

HIGH-PERFORMANCE TENANT BUILD-OUT: A PRIMER FOR TENANTS

INTRODUCTION:

When it is time to select and build out your new offices, it is essential to ask how the energy systems and indoor environmental quality in your space will contribute to business outcomes.

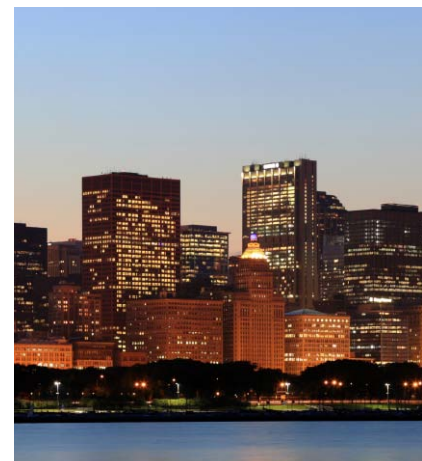
- Are you getting top value?
- Will the space help you meet your corporate sustainability goals?

A build-out that includes investments on higher energy efficiency – often called a high-performance build out – can significantly lower costs relative to a traditional Class A office space. In addition, energy efficiency is at the heart of efforts to go green and sustainable. A sustainable space also has other benefits that include:

- Improved indoor air quality
- Increased worker satisfaction and productivity
- Enhanced brand or public image
- Customer attraction and retention

When you move into a new space or renew your existing lease, there is an opportunity to improve energy performance significantly. You can cost-effectively couple energy improvements with the renovations and structural changes that go with a tenant build-out. And the new lease can be written so that the party who pays for the energy efficiency improvements is repaid from the energy cost savings.

Energy investments in rented space depend on a win-win arrangement between the owner and tenant. Here is a basic look at the rationales for investing in energy efficiency and the ways to make efficiency improvements from which both parties can benefit.



How you and the building owner can benefit from investment in energy efficiency improvements in leased office space

WHY GO GREEN?

Commercial tenants are looking for energy efficient and green space because customers and employees increasingly expect a company to follow sustainable practices. More and more companies have corporate sustainability policies that include carbon footprint reduction goals, and improving energy efficiency in buildings is a top strategy for reaching those goals. In today's competitive market, energy efficient office space creates an advantage because of the positive brand image that goes with sustainability. Additionally, a green office space can qualify for certification under the widely recognized LEED Commercial Interiors green benchmarking system. With several major U.S. cities requiring building labeling and public disclosure of energy use, efficiency investments are now viewed as a way to avoid obsolescence.

Also, initial studies show a positive correlation between worker productivity and better lighting, temperature control, acoustic control and indoor air quality, all of which can accompany energy efficiency improvements. Since salaries are the largest expense for most office environments, worker productivity gains can significantly increase profitability.

YOUR SPACE, YOUR UTILITY BILL, YOUR OPPORTUNITY TO SAVE

If you pay the utility bills under a triple-net-lease,¹ you can save significant money on energy over the lease term by investing in energy efficiency and indoor environmental quality improvements when you move in. If you pay for your own energy efficiency improvements in a building where your energy is sub-metered, you will automatically see the savings from any energy efficiency improvements you make. Lower utility bills also provide security in the face of rising energy prices.

¹ http://en.wikipedia.org/wiki/Net_lease#Triple_net_lease

PAYING FOR HIGH-PERFORMANCE BUILD-OUTS











Cost is a top consideration when choosing energy conservation measures for your space. Your financial plan should consider the energy savings and determine when you will break even on the investment. Any tenant will need to work with the building owner to structure a lease that leaves utility savings in the pocket of whoever pays for the energy conservation measures. Government and utility incentives, rebates and tax breaks are often available for efficiency improvements and should be included in cost evaluations.

WORKING WITH THE BUILDING OWNER TO INVEST IN ENERGY EFFICIENCY

Energy efficiency investments paid for by the building owner often run into the split-incentive problem: The owner pays the capital expenses, but the tenants get the benefits through lower energy bills. This leaves the owner with little incentive to undertake energy retrofits. An energy-aligned lease can help solve this problem by allowing the owner to recover energy savings.

