

# reimagine

TOWER RENEWAL SUMMIT

---

DEC 9  
2009

---

With guest speaker **Leanne Tobias**,  
nationally renowned sustainable real estate  
consultant from Washington D.C.



# Building Retrofits: Adding Value through **Green**

Reimagine Summit

Edmonton, Alberta

December 10, 2009



**Leanne Tobias**

**+1-301. 320 9060**

**[www.malachitellc.com](http://www.malachitellc.com)**

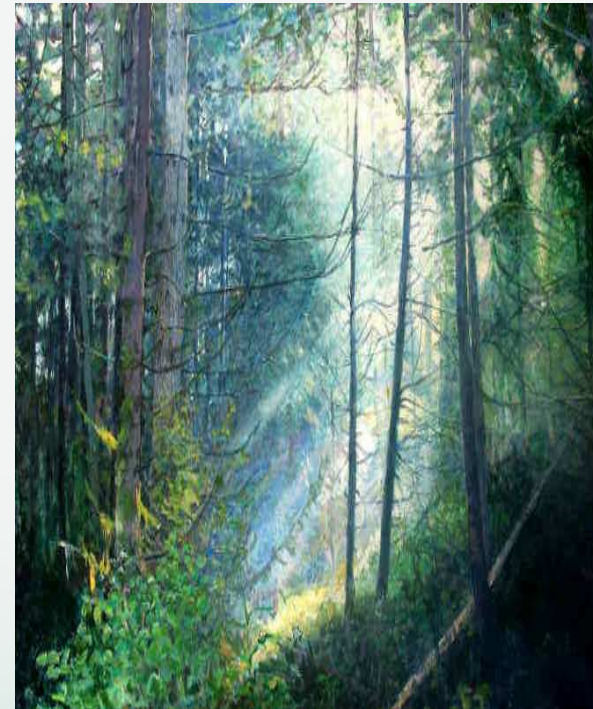
**[leanne.tobias@malachitellc.com](mailto:leanne.tobias@malachitellc.com)**

