



Existing Building Renewal: Deep Energy Renovation

Planning Workshop Summary
Report – September 2010

Forward **R. Peter Wilcox, NEEA Senior Manager, Commercial Sector**

Even without the recent plunge in new construction, we have reached the point where the region needs to renew its existing building stock. Doing so provides a significant opportunity for both improved bottom lines and asset values for commercial building owners, reduced costs for business tenants and potentially drives a sustained economic boom for Northwest communities.

Only about 1.5–3% of commercial space is replaced annually by new construction or major renovation, so it will take many decades to increase the performance of the region's stock unless something changes now!

Because commercial buildings consume enormous amounts of energy — 40% of all electricity loads — and efficiency is the easiest, fastest, and least expensive way to lower energy, it must play a central role in a regional energy strategy along with renewables.

Efficiency, abetted by a mix of renewables over time, is the cornerstone of avoiding the risks, costs and carbon of new power plants.

To that end, the Northwest Energy Efficiency Alliance (NEEA) is launching a regional Existing Building Renewal initiative to accelerate the market's adoption of deep, integrated energy renovations. We will initially start in office buildings but later other market sectors with the largest potential energy savings — box retail, multifamily housing and lodging. This is the only way the region can rapidly revamp existing stock to achieve 40–60% energy savings — on the way to net zero energy use by commercial buildings.

Executive Summary

In late September 2010, NEEA convened regional and national real estate portfolio owners with strategists in development, design, engineering, finance, property management, utility planning, and energy R&D to identify deep energy renovation market barriers and the most effective strategies to overcome them.

Together, this group will help prepare to upgrade the region's existing commercial building stock to meet the needs of a greener and more efficient 21st century.

This report is a synthesis of present reality and future potential for deep energy renovations, as experienced by these working professionals. Collective insights will help guide NEEA in development of next-stage strategies for the commercial initiative. More will follow as the NEEA Commercial sector develops tools, roadmaps, pilots and other components of its strategy in concert with its stakeholders and partners.

For NEEA, the question is not whether the commercial building renovation market potential exists but how they can work throughout the region to:

»» Leverage and Aggregate

NEEA can cultivate and transfer Northwest regional best practices to transition existing building portfolios into 'deep energy renovation' models of performance, profitability and energy savings.

»» Focus Roles and Resources

The greatest opportunity to deliver aggressive energy savings (40–60%) from real estate portfolios depends on NEEA's ability to focus on solutions delivering a cascading effect — particularly in the areas of finance, technical solutions, utility program coordination and education.

Existing Building Renewal is the centerpiece of a major redesign of NEEA's commercial sector initiatives to transform the market and achieve aggressive energy savings. Six key assumptions drive NEEA's exploration of the best market interventions:

- Energy efficiency is the first and least cost resource balancing bottom line benefits with corporate sustainability goals.
- Demographic shifts are creating opportunities to transform underperforming real estate portfolios into innovative, sustainable space.
- Building renovation creates opportunities for new and improved jobs, investment and technology upgrades.



- A regionally coordinated program for deep energy renovations is a necessary approach to sustained economic and environmental health.
- Stronger local/regional/national policy leadership is necessary to capture the full potential of energy efficiency (re)investment.
- Northwest utilities will play a collaborative role in providing streamlined, market-appropriate incentives to realize deep energy renovations, and the resulting energy savings.
- Near-term energy savings potential from existing buildings will be delivered primarily through office buildings (20K–1M SF).

Top 5 Barriers to ‘Deep Energy Renovation’

As viewed by Northwest building and energy experts

1. A lack of localized, relevant financial best practices and tools, coupled with traditional lease structures that fail to monetize energy efficiency.
2. A scarcity of shared knowledge, common vocabulary, clear communication and collaboration to connect deep energy renovation benefits to values that matter to key stakeholders, e.g. sustainability, profitability, comfort, competitive advantage.
3. Complicated, non-standardized measurement and verification (M&V) of energy savings doesn’t translate to key decision makers, such as lenders, owners and tenants.
4. Building owners lack motivation to connect building performance to a clear business case for energy efficiency.
5. The region lacks a predictable roadmap for opportunistic, whole-system efficiency measure integration that bundles investment strategies and building types with strategic energy management principles and practices.