There are various ways to align the investment and benefits of efficiency improvements between landlord and tenant (see Figure 1). For example, if the owner pays for some or all energy efficiency improvements as part of the tenant improvement allowance, or upgrades the energy systems in the whole building, then increased rent may be appropriate compensation. On the other hand, if a tenant pays for improvements in a building with a gross lease where the owner pays the energy bills, a rent reduction may enable sharing of the energy savings with the tenant.

Figure 1. Contractual changes needed to align building efficiency investment with the return.

	Triple Net Lease (tenant pays utility bills)		Gross Lease (owner pays utility bills)
	Energy is sub-metered in each tenant space	Energy bill is allocated among tenants by amount of occupied space	
Tenant pays for efficiency improvement to tenant space			
Owner pays for efficiency improvement to single tenant space		 	
Owner pays for efficiency improvement to whole building			

 No contractual change
  Decrease tenant's rent
  Decrease tenant's utility allocation
  Increase tenant's rent – repay owner's investment

TENANT SPACE VS. WHOLE BUILDING ENERGY CONSERVATION MEASURES

In a multi-tenant office building, you can undertake certain energy conservation measures in your own space. For example, you may be able to achieve 10 to 30 percent savings through measures like lighting upgrades, temperature management, and efficient equipment and appliances.² Measures that involve building-wide systems, like heating, ventilation and air conditioning (HVAC) upgrades, require the owner's participation. Figure 2 illustrates the types of energy conservation measures that tenants or owners can pursue.

² http://www.energystar.gov/index.cfm?c=tenants_guidebook.tenants_guidebook-why_focus_on_energy

Figure 2. Types of energy conservation measures.

Tenant Space Energy Conservation Measures	Whole Building Energy Conservation Measures
LIGHTING	HVAC - HEATING, VENTILATION, AIR CONDITIONING
Efficient space planning and layout to allow the use of daylight	Operate and maintain HVAC system for efficiency
Efficient lighting - LEDs, CFLs, T5s and T8s, reduce lamp wattage	Retrocommission HVAC system
Lighting controls and timers with occupancy sensors	Upgrade HVAC system: replace heating and cooling equipment with more efficient equipment, raised floor with under-floor air distribution
HVAC OPERATION AND CONTROLS	BUILDING INFRASTRUCTURE
Occupancy controlled HVAC. Add better zone controls.	Digital controls infrastructure
PLUG LOADS	Sub-meter electrical usage, allocate central heating and cooling
Power management system implemented for servers, PCs and displays. Smart power strips.	ENERGY MANAGEMENT TECHNOLOGY
High-efficiency equipment and appliances	Energy analytics
ENERGY MANAGEMENT TECHNOLOGY	Grid communication and automation for demand response
Sub-meter energy use (including separate metering for lighting, plug load and HVAC) and utilize a dashboard that suggests improvements.	BUILDING ENVELOPE
Energy analytics	Repair defective insulation. Insulate pipes and ducts.
Install placards, kiosks and portals to educate users to encourage efficient use	Roof: green roof, reflective roof, insulation on underside of roof
BUILDING ENVELOPE	Install high-efficiency windows
Radiant barrier in perimeter walls	Have operable windows
High-efficiency window treatments	LIGHTING
	Efficient lighting in common spaces
	ON-SITE GENERATION
	Solar photovoltaics and water heating
	Cogeneration
	On-site geothermal or wind

SELECTING A GREEN BUILDING

If you have sustainability goals, you can benefit greatly from moving into a certified energy efficient or green building. Owners benefit from certification, too, because such buildings have been shown to have higher occupancy rates, higher rent, greater resale value, and lower capitalization rates. For example:

