

**Mid-America Competitiveness Conference
Intercontinental Hotel - Chicago
December 7, 2009**

**Green in Black & White:
Why Sustainable Buildings Matter Everywhere**

Presented by:

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President, Op2mize, LLC



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About Op2mize, LLC

- Founded 2004 on Premise of Sustainable Intelligence™
- 22+ Years Experience... Over 800 Projects / \$1 Billion +
- Industrial / Office / Data Center / Land / Consulting
- Recent Awards & Distinctions
 - 2009: *Illinois Real Estate Journal* Excellence Award
 - 2009: Realcomm Best Use of Automation (Broker) Finalist
 - 2009: SIOR-Chicago Chapter “Largest Industrial Deal of the Year” Award
 - 2008: C.A.R. CommercialForum Leasing-Industrial Gold Award (Broker of the Year)
 - 2008: NAIOP-Chicago Chapter “Industrial Transaction of the Year” Finalist
 - 2008: *Crain’s Chicago Business*: #6 on List of 2008 Largest Industrial Leases
 - 2008: Completed Largest User Deal in Chicago Since 2005
- Past President SIOR-Chicago & AIRE; Past Executive Officer of SIOR-International
- Frequent RE Industry Author and Speaker



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Why Sustainability Matters: Two Briefs Videos

- Earth 2030 (BASF & XPLANE)



- Shift Happens 2009: The Environment



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WHY BUILD GREEN?



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IMPACTS OF U.S. BUILDINGS ON RESOURCES

40% primary energy use*

72% electricity consumption*

39% CO₂ emissions*

13.6% potable water consumption**

Sources:

*Environmental Information Administration (2008). EIA Annual Energy Outlook.

** U.S. Geological Survey (2000). 2000 data.



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Global CO₂ Emissions by Sector

