

# ENERGY USER NEWS

ENERGY MANAGEMENT FOR THE COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL MARKETS

## Energy Efficiency Boosts Property Values

Seeing the hidden value of energy-efficient properties

BY MARK JEWELL

More than 10 billion square feet of this country's commercial and industrial buildings are non-owner-occupied. In general, these income-producing properties are less energy-efficient than owner-occupied facilities. Successfully motivating this sector to be more efficient could save tremendous amounts of energy and have a profound impact on the markets for energy-related products and services.

In an income-producing property, the building is the business, and utility costs can comprise nearly a third of all operating expenses. To maximize profit, income properties could be expected to be using state-of-the-art energy-efficient technologies throughout. After all, the lower the operating expenses, the higher the net operating income and asset value. But often this is not the case; many income-

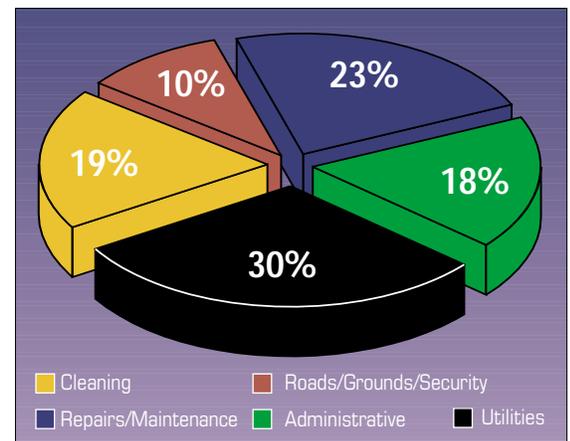
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properties remain decades behind the energy-efficiency times. Understanding why requires knowledge of how energy upgrade decisions are made, especially in tenant spaces. All too often, owners and tenants of income-producing properties have reached stalemate. The owner believes, often erroneously, that improving the energy efficiency of tenant spaces in mid-lease would benefit only the tenants. Tenants, on the other hand, wonder why they should invest capital to improve the energy efficiency of a building owned by someone else. At times, a tenant's unwillingness to spend capital seems irrational, especially when the remaining lease term far exceeds the simple payback period of the contemplated upgrade. But there are other complicating factors.

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- A multi-tenant building can involve dozens, if not hundreds, of leases. These leases can vary widely on the subject of expense sharing.

- Does responsibility for energy and other operating expenses pass from the owner to the



Utility costs are 30% of the average office building's annual operating expenses. (Data based on 2000 BOMA Experience Exchange Report, Average of Urban & Suburban Non-Government Buildings)

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## From the Real World

**“Creating value for shareholders** requires an approach to screening capital projects that is both analytical and holistic. It is important to consider each project’s energy-efficiency potential, the impact of owner/tenant expense-sharing and the availability of rebates.” ANDREW J. SOBEL, EXECUTIVE VICE-PRESIDENT, ARDEN REALTY, INC.

**“F.I.N.D. is a valuable tool** in identifying rebates, which can decrease the capital outlay for proposed energy-related projects. We have also used it to identify applicable retroactive rebates for projects we have completed.” JIM D’ORAZIO, V. P., NATIONAL DIRECTOR OF ENGINEERING, GRUBB & ELLIS MANAGEMENT SERVICES, INC.

**“Tenants care** about their total occupancy cost. If an owner can reduce operating cost pass-throughs to tenants by lowering energy expenses, those savings should result in the tenants’ willingness to pay higher base rent. In the end, the owner gets a better bottom line and a higher property value.” RICHARD J. SMITH, CFO, RAMCO-GERSHENSON PROPERTIES TRUST

**“In multi-tenant properties,** decisions to invest capital to improve energy efficiency must be based on a careful analysis of the leases. Simple payback period tells you how quickly the project will generate savings. An NOI Builder analysis shows who will collect those savings—the owner, the tenants, or both.” EDWARD GLICKMAN, CFO, PREIT

**“Given the current leasing market,** property owners are focused on increasing value by controlling expenses, but they’re still willing to invest capital where it helps NOI and property value.” JOHN COMBS, PRESIDENT OF U.S. PROPERTY SERVICES, INSIGNIA

improving the energy efficiency of an income property. If the owner doesn’t have answers to these questions, neither will the tenants. Most times vendors of energy-efficient equipment don’t even ask to see lease abstracts prior to offering an upgrade proposal to an income-property owner, showing a lack of understanding of the leasing environment.

### Who Pays? Who Benefits?

The U.S. Environmental Protection Agency’s (EPA) QuikScope software, discounted cash flow valuation software used for appraising properties, custom spreadsheets, and RealWinWin’s NOI Builder analysis can all be used to answer the questions: Who pays for energy upgrades? And who benefits?