The list of market barriers to the deep energy renovation market is daunting, not the least of which includes historically ‘cheap energy’ in the Northwest that de-emphasizes the importance and potential business case around efficiency. Coupled with a climate of regulatory uncertainty, stakeholders avoid risk or defer energy renovation capital improvements — even if ROI and payback pencil out.

A discussion of potential regional strategies to overcome barriers begins by identifying NEEA’s targeted real estate portfolios, and determining what level of intervention is appropriate. While schools and other institutional ownership may have the greatest square footage appeal, NEEA learned from experience that the timing in those markets is cumbersome to capture potential savings. Box retail and multi-family/lodging segments also present opportunity, but where is NEEA going to aggregate the greatest return on energy savings and market transformation?

At this time, NEEA is focusing specifically on commercial office real estate portfolios, recognizing that NEEA's success in overcoming some of the stated barriers in this market can ultimately be applied to other markets.

September workshop participants generally coalesced around seven main solution areas warranting further research and action:

Collaboration and Partnerships Redefine how, when and who is participating on key investment and energy efficiency strategies to achieve aggressive energy savings. Encourage cross-disciplinary approaches (e.g. engineering teams work directly with finance) and collaborative business planning (e.g. utilities and property managers) to not only share best practices, but uncover new, long-term strategies meeting mutually beneficial business objectives.

Communication and Education A critical component that needs to be incorporated into each phase of NEEA's initiative development and delivery. Create readily-available, open-source, visualized data on building performance; provide advanced technical tools & training to integrated teams; templates where financial underwriting components incorporate energy efficiency strategies; develop a regional awareness campaign for tenants to recognize immediate benefits and value energy efficiency.

Financial Mechanisms Examine the entire financial process from lending to lease structures to valuation of a building's energy performance.

Innovation Apply collaborative lessons learned to uncovering next-generation practices, persistent savings and district-level approaches to energy renovation.

Legislation, Codes and Standards Promote outcomes-based energy codes.

Technical Solutions Re-package available solutions and accelerate level of education and training to integrated building teams.

Whole-System Roadmaps Create a framework for applied strategic energy management principles and practices applied to portfolios of buildings.

Deep Energy Renovation — a long-term, systematic approach to achieve aggressive (40–60%) energy savings in existing building stock — is more than replacing individual lighting or chiller systems. It requires comprehensive, inclusive and collaborative re-education and market behavior change — from finance to utility to owner to tenant — so that energy efficiency presents clear, tangible value.

“What we’re seeing now is a philosophical shift toward long term (building) ownership. As you begin to commit resources to energy efficiency, it will become important to real estate value because retrofits will matter.”

Scott Wisdom
US Bank-Boston

“Renewal means more than retrofitting, it is really giving an existing building a new life.”

R. Peter Wilcox, NEEA

Exploring Barriers to Deep Energy Renovation

Cost-effective efficiency improvements in the commercial building sector could save \$33.3 billion per year by 2030.¹

» Lack of Financial Best Practices and Tools

Deep energy renovation appears risky because financing structures may not recognize true energy efficiency value, and design teams utilize first cost and simple payback more than life cycle cost analysis. There is no uniform solution or convergence on lease structure and measurement & verification (M&V). Without the equivalent of a ‘meter’ for energy efficiency (as there is for renewables) the utility can’t underwrite the risk, and the owner of the energy renovation is flying blind.

If an owner can underwrite the renovation expense recovery, he/she can show the value in the sale — and translate that value across multiple stakeholder interests — from utility to lender to tenant.

“How you recover expenses has a huge bearing on investing. We have a wide variety of expense sharing with tenants, and once you start overlaying complex modeling, it doesn’t pencil out so much.”