#1. Buildings

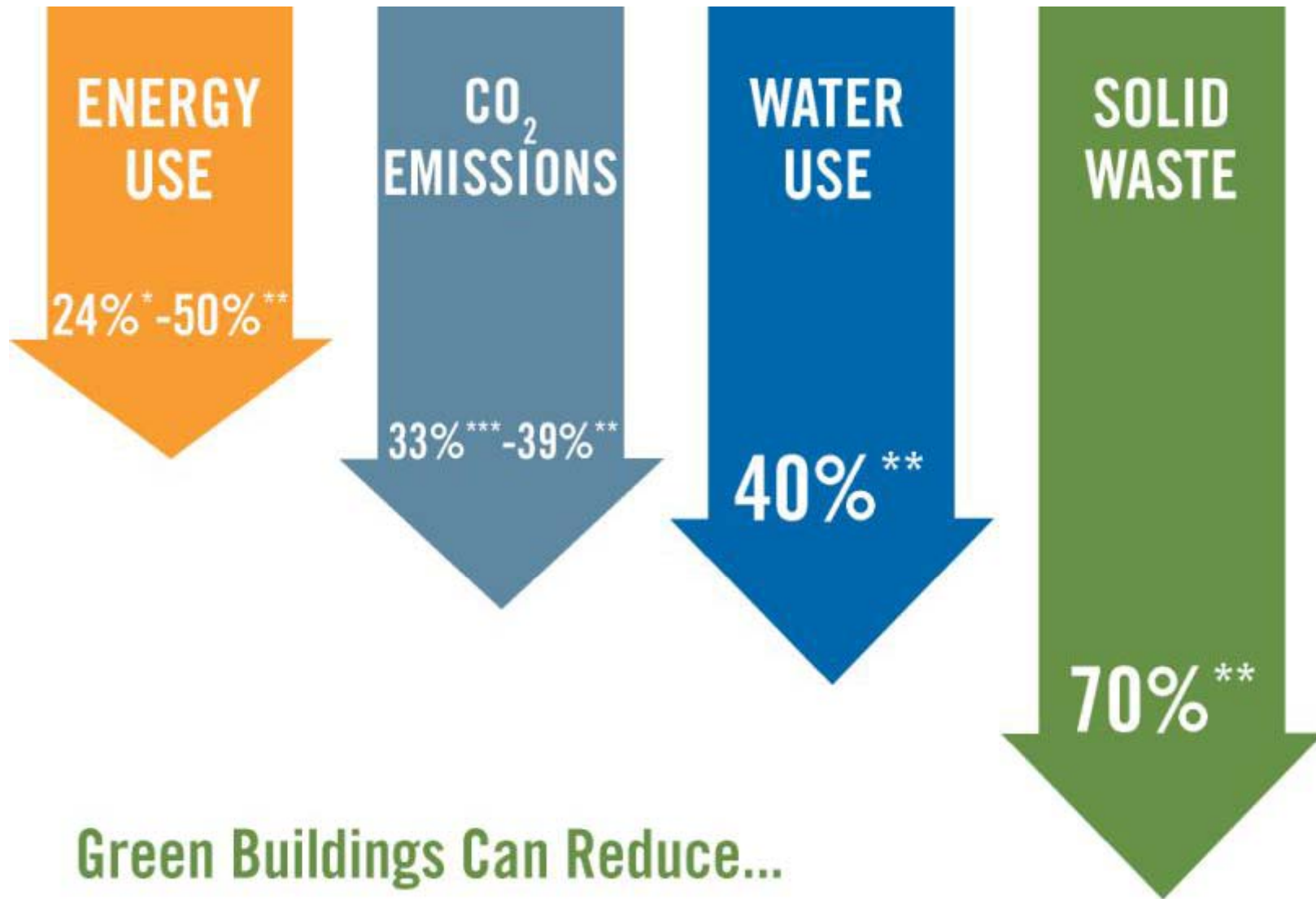
#2. Transportation

#3. Industry

Source: Energy Information Administration (2006). Emissions of Greenhouse Gases in the United States.



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Green Buildings Can Reduce...

* Turner, C. & Frankel, M. (2008). Energy performance of LEED for New Construction buildings: Final report.

** Kats, G. (2003). The Costs and Financial Benefits of Green Building: A Report to California's Sustainable Building Task Force.

*** GSA Public Buildings Service (2008). Assessing green building performance: A post occupancy evaluation of 12 GSA buildings.



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Green Building Occupants Are Healthier & More Productive