QuikScope is an easy-to-use software tool that is the crown jewel of the EPA’s Energy Star program for commercial real estate. This tool is available at no cost to Energy Star Partners. As its name implies, the software performs a scoping-level analysis of how a given

office building’s leases would allocate the costs and benefits of an energy upgrade between the owner and tenants. Using weighted averages and other simplifying assumptions, QuikScope can suggest whether owner-funded improvements may make sense. However, the software was not designed to produce an investment-grade analysis.

Discounted cash-flow valuation software will project the cash flows and appraised value of a given income property over time. Unfortunately, discounted cash-flow valuation is not ideal for modeling energy upgrades, energy savings, or capital expense cost recoveries on a tenant-by-tenant or month-by-month basis. Multiple runs of such software could simulate the net operating income of a property before and after an upgrade; however, extensive side

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calculations in a spreadsheet program would be necessary to determine the financial impact of the energy upgrade itself.

Both QuikScope and discounted cash flow models of a proposed upgrade usually require the development of a multitude of custom spreadsheets to allocate the costs, savings, and cost recoveries to each tenant and each period. These cobbled-together modeling exercises can be quite time consuming and difficult to use and maintain, especially if decision-makers wish to perform sensitivity analysis to see the financial impact of excluding a particular tenant, phasing in the upgrade over time, or changing other variables.

NOI Builder is a proprietary software tool that RealWinWin’s consultants use to produce an investment-grade analysis of any capital project that proposes to lower any operating expense. An NOI Builder study shows where every upgrade dollar is invested, the source and destination of every dollar of return, and the present value and internal rate of return (IRR) of the proposed project itself. The analysis shows where it makes sense to invest in improving the energy efficiency of tenant spaces (both mid-lease and between leases) and helps calculate and justify capital expenditure recoveries from tenants. Since the calculations are totally automated, sensitivity analysis is easy, and decision-makers get fast, well-documented answers to a wide variety of “what if” questions that could otherwise stall project approval. Once a building’s leases are entered into NOI Builder, the model can be easily updated to accommodate leasing changes or additional proposed upgrades.

### Energy Costs Depress Property Value

Three factors determine the effect of rising energy costs on the value of any income-producing property:

- Whether the leases are net, gross, or fixed-base
- Whether the lease addresses energy separately or combines it with other operating

tenant at some point?

- If energy-efficiency improvements were installed, who would enjoy the benefit: the owner, the tenants, or both?

- Would an energy-efficiency improvement in one tenant’s space benefit that tenant, all tenants, or none of the tenants?

- Does the lease language allow the owner to recover capital costs from the tenants for improvements that reduce operating expenses?

- If so, are there limitations on how quickly those recoveries can occur (e.g., over the useful life of the installed upgrades, according to a pre-determined amortization schedule and interest rate, or to the full extent of the annual operating expense savings)?

Without answers to questions such as these, an owner can’t confidently invest capital in

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## Mark Jewell's Top 11 Energy-Efficiency Myths

**Our building is already energy efficient.** Many building operators get a reality check when they use an energy performance benchmarking tool, such as US EPA's Portfolio Manager software (available at [www.energystar.gov](http://www.energystar.gov)). Tenant spaces typically comprise 80% of the typical office building, so limiting energy-efficiency upgrades to common areas excludes 80% of the opportunity to lower operating expenses. Finally, even a building that performed an energy upgrade within the last decade may be ready for another. For example, energy management systems should be re-commissioned at least every five years, and many TB/electronic ballast lighting retrofits can already be profitably upgraded to next-generation technology.

**Our property managers know all about energy upgrades.** Well-intentioned and conscientious building engineers and property managers may identify worthwhile upgrade projects, but unless those opportunities are communicated to the owner in a language and format that resonate with the owner's capital budgeting officer, the projects will not be approved.

**Energy-efficiency upgrades used to make sense when there were a lot of rebates.** More than \$1.5 billion in rebates were made available to building owners last year, twice as much as in the previous year. Of course, you have to know where to look. It would be nice if every manager or contractor made all the calls and filled out all the forms to collect all the "free money" available to their clients. However, unless a systematic approach like RealWin's Financial Incentives National Database (F.I.N.D.) is used, many rebate opportunities will be either totally missed or not pursued to completion.

Then again, rebates shouldn't be needed to justify energy upgrades in income property. Properly analyzed and implemented, energy-saving capital expenditures can lower the owner's share of operating expenses, which can improve net operating income and appraised value. The combined effect of this higher NOI and asset value can generate returns well in excess of the owner's hurdle rate, even in the absence of rebates.

