



## ***EcoMotion – Sustainability Solutions***

601 West 5<sup>th</sup> Street, Suite 650, Los Angeles, California 90071 • (949) 450-7155 • [www.EcoMotion.us](http://www.EcoMotion.us)

### **Energy Services Agreements (ESAs)**

**A White Paper by Ted Flanigan, President, EcoMotion**

*May 12, 2015*

The Energy Services Agreement or ESA is a relatively new and rather exciting financial vehicle for funding energy efficiency. Much like a solar power purchase agreement (PPA), in an ESA the equipment is installed and owned and operated by the vendor who sells the saved power to the customer.

ESAs are a new financial vehicle, sometimes called “Energy Savings Agreements.” I’ve also now seen the term “Efficiency Services Agreements.” In all cases, the ESA is a contract between a property owner and a company that develops, arranges, and funds energy efficiency retrofits. ESAs offer a clearly defined structure for outside capital to invest in the energy savings potential of a building. The ESA provider is paid for the energy savings of a retrofit project.

#### **Unique Features of ESAs**

ESAs have a number of features, but what makes them unique? Here are two that catch my attention:

The first defining feature (or new twist!) is that what is being installed and owned is energy efficiency equipment, and measures like windows, insulation, heating systems, air conditioning systems. Even geothermal systems! Why is this extraordinary? Because in the event that the customer no longer pays for the services that the equipment provides... the vendor technically can reclaim the equipment, but feasibly this generally is not possible. Unlike a solar system that could be removed in the event of a default, efficiency equipment is embedded on site. Imagine taking the insulation out of a building.

The second twist is that in an ESA, the customer pays for savings differently. Instead of a fee for services, or negotiating a share of the savings, in the ESA model, customer pay for efficiency per kilowatt-hour, and per therm, and per unit of water, propane, diesel fuel saved. ESA providers seek to provide the customer with immediate savings by charging the customer less per unit of energy saved than the customer has been paying the utility for energy used. The customer ends up with two power bills... one for the balance of power still required from the electric grid, and the other from the ESA vendor for power that would have had to have been purchased. Like a PPA, as long as this price is in fact less than the price paid to the utility, the customer comes out ahead.

ESAs offer a new payment mechanism for energy services. Rather than agreeing to a share of retrofit savings, or paying an ESCO a fixed fee for a guaranteed savings stream, in the ESA model the customer does not need to invest capital up front but rather pays per unit of savings over the term of the contract. The customer pays for the agreed-upon output of the efficiency measures as it would for any commodity.

### **The Benefits of an ESA**

1. First, there is no money down to get all sorts of efficiency measures installed.
2. Rather than incremental annual upgrades, with ESAs you can do them all now!
3. The vendor manages all installation work, contractors, payments, permits, etc.
4. The agreed-upon savings are verified and guaranteed.
5. The transaction is “off-balance sheet” and does not affect borrowing capacity or credit

### **Background**

I first learned about ESAs at a breakfast meeting in Boston. There, I met Charlie Lord and Stephen Pritchard of Renew Energy Partners.<sup>1</sup> They explained the ESA concept and this exciting aspect of their business. In addition to more traditional lease financing, PPAs for renewables, and PACE financing where in place, Renew offers the ESA model for commercial, institutional, and educational properties.

Impressed I was and am by the ESA concept. This can make efficiency upgrades really easy for property managers and institutions. Renew was founded by dedicated conservationists, keen on tapping efficiency savings with innovative finance in hard-to-reach market segments. Renew has been funded with an initial \$25 million with a mandate to fund projects in the \$250,000 -

---

<sup>1</sup> Personal communications, Charlie Lord and Steven Pritchard, Renew Energy Partners, LLC, 745 Atlantic Avenue, 8th Floor, Boston, MA 02111, 888-938-6256, [renewep.com](http://renewep.com)

\$1,000,000 range (though they can go as high as \$5 million). Charlie and Steve's job is to use the money, to flex the ESA model, take the risk, and to prove this efficiency funding vehicle in the Northeast. I gave them a long, long list of energy efficiency measures for a school in New York that I am working with and asked if they could fund the entire list. Yes.