– Pat Callahan, Urban Renaissance Group

“We still come at [capital constraints] from the perspective that it’s the owner’s problem. Developers use other people’s money to make money... \$700 billion dollars worth of energy savings in the country is not going on anyone’s balance sheet. We need an off-balance sheet solution... [create] a PPA [purchase power agreement] on these projects, then I can get these financed. Until you effectively engage the utility, the energy efficiency retrofit industry doesn’t scale.”

– Kipp Baratoff, Gerding Edlen Development

» Scarcity of Shared Knowledge and Common Vocabulary

A general gap in best-practice transfer and knowledge sharing isolates stakeholders with no means of contributing ideas or translating information across industries and disciplines. This results in either abundant mis-information or no information at all on current tools, technologies and finance options.

- Tenants may not know to ask for energy upgrades as part of lease negotiations.
- Brokers (tenant representatives) are not familiar with local energy incentives and may only report to the CEO on net bottom line savings.

1 McKinsey and Company (2007). Reducing U.S. Greenhouse Gas Emissions: How Much at What Cost? Sponsored by DTE Energy, Environmental Defense, Honeywell, National Grid, NRDC, PG&E, and Shell and available for download at www.mckinsey.com/client-service/

A Lesson on Language ‘Existing Building Renewal,’ ‘Deep Energy Renovation,’ ‘Whole Building Retrofit.’ These are a small sampling of terms used to discuss the same general idea for capturing aggressive energy savings and unlocking full energy efficiency potential in commercial building stock. The potential for confusion is so real, that the topic appears in a recent study of home energy improvement motivational techniques, referenced in an October New York Times Article, “...researchers at the Lawrence Berkeley National Laboratory said, don’t offer ‘audits’ or ‘retrofits’ — customers shy away from the negative connotations. Instead try offering “energy assessments’ and ‘upgrades,’ but focus messaging on health benefits, improved comfort, community pride or other benefits that consumers tend to care more about.”²

- Building owners see all the energy savings flowing to the tenant, not the owner (if they see them at all), so there is a disconnect between lease structures and owner investment in renovation and financial commitments.
- Appraisers do not, or can not, factor in externalities — only net present value of the building.
- Owners view utilities as ‘service providers,’ not partners in coordinating capital improvement investment cycles. Additionally, utilities are not always forthcoming with either owners or tenants about energy usage numbers in a meaningful way (to reinforce energy efficiency value).

“We’re looking for a good long term planning mechanism that incorporates equipment and financing that an owner uses to make annual budget decisions.”

– Jill Steiner, Snohomish Public Utilities

» Complicated, Non-Standardized Measurement and Verification (M&V) Lacks Tangible Value

Building experts note “Building controls are the Neanderthal of the industry.” Without broad based, open source control, standardized and simplified M&V cannot happen. They emphasize that building operations should educate tenants, not mystify them about the building (or individual office space) performance.

“We can incorporate the cash flow [efficiency] savings but we’re struggling with who is telling us the M&V [of energy savings] is right...who is monitoring and giving us the real data? We need to see some examples of what works, then convince our chief lending officer.”

– Brian Pearce, Unico Properties, LLC



² ‘When Selling Energy Efficiency, Don’t Say ‘Retrofit,’ Say ‘Upgrade,’ New York Times, October 5, 2010. Driving Demand for Home Energy Improvements, Lawrence Berkeley Labs, <http://eetd.lbl.gov/EAP/EMP/reports/lbnl-3960e-web.pdf>

“One of the barriers is the tendency to focus solely on payback. We should be thinking more about the value of the building. How do we get the market to treat energy like it would a lobby or roof? Energy efficiency is a building asset.”

Jack Davis, NEEA

» Building Owners and Business Case

Owners believe that investment in anything beyond absolute necessity puts them out of the market — and a ten-year payback on energy efficiency creates a perceived competitive disadvantage. Deep energy renovation requires clearly articulated and accurate performance modeling that delivers confidence, cost recovery and proof of impact on the bottom line. Without a proven business case for higher occupancy, rents and lower operational costs, owner motivation will be anemic at best.

