

Embedding Energy Efficiency in the Business of Buildings: Commercial Real Estate Contracts & Transactions

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ABSTRACT

The commercial real estate market is a web of contractual and financial relationships. Layers of formal and informal agreements assign and obligate how multiple stakeholders – tenants, owners, investors, managers, operators, and brokers – can utilize buildings to meet their needs. In viewing the market from this perspective, energy efficiency is equally dependent on business negotiations as on building operations, technologies, and incentives that support their installation.

The leasing “split incentive” problem, whereby tenants and landlords can have misaligned financial incentives, is a commonly discussed market barrier. Yet other interactions have equal, if not more, long-term influence on how energy efficiency manifests itself in commercial property portfolios. Due diligence procedures for the purchase of properties, property management contracts, standards for tenant improvements, and underwriting approaches for lending decisions all influence how energy is managed in the commercial marketplace. Recent policy movements in many jurisdictions mandating disclosure of energy performance, and the growing evidence of a market premium for “green” buildings, magnify the role these relationships play in energy efficiency.

This paper will detail recent efforts by the program to influence these processes with the goal of greater transparency, accountability, and persistence in energy management. Through partnering with multiple parties in the real estate value chain, groundbreaking work is underway in drafting template language, practices, and specifications for greater adoption by the marketplace.

Introduction

The Northwest Energy Efficiency Alliance (NEEA), funded by Northwest utilities, seeks to accelerate the market’s adoption of energy-efficient products, technologies, and practices. Initiatives are designed with the goal of market transformation, removing market barriers and advancing the awareness, capabilities, and resources available to market actors. This approach complements utility efforts by leveraging regional scale and deploying focused sector strategies, creating sustainable and large-scale energy efficiencies. In the commercial sector, this work is conducted under the BetterBricks initiative.

The commercial market can be viewed as a complex network of business relationships – with diverse motivations and a wide range of attitudes about energy efficiency. While energy loads arise primarily from buildings and the equipment inside them, success in reducing those loads is very much a function of dealing with people, their respective organizations, and the business realities they face.

Recognizing this, the NEEA approach applies two key strategies in transforming the market. First, the program has assembled a multi-disciplinary team to partner with influential real estate firms and provide consulting and advisory services. With expertise in energy management, leasing, property management, engineering, and organizational change, this program team engages with real estate firms' staff to identify roadblocks, define best practices, and create an energy management culture where energy efficiency is a visible business imperative that aligns with the organization's mission.

Second, the program leverages the transactional nature of business. A market, by definition, is made up of buyers and sellers. Businesses and organizations both produce and consume goods and services, either as a direct means to make profit or in service to other endeavors. Many of these transactions explicitly affect energy efficiency – an HVAC contractor providing maintenance services for building owner, or an architect designing a building. Other transactions affect energy efficiency indirectly, if at all – a tenant signing a lease, or a business buying a computer. Current program activities in the office sector build on this dynamic: there are two parties in any transaction, and both can affect energy performance levels.

The Northwest Commercial Office Market

In the Northwest (Washington, Oregon, Idaho, and Montana), the commercial office market consists of nearly 25,000 buildings representing approximately 408 million square feet (SF) (CoStar 2010) – and consuming nearly 38 billion kBtu of energy annually. *[Estimated based on the national average office building energy intensity of 92.9 kBtu/SF/year (EIA 2003).]*

Even in a down economy, there is still a great volume of transactions taking place – each of which presents an opportunity to influence energy efficiency, or at least have it be part of the discussion. From 2007 through 2009, 14% of the Northwest commercial office square footage was affected by a lease transaction, and 20% of the square footage changed ownership (CoStar 2010). Over the same three-year period, 28% of the buildings in the Northwest market (representing 47% of the square footage, or 192 million square feet) took part in one of these two types of transactions (CoStar 2010). As an illustrative example, if a mandate to reduce energy consumption by 10% was incorporated into all the transactions, these properties would have saved more than 520 million kWh.