A few weeks later, and in downtown Los Angeles, I float the concept of ESAs by two colleagues I admire and respect. To my surprise, both had heard of ESAs. And both shared a sense of excitement, one in the power of the model, the other interested in taking the back-end role of performance contracting. Are ESAs a breakthrough? I dig in a bit.

A San Francisco based firm by the name of Metrus Energy pioneered the ESA model. Its CEO Bob Hinkle gets the credit for envisioning its off-balance sheet structure, now approved by all four of the major national accounting firms. Metrus' early works have proven the model. Now a number of firms are exploring an ESA capability. The ESA, following on the heels of the PPA, appears to be coming of age.<sup>2</sup>

### **The Wrap-Around ESA Service**

Struck I am by the model and its wrap-around service. ESAs are past proof of concept. For customers who do not have technical capabilities, and/or project management experience, much less the funds to move forward, ESAs are a viable option. And rather than incrementally tackling deferred maintenance and aging equipment replacement, ESAs allow for all measures to be done at once, bundling together technologies to engage and maximize efficiency now.

Customers are used to paying utility bills as operating expenses. ESAs mimic this behavior and tax treatment. So if the bill is lower, and guaranteed, why not enter into an ESA?

Once a customer is committed to move forward – usually through an MOU – the ESA provider fully audits the property and provides engineering services to determine measure costs and savings. A contract then is signed between customer and provider for a set number of kWh of savings. Then the ESA provider installs and commissions the equipment, and measures and verifies its savings annually. Like a PPA provider, the ESA provider takes a performance risk, assuring that every kWh or therm projected to be saved is saved. ESA performance contracts generally guarantee 100% of projected performance.

- Assessment

---

<sup>2</sup> Other ESA providers include Noesis Energy, the Ohio Efficiency Reserve Fund, the State of Massachusetts, and soon, the New York Green Bank and Deutsche Bank.

- Measure Identification
- Engineering
- Funding of Measures
- Installation and Commissioning
- Measurement and Verification
- Continuous Commissioning

## **Metrus Energy**

Metrus Energy of San Francisco founded the ESA concept; its case studies show its preeminence with this funding model, particularly in the private sector. For BAE Systems, a global aerospace and defense contractor, it has signed contracts for ESAs at four sites, beginning with a 467,000 square foot facility in Merrimack, New Hampshire. To enable the deal, Metrus signed an Efficiency Services Performance Contract with one of its ESCO partners, in this case Siemens, to maintain and operate and guarantee system output for the life of the ESA.

For a 250-bed acute care hospital in Hawaii, Metrus engaged the ESA model to cut power use by 25% and reduce the power bill by \$1.1 million a year. In Hawaii, Metrus engaged Energy Industries, a local firm that managed all design and implementation of the retrofit project. Metrus also offers Efficiency Retrofit Leases (ERLs) for single-measure retrofits in which the site owner assumes operational responsibility for the equipment.

## **Red Flags?**

While Metrus may well have pioneered the ESA concept, a finance expert in Los Angeles suggests to me that the limited ESA activity over several years may be the result of fundamental problems with the model. Why haven't more deals been done? True, the model has not taken root, its legal fees per transaction may be prohibitive, especially for smaller deals. There will always be room for contention of verification of savings. And won't a lack of recoverable assets (or a lien) cause interest rates to rise, triggering less savings for consumers? Policy makers could support ESAs with a loan-loss reserve fund.

Another finance expert I know well says the ESA model has red flags: "I just can't get my head around this. Where is the exit strategy to make it pencil?" ESAs are complex, involving grossly varying efficiency measures with different lifetimes. This complexity may well make ESAs difficult to sell. These are points well taken. The greatest challenge faced by ESAs may be simply preparing the market for ESAs, making decision-makers comfortable with this funding

mechanism, as they are now with PPAs. And unlike PPAs, ESAs have the advantage of not being dependent on federal investment tax credits.

## **MESAs**

Then I learn about MESAs, or Managed Energy Services Agreements. In this permutation of ESA model, an outside firm takes over paying an establishment's utility bill. Thus the MESA takes the model to another level, taking full responsibility for the entire power bill. As such, the MESA provider invests in energy efficiency and potentially onsite generation to best manage the entire bill. MESAs were originally championed by Transcend Equity Development Corporation.