“The business case was made clear when we benchmarked all of our buildings. We didn’t know how they performed against each other. We’re seeing 30% savings on retrofits now. Investments analysis is sent up the chain of command, however there is a lack of understanding on how to finance it and achieve that level of savings. You need a person dedicated to just focusing on the business case and connecting to incentives.”

– Jason Twill, Vulcan Properties

» No Roadmap for Whole-System Integration

Underutilized integrated design is a barrier that exists due to, among other things, little verified, localized data on pre and post retrofit energy performance and payback. As noted by Victor Olgyay, AIA, Rocky Mountain Institute,³ multiple factors influence this disconnect and create a multiplier effect on diminishing returns to EE ROI:

- The various systems (electrical, architectural, mechanical) in buildings are fragmented and often considered as individual systems. Typical retrofits do not account for the interactions between systems.
- Design teams utilize first cost and simple payback more than Life Cycle Cost Analysis. This often influences investment decisions, as cost analysis is not coordinated with energy analysis.
- Financing is not always available for comprehensive retrofits, and energy retrofits are not coordinated with other building system renovation.
- There is a dearth of knowledge in the industry regarding the processes and knowledge required to perform deep retrofits.
- The landlord/tenant situation can create split incentives that must be addressed to both realize cost savings as well as to achieve the deepest energy savings.

Adding a layer of complexity to these issues is the inability for utilities to predict timing of the improvement cycles to understand how and where to intersect and bring available resources.

“We lack strong and deep integrative design models. Capital assets are not seen as an opportunity, but a ‘money pit’ to parse out to the highest ROI. So, when it comes to [Measurement & Verification], there is no return. We need demonstrated models for holistic approaches.”

– Dennis Wilde, Gerding Edlen Development

³ Using Systems Thinking to Unlock the Potential of Existing Buildings, Victor Olgyay, Rocky Mountain Institute

Regional Strategies

The following focus areas bundle ideas presented by building, energy, finance and other strategists as key levers for overcoming significant barriers to accelerate deep energy renovation. These recommendations merit further discovery by NEEA.

» Collaboration and Partnerships

1. Incent new collaborative models where clusters of disciplines, practices, industries and cities are merged, applied and scaled to building portfolio renovations. For example, cross-disciplinary teams from finance to engineering to building design & development work together on NEEA-supported regional demonstration projects to test and prove deep energy renovation approaches. City-to-city and peer-to-peer dialogue and project implementation moves theory into practice (related to everything from integrated system design to new energy efficiency valuation and underwriting).
2. Support the resulting new infrastructure where groups of building partnerships participate in ‘energy districts.’
 - Utilities and developers work together to build smart grids.
 - Utilities and property managers work together on long-term business planning: timing capital improvements, investment strategies and incentives for mutually beneficial business and energy acquisition needs.
 - Lenders and developers work in sync on financing terms coupling investment strategy with energy strategy.
 - Public and private interests work together on tax and zoning ordinances.
 - Groups of tenant advocates pool resources into a new ‘green tenant association’ to demand greater energy efficiency.

» Legislation – Codes – Standards

1. Explore delivery of regional outcome-based energy codes with requirements to post occupancy-building performance.
2. Leverage and steer codes and ASHRAE standards as mechanism for inspiration, leadership and ‘future proofing.’

“The idea of future-proofing facilities so that they are operating at a high level of efficiency is a big deal for regional thought leaders. There are challenges to modeling technology, as it’s set up for new construction. It’s hard to create an accurate modeling for existing buildings. Trying to deliver high-level calibrated modeling is a cost barrier. If there were a way to enhance and streamline the technology, this would enhance the deep [renovation] discussion.”

– Jay Coalson, Green Building Services



“I’m seeing more requests for full service leases. The evolution to full service from triple net leases occurred with increases in utility rates.”