Contracts and Transactions as Mechanisms for Market Transformation

The commercial real estate market is by nature one of transactions, with two or more parties entering into agreements and exchanging goods and services. As noted above, the quantity of these transactions is significant, with thousands of opportunities to influence buildings. These transactions can take many forms – leases, property management agreements, building sales, service contracts, financial loans, etc. – and each represents an opportunity to bring a focus on the role energy plays in the value to each party.

From the perspective of a real estate professional, the transaction terms dictate daily decision-making. If a lease doesn't address energy concerns, or a property management agreement places no requirements on sustaining a building's energy performance levels, then these issues would inevitably become secondary priorities. At the programmatic level, working

directly with the market on these types of transactions unlocks the market appetite for energy efficiency in three ways: directly tackling the split incentive problem, defining performance levels, and changing the market's perception of value.

Split Incentives

The structure of leases between landlord and tenants has long frustrated efficiency program design and implementation, forming a significant barrier to the perceived value of energy efficiency. In gross leases, a building owner pays utility costs directly and generally receives the financial benefits of reduced energy costs. In net leases, tenants pay their utility bills directly, yet have little desire to fund capital investments in a building that they do not own. This dynamic of “who pays and who benefits” across the spectrum of leases in any given market complicates the business rationale for investments in energy efficiency.

Split incentives exist in many other contractual relationships besides leases. A developer that builds a building with the intent to sell quickly may have no incentive to influence its long-term operating costs. A lender might not care about appraised value beyond the loan's time horizon. With a multitude of constituencies involved over the life cycle of a building, it can at times be difficult to find even two parties who agree on the role of energy efficiency.

Yet while incentives may be “split,” they still exist. By devoting program resources directly to this issue, NEEA seeks to educate market actors engaged in different transactions and build a greater market fluency in understanding and acting on the incentives. Building awareness, skills, and capacity for more nuanced analysis of how energy savings affect the bottom line of different parties will – over the long-term – foster greater investments in energy efficiency, no matter the ownership and management structure.

Defining What “Good” Performance Means

A common statement within energy efficiency circles is “You can't manage what you don't measure” – reflecting the need for building professionals to have insight into their properties' energy performance. An equally important corollary to this might be “You can't manage without a mission.” Measurement is critical, but so is the assignment. What is expected of the team? What objectives or targets are being pursued? What will individuals be held accountable to? Step one might be to know your building has an ENERGY STAR rating of 63; step two might be to know that you're accountable for getting it to a 75.

Well-written contracts and transactions should specify both the measurement criteria and the performance level sought, yet specific energy performance goals are articulated in surprisingly few real estate documents. Property management agreements, leases, tenant improvement standards, and other documents may address “industry standard” operations generically, or micro-specific requirements like an ASHRAE air quality standard, but rarely stipulate an overall goal for energy performance. By inserting specific energy performance criteria in these transactions, building staff will have concrete expectations regarding efficiency. Furthermore, because of the networked and competitive nature of the commercial market, once contractual language begins to be required by influential companies, service firms will modify their proposals and acquire new capabilities or skills with which to generate additional business.

Redefining “Value”

Perhaps the most powerful aspect of a focus on transactions and contracts is the ability to alter the market’s perception of value. Commercial buildings are investments, much like a stock or bond. The value of an investment in stocks or bonds is a function of their revenue stream or sales price. Likewise, a building’s value can be derived from its net operating income, its sales price, or both. Energy costs play a direct and indirect role in each of these.

The market transformation opportunity is to explicitly make energy efficiency a visible part of the value discussion, and influence purchasing and transactional decisions midstream. There are numerous examples of consumer disclosure efforts changing the perceived value of a purchase – miles per gallon stickers on new cars, the “Schumer Box” financial disclosure on credit card offers, standardized ingredient labels on packaged foods. Each attempts to shift the buyer’s sense of risk and benefit in making a particular selection.

