

CFO ROUNDTABLE BRIEFING



SUSTAINABILITY COMES OF AGE INVESTMENT RETURNS SUPPORT GREEN INITIATIVES

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EXECUTIVE SUMMARY

Today, sustainability represents a fiduciary responsibility for a company's Board of Directors and a set of business opportunities and risks that should be profiled, assessed and ranked for investment. Designing and constructing green buildings will create and grow investment value faster than traditional designs. Choosing greener facilities and retrofitting to higher environmental standards present potential high-return opportunities and can contribute to corporate reputation and sustainability, as well as increased employee satisfaction, productivity and retention.

INTRODUCTION

As a category, buildings account for the largest amount of electricity consumption and greenhouse gas emissions. Moving to a sustainable model can offer high ROI and pave the way for enhanced environmental performance. Energy and environmental certifications can be carried out on entire buildings, or leased portions. For net leases where landlords pass energy and waste costs to tenants, wise tenants should consider sustainability issues in their selection and operation of space.

Leading-edge governments (e.g. the EU and various US cities and states) are already developing and implementing climate plans requiring environmental performance reporting and mandating increased recycling. The move to environmental ratings on buildings (the best known are LEED in the US and

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BREAAM in Europe) parallels the emergence of automobile companies' corporate average fuel economy (CAFE) requirements in 1975. Another parallel is California's new requirement of posting pollution ratings to detail smog and greenhouse emissions on cars. Environmental ratings of buildings can be expected to be part of future leasing, purchase and disposition decisions and will affect lease negotiations and valuations. Regulations requiring buildings to be rated on their energy consumption are already in practice in the EU.

THE GROWING CASE FOR GREEN

Sustainability makes financial sense. Selection and retrofitting of entire buildings or leased space to reduce energy consumption and waste can offer high ROI opportunities for many businesses. Today, green buildings have positive economic justifications. While individual situations for retrofitting vary more widely, organizations are often surprised to discover the large and rapid (9-18 months) paybacks from simple techniques such as changing lighting, improving chillers and boilers, introducing more sophisticated building management controls, adding timers and motion sensors, adjusting HVAC settings, composting garbage and disposable food items, and replacing plastic bottles with access to filtered, municipal water. Softer benefits including improved employee satisfaction, performance and retention may also increase the return from building improvement.

New regulations and policies are on the way. The next US administration will pursue carbon emissions reduction, energy conservation and renewable energy for economic stimulation, climate concerns, national security and balance of trade. Leading-edge governments have already implemented environmental reporting for buildings, environmental performance ratings for automobiles, and higher energy standards for appliances. Carbon trading has been introduced in Europe. Ten pioneering eastern US states are implementing early versions of carbon trading for energy producers. Seven western states (Arizona, California, Montana, New Mexico, Oregon, Utah, Washington) and four Canadian provinces (British Columbia, Manitoba, Ontario, Quebec) are also proposing cap and trade systems. Regardless of who wins the US election, a change in policies toward greenhouse gases and renewable energy is likely.

Resiliency is economically more important. Companies have pursued IT resiliency for years. Moving forward, organizations should seek to incorporate environmental resiliency. With less certain water supplies, the potential for terrorism and more extreme weather events, designing your business to be more environmentally resilient can offer significant advantages. Distributed local generation of power with wind, solar electric and solar thermal systems can insulate businesses from the cost of downtime and lost sales. Rainwater capture and improved water use can also improve operational reliability.

Environmental stewardship is evolving rapidly. Companies that don't pay attention to sustainability issues run the risk of damaging their corporate reputation and brand value. Regulatory requirements, customer expectations, the need for internal energy reporting, design for reuse, recycling and disassembly, and



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external tracking of environmental impacts are all moving targets. Measurement technologies can reveal waste as never before. Companies must actively respond to new findings, some will be artifacts of improved measurement and others real and potentially problematic. Some predict that companies will be held more accountable for the disposal or recycling of their products. Additionally, forecasters suggest companies will – in the longer term – be under pressure to design products for a “cradle to cradle” business model. This model calls for products to be taken back for disassembly or reuse – a trend that first appeared in Europe.

ENERGY EFFICIENCY PAYS OFF

According to the Pew Center for Global Climate Change, “buildings are the single most important contributor to the greenhouse gases that cause climate change.” Buildings account for 35 percent of all energy consumption, 65 percent of all electricity consumption, 40 percent of raw materials and 12 percent

of potable water. They produce 48 percent of carbon emissions, 30 percent of greenhouse gas emissions and 30 percent of waste output.

