Breaking Down Financial Barriers Towards a More Sustainable Commercial Real Estate Market

Anthony Martin, PE, LEED-AP, Director of Engineering
Transcend Equity Development Corporation

Steve Gossett, Jr., CEM, CDSM, CEP, Vice President
Transcend Equity Development Corporation

ABSTRACT

Approximately 40% of the US energy [1] and nearly 16% of the world energy [2] is consumed within the existing building stock. It is estimated that over 2 quadrillion Btus of site energy could be avoided by simply engaging in an energy efficiency project [3]. These energy savings projects could carry with them an average internal rate of return (IRR) of 17% and save up to $900 billion in estimated energy costs by the year 2020 [4]. Why, then, are private building owners not investing in their buildings? Why are investors and banks unwilling to engage building owners to provide capital for these projects? The simple answer is they can't. Current lease and accounting structures give rise to issues such as the *split incentive* and *leverage barrier,* which frequently make these investments financially irrational for commercial building owners.

Many financial structures have been developed to successfully fund energy projects in our public buildings. Unfortunately, most of these structures fail to address the needs of private building owners. This article (and a subsequent WEEC presentation titled *Breaking Down Financial Barriers towards a more Sustainable Commercial Real Estate Market*) looks at the current obstacles holding back energy retrofit projects in the private building market today. We will explain the main barriers to investment in private building energy projects, examine the currently available funding options, and review the pros and cons of each.

CURRENT ENERGY EFFICIENCY OBSTACLES

The potential market for energy efficiency projects for private buildings exceeds $200 billion dollars [4], and it is estimated that 70% of building executives view energy management as extremely important [5]. Yet, energy projects in the private sector are relatively scarce compared to the public buildings sector. Why? The primary reasons are the *split incentive* and the *leverage barrier*.

Split Incentive (*"Owner pays—Tenants save")*

In a typical commercial building, the owner is often responsible for all costs of capital improvements, such as a major energy efficiency project, while the bulk of any energy savings generated will accrue to the benefit of the tenants. Why?

Building owners seek to maximize net operating income (NOI) for their assets. NOI equals rents plus *other income* minus building operating expenses. Looking at this, it would seem that any reduction in operating expenses would increase the NOI for the building owner and help finance energy savings projects. The problem is that this is not entirely correct. As buildings age, their operating expenses tend to rise. Most leases have clauses that state increases in operating expenses will be proportionally passed onto the tenants and added to the rent. The building owner records the additional expense recovery as other income. These same leases state that expense reductions must also be passed through to the tenants. Therefore, a dollar saved in operating expenses often produces a corresponding reduction in other income and does not create a dollar increase in NOI.

Many lease structures allow for capital recovery through decreasing operating expenses; however, the current useful life generally accepted accounting principles (GAAP) still impair the amount of savings a building owner can realize. The clause "to the extent of the savings" requires disaggregation of the components of an energy retrofit project. Consequently, these clauses don't allow savings produced by a building management system upgrade to pay for the new chiller associated with the same project.

Leverage Barrier

The other issue preventing private building owners from investing in energy efficiency projects is known as the *leverage barrier*. Access to

capital is often a larger obstacle to comprehensive energy projects than the split incentive. When you are talking about an energy retrofit project with a multi-million dollar price tag, you have to ask yourself the question, Where will I get the cash to support the project? Vendor-sponsored project financing might be available; however, mortgage covenants are generally written to prohibit any secured secondary debt, under penalty of default. Many mortgage covenants contain the following or a similar statement:

> *"Prohibition of Transfer or Encumbrance. The sale, transfer, disposition or encumbrance, whether by operation of law or otherwise, of all or any part of the Mortgaged Property without the written consent of Beneficiary shall constitute a default hereunder."*

In other words, "We already financed the chiller and no one else can perfect a security interest in it." As a result, projects must be funded with owner cash.

The current economic climate has made access to funds even more difficult to obtain. Banks are no longer eager to embrace building refinancing for a property on which they may need to foreclose in the future. Building owners with a surplus of capital who are willing to increase their investment basis without a corresponding increase in investment income are scarce.