The basic mechanism for this is psychological; visibility alone changes perceptions of value. When an individual is presented with new information in a contract, they are more likely to take the time to understand the implications and conduct an analysis of the additional effort needed to fulfill the contract obligations. Energy is no longer invisible or subsumed within other aspects of the agreement. It becomes an overt expectation, and indicator of quality.

Two trends in the commercial sector are strengthening this relationship. First, there is a growing amount of research suggesting that energy and sustainability considerations contribute to higher rents and building value (Eichholtz, Kok & Quigley 2009; Fuerst & McAllister 2008; Miller, Spivey & Florance 2008; Pivo & Fisher 2010; Washington State Department of Ecology 2009). As this link becomes more and more defined and understood, the need to stipulate performance levels will grow.

Secondly, numerous states and cities are passing building energy disclosure regulations, requiring building owners to communicate the energy performance of a property to tenants, buyers, and other parties. Washington D.C., New York City, the State of California, and the State of Washington have all recently passed legislation along these lines. In economic theory, this level of transparency removes “informational asymmetry,” where one party has an advantage in terms of the information available to them – at least in terms of energy. Suddenly, a previously hidden component of a building’s value is exposed, and lower performing buildings will likely find themselves at a financial and competitive disadvantage.

Program Focus Areas

Leasing

Leasing is the most common transaction in commercial real estate – defining the business relationship between landlord and tenants. Yet the structure of leases often “splits” the financial incentives of energy savings between tenants and owners. But a carefully crafted and diligently enforced lease can overcome this barrier. If basic aspects of energy management are defined and understood via the lease, collaboration on reducing energy costs becomes easier.

To build greater market fluency on how to accomplish this, the program team created a set of educational documents, curricula, and “best practices” for use by real estate professionals, such as the publications *Leasing & Energy: Allocations* and *10 Goals for Green Leasing*,

available on BetterBricks.com. Providing a knowledge base for market actors, these documents help real estate professionals better understand how various lease types affect energy efficiency decisions, and point to other valuable resources and tools.

Additionally, NEEA has utilized this information and provided both speakers and content for continuing education sessions offered by BOMA locals in Seattle, Portland, Boise, and Spokane, as well as in-house “lunch and learn” sessions within partnering firms. From 2007 to 2009, over 250 real estate professionals have attended at least one of these workshops, exploring a variety of leasing-related topics and their impacts on energy management.

Lastly, as part of the program’s direct consulting and advisory efforts, NEEA has begun assisting several regionally-prominent real estate firms to modify their leases to support enhanced energy management. This support consists of paragraph-by-paragraph reviews of existing leases with the goal of aligning provisions and terms for energy efficiency projects.

Property Management Agreements

The relationship between a building owner and its property management firm is contractually defined through a Property Management Agreement (PMA). PMAs typically cover the full spectrum of management responsibilities, including financial matters (collection of rents, debt collection and tax liabilities); legal items (liability insurance and litigation); and policies for termination, sales, maintenance, leasing, and capital improvements and expenditures. Because the PMA is a legally binding document, the property manager strives to follow it to the letter.

As such, the mandate for a focus on improving energy performance is literally spelled out in the PMA – or not. Take for example the following statement from an existing PMA:

“agent is authorized to make or cause to be made, through contracted services or otherwise, all ordinary repairs and replacements reasonably necessary to preserve the Property in its present condition...”

Given such instructions, where is the incentive for the property management firm to improve operations, engage tenants, and negotiate with service providers to move beyond the status quo and improve energy performance?

Incorporating language in the PMA to define energy management expectations for both the owner and the property management team can help to ensure these areas become high priorities. Further, when seeking a new property management team, the building owner can set the tone from the beginning by incorporating such language in the property management RFP.