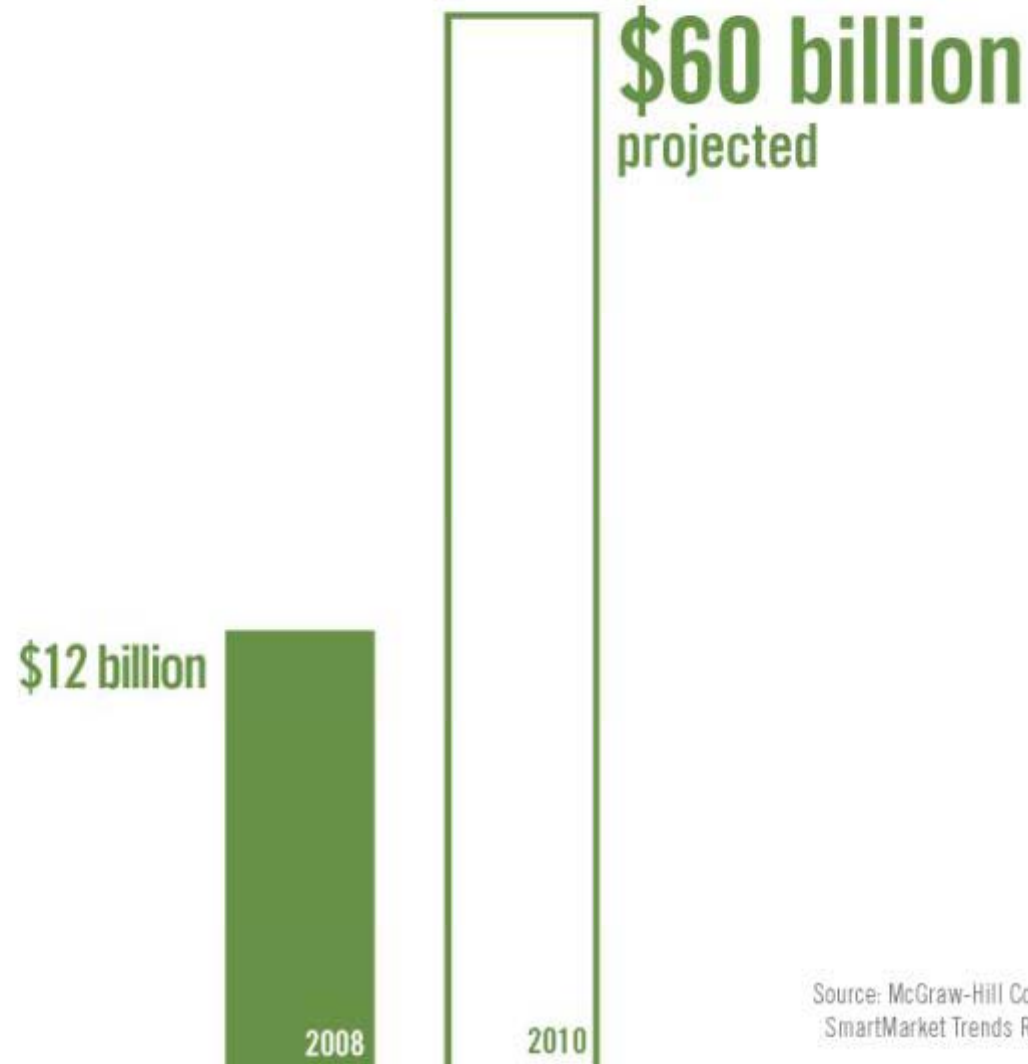
- In the U.S., people spend, on average, 90% or more of their time indoors*
- Green buildings typically have better indoor air quality and lighting

* Source: The Total Exposure Assessment Methodology (TEAM) Study. EPA 600/S6-87/002. U.S. Environmental Protection Agency. 1987.