CURRENT FUNDING OPTIONS

So how do we get these buildings operating more efficiently? Efficiency-improving technology exists, and there is plenty of capital for interest in financing effective energy efficiency improvement projects. What are the financial vehicles that might be used to unlock the project potential in the private buildings market? Below we will investigate a few of these and identify the pros and cons of each.

Energy Savings Performance-based Contracting (ESPC)

The public sector has been utilizing energy savings performance-based contracting (ESPC) since the 1980s through energy services companies (ESCOs). These projects provide a turnkey energy efficiency

project with an energy savings guarantee through the project supplier. The energy savings are typically shared between the building owner and the ESCO, depending on the return on investment to be realized. The performance guarantee acts as "insurance" for the building owner if the projected savings are not realized.

Although this approach provides the capital required for the efficiency project, these projects do not solve the split incentive issue for the common multi-tenant building owner, as these savings must still be realized by the tenant first. Additionally, as can be seen in Figure 1, these models generally rely on secured debt, which would violate typical mortgage covenants. Although this model has successfully been used on public sector work, adoption of this method of project delivery would require new accounting rules, which will only become realized through governmental interaction. Figure 2 illustrates the historical ESPC market sector, showing that only a fraction of the existing ESPC projects (less than 10%) have taken place in the private commercial market as a result of accounting rules.

Property Assessed Clean Energy (PACE)

The Property Assessed Clean Energy (PACE) program was developed in 2008 to provide alternative financing mechanisms through local, municipality-funded programs. The local municipality provides the needed capital to make improvements in the property and secures the note through a property tax lien. The municipality aggregates these

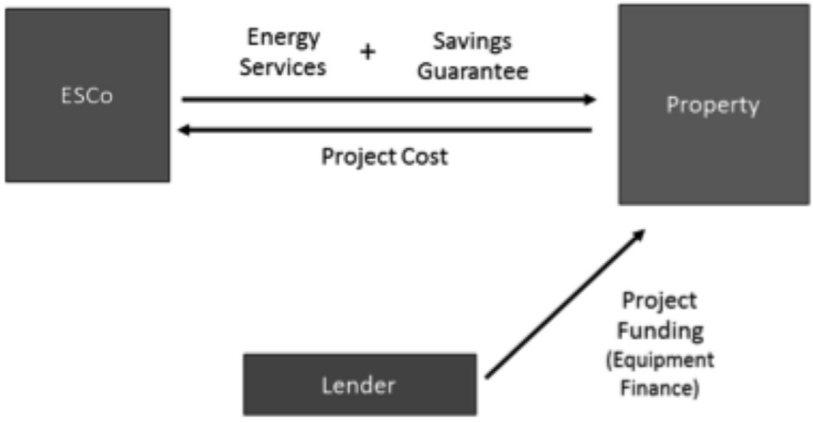

Figure 1. ESPC Finance Model

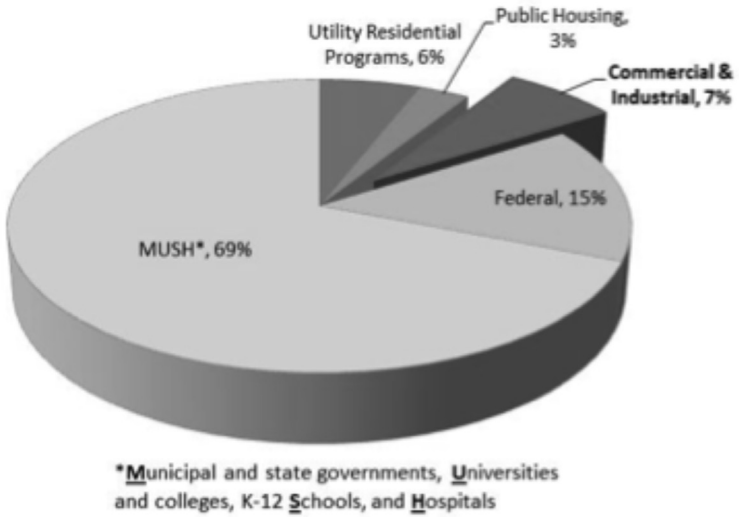

Figure 2. 2008 ESPC Market Sector [6]

notes into a larger bond issuance, allowing outside private investment to pay for these projects. In return, the building owner agrees to pay a larger property tax value over the course of the "loan," which may be extended over 20 years.