**Energy costs are a 'pass-through' to the tenant.** Whether some or all energy expense is a "pass-through" to a tenant depends on the kind of lease (e.g., gross, net, or fixed-base) and how the actual energy expense compares to any "expense stop" or "base year" in the lease, both before and after an upgrade. In the case of a fixed-base

lease, the only "pass-through" is the amount of energy expense that is greater than the expense stop cited in the lease. If operating expenses have not increased since the signing of the lease, the owner may still be paying all of the energy expense for the tenant's space and would directly benefit from improving the energy efficiency of that square footage.

**Upgrading tenant energy efficiency in mid-lease will not benefit the owner.** Too many owners believe that the time to perform upgrades is when a space rolls over. Actually, the best time for an upgrade may be at least one year prior to rollover. In the case of a fixed-base lease, lowering the operating expenses a year prior to rollover reduces the "base year" or "expense stop" that the owner has to pay for new tenants. Why? Because the expense stop is often determined by the level of actual operating expenses at the time a new lease is signed. Furthermore, the lower operating cost and improved tenant comfort and convenience that result from an upgrade may encourage a current tenant to renew, make the space more attractive for a new tenant, and reduce the amount of tenant improvements that the owner has to fund for the new lessee.

**It's best to do upgrades as leases roll over.** Many owners and managers assert that it's best to phase in capital improvements along a timeline that tracks tenant rollover. They note that with 10% annual churn, all tenant spaces could be made energy efficient in a decade. That approach can cost the owner in several ways:

- New leases may have to incorporate higher base years as a result of waiting 10 years to complete all the projects
- The cost of upgrade labor and materials will probably rise over time, making the upgrades more expensive

• The net present value of the whole upgrade will probably be much lower if it is phased-in over time. Take the example of 10 projects, half of which are two-and-a-half-year SPP, and the other half of which are four-year SPP. Doing all 10 projects this year could yield a 75% higher net present value (NPV) than doing two projects per year for the next five years. **It's too difficult to predict the owner's share of energy savings.** While this may have been true if the owner were using QuikScope, discounted cash flow software, or custom spreadsheets to allocate costs and savings, new tools like RealWin-Win's NOI Builder make an investment-grade

analysis easy and decisive.

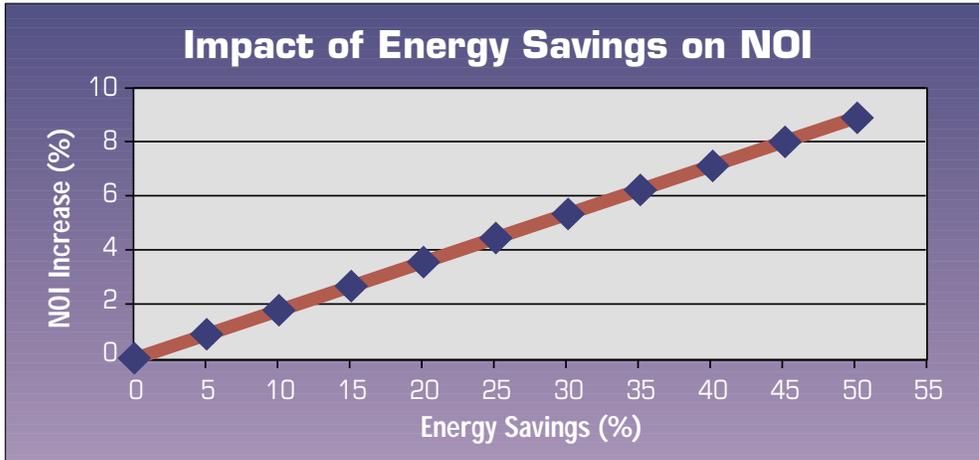
**Upgrade projects must be less than two-year simple payback period (SPP) to be worthwhile.** Simple payback period is irrelevant if you don't know whether the owner, the tenant, or both will capture the savings. A three-year SPP project where the owner captures all the savings as net operating income and increases the appraised value of the property can actually be a better investment than a two-year SPP project where the tenants capture all the savings and the owner receives no return on its investment.

**Speculative building is more profitable than energy-efficiency upgrades.** Intelligently planned energy upgrade projects can produce two to three times the return that real estate investors typically earn from speculative development projects. Moreover, energy upgrades can be done with much less capital, and are generally less risky than developing new buildings. In many cases, spending \$1 per square foot improving the energy efficiency of a 10-million-square-foot portfolio that you already own will be much more profitable than building another income property with the \$10 million.

**We are selling the building.** Typically, once an investment property is slated for sale, the real estate investor loses interest in upgrading the property. Such a strategy can cause the investor to "leave a lot of money on the table." Let's assume the investor plans to sell a property in the next 12 to 24 months. Capital projects that reduce operating expenses (and increase net operating income) at least twelve months prior to the appraisal of the building can help justify a higher sales price.