- In the U.S., occupancy rates are 3 percent higher for ENERGY STAR certified office buildings and 8 percent higher for LEED-certified offices,³ because tenants increasingly view green as an essential feature of their office space.
- Rent premiums for ENERGY STAR certified office buildings can range from 5 to 8.5 percent.^{4,5} One study found rent premiums as high as 9 percent for ENERGY STAR buildings and 17 percent for LEED buildings.⁶
- Resale premiums for ENERGY STAR certified office buildings can range from 13 to 26 percent.^{7,8} One study showed that owners expect a 6.8 percent increase in the value of their green-retrofitted buildings over the next three years.⁹
- Investors have proven willing to purchase ENERGY STAR properties at lower capitalization rates, producing a premium in value over non-certified properties.¹⁰

SAVINGS AND THE SIZE OF THE TENANT BUILD-OUT

Generally, spaces 100,000 square feet or larger have numerous potential energy conservation measures that are both cost-effective and feasible. Large buildings are also more likely to be sub-metered, making repayment of tenant investments easier. Smaller spaces have fewer but still often significant options – such as lighting upgrades – for cost-effective improvements.

Figure 3 outlines the basic steps toward completing a high-performance build out of leased office space.

³ Fuerst, F., and McAllister, P. "An Investigation of the Effect of Eco-labeling on Office Occupancy Rates." CoStar Group, 2009. <http://www.costar.com/josre/JournalPdfs/03-Effect-of-Eco-Labeling.pdf>

⁴ Fuerst, F. and McAllister, P. "New Evidence on the Green Building Rent and Price Premium." University of Reading, 2009. http://jeancarassus.zumablog.com/images/2128_uploads/Fuerst_New_paper.pdf

⁵ CoStar Group. "Commercial Real Estate and the Environment." 2008. <http://www.costar.com/uploadedFiles/Partners/CoStar-Green-Study.pdf>

⁶ Wiley, J., Benefield, J., and Johnson, K. "Green Design and the market for Commercial Office Space." *Journal of Real Estate Finance and Economics*, Vol. 41, no. 2. 2020

⁷ Eichholtz, P., Kok, N., and Quigley, J. "The Economics of Green Building." Maastricht University and University of California – Berkeley, August 2010. [http://cbe.research.yale.edu/uploads/Environmental%20Economics%20Seminar/EKQ%20082010%20JMQ%20\(2\).pdf](http://cbe.research.yale.edu/uploads/Environmental%20Economics%20Seminar/EKQ%20082010%20JMQ%20(2).pdf)

⁸ "Green Building Retrofit & Renovation." McGraw Hill Construction, 2009. [http://mts.sustainableproducts.com/Capital_Markets_Partnership/BusinessCase/MHC%20Green%20Building%20Retrofit%20%26%20Renovation%20SMR%20\(2009\).pdf](http://mts.sustainableproducts.com/Capital_Markets_Partnership/BusinessCase/MHC%20Green%20Building%20Retrofit%20%26%20Renovation%20SMR%20(2009).pdf)

⁹ Ibid.

¹⁰ Pivo, G., and Fischer, J. "Investment Returns from Responsible Property Investments: Energy Efficient, Transit-oriented, and Urban Regeneration Office Properties in the US from 1998-2007." Indiana University, October 2008. <http://kelley.iu.edu/bcres/files/research/PivoFisher10-10-08.pdf>