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Green Building is in Demand

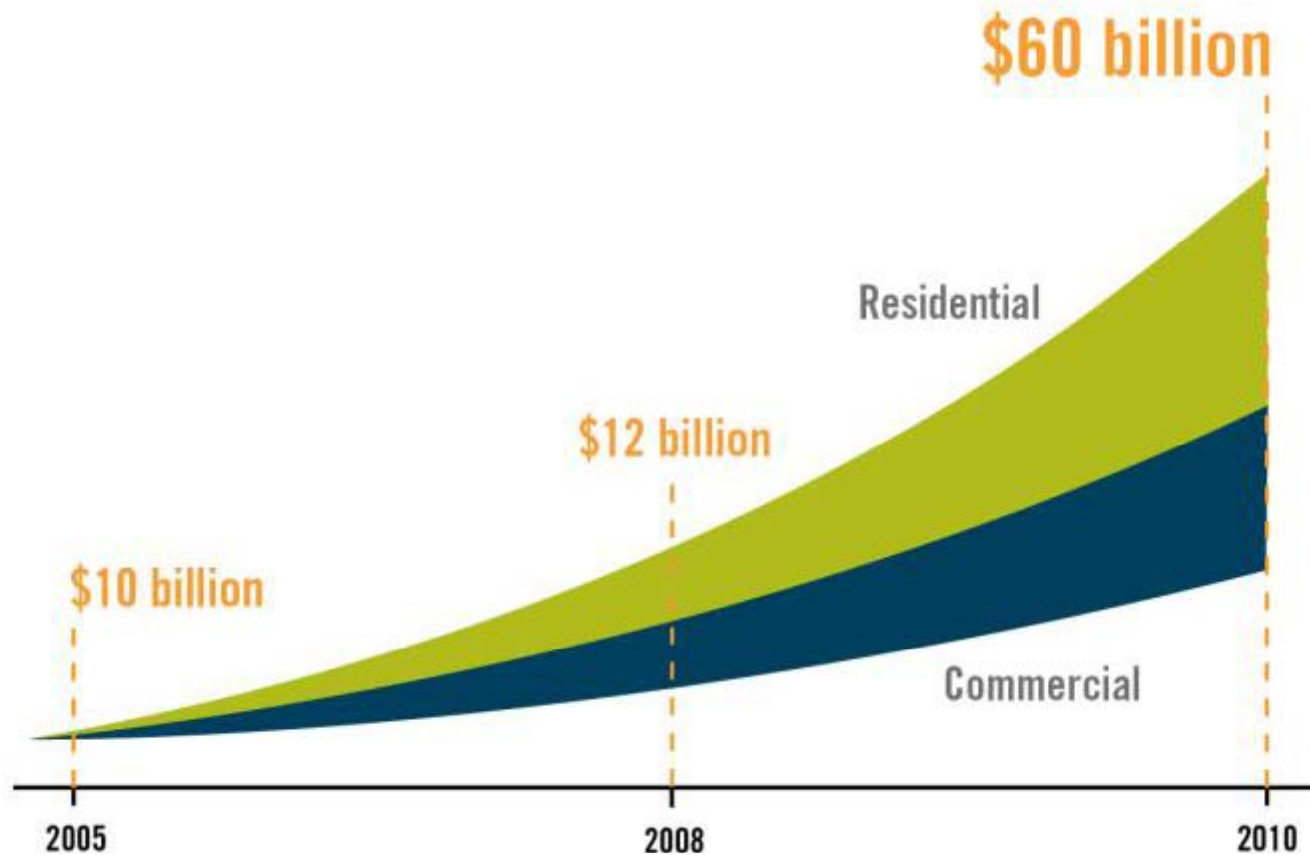


Source: McGraw-Hill Construction,
SmartMarket Trends Report 2008



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Green Building is an Industry Trend Not a Fad



Source: McGraw-Hill Construction, SmartMarket Trends Report 2008



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PREDICTIONS IN GROWTH OF GREEN

Commercial: By 2010, approximately 10% (~\$23 billion) of construction starts*

Corporate America: By 2009, 80% of corporate America expected to be engaged in green at least 16% of the time; 20% engaged 60% of the time**

Institutional: Dedication to green health care and educational facilities expected to increase dramatically over the next five years**

Sources:

* McGraw-Hill Construction, Green Building SmartMarket Report, 2006

** McGraw-Hill Construction, Greening of Corporate America SmartMarket Report, 2007

*** McGraw-Hill Construction, Education Green Building SmartMarket Report, 2007 and Health Care Green Building SmartMarket Report, 2007



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Projected Green Building Market Value

	2006	2010
Projection U.S. Market	\$12 billion (new) \$130 billion (renovation)	\$30-\$60 billion (new) \$240 billion (renovation)
Commercial & Institutional	\$4 billion	\$10-\$20 billion
Residential	\$8 billion	\$20-\$40 billion

Source: McGraw-Hill Construction 2007



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Why the Demand?

- Unprecedented level of government initiatives
- Heightened residential demand for green construction
- Improvements in sustainable materials