© Copyright December 2009



## What we do...

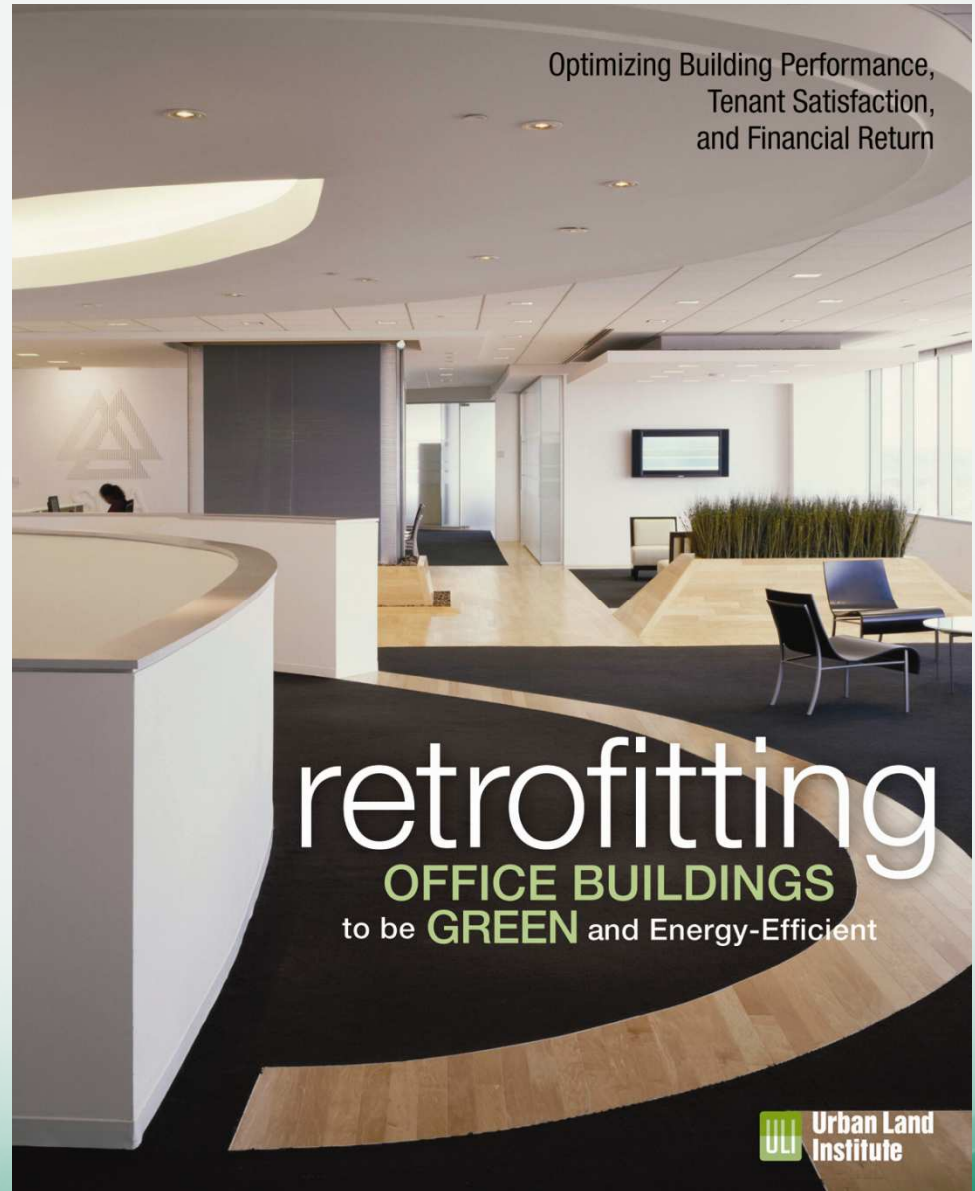
- **Expert team assembly**
- **LEED Certification**
- **Finance**
- **Pooled fund portfolio and asset management**
- **Training leasing and operations personnel**
- **Thought leadership: policy development, research**





Malachite LLC's  
new book from the  
**Urban Land  
Institute**

[www.uli.org](http://www.uli.org)



# Green Takeaways

- **Green** buildings more valuable (new quantitative evidence)
- Conventional buildings at risk of accelerated obsolescence/devaluation
- **Challenge:** greening existing properties and portfolios
- **Key:** emergence of new standards, processes and financing sources



1250 Boulevard Rene Levesque  
Montreal, Quebec

# Market Dimensions

- 2005-2008, U.S.:
  - Volume growth: \$11 BB to ~ \$30 BB
  - Market share growth: 2% -10%
- 2009-2010 Outlook: Outperform overall real estate economy
- U.S., 2013: Volume expected to triple to \$96-\$140 billion per year



111 South Wacker Drive Chicago

Source: McGraw Hill Construction, 2008

# Green Real Estate: The Value Proposition

- **Green** first costs: becoming competitive (2% premium, on average, for the new development of a moderately green building)\*
- **Green**: superior investment potential and revenue stream
- **Green**: operating cost reductions
  - 30+% reductions on utilities
  - Small insurance premium reductions
- **Green**: faster lease-up, superior rents
- **Green**: tax advantaged; public policy and economic stimulus focus
- **Green**: excellent opportunity for capital providers



HOK Offices Culver City, CA

\*Global study, Good Energies, November 2008

# Economic Impact of Energy Efficiency and Green Features

	<u>All</u>	<u>LEED</u>	<u>Energy Star</u>
<u>CoStar: Large, Multi-Tenanted Offices, March 2008</u>			
Occupancy % pts		+ 4.1%	+ 3.6%
Rental rate premium		+\$14.15	+\$2.50
<u>University of Maastricht/UC Berkeley, Quarter Mile Radius, October 2008*</u>			
Direct rental rates:	+3.0%	--**	+3.3%
Effective rental rates:	+6.4%	--**	+10.0%
Sales prices	+16%	--**	+19.1%