Currently, selecting an energy efficient building or refurbishing an existing interior space makes economic sense for most companies. In the future, more stringent regulatory requirements, sustainability tax credits and higher energy costs will motivate even larger reductions in energy use and waste.

Many executives believe investing in energy efficiency is cost prohibitive – however, research suggests the opposite. Energy efficient and environmentally certified buildings cost just marginally more to construct (LEED costs are estimated as an incremental 1-7 percent, depending on certification level), but have significantly lower operating costs. That said, Amory Lovins, environmentalist and long-time conservation researcher, has a succinct viewpoint that is shared by many. Lovins declares, “If you are doing this [sustainable design/construction] and it’s costing you more, you are doing something wrong.”

The situation is often different for tenants with net leases. Because landlords don’t typically pay for operating costs (such as energy, water or waste), smart tenants and occupiers need to be discriminating, with an eye toward green ratings. In some cases, cooperation with other tenants to initiate retrofitting of the leased building infrastructure may be fruitful. In the most widely referenced study, the California Sustainable Building Task Force concluded a 2 percent investment in energy savings during building construction averaged 10 times the return.

THE ADVANTAGE OF TAKING A SYSTEMS APPROACH TO GREEN BUILDING DESIGN

Gensler, a leading architecture, design and planning firm with extensive experience in green design, emphasizes the importance of a systemic approach to reduce up front investment and maximize ROI and quality of the working environment.

Gensler has worked with companies such as REI Outfitters – a firm that identifies environmental stewardship as a key component of their corporate mission, employee relationships, marketing and reputation. They are familiar with the latest green technologies and have utilized techniques such as reflective cylindrical skylights, passive solar, solar thermal and solar electric designs in their buildings.

One new technology, an under-the-floor air delivery system, has consistently saved 10-25 percent of energy costs and produced ROIs in excess of 30 percent, or a saving of \$1-2 per square foot. A less obvious advantage of under-the-floor systems is reduced cost of internal staff moves or relocations. Owens Corning found their per employee move cost dropped from \$450 to \$100 with an under-the-floor delivery system. Operational savings were also higher from reducing the number of “comfort calls” due to poor temperature control. In a separate project, internal office relocation costs for the Pennsylvania Department of Environmental Protection dropped by \$2,250 per employee.

A new building designed for West Bend Mutual Insurance in West Bend, Wisconsin cost approximately \$90 per square foot to construct, compared to a more typical \$125 per square foot for traditional non-green buildings. This demonstrates the benefit of incorporating green issues early in the design process in order to reduce overall project costs and suggests that, in some cases, green may be cost-free.



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If you own or operate buildings in other countries, improving their efficiency will also be productive. The new US embassy in Sofia, Bulgaria is the first US embassy to be LEED certified. Its savings are rated at 30 percent on energy and 12 percent on water. In some international locations such as China, many buildings are 2-3 times more energy inefficient than those in the United States – thus, refurbishment opportunities have an even higher payback. Japan and Europe have operated with higher energy costs for longer than the United States, so international benchmarking against these markets will be particularly effective.

CASE STUDY: RETROFITTING ADOBE'S SAN JOSE HEADQUARTERS

Cushman & Wakefield was engaged by Adobe to improve the performance of its San Jose headquarters buildings. The resulting energy conservation and improved waste management has helped Adobe save close to \$1.4 million annually on a net investment of \$1 million in the first phase of the LEED project (see table for detailed breakdown of their projects to date). ROI on the initial projects required for LEED certification was 129 percent, with a payback of less than one year. The one million square foot head office complex, housing approximately 2,300 employees in three buildings, had to contend with the consistently hot climate of San Jose, a region where water supply can be a problem.

The net result of the retrofitting was a reduction in energy consumption, waste and water usage. Adobe recorded a 35 percent drop in energy use, 41 percent decline in natural gas and 22 percent less water use. The headquarters complex was the first commercial office building certified at the USGBC's platinum level in the permanent LEED-EB program in North America. "The Adobe projects shows that even in California, a state with lower per capita energy consumption than most of the United States, there are many low risk, high-yielding projects. In my view, practically every company will find opportunities for savings, particularly as we move to a high energy cost world," says George Denise of Cushman & Wakefield Client Solutions and General Manager for the Adobe facilities.

