The Bottom Line Impact from Energy-Saving Performance Contracting

New and emerging energy-saving technologies are making a compelling economic case for the ROI that performance contracting can generate. The real questions now seem to be focused on how quickly the payback can occur.

By Andrew Carman

There's movement in the financing of sustainable, or "green" buildings, and retrofitting of existing infrastructure.

As case studies continue to emerge demonstrating an ever-shrinking timeline for attaining solid return on investment (ROI) for green initiatives, an increasing number of companies are taking a hard look at how going green is not just the right thing to do for the environment but perhaps one of the best things they could do to enhance their bottom line. Increasingly, companies are responding to the dual crisis of rising energy costs and tight bank credit by seeking alternative financing based on energy savings and the consequent reduced costs associated with green buildings, smarter energy technology, and resource management over time.

Sustainable building initiatives, with their ever-faster ROI through energy savings from controlled lighting, heating, and water management, for example, are becoming easier to complete and finance in the private sector today. According to a study Booz Allen Hamilton prepared for the U.S. Green Building Council (USBGC), it is estimated that the overall green construction market from 2009 through 2013 will generate $6 billion in energy savings. On average, the 26 percent increase in energy efficiency of a green building, with an average energy saving of about $0.52 per square foot, ensures faster ROI for green initiatives.

Energy performance contracting, in which reductions in energy use can be guaranteed through implementation of specific green design or retrofitting steps, makes financing easier to adopt now. Energy retrofitting to existing buildings can pay off the cost of the

installation and technology, in some cases in less than five years, leaving many years beyond that to realize savings of up to 20 percent or more on the initial investment.

Harvesting the Low-hanging Fruit

So how does a potential performance contracting customer know whether his or her situation makes sense for realizing these sorts of returns?

In some instances, the savings are easy to see. For example, according to a recent McGraw-Hill Construction study, the green market represented just 2 percent of non-residential construction starts in 2005, but this number grew to 10 to 12 percent in 2008 and is expected to grow to 20 to 25 percent by 2013. An even larger opportunity exists in the existing commercial building market. Retrofitting existing commercial and industrial buildings with current energy-efficient technologies is "low-hanging fruit" that offers companies a relatively fast way to benefit from energy savings.

While historically it may have been disruptive to retrofit buildings, service providers today employ a growing variety of technology configurations that will match customers' needs—and often do so with reduced disruption to building tenants. For example, such retrofitting enables them to upgrade just lighting or, if desired, take on a more expansive and potentially higher payback configuration including boilers and chillers, insulation, and other building infrastructure. Given the more flexible nature of taking on efficiency improvements, customers have a faster path to savings.

Current advances in the technologies themselves are also leading to faster paybacks in general. Upgrades of certain components, such as lighting, heating, ventilation and air conditioning (HVAC), and even, to some extent, boilers and chillers, can yield paybacks on energy savings of as much as 18 to 25 percent over a two- to five-year period. And don't forget that the useful life of the equipment and the solution being installed typically outlasts this initial payback period.

Mike Kearney is senior director of energy and environmental solutions for the Building Technologies Division of Siemens Industry, Inc. He has seen firsthand the types of performance contracting solutions that yield the desired ROI—and do so within the necessary timeframe.

"For the private sector, many companies won't go out any further than two to four years for a ROI," he explains. To meet these fast ROI timeframes, Kearney often relies on two specific performance contracting solutions that almost always meet his customers' needs. The first is upgrades to lighting, especially if no retrofitting has been done in this area previously, and the second is chiller plant optimization.

"We have yet to find a chiller plant optimization project that has not yielded good returns," Kearney says. He reports that customers are not only getting more chilled water tonnage out of their plants than they were originally designed to provide, but they're consistently seeing paybacks within the two- to three-year range. Projects are averaging $500,000, and the private sector is receiving them very favorably.

Who's Driving the Green Initiative?

Traditionally, building maintenance departments were the main drivers of equipment upgrades. Today, the decision-makers leading to energy efficient technology upgrades are changing. According to Mark Casell, manager of green building services for Ecology and Environment, Inc. (E&E), an international environmental consulting firm headquartered in Lancaster, New York, the pressure to drive down energy costs is obviously increasing, and it's coming from several directions.

"There's financial pressure. CFOs are always looking for efficiency improvements, and energy use is right on the bottom line, taking away from profitability," Casell says.

But Casell says pressure is also coming from stakeholders—whether they are employees or stockholders.

“More and more people are looking for that ‘green building’ aspect for a healthier environment and increased employee comfort,” Casell says. He notes that with increased efficiency, green building values are typically higher than those of their conventional counterparts. For Casell, the benefits of green buildings are two-fold.

“Not only are you reducing lifecycle costs because of the increased efficiency, but you also are able to charge more for the spaces you own.”

Harvey Bernstein, vice president of global thought leadership and business development for McGraw-Hill Construction's green building initiatives, agrees.

“You definitely have the potential for an increase in rent,” Bernstein says, “But you also have the potential for seeing higher occupancy and for attracting and pleasing your employees—especially younger generation workers, who are very sustainability-oriented,” says Bernstein.