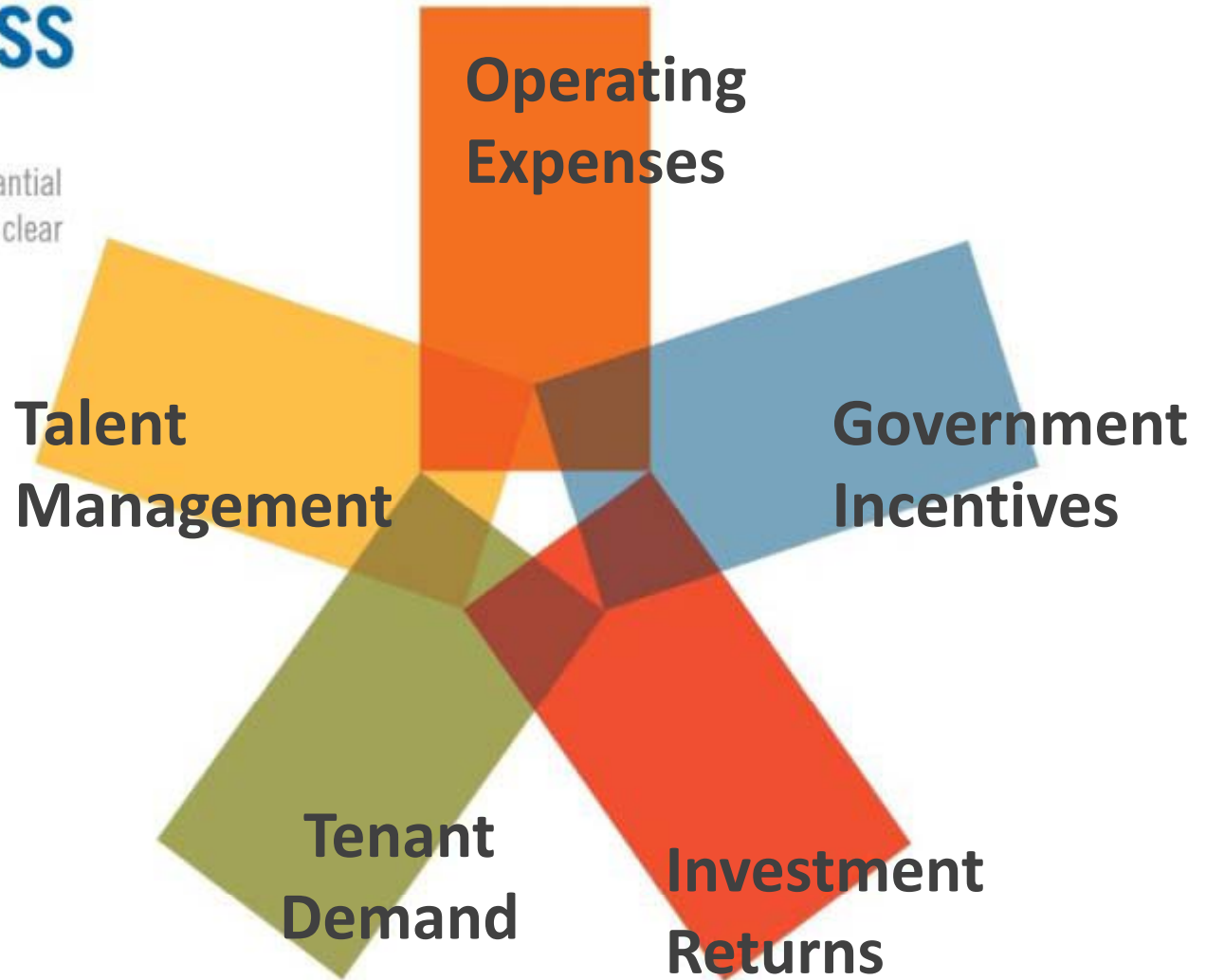
Source: Facility Management Institute, 2008 U.S. Construction Overview



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WHAT IS THE BUSINESS CASE?

Green building provides substantial financial benefits, making it a clear triple-bottom line win.



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**PERCEIVED
BUSINESS
BENEFITS
TO GREEN**

13.6% operating cost decreases

10.9% building value increases

9.9% return on investment improves

6.4% occupancy ratio increases

6.1% rent ratio increases

Source: McGraw-Hill Construction, 2008



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COST OF GREEN REVISITED

DAVIS LANGDON, 2007

“There is no significant difference in average costs for green buildings as compared to non-green buildings.”