This financing mechanism gained quite a bit of political strength and popularity at its inception, particularly in the residential housing market. However, as this program began to pick up steam, organizations such as Fannie Mae and Freddie Mac curtailed the movement. In essence, these organizations, along with the Federal Housing Finance Agency (FHFA), ruled that the tax liens placed on the properties may be classified as first priority liens and "pose unusual and difficult risk management challenges for lenders, servicers and mortgage securities investors" [8]. In other words, upon a default on the property, the current PACE structure states that the loans issued for improvements have first priority over the mortgage held by these organizations. No building owner with an existing mortgage may accept a PACE-funded project without written consent of the mortgage lender, and mortgage lenders are very reluctant to accept additional underwriting risk and have refused to provide required consents.

This is not to say the PACE program is dead; it will just require significant federal legislation to become a viable option. In July of this year, house bill H.R. 2599 was introduced to overrule the rulings made by

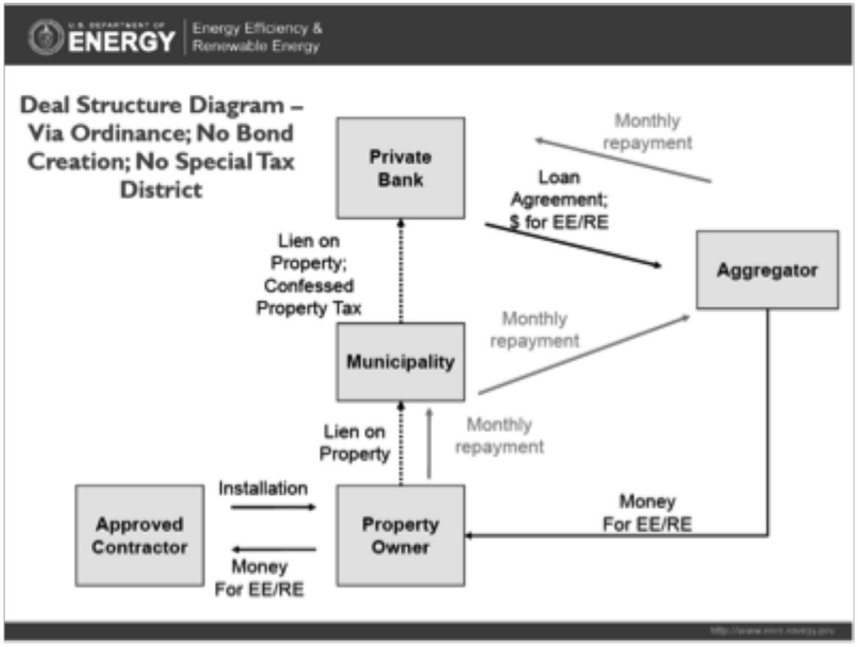

Figure 3. Pace Finance Model [7]

Freddie Mac, Fannie Mae, and the FHFA. If approved, the PACE program may become a viable means to finance these energy retrofit projects.

Energy Efficiency Power Purchase Agreements

Developed from the photovoltaic power purchase agreement, the energy efficiency power purchase agreement (EEPPA) provides capital financing for a comprehensive energy project by engaging the owner in a long-term contract requiring the owner to pay periodic service payments to the provider.

The EEPPA provider hires a third party, many times an ESCO, to develop an energy efficiency project intended to save the owner utility costs. The owner then pays the provider a set unit cost from the utility savings generated, typically based on an agreed unit cost of energy. Under this agreement, the EEPPA provider holds the rights to the equipment provided until the contract expires, while also being responsible for equipment maintenance and repairs. Upon the expiration of the contract, the owner has the option to purchase the equipment at fair market value. A simplified form of this agreement can be found in Figure 4.

