service Commission** July 22, 2003, Docket No. 6680-UR-113

2-Letter to the Wisconsin Public Service Commission dated June 30, 2010 --"**Wisconsin Power and Light Company's Request for Authorization to Implement the Shared Savings Program as a Voluntary Utility-Administered Energy Efficiency Program under 2005 Wisconsin Act 141**"

3- **Benchmarking of Vermont's 2008 Electric Energy Efficiency Programs: A Comparative Review of Efficiency Vermont and Burlington Electric Department** May 21, 2010 by Navigant Consulting, Inc