Recognizing this potential market need, the program team has worked with real estate firms to create and incorporate specific language within these documents. Opportunities for incorporating energy management principles in modified PMA language include:

- **Benchmarking:** PMA language should require, as a minimum, that the property management team benchmark energy performance using ENERGY STAR Portfolio Manager and that the information is kept up to date.
- **Energy audits:** The PMA can require that energy audits be completed on an established frequency, enumerate how findings will be communicated, processes for approving work, project management responsibilities, and tracking and reporting mechanisms.

- Staff training: Building operators, engineers, property managers, construction managers, and leasing agents can all benefit from an ongoing energy management training program that integrates best practices and establishes a common energy language.
- Alternative financing: When proposing a capital expenditure, owners can require property managers to identify alternative financing opportunities available in the region.
- Tenant engagement: Tenant behavior directly impacts energy consumption in three areas – lighting, HVAC, and especially plug loads. PMAs should define expectations for engagement with tenants, thereby unlocking additional paths toward energy efficiency.

Additionally, most property management firms are required report on a monthly, quarterly, and/or annual schedule to building ownership on specific items delineated by the PMA. Today, these reports tend to be financially driven, describing data such as occupancy rates, utility expenditures, and leasing information. Expanding these reports to include key indicators such as ENERGY STAR ratings, progress towards resource reduction targets, LEED certification status, and tenant interests will focus the building team towards energy management.

Over time, as building owners and asset managers begin incorporating these types of requirements in their competitive bidding processes for property management services, more and more real estate services firms will be forced to demonstrate their willingness, ability, and experience in meeting these criteria. Transaction by transaction, the market will migrate toward adoption of these practices until they are viewed as industry standard.

As an example of how this might play out, the program team helped write energy performance requirements into the property management agreements for a Seattle-based real estate firm, with the requirement that the selected firm must benchmark energy use with the ENERGY STAR Portfolio Manager tool. In response, the property management firm began benchmarking the client's buildings, but in addition began marketing benchmarking services to other property owners. This cycle, if established in a given market, has huge implications for diffusing best practices and places additional competitive pressure on market players.

Due Diligence

Due diligence is the process of investigating the finances, operations, management, and structural characteristics of a building before an offer for purchase is made. This process is used by asset managers to verify the state of the building and its equipment, the costs and revenues associated with the property (such as lease terms and operating expenses), and other information pertinent to a decision to purchase the asset – with the goal of mitigating financial risk.

With increased attention being given to building performance due to new regulatory disclosure requirements, an increased number of LEED certified buildings, and a focus on climate change mitigation, definitions of risk mitigation due diligence are evolving. The program team has begun consulting with Northwest real estate firms to identify opportunities and build processes to link these changing definitions from two perspectives: building performance and climate change risk.

First, understanding current building energy performance – and the potential for improvement – allows investors insight into the likely overall investment yield, depending on their investment strategies. For example, buyers with short holding periods may prefer buildings with an established high ENERGY STAR rating, while those with longer holding periods might

seek properties with improvement potential and an opportunity to strengthen the competitive position. Assessing energy performance from this perspective requires examining the building's equipment, operations, envelope, commissioning history, and the skills and history of the current engineers and operators.

Second, what is the property's exposure to the potential risks that can arise directly from climate change, or indirectly from a potential price on carbon? Sea-level rise, intense climatic events, and volatile electricity prices are key elements to consider when assessing risk. Working with real estate firms to integrate climate change risk considerations in their due diligence processes, the program team has begun introducing investment criteria such as building location (exposure to floods, slides, hurricanes, etc.), power supply and fuel mix, availability of rebate programs, energy price stability, water accessibility and pricing, local climate change regulations and policies, the availability of mass transit, and the potential for renewable energy resources.

Including a risk mitigation focus in the due diligence process is not a new idea. By incorporating a stronger focus on current and potential energy performance and anticipated climate change impacts, the buyer can help to ensure their purchase will both achieve their near and long-term buying objectives and minimize risk. From a market transformation perspective, as more and more potential buyers of commercial buildings ask these questions, sellers will be forced to respond through a focus on energy and environmental performance.