Art De Muro,
Venerable Properties

» Financial Mechanisms

1. Develop a two-pronged approach that simultaneously addresses new finance mechanism delivery AND leverage. For example, a new recognition of energy efficiency value would help lenders drive deep energy renovations due to their fluency with Loan To Value (LTV) and client portfolios.
2. Work with a banking institution partner to create, pilot and promote new financial infrastructure templates that consider:
 - Energy efficiency standards in appraised value
 - Assessed true value of externalities (all natural resource consumption)
 - Balancing energy renovation investment and savings among design & construction teams, owner and tenant
 - Requirement of quarterly data on building performance
 - Broker commissions tied to energy performance
 - Energy scoring data at time of sale like Building Integrated Performance Assessment (BIPA)
 - Tiered utility incentive programs considered in loan processing
3. Encourage transition to ‘green’ lease structures — incorporating occupant involvement in decisions about core/shell, plug loads and equipment.
4. Leverage NEEA’s core competency as an aggregator to attract resources and explore the creation of a Northwest region green REIT (Real Estate Investment Trust) or GIF (Green Investment Fund).

“We have a pull and tug problem, and it comes down to underwriting. Renewables work because of PPAs [Purchase Power Agreements]. With Energy Efficiency, we believe we can make these improvements and create these savings, but bankers can’t loan on assumption. We need M&V on assumptions as they can be translated into property appraisal. If you can get to that point where all this is rolled to a ‘As Improved’ Value, then you can unlock bank finance.”

– Scott Wisdom, US Bank-Boston

» Innovation – Monetize the Negawatt

“[A negawatt market makes] saved electricity behave like a commodity — like oil, and copper, and wheat, and sowbellies — so that everybody can play...why offer somebody a rebate of \$300 to save a kilowatt when you can save the same kilowatt by planting trees to cool off the city for \$10?”⁴

1. Work with real estate leaders to create a deep energy renovation index or building label, where energy efficiency drives occupancy, as a result of increased tenant awareness of, and demand for, the highest-efficiency spaces.
2. Implement district energy strategies, modeled after City of Portland’s ‘Clean Energy Works Oregon’, or Seattle’s ‘Weatherize Every Building (WEB) Initiative to Power Change.

⁴ The Negawatt Revolution, Solving the CO2 Problem, Keynote Address by Amory Lovins at the Green Energy Conference, Montreal 1989. Institute

» Financial Structures – Three Big Ideas⁵

1. Target owners at loan maturities and sales. The owner needs to request additional underwriting components so they tie various investment strategies directly to energy efficiency strategies.
2. Empower tenants – change is driven by collective tenant demand.
3. Push the envelope with appraisers and look for ‘Big Game Changers.’

The Big Game Changers:

Variable	Variable Impacts	Value Impact	Explanation
Tenant Retention	Vacancy	+	Tenant retention rates may be higher in green buildings.
Lag Vacancy	Vacancy	+	Lag vacancy may be lower in green buildings.
Tenant Improvements	Vacancy	+/-	Tenant improvements may be either higher or lower, depending on the building.
Maintenance	Expenses	+/-	Maintenance may be either higher or lower, depending on the project.
Management	Expenses	+/-	Management may be either higher or lower, depending on the project.
Market Rent	Income	+	An increase in rents may be appraised with sufficient information.
Absorption	Vacancy	+	An increase in the rate of absorption may be called for.
Stabilized Vacancy	Vacancy	+	Stabilized vacancy may be higher than is typically market.
Property Taxes	Expenses	+ or None	Green buildings may be eligible for property tax breaks.
Discount Rate	Risk	+	Institutional investors demand green buildings increasing competition for investment sales.
Terminal Cap Rate	Risk	—	Institutional investors demand green buildings, increasing competition for investment sales.
Marketing	Expenses	+/-	Owner may opt to market the building more aggressively to attract target tenants, although increases in retention may reduce need for future marketing.
Insurance	Expenses	+	New green building insurance products focus on reduced risks with green buildings.