Transcend Energy was founded in 2002 to address the lack of options for retrofit investment in privately-owned real estate. Its MESAs provide a range of benefits: First and foremost, Transcend underscores that MESAs increase funds available for distribution to shareholders. They also increase tenant satisfaction and a positive impact on the environment. Transcend was purchased by SClenergy... a company with the mission of "mining the fifth fuel."

SClenergy's promotional materials state that, "Getting green shouldn't put you in the red." And for commercial real estate owners in today's world, "sticking to traditional approaches is likely to put you in the red." One of its case studies involves a \$16 million investment in 3,000 tons of new and efficient cooling capacity, plus lighting and controls for 2.1 million square feet, investments all made with off-balance sheet funding. The MESA model may be most appropriate for tenants in office environments that simply want to lower their utility bills.

## **The Deutsche Bank**

The Deutsche Bank has taken a careful look at ESAs given Germany's phase-out of nuclear power. Replacing this capacity will require large investments in renewables and efficiency. In May of 2012, the bank completed a study with The Rockefeller Foundation. Members of the Deutsche Bank Climate Change Advisors concluded that mass financing of efficiency is a key opportunity for Deutsche Bank and a requirement for Germany to meet is climate commitments absent nuclear power.<sup>3</sup>

The study revealed the disconnect between the German government's goal to double the annual rate of renovation of buildings from 1% to 2%, and the level of uptake in deep retrofits. Germany's primary policy approach to energy efficiency has been low-interest loans with tax

---

<sup>3</sup> The Rockefeller Foundation and the Deutsche Bank Climate Change Advisors, "United States Building Energy Retrofits, Market Sizing and Financial Models," March 2012.

incentives. Analysis concluded that these do not address key barriers to investment in energy efficiency. Loans require owners to take on debt that may not be possible in the current economic environment.

Research also shows that markets, such as Germany, that offer low or zero-cost financing for energy efficiency do not have significantly higher rates of building retrofitting. Furthermore, despite Germany being Europe's preeminent ESCO market, a survey of ESCOs found that their business model still faces significant barriers to growth.

So how to get deeper levels of participation and penetration in energy efficiency?

The Rockefeller/ Deutsche Bank study found that emerging financing models could help overcome the deadlock on energy efficiency financing: These include property-linked finance (known as PACE or Property Assessed Clean Energy), on bill efficiency tariffs, on bill efficiency loans, and the Energy Services Agreement structure. Its 2012 report presents its rationale for ESAs.

*“Energy efficiency investments have been the “low-hanging fruit” for many years in the energy and climate space. However, efficiency has proven consistently farther out-of-reach than expected. ESCOs, using Energy Performance Contracts, have been the largest participant in the retrofit market to date, but their activity has been limited to certain ownership categories, primarily the MUSH sector (municipalities, universities, schools, and hospitals). PACE has potential as a model, but it requires significant regulatory support and acceptance from the mortgage industry. On-bill finance could be utilized in a regulatory framework or used as a mechanism to enhance other financing models.”*

*“In particular, we believe that the Energy Service Agreement structure offers significant near term potential to scale quickly and meet the needs of both real estate owners and capital providers in the commercial and institutional market, without the requirement for external enablers such as legislation or subsidy.”*

## **Back to Renew**

To be transparent, EcoMotion is providing limited support services to Renew. Our immediate task is to make select institutions aware of the ESA model and the opportunity to partner with Renew to get jobs done. We're tackling the biggest problem facing the budding ESA industry... it's not the traditional way of doing business. The ESA model is in need of industry support to

become a game changer. Perhaps all boats will rise as understanding of ESAs and their values increases and becomes widespread.

Renew offers a suite of financial vehicles. For efficiency installations, customers have two options based on their interest to manage. For those that want to manage installation and maintenance and operations over the life of the measures – while keeping the transaction off-balance sheet – Renew offers equipment leases. For customers who want no role in the installation, ongoing maintenance, and operation of measures, and that seek to eliminate risk, the ESA may be a good fit.

*This field is rapidly emerging. For updates and additional information, please contact EcoMotion.*