Adobe also experienced impressive results in reducing its more general environmental impact, such as dropping pollution from all sources by 26 percent. CO₂ emissions were cut by 16 percent. Adobe is now

diverting or eliminating up to 96 percent of solid waste and 30 percent of the electricity for its San Francisco and San Jose headquarters buildings is now purchased from alternative, sustainable energy sources.

Randall H. Knox, Senior Director, Global Workplace Solutions, Adobe Systems Incorporated, comments: "Adobe has been able to reduce its general environmental impact by making changes both large and small. We hope our accomplishments can inspire other companies to strive to do the same. What we've learned through this process is ideas can come from anywhere – vendors, employees, the city in which you operate – and with executive support, your company can truly make a difference."

THE PROJECTS THAT MADE SENSE FOR ADOBE

Adobe undertook dozens of projects in its pursuit of improved performance and LEED certification. Improvements to lighting and HVAC were the largest source of benefit, but water minimization and improved waste handling were inexpensive investments that netted significant returns.

Project category	Upfront cost (000s)	Rebates received (000s)	Annual savings (000s)
Lighting	\$359	\$190	\$688
HVAC	635	192	394
Waste	77		196
Water	378		195
Electricity	27	38	3
Other (includes \$135k LEED certification fees)	166	11	323

**THE MOST EFFECTIVE ENERGY SAVING PROJECTS
TO REDUCE GLOBAL WARMING**

Many of the opportunities for carbon abatement are less expensive in developing countries. International trading in carbon rights and offsets will lower the total global cost of abatement. New international global carbon agreements are likely to be economically advantageous to the United States. A macro level study by the McKinsey Global Institute (MGI) lists the following types of abatement as potential money makers and therefore, the preferred initial carbon abatement projects. Ranked in order from highest ROI to least, the most productive projects include:

1. Building insulation
2. Fuel efficiency in commercial vehicles
3. Lighting systems
4. Air conditioning
5. Water heating
6. Fuel efficiency in vehicles
7. Sugarcane biofuel
8. Standby losses (e.g. electricity consumed by standby equipment such as servers in a data center)
9. Industrial non-CO₂ (e.g. methane)

More generally, MGI research suggests that, “the economics of investing in energy productivity – the level of output we achieve from the energy we consume – are very attractive. With an average internal rate of return of 17 percent, such investments would generate energy savings ramping up to \$900 billion annually by 2020. Energy productivity [conservation of energy per unit of GDP] is also the most cost-effective way to reduce global emissions of greenhouse gases (GHG). Capturing the energy productivity opportunity could deliver up to half of the abatement of global GHG required to cap the long-term concentration in the atmosphere to 450–550 parts per million – a level experts say will be necessary to prevent the mean temperature from increasing by more than two degrees centigrade. Moreover, opportunities to boost energy productivity use existing technologies that pay for themselves and therefore free up resources for investment or consumption elsewhere.”

lease portfolios need to be reviewed to consider the valuations of buildings as higher energy costs and changing policies affect transportation and zoning.

The economics of hiring employees and telework may also be transformed as employees experience changes in housing values and commuting costs. Well-managed companies will proactively model their employees’ home locations and transportation costs as part of their overall analysis of remuneration strategies and locations.

**EXPLORING YOUR REAL ESTATE
OPTIONS**

For many tenants, a standard corporate lease is often a five-year term with an option to renew for an additional five years. Investors or owner-occupiers will often value buildings based on net present values that extend 10 years. With this timeframe, we can expect to see significant changes in land use planning, energy costs and charges for carbon/waste production. These changes will affect both the value of owned real estate and leasing costs for tenants. Companies should review their property exposure to ensure they are anticipating change.

Changes will be caused by the higher cost of energy, shifts in public attitudes, and zoning changes by city, state and regional governments to encourage mixed use development and reduced use of automobiles. Improving fuel economy is clearly desirable, but the most effective transportation energy reduction comes from eliminating trips rather than improving the efficiency of vehicles. Electronic delivery, telecommuting/telepresence, walking, cycling and public transit will become more frequent. Because there is often resistance to zoning in the US, investment opportunities may exist for those anticipating zoning and regulatory changes.