⁵ Scott Wisdom, LEED AP, MBA, Financing Commercial Real Estate Retrofits (Myths, ‘Truthiness’ and Ideas), September 29, 2010

» Communication and Education

1. Bridge the knowledge gap between the 'technical' side of the industry and the 'finance' side — a coordinated educational program for lenders, utilities, brokers, appraisers and tenants that quantifies potential savings with language that speaks to each stakeholder value set.
2. Build case studies and models that translate benefits of deep energy renovation into tangible assets: 'higher rents,' 'productivity,' 'competitive advantage,' 'occupancy,' 'long-term value.'
3. Embark on a regional awareness campaign to rally tenant leaders to influence shift in attitude, behavior and outcomes relevant to deep energy renovation. Appeal to tenant authority to demand efficiency improvements that ultimately translate to competitive advantage for both owner and tenant (vis-à-vis 'green innovators' and corporate responsibility/sustainability thought leaders).

» Technical Solutions

Participants noted that available technology was not a barrier, rather that appropriate packaging and education on availability could drive increased value proposition for deep energy renovation.

1. Create, promote and train regional building professionals on integrated technical packages — templates that can be piloted, enhanced and transferred to projects throughout the region. Packages might include load reduction and HVAC/lighting system optimization measures, tailored to typical office type, size and location.
2. Examine creation of additional tool set delivery to increase shared knowledge and value of energy efficiency:
 - Education of how buildings use energy
 - Advanced metering capabilities
 - Diagnostic/modeling/intelligence tools that incorporate available utility data
 - Building performance dashboards
 - Open-source, connected systems to building performance data
3. Introduce advanced training and certification for mechanical engineers to learn best practices of integrated deep energy renovations.

» Whole-System Roadmap

1. Design whole-systems roadmap that delivers a framework of strategic energy management principles as applied to building lifecycle, timing and building types:

- Coordinate whole systems retrofits with equipment replacement cycles
- Design for avoided capital costs, from goals to solutions
- Coordinate interactions between building systems
- Take an interdisciplinary approach (e.g. economics and engineering discussing together)
- Integrate energy efficiency into overall project of renovation
- Layering levels of efficiency allows for the avoidance of other costs over time
- Consider opportunities to scale or amplify singular project strategies

2. Cultivate a network of engineering companies that can provide a standardized template trusted by financial stakeholders.

“There’s a natural physical life cycle of the building that gives you target years where the retrofit makes the most sense. Within 20 years, there may be changes in ownership, equipment changes, or all the systems are about to fail. A more common scenario is a chiller needs to be replaced in 3 years, [so you] do the lighting first as that will make a difference on the chiller replacement.”

– Pat Callahan, Urban Renaissance Group



Portfolio 2020

Group Exercise: When the region successfully accelerates deep energy renovations, what is possible? Regional experts respond with a vision of a sustainable future:

» The Market in 2020

A new ecosystem service marketplace monetizes and commoditizes energy efficiency. Building space is fully integrated to account for live/work/play behavior, resulting in mixed-use, adaptive 'hoteling' of tenant needs. The market recognizes building renewal as a process, not just a point in time and standard energy savings targets of 50% (or greater) than code are standard practice.

In 2020, 'Class A is Green,' and LEED EB looks old. Market certification goes beyond the plaque on the wall, reflecting a 'smart' building of joint tenant/landlord ownership DEMANDING ever greater energy efficiency as part of doing business. Standard installation of smart building controls provides real-time, meaningful data from building-level to employee energy footprints.

» The Business in 2020

Cross-disciplinary teams of professionals were asked to imagine future companies. The result? Five forward-thinking business infrastructures demonstrate market transformation.

» Near Future, LLC

Goals:

Achieve Net Zero energy and water consumption
Convert to DC/Low Voltage power over time

Cost:

Ammenity value exceeds cost

Performance:

Optimal interior environment and comfort
Daylighting and natural ventilation improve occupancy health

Jobs:

Swap current fossil fuel cost savings for operations labor
Improved local employment — you can't out-source building renovation
Happy, healthy, productive employees

Market Position:

A leader in doing basic things very well
Strategic Energy Management (SEM) is a profit center for us

Sustainability:

We mastered energy management and broad base Ecosystems Services is profit center.