Little Steps Yield Big Advances

While performance contracting may not be as eye-catching as a sleek wind turbine or reflective solar panels on the roof of a new green building, the retrofitting of existing buildings and infrastructure for energy efficiency is where some of the strongest financial incentives lie. And as technological advances enhance the performance of energy-efficiency solutions, the ROI becomes even more obvious.

Casell has a term for these often unnoticed but very productive solutions.

“Someone coined the phrase ‘Cash for Caulkers’ to describe these sorts of seemingly mundane—but tremendously effective—energy improvement measures,” Casell says. “They’re very important.”

He points to wind- and air-tight seals around windows and doors, making sure windows fit properly, and regular preventive maintenance on air handlers and HVAC systems as prime examples of factors that can yield an immediate and lasting cost savings.

Casell cites instances where building owners had deferred routine maintenance or cut their maintenance staff with the thought they would save money. The opposite proved to be the case, says Casell: “They had a 30 percent decrease in energy efficiency because air filters were plugged or the equipment failed completely because the heating and cooling coils had become plugged.”

Bernstein agrees that the “smart” buildings that are maintained under a performance contract are a smart investment.

“Building control and utility-usage monitoring systems definitely yield a handsome ROI,” he says. He notes that the monitoring and controlling of water usage also presents a huge opportunity for gains in energy efficiency.

So, if the case for performance contracting is so compelling, why is there still skepticism of it in some financing quarters? What steps can be taken to educate customers about their financing options for performance contracting solutions?

Enhanced Technologies Encourage Expanding Financing

Given the compelling economic case for the ROI that performance contracting can generate, the real questions seem to be focused on how quickly the payback can occur. Thus far, the vast majority of energy savings finance—where the savings pay for the majority if not all of the financing—have largely been in the tax-exempt arena.

The reason for this, historically, is that these entities—primarily municipalities, higher education institutions, and healthcare customers—have a higher tolerance for going out much longer for their payback. Traditionally, a housing authority, for example, may normally go out 18 to 25 years because the older energy performance solutions needed

that much time for payback. Oftentimes, these tax-exempt entities don't have a lot of cash flow, so in order to match the payback of their solution to the cash flow ability of the entity—and/or the savings—they were forced to go out longer term.

What has changed today is the technology itself. For example, because the equipment, particularly lighting and HVAC equipment, has become more efficient, the actual payback time on it is now much shorter—well under 12 or even 10 years in most cases. What this shortened payback time has done is created a shift: there's increased demand for the performance-contracting traditional product with customers who have upgraded systems before, but there's also increasing demand for it because more and more municipalities are stepping up for the first time to initiate performance contracting projects.

Commercial customers are increasing, too. A commercial customer typically cannot wait 10 to 12 or more years for payback on a project, but the fact that some projects present faster payback is now bringing these customers to the table. Because of this demand shift, performance contracting finance companies are adjusting their products to be able to serve both regular commercial and tax-exempt accounts.

Tips for Finding the Right Financing

For customers seeking to finance a performance contracting solution, picking the right contractor is absolutely critical. An experienced and well-qualified energy services company (ESCO) will help ensure success. And success is not limited to the effectiveness of the solution; both the customer and the finance company are relying on the accurate analysis and prediction of the savings. Only a top-tier ESCO can provide the experience to render an accurate projection of ROI.

Kearney agrees.

"Dedicated financing is huge," he says. "Just as the innovation side of the technical solution is critical, so also is the financing equally important." Having the experience and

insight of a qualified ESCO ensures that both the customer and the finance company can feel comfortable that the ROI will be there.

"If we can bring money to the table, figure out a way to meet the customer's criteria requirements, and offer a captive, in-house program within Siemens, that's big—both perceived and in terms of real value," Kearney says. He admits that the financial solution is often more difficult than the technical solution.

"We've got good projects that make sense to our customers, make sense technically, and pass muster with engineers, but if we can't get them funded, it doesn't mean anything to anybody," says Kearney. "You've got to win over the CFO."

Kearney feels certain that the captive, in-house financing offered by Siemens Financial Services, Inc., is a big differentiator for his company. "Yes, the real value of our financing is strong, but the customer perception of one-stop shopping within the Siemens family of companies is very compelling, as well," he says.

A new product, just in its infancy, is a solution very similar to a power purchase agreement but intended just for general, smaller projects in the $3 million to $5 million range. In these cases, customers have been partnering with companies such as Siemens Building Technologies to provide solutions in which customers simply pay only for the energy savings they've received.

Clearly, the funding of performance contracting initiatives will continue to win over the financing community as timelines for ROI shrink. As both improved technology and financing solutions find their way into the marketplace, more and more energy efficiency projects will come to life—and that's good for all of us.

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Andrew Carman is senior vice president and general manager of Siemens Financial Services, Inc. (SFS). He is currently responsible for SFS' Equipment Finance Group, specializing in equipment finance and energy savings performance contracting solutions for all commercial and municipal customers. Mr. Carman has over 18 years experience in equipment financing. Prior to joining SFS, he spent 10 years with GE Capital in a variety of leadership roles, including international mergers and acquisitions, commercial equipment financing, and healthcare equipment financing. He is an active member of ELFA and currently is a board member for the National Aviation Finance Association and is involved in a number of non-profit organizations in both a board and non-board capacity. He holds a BA in economics from Bates College and an MBA in finance and marketing from Northwestern University's Kellogg Graduate School of Management.