

Tuesday Webcast for Industry**Securing Financial Incentives for Energy Efficiency Projects: How to Create Corporate Support**

Webcast Questions and Answers: September 13, 2011

Presenters: Mike Caufield, Alcoa; Frank Visciano, Metrus Energy

The U.S. Department of Energy's (DOE's) Office of Advanced Manufacturing Program (AMO) hosts a series of webcasts on the first Tuesday of every month from 2:00 p.m. to 3:00 p.m. Eastern Standard Time. The series' objective is to help industrial personnel learn about software assessment tools, technologies, partnership opportunities, and a variety of other resources that can be used to find ways to save energy and reduce carbon emissions.

Mike Caufield (of Alcoa's global energy team) and Frank Visciano (development director of business for Metrus Energy) were the presenters for the September 2011 seminar, *Securing Financial Incentives for Energy Efficiency Projects: How to Create Corporate Support*. Following are the questions asked by attendees during the webcast, as well as the presenters' responses.

**Presenter: Mike Caufield (Alcoa)****What has been Alcoa's biggest accomplishment to date and what has been its biggest challenge?**

Establishing a corporate fund that business units and locations can access to fund energy efficient projects has been our biggest win to date. The next thing Alcoa has to do is quickly realize positive impacts from the selected projects. This would ensure the momentum of capital funding going forward.

How many people are on Alcoa's corporate energy team? What is the division of responsibility?

Three people work on Alcoa's corporate energy team in Knoxville. There is also a network at the business unit, regional, and locational levels.

What communication tools does Alcoa use to access its global network of energy managers?

Alcoa uses several communication mechanisms, including the following:

- Regular webinars for staff
- A monthly steering committee call for all global business units and regional contacts
- A monthly call for subgroups within business units for the locations they are responsible for and a representative from the corporate energy team
- A SharePoint site that allows staff to access assessment findings, webinar archives, and postings of upcoming webinars.

How does Alcoa fund energy projects that cost less than \$2 million?

Alcoa has two paths to fund energy efficient projects: (1) a corporate capital fund, and (2) a normal capital fund for individual locations. The rates of return for some projects are really attractive. Locations are encouraged to fund smaller projects with simple payback periods out of their normal capital funds.

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Can Alcoa provide its definition of "good return" on a project? What is the typical Return on Investment (ROI) for energy efficient projects in which Alcoa chooses to invest?

So far, Alcoa's ROI experience has been in the 2–3 year range—even before the capital funding process was created. There are different thresholds for different business units, depending on available capital.

What, if any, incentives has Alcoa provided to inspire change at the location level?

The real dilemma Alcoa is faced with is that most facilities have a team lead or members that are focused on their full-time jobs. Management must acknowledge that these individuals should be afforded the time and resources to make their teams effective.

What method does Alcoa use for benchmarking?

Alcoa has no prescribed formula, but rather compares projects against those of similar entities. Alcoa has been able to share transparent notes with energy groups at other companies through its participation in *Save Energy Now* LEADER and with regional groups.

How difficult was it to convince management to designate capital funds specifically for energy projects? It would be useful to know the justifications used to sell the idea.

1. Actually, it is still a work in progress. However, there is definitely a light at the end of the tunnel. We have succeeded (I believe) in getting senior business unit management to acknowledge a need to give some priority to worthwhile energy efficiency projects that have a very good payback and can be replicated in other facilities once proven.
2. Alcoa has stated sustainability goals that closely match its *Save Energy Now* LEADER energy intensity goals. When we can show a gap in achieving these goals due to a lack of capital, it helps. DOE has some good tools, such as the DOE Project Tracking Spreadsheet.

When selecting projects to proceed with, does Alcoa investigate utility rebates in advance to understand the effect on first cost and overall ROI?

Yes.

Do you know of any other companies putting aside energy efficiency funding like you are?

Yes. Dow, Navistar International, 3M, and Eastman Chemical.

Do you know of any other companies creating corporate management organizations to manage energy efficiency?

Yes. ArcelorMittal, ExxonMobil, Dupont, and Saint-Gobain.