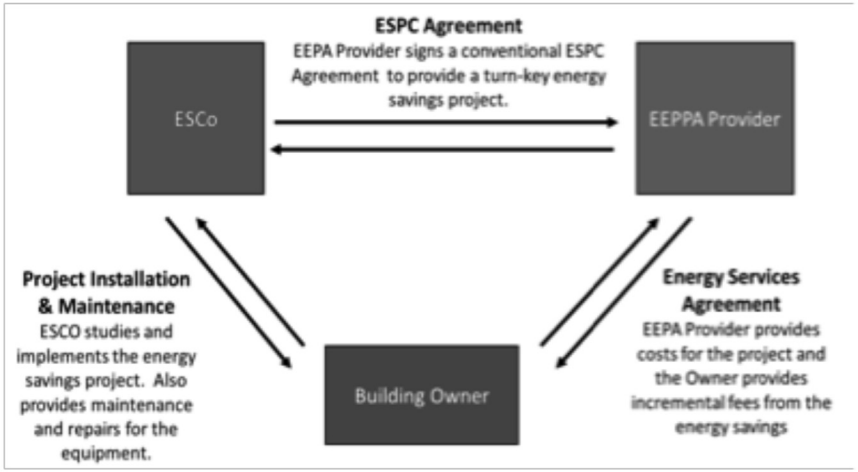

Figure 4. EEPPA Finance Model

Although this model has been successful for PV purchases and other equipment-specific financing, there is still no general consensus on whether this model is or is not a lease under current accounting regulations (i.e., this may be seen as an on-balance-sheet transaction). Additionally, this type of arrangement may require lease modifications for existing tenants in order to solve the split incentive issues. Finally, if accounting firms rule that this is an on-balance-sheet transaction (i.e., a lease), then the project would require mortgage lender approval prior to proceeding. That being said, further review by accounting professionals may deem this as a viable option to financing energy efficiency projects.

Managed Energy Services Agreements (MESA^{TM})

The last project funding mechanism to be reviewed is known as the managed energy services agreement (MESA^{TM}). This particular funding strategy takes its roots from the ESCO world; however, where the ESCO model falls short of being an off-balance-sheet solution, MESA^{TM} arrangements have been developed to provide a true off-balance-sheet solution for building owners.

Under the MESA^{TM} program, a building owner cedes responsibility for the costs and payment of building energy usage to the energy services provider. The building owner agrees to pay the services provider the cost of the historical energy usage for an extended period, typically 10 years. The services provider obtains the right (with owner permis-