Achievements:

Above average occupancy, retention, rents and asset value

Our Needs:

100% employee tenant & contractor education and buy-in on deep energy renovation benefits
Highly capable building management with excellent M&V on all properties

Market Needs:

Appraisals that reflect building performance
Tenant demand for high performance building

» Harvesters

Specialize in 'Sense of Place'

Goals:

Office Energy Star Score = 95
EUI = 25
Remain cost competitive (<10% premium)
LEED Platinum

Performance:

Designed for high performance, adaptation
Smart building with flexible spaces
Optimum Indoor Air Quality (IAQ)
A hub for, and enhancement to, community
High occupancy and high quality tenants

Our Needs:

Clarity around energy prices for good investment decisions
Simplified performance guarantee
More open, transparent controls
Financing partners with simple terms and partners that understand energy efficiency as an asset

Market Needs:

Education on the value of green and energy efficiency (including Brokers)
Disclosure ordinance that provides performance data and distinguishes between performance and performance with occupancy
Building operations staff that can maintain energy efficiency standards

» AEEN

A Mirror Reflection of NEEA in Seattle

Goals:

50% energy reduction + EUI of 25 kBTU with maximum of 35 kBTU

80–90% occupancy

Pioneering tenant space density (supporting more people in smaller space through monitoring health of building and occupants)

A suburban building ‘green’ magnet providing a multitude of services

Maintain historical integrity

Identify our ‘worst [energy] offenders,’ and use these to inform next generation buildings

Performance/Strategies:

Integrated team with pilot projects with technical representation from finance

Focus on most promising energy efficiency measures — reducing HVAC load through envelope measures

Holistic lighting solutions — design system to meet needs of occupants

An M&V plan aligns with finance and performance

Open financial partners — early innovators

Build local skilled service providers

Host green tenant association with co-ownership opportunities

Index building performance

Monetize environmental benefits: financial planners recognize the value of assets — energy efficiency, tenants

» DeEnergizer Bunny REIT

A Green REIT

Business Model:

Value Add Strategy: Buy — renew — sell at profit

Integrated team

Subsidiary management company

Goal:

50% savings across portfolio (Earnings per share; EUI floor)

Strategies:

Benchmark current performance

Identify financial windows and map out across 20-year plan

Map other properties in that area

Perform financial stress test

Integrated performance model/analysis package

Sell building profitably

Sell highest performing building to fund other building retrofits

Tight service contracts with vendors

Aggressive leasing

» Wisdom Development

Goal:

Investor returns
Grow value of portfolio through 50% reduction in energy use
Constant growth

Strategies:

Short term energy changes by capturing 'low hanging fruit' to improve values
Comprehensive property assessment
Jettison properties with lowest potential
Create focused resources in sustainability and strategic energy management
Establish and track key metrics
Create energy transparency — with market and tenants
Optimize operations practices with world-class staff, special talents fuel new work force

Our Needs:

Cash

Market Needs:

Sustainability Capabilities
Operational Competencies
Debt

Roles & Responsibilities

In the year 2020...

Appraisers

Tap into readily available energy performance data, provided by owners/utilities

Brokers

Guide tenants to most energy efficient properties – commission tied to energy performance

Integrated Design Teams

Engineers and Architects receive advanced training and certification for integrated deep energy renovations

Lenders

Issue standard report card/credit rating based on overall building health and performance

Owners

Clearly communicate benefits of renovation modeling analysis

Property Managers

Recognize and reward energy innovator staff

Tenants

Energy efficiency is basic lease requirement – they ask for third-party qualified building performance; employees responsible for their own plug loads.

Utilities

A kWh persistently saved has the same value as a kWh sold.

Aggressive conservation goals provide an acceptable trade-off between efficiency and renewables.

Local utilities are strategic partners with building owners and financial institutions with measurable ROI on deep energy renovation investment.