**We are not selling the building, so increases in appraised value aren't important.** Occasionally, a real estate investor will disregard the fact that lower operating expenses can support higher asset value by increasing net operating income. The investor figures that since he doesn't plan on selling the building anytime soon, a possible increase in asset value shouldn't influence his decision. However, there are other benefits to having a higher appraisal. First, if there were debt on the property, the loan-to-value ratio would decrease. Second, the higher the building value, the more equity can be pulled out in a refinance. In the case of a publicly traded real estate investment trust, Wall Street regularly reviews building portfolio financials as it evaluates the company's prospects, whether or not the company's buildings are listed for sale. *eun*

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Energy efficiency can help commercial real estate recover from a sagging rental market. (Data based on 2000 BOMA Experience Exchange Report, \$10.07 NOI/ft<sup>2</sup> and \$1.78 energy cost/ft<sup>2</sup>)

expenses

- Whether the actual operating expenses were higher or lower than any expense stop or base year cited in each lease, both before and after the increase in energy cost

Under the terms of a net lease, the tenant absorbs the full brunt of an energy-cost increase—at least initially. But if the increase were significant enough, the tenant may not be able to pay the rent or be unwilling to renew the lease without renegotiating the rent. Tenants typically consider “occupancy cost,” which is base rent plus operating expenses, when selecting and renewing space. Therefore, the owner may see downward pressure on base rents if net-lease tenants are forced to shoulder the entire burden of rising energy costs. Under the terms of a gross lease, on the other hand, the owner absorbs energy cost increases. Any increase in the owner’s operating expense lowers net operating income (NOI), which can depress the appraised value of the property (given the income approach to appraisal and no change in capitalization rate). The owner may try to preserve NOI by raising the base rent for all new tenants by the same amount as the increase in his operating expenses. Such a strategy does not work well in weak rental markets.

The terms of a fixed-based lease could allocate increased energy costs to the tenant, the owner, or both, depending on whether energy expenses before the cost increase were above, at, or below the expense stop. The tenant would be responsible for amounts above the stop, and the owner for amounts below the stop. If energy cost were linked with other operating expenses and combined into one

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“stop,” the calculation of who shoulders the burden can become quite complicated.

Fixed-based leases can delay the negative impact of higher energy costs for the owner. Even if operating expenses are at or above the expense stop, the landlord may have to set a higher expense stop for future leases. Unless the owner can raise the base rent to compensate for this increased stop, net operating income will fall in the future, which may eventually depress the appraised value of the property.

There are other ways that the energy market can adversely affect the investment real estate market. Delamping luminaires or operating the building outside normal temperature ranges, for example, to control costs or cope with power unreliability can affect how current and potential tenants perceive the space. On the other hand, buildings with better technology may see greater market demand and higher rents because increased energy-efficiency reduces the building’s vulnerability to energy price spikes. Similarly, tenants may see advantages in leasing space with backup generation

that can keep the building humming during a rolling blackout. Buildings with better-than-market electricity/gas supply contracts may also enjoy a competitive advantage.

## Success Tips

Commercial real estate owners and managers want to reduce building operating expenses. More important, they need to know that they will earn a return that is equal to or greater than their hurdle rate. Proposals that promise lower operating expenses had better direct enough of the resulting savings to the owner to meet or exceed the owner’s required rate of return on that upgrade investment.

Owners/managers and vendors have big incentives to work together on this issue. Net operating income is the “mother’s milk” of real estate investors. With occupancy and rental rates falling in many markets, owners/managers of income properties need to focus on the expense side of the income statement to build NOI and support increases in appraised value. Vendors, on the other hand, want better access to decision-makers. They want to lower their marketing costs, and communicate with their prospects in ways that shorten sales cycles.

One of the surest ways to get the owner of an income property to say “yes” to a suggested upgrade is to make sure that the proposal includes an NOI Builder study. Investors don’t make decisions based on watts or therms, but on financial returns. Citing the simple payback period of the upgrade won’t do it either, because the owner needs to know how much return to expect. From the owner’s perspective, a two-year simple payback period (SPP) project in a building where the leases allocate half the savings to the tenants is really a four-year SPP project. Similarly, knowing that there are rebates to help subsidize a project won’t always win an approval.

## Related Websites

- US EPA [www.energystar.gov](http://www.energystar.gov)
- RealWinWin, Inc. [www.realwinwin.com](http://www.realwinwin.com)

**Mark Jewell**, CEO, RealWinWin, Inc. ([mjewell@realwinwin.com](mailto:mjewell@realwinwin.com)) has worked in the real estate and energy-efficiency fields for almost two decades. His team was instrumental in developing and promoting US EPA’s Energy Star for Commercial Buildings. RealWinWin specializes in helping both income-producing and owner-occupied properties create value with efficiency.

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