**\$1 saving in energy costs from increased thermal efficiency yields a return of roughly \$18 in the increased valuation (Energy Star-rated buildings)**

## University of Reading, CoStar Submarket Presented April 2009\*

Direct rental rates:	+6%	+5%	+6%
Sales prices (Hedonic model)	+36%	+35%	+31%

All studies based on CoStar's U.S. data set.

\* Data statistically significant at the 1% level of confidence.

\*\*Not statistically significant at the 5% level of confidence or better.

# Green Residential Demand Growing

- Strong occupant satisfaction and growing demand
- National Association of Homebuilders, 2007:  
85% of green homebuyers more satisfied (national survey)
- Multi-family case study data: accelerated leasing and condo sales; top tier pricing, including price premiums.



**The Solaire Apartments  
New York City**

# Revenue Impact of **Energy Efficiency** and **Green** Features: High-end Residential Market

## Green Homebuyers motivated by Wellness

- 91% would pay a premium for green features
- 41% would pay a premium even if added costs not recouped
- Most are affluent and highly-educated
- Wellness-Motivated U.S. Homebuyers with Incomes Over \$250,000:
  - >60% would spend more for green features, even if the additional costs were not recouped
- *What About Price Sensitive Homebuyers?*
  - 75% will pay premium if recouped in under 5 years
  - Median payback need is 3.82 years
  - 18% will pay premium even if payback not recouped

Source: RCLCO, 2007 U.S. national survey



**Lucida LEED Condominiums  
New York, 151 East 85<sup>th</sup> Street**

## Revenue Impact of **Energy Efficiency** and **Green** Features: Hotel & Resort Market

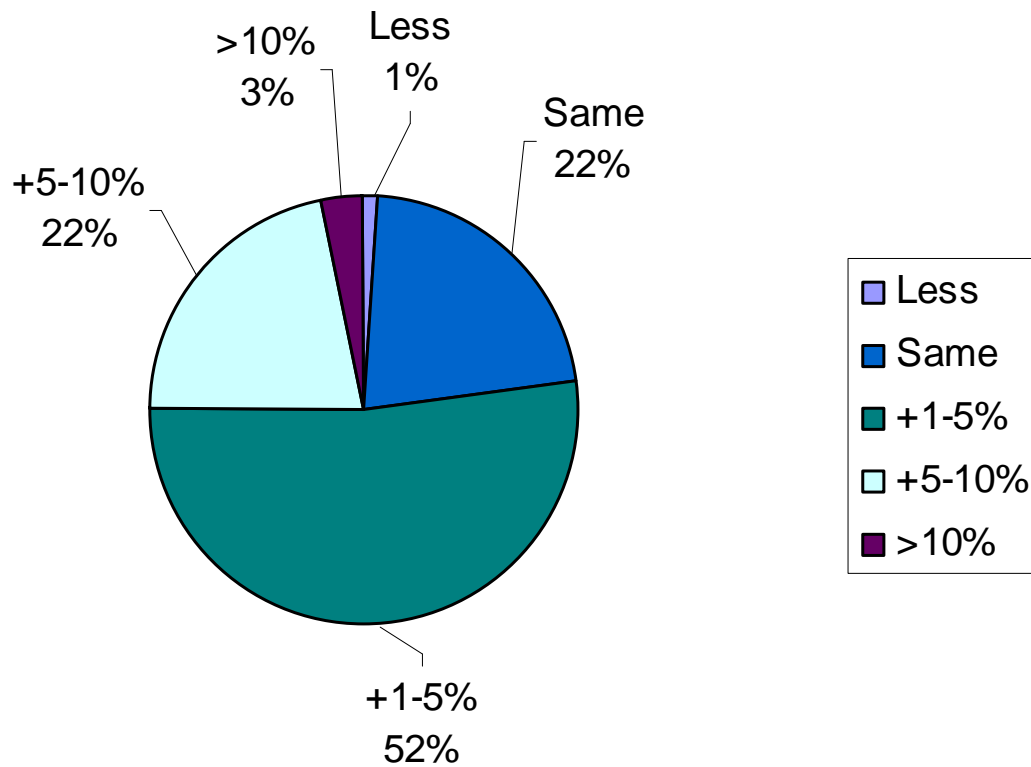
- **38%** of travelers would pay a premium for environmentally-friendly accommodations.\*
- **9%** seek out green hotels.\*
- An increasing number of hotels and resort companies are launching green brands, As of 2008, **451** U.S. hotels and resorts had registered for or obtained green certification -- most of these properties are luxury destinations