Tenant Improvements

The tenant improvement (TI) cycle, where office space is modified to meet the needs of a prospective tenant, is a transaction closely associated with the leasing process. In fact, numerous documents and contracts guide and shape the negotiations between building owners and tenants regarding a specific space: leases, building rules and regulations, building standards, tenant improvement allowances, tenant brand and design standards, etc. Navigating through these to identify leverage points to improve energy efficiency can be daunting and time consuming.

Yet the opportunity is rich - as stated above, roughly 14% of all office space in the Northwest underwent a lease negotiation in the past three years. The majority of these deals likely included some discussions about lighting, HVAC, submetering, and more. In order to explore the energy efficiency potential in these transactions, several initiatives are underway.

First, NEEA formed a strategic partnership with a leading asset management company that represents owner interests in hundreds of buildings across the country to develop tenant improvement standards for their entire portfolio. This document is meant to be a guide and reference point for stakeholders in a TI process on mandatory and recommended performance levels across a number of energy and sustainability facets. Lighting, air quality levels, testing and balancing practices, plug load guidance, and many other areas are detailed for decision makers to guide proposed changes to a building's interior - and consequently maintain or improve overall building energy performance levels.

Second, the program team has begun establishing a working partnership with a leading tenant improvement design firm to act as a guide and test bed for understanding the pace, barriers, and challenges of the TI cycle. Work has begun on conducting post-occupancy reviews of multiple tenant improvement projects to diagnose how, when, and why decisions are made. Additional work with the design firm will include development of TI "best practices," documenting a typical TI decision tree, and development and piloting of TI standards for different types of building owners.

While both of these initiatives are in their early stages, the intent is to test and validate the different approaches within the market dynamics of working with tenants, property owners, brokers, and designers. These transactions are characterized by a rapid pace, multiple stakeholders, and strict limits on project costs. Yet the sheer multitude and scale of these projects are such that they may offer means to change market behavior and generate significant energy savings over the long term.

Underwriting Standards for Green Buildings

Underwriting is the process by which banks, investment firms, and other financial institutions evaluate risk and assess whether or not to grant loans to firms or individuals. In commercial real estate, the relationship between a building owner and its banker is critical. Few commercial buildings are owned outright by one entity; more often, numerous parties are contributing different levels of capital or taking loans to invest in a property.

Numerous real estate transactions trigger an underwriting process – the purchase of an asset, secondary loans for capital investments in a property, or even an expensive TI project. The process generally involves a lending institution re-examining the financial structure of a building's outstanding debt, an appraisal of the property's market value, and a determination of terms and interest rates that that might be offered for the loan.

With the emergence of the green building movement, the financial industry suddenly found itself having to evaluate technologies, practices, and concepts that it had not previously encountered. Ideas like integrated design, commissioning, green roofs, and natural ventilation raised understandable concerns and questions from a risk management perspective. Will this work? How do you evaluate the possibility of failure? How will tenants and the market perceive these innovations?

Recognizing the need to build industry knowledge and fluency within the financial sector, NEEA became a founding member of the Green Building Finance Consortium, a research and education initiative founded in 2006 by Scott Muldavin to assist investors to underwrite sustainable property investments from a financial perspective. This initiated several years of research by Muldavin and the Consortium. In early 2010, Muldavin published the results of this research in the book *Value Beyond Cost Savings: How to Underwrite Sustainable Properties*. This publication introduces a framework and insights into how lending entities can assess risk and understand the potential value implications of energy efficient and sustainable buildings. The program team intends to utilize the content of *Value Beyond Cost Savings* in its educational offerings offered throughout the region in 2010 and 2011.