Figure 3

1. Set Corporate Sustainability Goals
<ul style="list-style-type: none">• Set an office energy savings goal, perhaps as part of your broader set of corporate sustainability goals.• The goal should have buy-in from senior leadership, a credible target, and a roadmap for implementation.• There are many ways to state an office energy savings goal including:<ul style="list-style-type: none">– A commitment to invest in all energy efficiency measures with a certain pay-back– A commitment to occupy space that has achieved an ENERGY STAR or LEED certification.– A percent reduction in kWh used per square foot
2. Choose New Space and Determine Terms of Green Lease
<ul style="list-style-type: none">• The build-out is already a time of investment and change in the tenant space.• Incorporating smart energy efficient build-out design choices at this moment in time can reduce many aspects of the energy efficiency project's up-front cost.
3. Select Team/Partners
<ul style="list-style-type: none">• Select an architect, designer and engineers who are familiar with whole systems thinking and with designing for energy efficiency.• You'll need the right technical expertise on your team to calculate baseline energy usage and projected energy savings – vital information for making smart investment decisions and for measuring your returns down the road.• Issue an RFQ before an RFP
4. Project Development
<ul style="list-style-type: none">• Identify energy efficiency opportunities in the space.• Evaluate the return on investment in energy bill savings from possible energy conservation measures (ECMs), comparing ECMs to a baseline for a typical/business-as-usual build-out.• Create a calibrated energy model that accounts for the interactive effects of various ECMs (only necessary for large spaces).• Experiment with ECM bundles, narrowing down to a few feasible options.• Incorporate eligible incentives and possible financing structures into overall project design cost evaluations.• Select among ECMs based on financial, energy efficiency and sustainability criteria.• Negotiate with the owner to get most efficient equipment and base building improvements.

Figure 3 (continued)

5. Project Implementation
<ul style="list-style-type: none">• Select a contractor who has a solid track record of implementing all the features of your high-performance build-out.• Monitor the project as your energy efficient space takes shape.
6. Measurement and Verification
<ul style="list-style-type: none">• Demonstrate that each ECM is working as intended and generating savings - measure individually or as an interactive whole.• Use the appropriate IPMVP approach
7. Tenant Energy Management System (TEMS)
<ul style="list-style-type: none">• Install a TEMS, which provides tenant energy use information and comparisons to benchmarks or other tenants.• Ensure that a designated person monitors energy usage so that space and equipment can be modified for greater efficiency.
8. Employee Engagement and Education
<ul style="list-style-type: none">• Establish a program to help employees reduce their own energy and water use.• Provide tools and incentives for employee energy efficiency practices.
9. Marketing Strategy
<ul style="list-style-type: none">• Highlight your energy efficient office space in your corporate reporting• Include the office space in your sustainability public relations• Point out the green office when recruiting employees.

The Natural Resources Defense Council (NRDC) is an international nonprofit environmental organization with more than 1.3 million members and online activists. Since 1970, our lawyers, scientists, and other environmental specialists have worked to protect the world's natural resources, public health, and the environment. NRDC has offices in New York City, Washington, D.C., Los Angeles, San Francisco, Chicago, Livingston, Montana, and Beijing.



www.nrdc.org

The Goldman Sachs Group, Inc. is a leading global investment banking, securities and investment management firm that provides a wide range of financial services to a substantial and diversified client base that includes corporations, financial institutions, governments and high-net-worth individuals. Founded in 1869, the firm is headquartered in New York and maintains offices in all major financial centers around the world.



www.goldmansachs.com

Jones Lang LaSalle (NYSE:JLL) is a financial and professional services firm specializing in real estate. The firm offers integrated services delivered by expert teams worldwide to clients seeking increased value by owning, occupying or investing in real estate. Jones Lang LaSalle serves clients in 70 countries from more than 1,000 locations worldwide, including 200 corporate offices. The firm is an industry leader in property and corporate facility management services; commercial brokerage and tenant representation; real estate investment sales and capital markets transactions; project and development services; energy and sustainability services; and a range of consulting specialties. LaSalle Investment Management, the company's investment management business, is one of the world's largest and most diverse in real estate with more than \$45 billion of assets under management as of mid-2011.



www.joneslanglasalle.com

The Institute for Building Efficiency is an initiative of Johnson Controls providing information and analysis of technologies, policies, and practices for efficient, high performance buildings and smart energy systems around the world. The Institute leverages the company's 125 years of global experience providing energy efficient solutions for buildings to support and complement the efforts of nonprofit organizations and industry associations. The Institute focuses on practical solutions that are innovative, cost-effective and scalable.



If you are interested in contacting the authors, or engaging with the Institute for Building Efficiency, please email us at: InstituteforBE@jci.com.