Many projects are achieving LEED within their budgets, and in the same cost range as non-LEED projects

Many project teams are building green buildings with little or no added cost



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44% OF C-LEVEL EXECUTIVES BELIEVE GREEN BUILDINGS HELP ATTRACT AND RETAIN EMPLOYEES

Source: McGraw-Hill Construction
2007 Corporate Real Estate Smart Market Report



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TALENT MANAGEMENT

Green building benefits include cleaner indoor air and improved health and well-being of employees.

At PNC Firstside Center a study found employee retention and satisfaction was **50 percent better** compared to a traditional facility.

- PNC Financial Services Group



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Make the Grade

HIGH-PERFORMANCE
LIGHTING

6.7%

INDIVIDUAL TEMPERATURE
CONTROL

3.6%

ENHANCED PRODUCTIVITY

Source: McGraw-Hill Construction, Survey of LEED certified school leaders, 2006



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TENANT DEMAND

190 C-Level
Executives Surveyed:

67% see green building as a
market differentiator

44% believe sustainability
initiatives help attract
employees

43% expect to see growth
opportunities from
sustainability

82% anticipate greening at least
16% of their real estate in
a 2 year span

Source: McGraw-Hill Construction
2007 Corporate Real Estate
Smart Market Report



Cotton Center III, Phoenix, AZ: LEED Silver
Photo Credit: Randall Labak Jr



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TENANT DEMAND

1,151
TRANSWESTERN
TENANTS SURVEYED

73%
RESPONSE RATE

44%

believe a building's environmental impact is
"important" or "very important" to their company

25%

say green building practices are
important in space search

Sustainability matters more to large
tenants (25,000 sq ft +)

Source: Transwestern 2007 Tenant Satisfaction Assessment



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TENANT DEMAND

“Green building is **fundamentally altering** real estate market dynamics – the nature of product demanded by tenants, constructed by developers, required by governments and favored by capital providers.

The upshot will be a **redefinition** of what constitutes Class A properties and even institutional-quality real estate.”

- RREEF Research 2007



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TENANT DEMAND

At Hines, we specialize in Class A space, and we've reached the point where clients **don't think it's Class A unless it's green.**

- Jerry Lea, Hines



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...and communities!

2009 ERNST & YOUNG BUSINESS RISK REPORT

The green revolution represents **opportunities** for companies to **position themselves strategically** and gain a competitive advantage.

Indeed, green buildings are likely to secure more development finance, attract new tenants seeking green spaces and/or reduced occupancy costs and have **stronger investment value.**



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2009 ERNST & YOUNG BUSINESS RISK REPORT

In the next construction cycle in the US, **virtually all new major ~~office~~ buildings will be green and tenants will be better informed**

This is likely to have a negative impact on the value of existing ~~Class A~~ buildings that are not compliant and boost the retrofitting of existing buildings.



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INVESTMENT RETURNS

When we're buying properties today, we're asking our investment committee about what kind of capital we'll have to put into it to get it up to **LEED standards for existing buildings.**

- Randall S. Mundt
Chief Investment Officer
Principal Real Estate Investors



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INVESTMENT RETURNS

In assessing the value of green building, without hard empirical data, the appraiser has to put a **greater focus on the physical attributes of a property**, because how the building is put together has an impact on its performance, and thus, its value.

- Theddi Wright Chappell, MAI
Managing Director
Pacific Security Capital



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FIREMAN'S FUND INSURANCE

**Lower Energy Costs
Improved Indoor Quality
Reduced Absenteeism
Increased Productivity**

...green buildings outperform traditional buildings on many levels. By investing in state-of-the-art electrical, plumbing, and roof systems, green building owners experience fewer incidents of risk and loss.