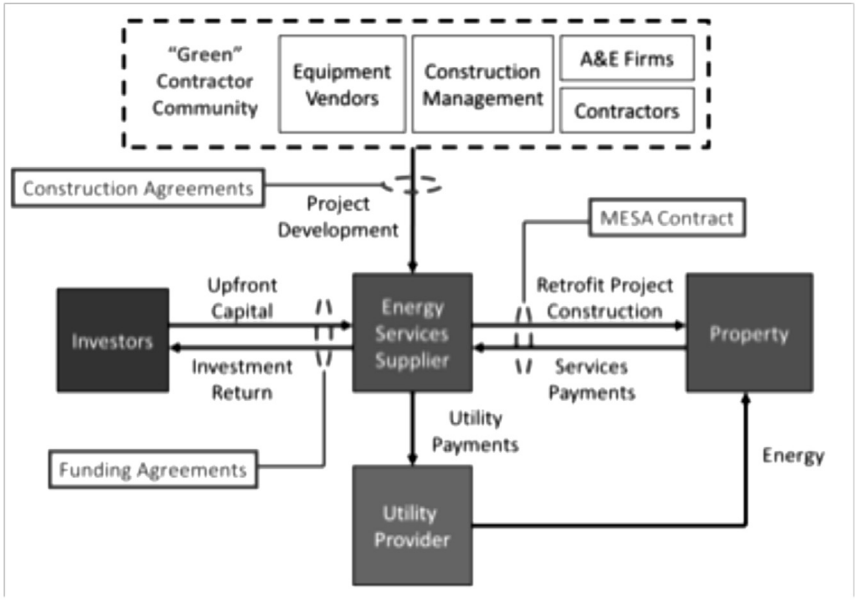

Figure 5. MESA^{TM} Model

sion) to install various energy conservation measures and to profit from any resulting reduction in energy usage. The energy services provider recruits outside private investment to fund the project, and utilizing outside equipment vendors, contractors, engineers, etc., the energy services provider designs, constructs, and commissions the project. The energy services provider is responsible for providing measurement and verification of the energy savings provided, as these savings drive the investment returns for the outside project investors.

Projects such as these have been completed for the past 10+ years, with over two dozen projects currently being billed through a MESA^{TM}. MESA^{TM} is an executory services agreement and a GAAP auditable operating expense, which solves the split incentive issues for the building owner. Since no debt or liens are placed on the building, MESA^{TM} also solves the leverage barrier.

In the past, these types of models have had one major obstacle keeping them from becoming a mainstream option for building owners. As recently published in the Harcourt Brown & Carey, Inc. document to the California Public Utilities Commission, Energy Division, titled *Energy Efficiency Financing in California—Needs and Gaps*, the main obstacle for these types of agreements has been "balance sheet limitations and (companies providing these services) could not take on new projects

indefinitely." This is true if the energy services provider develops all of the projects on its own balance sheets (debt) and no outside source of equity can be developed, with the latter issue being a lack of confirmed acceptance in the market on the processes involved with an energy services agreement. That being said, recent publications/websites such as GreenTechMedia.com and prweb.com suggest that private investors, such as Mitsui & Co. (U.S.A.), Inc. ("Mitsui USA"), a subsidiary of Mitsui & Co., Ltd., are beginning to see the opportunity in investing in projects through a managed energy services agreement. Their recent joint venture announcement suggests that the market is ready for these types of agreements and that they may become the standard for funding energy efficiency projects in the future.

CONCLUSIONS

A huge market need exists for workable funding mechanisms for energy retrofit projects in private buildings. Building owners, government policy officials, and the private capital markets all agree that improving building energy efficiency and reducing our energy consumption is not only good for the wallet but good for the country as well. Unfortunately, current lease language, mortgage covenants, and capital budget constraints have curtailed large-scale development of energy efficiency projects in the private market. Many funding solutions have been devised; however, each has its own drawback to becoming *the* solution. That being said, the managed energy services agreement option appears to be one that can finally break down the financial barriers holding back many of the other models and can create a sustainable real estate market.

ABOUT THE AUTHORS

Anthony Martin, PE, LEED-AP, is Director of Engineering of the Transcend Equity Development Corp. He is a professional mechanical engineer who has spent the past 10+ years designing, auditing, commissioning, and modeling sustainable projects. He has worked on new and existing construction projects, including a LEED-NC Platinum project in Orange, TX. In addition to designing sustainable projects, Anthony has spoken at multiple USGBC, AIA, CSI, and ASHRAE events on a va-

riety of sustainable subjects, including geothermal HVAC systems and commissioning. His work with the Transcend group for the past three years included studies of a 1.1 million-square-foot office complex in the greater Chicago area and a 560K-square-foot mall in the greater Los Angeles area.

Anthony.Martin@TranscendED.com

Steve Gossett, Jr., CEM, CDSM, CEP, is Vice President of Transcend Equity Development Corp. He is one of the founders of Transcend Equity and is the architect of the managed energy services agreement (MESA™) structure. Steve began his career in the energy efficiency sector in 1995 and has worked in every phase of energy project development, including energy engineering, project management, sales, and active energy management. For most of his career, Steve has specialized in creating energy efficiency solutions to satisfy the unique needs of the commercial real estate industry, first pioneering the predecessor to the MESA™ structure in 1996. Since that time, he has been actively involved in the development and funding of over $60M in energy efficiency projects that have created more than $100M in total energy savings.

Steve.Gossett.Jr@TranscendED.com

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