Again, directly linking the role energy efficiency plays in the value of commercial buildings – by making energy “visible” – allows for a continued effort to build the market's understanding and fluency in energy efficiency. Investors, bankers, appraisers, lawyers, insurance agents, tax officials, policy makers – professions that have been generally on the sidelines in energy efficiency – now are brought into the discussion, further accelerating the momentum in embedding energy performance into decision-making.

Challenges and Issues

Getting Past the Privacy Wall

For energy to play a meaningful role in building transactions, access to information about the building's energy performance is a prerequisite. Unfortunately, essential data – utility consumption data – is often considered confidential. If the building owner or property manager does not have direct responsibility for utility bills for all or a portion of the building (that is, if tenants are separately metered and pay their bills directly to the utility company), this impedes the opportunity to understand, disclose, communicate, and improve energy performance.

Embedding energy issues into the leasing process presents one opportunity to resolve this issue. Landlords can insert lease language giving them the right to access aggregate energy consumption data in support of an energy management initiative. Another opportunity is to coordinate with utilities, many of which have established procedures to provide landlords with aggregate energy consumption data without disclosing confidential information about individual tenants. For example, Chicago-based Commonwealth Edison (ComEd) allows commercial customers to retrieve aggregate energy usage data through an online tool. Some California utilities (including Pacific Gas & Electric, San Diego Gas & Electric, and Southern California Edison) will automatically upload energy data to the EPA's ENERGY STAR Portfolio Manager benchmarking tool, with appropriate permissions from utility account holders.

In California's case, utility action was catalyzed by government regulation – a bill requiring that utilities maintain customers' energy data in a format compatible with Portfolio Manager. In other jurisdictions as well – such as New York City – benchmarking legislation is in place or under development, forcing utilities to think about new ways of sharing information.

As mentioned earlier, several jurisdictions also now mandate disclosure of buildings' energy performance during certain transactions: Washington, D.C. and Seattle, among others. This demand for greater disclosure of energy performance is slowly breaking down the privacy barriers. However, privacy walls remain. Greater consistency across jurisdictions, utilities, and commercial real estate companies is needed before privacy issues can effectively be resolved.

Functional Silos

Real estate companies are often divided into different functional departments, for example with leasing and brokerage managed by a separate group than property management, or with development separate from operations; frequently these “functional silos” inhibit effective communication across an organization. Yet coordination among leasing, brokerage, property management, development, and other groups within a firm is vital to embed energy efficiency into real estate transactions at the organizational level. Program efforts may need to be directed at multiple constituencies within a single firm in order to diagnose and prevent these functional gaps that can impede a focused attention on energy efficiency.

Achieving Scale

Simply establishing a new policy or program is a significant undertaking for most organizations; scaling it up across a large organization – or the broader market – presents an entirely different set of challenges. Within an organization, it requires changing mindsets and altering established procedures, while dealing with employee turnover and facing varying

degrees of employee buy-in. Going a step further to scale these types of changes across an entire industry will require educating large numbers of professionals to adopt new tools, resources, and approaches. This may be spurred by government legislation requiring energy performance benchmarking, disclosure, and improvements. Additionally, efforts that enable large scale participation in utility incentive programs across multiple properties, aggregating purchasing power and streamlining administration and implementation, will also be needed to meet program and regional goals for energy savings.

Liability

Integrating energy into real estate transactions may expose organizations to new risks and liabilities. This can be expected whenever a new legal obligation is introduced into a transaction (such as adding energy performance requirements to leases, property management agreements, or tenant improvement contracts), or a financial decision is being made based upon certain criteria (such as with the due diligence and underwriting processes). What if an investment is made in a LEED certified building or a “green” tenant improvement, and the building does not perform as anticipated?

Further, making a public claim of a building’s energy performance level exposes the organization to potential criticism and analysis. It is important to have data to back up those claims in the form of quantifiable proof of energy performance. The same type of liability occurs when an organization makes public announcements regarding portfolio-wide energy performance goals, accomplishments, and future commitments. It paints a bull’s-eye on the company, drawing greater scrutiny as they regularly report on and track progress toward goals.