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GREEN BUILDING IN A DOWN ECONOMY

Green building continues to grow exponentially. The amount of green building area has been growing at about a 50% compounded growth rate since 2000 - about 25 times the growth rate for commercial real estate overall in this country, which averages a bit under 2% annually

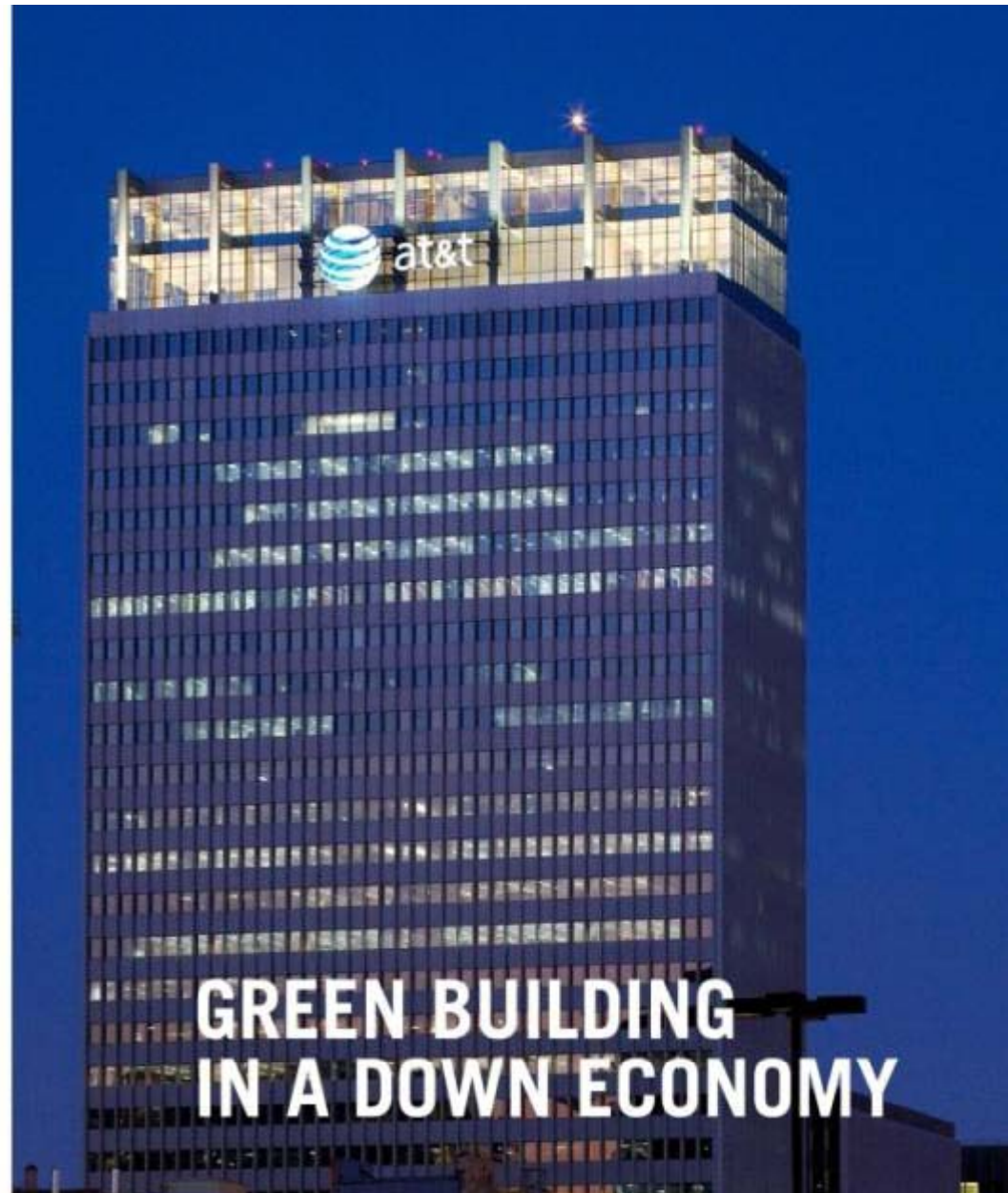
-RREEF Research, January 2009



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The amount of space LEED certified in the past 2.5 years alone is more than twice the amount certified in the prior six years combined

- January 2009



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GREEN BUILDING INVESTMENT IN A DOWN ECONOMY

“...ownership patterns are changing as the real estate industry warms to the green building concept. The developer share has increased more than eight-fold recently compared to the early years of LEED, and now accounts for more than a quarter of recent green space ...developer activity is growing 22% faster than corporate and more than twice the rate of government building.”