Real estate located at public transportation hubs and along public transportation corridors will likely increase in value. Practically speaking, property and



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EVALUATING YOUR CHOICES

In our experience, Cushman & Wakefield clients find it useful to think about their property portfolio at three different levels in order to identify sustainability opportunities, as shown in the chart below.

UNCOVERING OPPORTUNITIES WITHIN YOUR CURRENT REAL ESTATE PORTFOLIO

Type of real estate analysis	Task	Opportunity
Global portfolio	Assess relative sustainability performance and linkages (e.g. transportation/logistics) of current and proposed locations.	<p>Identify and measure location risks, regulatory environments, availability of reliable water, electricity, sewage, stable infrastructure, weather, etc.</p> <p>Identify arbitrage opportunities between various locations for energy use and CO₂ abatement.</p>
National portfolio	Assess relative attractiveness of different locations (e.g. transportation/logistics) within the United States.	<p>Investigate opportunities listed above within the scope of the United States.</p> <p>Example opportunity: locate data centers in cooler climates where long term, reliable, low cost energy is available. The electricity and cooling costs for server “farms” in data centers typically exceeds the initial capital cost of the server. Savings of 30-80 percent are available for data centers operating optimally and in the right locations.</p>
Building or lease selection and terms	<p>Own versus lease, build-to-suit versus retrofit an existing building or portion thereof.</p> <p>Assess opportunities for LEED or BREAAAM certification for entire building or leased portion of building.</p> <p>Identify impact of higher cost energy, fluctuating supplies of energy, or strategies for decoupling energy use from high risk energy infrastructure.</p>	<p>Due diligence to determine if any of the following can be achieved:</p> <ul style="list-style-type: none"> • Obtain rapid payback from conservation and improved operation. • Identify changing economics of suppliers, employees and customers that might influence the location. • Identify opportunities for capital improvement, divestiture or building acquisition, lease extension or modification of lease terms.

Sources: Cushman & Wakefield, Alistair Davidson



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CONCLUSION: GREEN BUILDINGS ARE MORE PROFITABLE

Today, green buildings are premium properties. They cost little more (and in some cases less) to build. They can produce significantly lower operating expenses. Over time, their value growth will outpace older, less efficient buildings. While all the data isn't in, there are strong indications that greener buildings are more attractive to employees and can often improve productivity and retention. Retrofitting partial spaces and leased buildings can also have positive returns.

Whether you are in the process of annual planning, a downsizing exercise, major risk analysis, evaluating a real estate portfolio, purchasing/divesting a facility, leasing a building (all or a portion of) or constructing/reengineering a data center – focusing on sustainability represents an opportunity to reduce costs and improve your business. With higher energy prices, optimizing your business locations to reduce logistics costs will be productive.

Cushman & Wakefield has helped clients throughout the world simplify the increasingly complicated choices of location, building/lease selection and negotiation, in addition to energy management and environmental efficiency. For many organizations, greenhouse gas abatement decisions will include offsetting projects in rapidly growing industrializing countries and participation in newly emerging cap and trade systems.

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ABOUT THE CFO ROUNDTABLE PROGRAM

The CFO Roundtable program was created by Cushman & Wakefield professionals John O'Neill and Chris White in partnership with the University of Georgia's Terry College of Business. This is an invitation-only series of quarterly events designed by and for CFOs and other senior finance executives on topics relevant to the CFO community. The program and its events facilitate regionally driven, peer-to-peer discussion that deliver practical value. The interactive format engages attendees and provides new ideas to drive business performance, in addition to building meaningful relationships within the CFO community and participating sponsors.

Following a successful launch in Atlanta in June 2005, the program has expanded nationwide. In association with top-tier business schools, the CFO Roundtable is currently active in seven markets and continuing to grow. It will be established in 14 markets within the next 18 months, reaching an estimated 15,000 CFOs and senior finance executives.

For more information about this briefing and the CFO Roundtable Program, please contact:

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Global Client Solutions, Cushman & Wakefield's global services organization, provides strategic real estate solutions that fully support both our investor and corporate occupier clients. We treat real estate portfolios holistically, delivering comprehensive, strategy-based solutions across a full range of locations, properties, and business requirements. Through the formation of high-level partnerships, our clients gain the ability to focus on their value proposition, confident that real estate experts are attending to every strategic and operational detail required to administer a single- or multi-location property portfolio.

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