Tracking of Market Effects

Commercial real estate transactions are opaque by nature, with details and terms often only disclosed to the parties involved. In order to monitor and estimate the program’s effectiveness in shifting current practices, nuanced measurement criteria need to be developed. Market surveys of real estate professionals, specific definitions of legal terms inserted into agreements, baseline data about industry standard practices, and anecdotal evidence of change will all need to be tracked to measure the dispersion of these practices throughout the market.

Furthermore, linking the relationship between a specific transactional requirement and actual energy savings is difficult, if not impossible, to determine. What is a “green lease” worth in terms of energy savings? Can this be assessed with the level of confidence required by utilities and regulators? Indirect links, inferences, and associated indicators will need testing to adequately gauge the adoption of these practices in the marketplace and the relationship to energy savings.

To address this, the program and evaluation teams are currently finalizing a set of “stages” that denote each firm’s progress towards adoption of these practices. Four stages have been preliminarily defined: *engaged*, *practicing*, *advancing*, and *sustaining*, each with specific attributes that allow for an objective determination of each firm’s progress and status. Secondly, technical energy analyses are currently underway to quantify the savings associated with early pilot firm’s now emerging into the “sustaining” category. A more detailed estimate of program results is expected by the end of 2010.

Future Areas to Explore

The transactions, contracts, and business negotiations described above are but a small subset of the network of business dealings that govern a commercial building. As work continues, additional transactions are already emerging as future market transformation opportunities. These might include:

- Development agreements between developers and investors
- Service contracts guiding HVAC, engineering, and other contractors
- Broker representation agreements
- Asset management agreements
- Insurance policies
- Human resource job descriptions, hiring policies, and incentive plans

The market will not be fully transformed until all of these transactions at least recognize and address energy performance at some level. Thus, program work will continue to focus on identifying where these agreements occur, researching and developing best practices and procedures for the market to adopt, and building market fluency on the need to incorporate energy in their business dealings.

Conclusion and Implications for Program Managers

Given NEEA's market transformation mandate, and the complexities inherent to the commercial real estate sector, a focus on the role of energy efficiency in real estate transactions is merited and necessary. Moving any industry to modify its practices requires deep knowledge of how that sector operates, and where the market barriers and leverage points occur. Within the commercial real estate sector, many of these are found in the business negotiations that happen each day.

It is recognized that this approach may not be applicable in many commercial programs. Many utilities and program administrators do not have the scale, geography, or regulatory frameworks that allow this type of strategy for meeting energy efficiency goals. Yet, there are distinct lessons and principles that can be utilized by program staff in transforming the commercial real estate sector. Based on the work described above, the following program enhancements may lead to increased participation in commercial programs by the office market:

- Fund education and training: Market knowledge of the role energy efficiency plays in building marketability, operating income, and asset value is critical to increase activity.
- Make utility billing data readily available: Real estate transactions are based on performance indicators and data, and impediments to access utility billing data will continue to dampen the market's ability to assess and improve energy performance.
- Know the market players by first name: Establishing deep relationships with influential real estate professionals will more likely alert program staff to market changes, upcoming transactions, and previously missed opportunities.
- Foster program flexibility and responsiveness: For real estate professionals to pay sufficient attention to monetary incentives, the administration, verification, and accounting burden should be minimized.

NEEA's efforts in transforming the Northwest office market are systemic, requiring tactics directed at multiple disciplines and transactions that cover the life of a building. Many efficiency programs might be considered more of a linear effort, with monetary incentives as inputs, and more efficient technology installations as outputs. Both approaches are necessary to enact market-wide change, and a deeper understanding of the market mechanisms – such as the role of contracts and transactions in the daily life of a real estate professional – will improve program effectiveness.

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