**El Monte Sagrado, Taos, New Mexico**

\*Trip Advisor survey, 2007; reported by Ernst and Young, 2008.

# Green Space, Corporate Users North America, Spring 2007 Jones Lang LaSalle, CoreNet



- 77% would Pay More
- 23% would Pay Same or Less
- 83% believe supply limited



## Green Retrofit Payback Data: 25 U.S. Projects

### Implementation Costs and Benefits

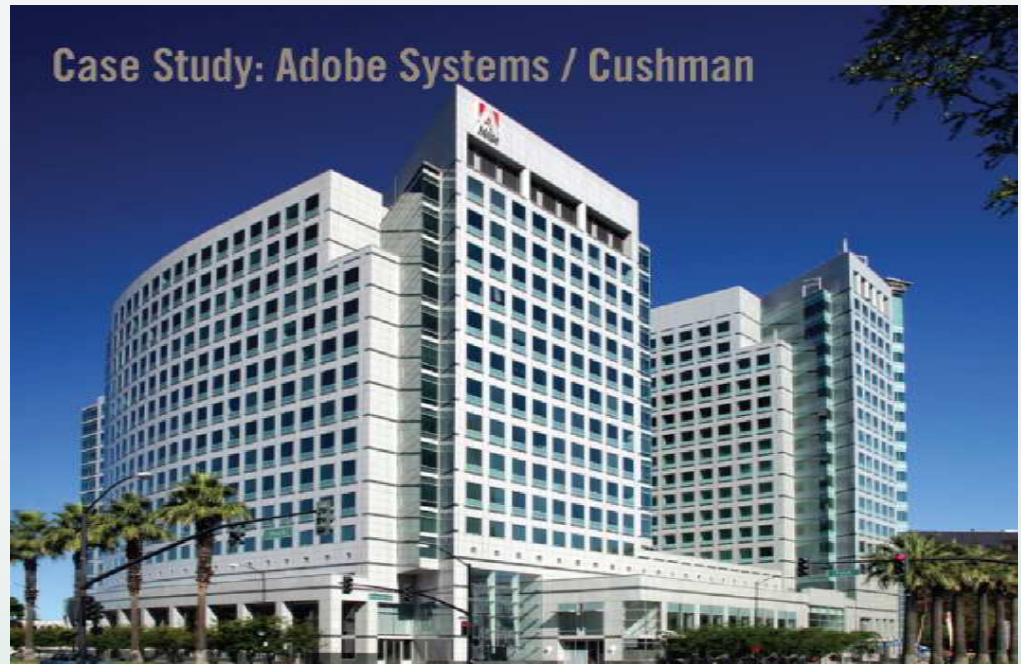
#### LEED EB Retrofits(1)