Please define 'reasonable payback' when used as a criterion for project approval.

Our business units have different thresholds that range anywhere from 1 to 2 years.

What do you mean by "provides a means to link energy resources?"

I'm not really sure what this is referring to. It is possible that I was discussing our global energy team that meets monthly via teleconference. Our meetings are an opportunity to discuss energy efficiency issues and capital manpower needs.

The speaker claims a reduction in "energy intensity" of 10%–20%, but savings of only \$56 million versus \$3.4 billion in spend, which is less than a 2% reduction. Please explain.

The 10%–20% savings are from the baseline year of 2005 to 2020.

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Presenter: Frank Visciano (Metrus Energy)

Are Property Assessed Clean Energy (PACE) programs ever used for industrial facilities, or are they only for municipal facilities?

PACE has undergone many incarnations over the last several years. The focus is now on both commercial and industrial facilities, but it is customized for the end-user.

Would the Efficiency Services Agreement (ESA) approach work for projects that cost less than \$1 million?

Metrus Energy typically focuses on projects that cost more than \$1 million; however, the company is actively engaged in discovering funding mechanisms for smaller transactions. Ongoing costs (operations and maintenance [O&M] and measurement and verification [M&V]) and structuring costs tend to overwhelm the third-party financing options for smaller projects. Nevertheless, smaller projects are absolutely not out of the question and we are actively working with our partners to develop solutions targeted toward smaller projects.

Has Metrus Energy ever incorporated on-site renewable energy projects into its retrofit service offering, such as photovoltaic installations?

To date, Metrus Energy's focus has been energy efficient projects. That said, Metrus Energy's genesis is from a solar company and the Metrus ESA is in many ways analogous to a solar Power Purchase Agreement (PPA), so the generative side of energy is actively being considered for individual transactions in our pipeline.

Regarding the pay-for-savings model, what method do you use to track the actual savings?

M&V is certainly one of the more critical pieces of any type of performance contracting, and that's no different for an ESA. In general, the M&V process is imperfect and improving, but most importantly transparent and pre-negotiated.

M&V is typically carried out by our energy service company (ESCO) partner. Achieved savings are based on the International Performance Measurement and Verification Protocol (IPMVP) and are a mix of stipulated savings, one-time measured savings, and ongoing real-time monitoring. Our goal is to work with our customer and ESCO partner in a transparent fashion to determine a baseline of key stipulated variables, such as operating hours, which feed into the savings calculations under international M&V protocols. Baselines are pre-negotiated and results are calculated. More importantly, because of the need to guarantee savings in order to make our structure work, we have to limit the scope of how we define "savings." When you think about savings, you can think of them coming from three main sources: technological savings, operational savings, and behavioral savings. By pre-negotiating all operational and behavioral variables (e.g., operating hours), Metrus finances only technological savings. This makes the conversation simpler and—more importantly—preserves operational flexibility for our customers.

Eventually we will have real-time monitoring of each piece of equipment buttressed by system-wide software platforms to provide constant feedback on the interaction between equipment, operations, and behavior. Right now, however, that type of M&V can often be prohibitively expensive. Fortunately, the ESA structure is highly flexible such that if and when real-time monitoring becomes more economical, it can be rolled into the ESA contract in place of calculated protocols. We've gone to great lengths to design a structure and process that is transparent and fair given current shortcomings in the state of M&V, but that is also well set to grow with the advancement of M&V technologies and protocols.

Are there any barriers to the customer to treat the payments for projects as operating expenses?

Metrus Energy's contract is designed to be an operating expense, similar to a utility bill, and can be considered an off-balance sheet financing. Although the Financial Accounting Standards Board (FASB) is currently in the process of an exposure period concerning lease accounting, our customers have gotten comfortable treating the ESA as a service agreement rather than a lease, and our expectation is that this will hold following the final ruling from FASB. That said, accounting determination is and should remain something that each customer determines for themselves with their accounting department.

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What happens if a customer makes operational changes that impact the baseline?