Feed in tariffs fund deep energy renovations

NEEA

Regional developer and aggregator of education, best practices, roadmaps, and technical packages for Existing Building Renewal

NEEA Workshop Participants

Market Voices

Brian Alfano, Umpqua Bank
Michael Ballantyne, TOK – Boise
Kipp Baratoff, Gerding Edlen
Pat Callahan, Urban Renaissance Group
Jay Coalson, Green Building Services
Art De Muro, Venerable Properties
Christian Gunter, Kennedy Associates
Joe Hagerman, US Department of Energy
Suzie Hall, Cornerstone Design
Josh Keene, Washington Real Estate Holdings
Wade Lange, Ashforth Pacific
Jeremy Malone, Oppenheimer
Brian Pearce, Unico
Brett Phillips, Unico
Curtis Robinhold, EnergyRM
Jason Twill, Vulcan Properties
Dennis Wilde, Gerding Edlen

Outside the Region

Victor Olgyay, Rocky Mountain Institute
Scott Wisdom, US Bank Boston

Regional Tech Experts

Suresh Baskaran, Pacific Northwest National Labs
Charlie Grist, Northwest Power and Conservation Council
Mike Hatten, Solarc Architecture and Engineering
Dennis Stiles, Pacific Northwest National Labs

Utility Strategists

Fred Gordon, Energy Trust of Oregon
Ray Hartwell, Bonneville Power Administration
Jon Powell, AVISTA Utilities
Jill Steiner, Snohomish Public Utilities

NEEA

R. Peter Wilcox, Senior Manager, Commercial Sector

John Jennings, EBR Market Manager

Jack Davis, CRE Market Manager

Kim Hughes, Education and Training Manager

Elaine Miller, Commercial Marketing Manager

Janice Peterson, Commercial Operations Manager

Scot Davidson, Director of Market Operations

Jeff Harris, Director of Emerging Technologies

Facilitators

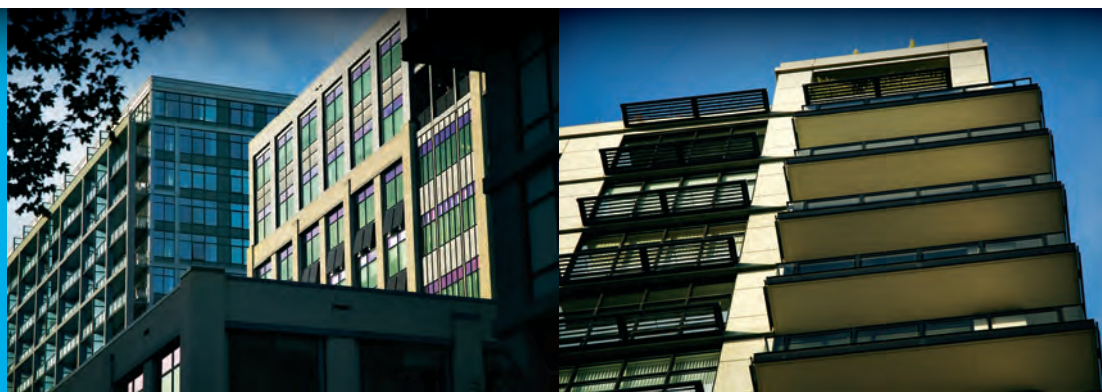
MarketShift Strategies

About NEEA

The Northwest Energy Efficiency Alliance is a non-profit organization working to maximize energy efficiency to meet our future energy needs. NEEA is supported by and works in collaboration with Bonneville Power Administration, Energy Trust of Oregon and more than 100 Northwest utilities on behalf of more than 12 million energy consumers. NEEA uses the market power of the region to accelerate the innovation and adoption of energy-efficient products, services and practices. Since its inception in 1997, NEEA initiatives have saved enough energy to power more than 450,000 homes each year. Energy efficiency can satisfy more than half of our new demand for energy, saving us money, and keeping the Northwest a healthy and vibrant place to live. For more information, visit neea.org.

MarketShift Strategies is a business strategy group that aligns opportunity with market transformation. Based in Portland, Oregon, MarketShift Strategies serves a range of corporate and nonprofit clients in leading sectors of energy efficiency and renewable energy technologies, climate change and green building.

neea.org



Northwest Energy Efficiency Alliance
421 SW Sixth Avenue, Suite 600, Portland, Oregon 97204
503.688.5400 | fax 503.688.5447 | neea.org