-RREEF Research, January 2009



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GROWTH OF LEED REGISTRATION IN A DOWN ECONOMY

7x the total number of LEED certified projects are currently registered with LEED

The ratio is 11x for LEED EB projects

-as of June 2009



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Triple Bottom Line



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What Can Your Community Do?

- Self-educate; get to know the sustainable standards and issues
- Secure staff credentials (i.e. LEED AP specialties like EB, CI, OM, etc.)
 - Chief Sustainability Officer?
- Establish a community task force with local experts
- Establish a green technical assistance / resource center; offer 'green guidelines'
- Identify and seek funding from all available sources
- Review budget; reallocate if possible
- Update / revise local codes
- Offer reduced building/permit fees; waived impact fees; expedited review process
- Partner with local universities / colleges / utilities / orgs
- Fully engage the community (cable TV, website, emails, newsletter, etc.)
- Test lab: vacant inventory building?
- Create metrics / benchmarks to measure performance & improvement
- Get the word out; PR campaign; Google Analytics / Google News
- Used phased approach
- Practice what you preach



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Get Involved

Get Involved: As an Individual

- Learn (www.usgbc.org/education)
- Join a chapter (www.usgbc.org/chapters)
- Attend Greenbuild (www.greenbuildexpo.org)
- Become an advocate
- Become a LEED AP (www.gbci.org)
- Pursue LEED certification in your building project (www.usgbc.org/leed)
- Purchase a LEED Reference Guide (www.usgbc.org/leed)

Get Involved: As an Organization

- Join USGBC National (www.usgbc.org/membership)
- Pursue LEED certification in your building projects (www.usgbc.org/leed)
- Become an Education Provider (www.usgbc.org/epp)
- Encourage your employees to become LEED APs (www.gbci.org)

© U.S. Green Building Council, 2008

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Other Green Standards*

- **You can be sustainable according to many standards! Or “just do it”.**
- LEED (USGBC)
- Energy Star (US EPA)
- Green Globes (The Green Building Initiative, Canada & US)
- BREEAM (primarily UK)
- CASBEE (Japan)
- STAR (Australia / New Zealand)
- Green Star (Alaska)
- Green Point (Residential)
- GBTool (international Green Building Challenge standard - under development)
- Earthster (The Green Workplace – consortium of prestigious universities)
- DQI: Design Quality Indicator (www.dqionline.com)... Also CABA / BiQ

* See Karl-Werner Schulte & Richard Reed “International Comparison of Sustainable Rating Tools” appearing in the *Journal of Sustainable Real Estate*, Vol. 1, No. 1, 2009



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Recommended Resources

- www.usgbc.org
- www.energystar.gov
- www.eia.doe.gov
- www.eere.energy.gov
- www.aceee.org / www.aceee.org/energy/state/index.htm
- [Database of State Incentives for Renewables and Efficiency](#)
- www.greenplaybook.org – searchable community policies
- www.mwalliance.org
- www.ashrae.org
- [Construction Carbon Calculator](#)
- www.greenbiz.com
- www.greenamericatoday.org
- www.gogreenscore.org
- www.greenerfacilities.org
- www.sedac.org / • www.sustainablechicago.biz (Illinois / Chicago area)



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Questions? For More Information...

- Visit our all-new website at www.op2mize.com
- Contact me:
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 - » **847-813-9898 / Toll-Free 888-655-9595**
- Thanks for the opportunity to exchange insights and ideas with you today!
- ***“It’s better to know some of the questions than all of the answers.” – James Thurber***



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