The ESA is structured to cover technical but not operational or behavioral risks associated with a project. Operating hours are typically a stipulated component of IPMVP calculated savings. For example, if a customer reduced the number of shifts in a facility from three to two, realized savings and ESA payments would be calculated based on three shifts. Alternatively, the customer would have the option of early termination/buyout.

Has Metrus gotten into any disputes with customers over M&V issues?

To date, Metrus has never encountered an M&V dispute with a customer. Although the market is young and the system imperfect, the process is transparent and negotiated. A critical piece of the puzzle of how we're able to minimize friction surrounding M&V has to do with how our structure handles incentives and payments. Assume a situation where we are expecting 1 million kilowatt-hours (kWh) in savings. In the downside scenario, if the M&V process determines that there were only 900,000 kWh of actual savings, the customer only pays for those 900,000 kWh. Customers bear no downside performance risk. In the opposite scenario, if we expect 1 million kWh and the amount verified is 1.1 million kWh, both Metrus and the customer share in the additional savings. There is obviously some room for dispute, but the ESCO is somewhat disintermediated and therefore more likely to provide accurate M&V.

Can you share one or two examples of how an ESA has been applied to an industrial (i.e., medium to heavy) application?

One of our past and ongoing customers is aerospace and defense contractor BAE Systems. The facilities BAE Systems' has upgraded using the Metrus ESA mixed use and include everything from office space to heavy manufacturing. A case study is available on our website.

How is your relationship with the local and federal government?

Metrus works to gather and incorporate all federal and local government incentive programs into financing in order to buy-down project costs. As a member of DOE's BetterBuildings Challenge, we have close relationships at the federal and local levels and seek to leverage those relationships into smoother, more effective projects for our customers.

How do your offerings differ from an ESCO deal?

Because the ESCO performance guarantee is a critical component of our ESA, functionally they behave similarly to the customer. In many ways, a Metrus ESA is a hybrid between a solar PPA and a traditional ESCO energy service performance contract (ESPC). Like an ESPC, the upfront costs of an energy efficiency retrofit (with a broad scope ranging from lighting controls to chillers) are paid for by the performance of the project. The three most significant differences between a Metrus ESA and an ESPC are: (1) customer focus, (2) investment structure, and (3) accounting treatment. In terms of customer focus, although larger ESCOs have been utilizing performance contracting to decrease the first-cost hurdle in MUSH markets (municipal and state governments, universities and colleges, K-12 schools, and hospitals) for some time, the private-commercial, industrial, and institutional markets remain largely under—or in most cases—unserved. In terms of investment structure and the resulting accounting treatment, Metrus' ESA is specifically structured to be a service agreement rather than an operating lease. As such, it is an off-balance sheet financing vehicle, which is highly valued by private-sector customers. There is no minimum service charge on our vehicle—customers pay only for realized savings (usually on a \$/kWh or \$/therm avoided basis). Unlike a loan, if there are zero savings, the customer does not bear any of this performance or technology risk.

Can the ESA be applied to other areas (e.g., water use)?

Yes. The ESA can include everything from electricity to natural gas to steam to water savings, as well as non-energy savings such as reduced O&M costs.

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What are the main barriers to obtaining funding from institutional investors?

Credit is a factor—both from the customer side as well as the ESCO partner side. Because the market is young, credit considerations are often weighted more heavily than the security of cash flows generated by savings. As the market develops, we expect that this would cease and for the debt procurement process to become simplified as more lenders enter the space and ultimately as securitization emerges. Until then, ESCO credit quality is a key piece of the puzzle. A relatively new development is the availability of third-party performance savings insurance, such as those offered by Energi, which can be folded into the ESA structure to allow smaller regional ESCO partners to deliver an off-balance sheet, no first-cost solution to customers.

What was the name of the report that discusses all six of the solutions?

The CalCEF paper is titled “New Models for Energy Efficiency” and can be found at the following URL:
<http://metrusenergy.com/wp-content/uploads/2010/02/New-Business-Models-for-Energy-Efficiency.pdf>

For More Information

To access slides from this webcast as well as others in the series, please visit the webcast homepage at
http://www1.eere.energy.gov/industry/resources/tuesday_webcasts.html.