City	State	Energy Star	Level	SF	Cost	Cost PSF	Savings	Payback	ROI
Charlotte	NC	75%	Silver	324,305	\$53,777	\$0.17	\$60,000	9 months	112%
Charlotte	NC	75%	Certified	298,371	\$52,910	\$0.18	\$58,000	8.8 months	110%
Walnut Creek	CA	89%	Gold	249,391	\$88,808	\$0.36	\$96,100	11 months	108%
Sacramento	CA	78%	Gold	336,104	\$88,853	\$0.26	\$90,000	10 months	101%
Minneapolis	MN	91%	Gold	621,193	\$191,130	\$0.31	\$186,238	1.01 years	97%
Denver	CO	79%	Certified	263,716	\$108,097	\$0.41	\$102,750	1.05 years	95%
Dallas	TX	89%	Silver	1,113,575	\$291,136	\$0.26	\$237,400	1.4 years	82%
Dallas	TX	78%	Certified	515,388	\$64,460	\$0.13	\$50,000	1.2 years	78%
Los Angeles	CA	90%	Silver	587,022	\$71,700	\$0.12	\$55,000	1.3 years	77%
Atlanta	GA	87%	Gold	410,357	\$116,812	\$0.28	\$89,000	1.3 years	76%
Fort Lauderdale	FL	92%	Gold	261,676	\$108,641	\$0.42	\$77,000	1.5 years	71%
Atlanta	GA	73%	Certified	670,000	\$57,950	\$0.09	\$40,000	1.4 years	69%
Chicago	IL	85%	Gold	800,000	\$114,950	\$0.14	\$75,000	1.5 years	65%
Billerica	MA	74%	Certified	353,242	\$54,281	\$0.15	\$35,000	1.5 years	64%
Vienna	VA	83%	Silver	346,618	\$53,700	\$0.15	\$32,000	1.6 yrs.	60%
Denver	CO	87%	Silver	435,672	\$67,821	\$0.16	\$40,000	1.6 years	59%
Los Angeles	CA	98%	Gold	317,058	\$58,437	\$0.18	\$33,000	1.7 years	56%
Atlanta	GA	82%	Silver	625,071	\$91,520	\$0.15	\$50,000	1.8 years	55%
Atlanta	GA	73%	Certified	670,000	\$78,110	\$0.12	\$40,000	1.9 years	51%
Greenwood Village	CO	78%	Silver	317,218	\$68,530	\$0.22	\$30,000	2.2 years	44%
Atlanta	GA	73%	Certified	312,000	\$72,990	\$0.23	\$31,000	2.3 years	42%
Oakland	CA	80%	Silver	273,355	\$59,033	\$0.22	\$25,000	2.3 years	42%
Denver	CO	78%	Certified	150,673	\$48,766	\$0.32	\$15,000	3.2 years	31%
Los Angeles	CA	84%	Silver	137,369	\$51,084	\$0.37	\$13,000	3.9 years	25%
Greenwood Village	CO	82%	Silver	115,408	\$47,885	\$0.41	\$10,000	4.7 years	21%
				<b>Avg. Sq. Feet</b>	<b>Avg. Cost</b>	<b>Avg PSF Cost</b>	<b>Avg. Savings</b>	<b>Avg Payback Yrs</b>	<b>Avg ROI</b>
				420,191	\$86,455.24	\$0.21	\$62,819.52	1.38	73%

(1) Source: Envision Realty Services, Craig Sheehey, September 2008; Green Building Finance Consortium.

## Case Study: Adobe Systems Cushman & Wakefield

- \$1.64 MM spent
- 64 retrofit projects
- \$389,000 in rebates
- \$1.2 MM in annual savings
- 10 month payback
- 121% ROI
- LEED Existing Buildings:  
Platinum Certification



Source: Cushman & Wakefield, U.S.  
Green Building Council



## Adobe / Cushman Summary

Description	#	Cost	Rebate	Savings	ROI
Load Management	26	\$445,248	\$205,437	\$729,185	304%
Lighting	19	\$300,701	\$44,918	\$155,616	61%
Equipment	6	\$298,439	\$122,575	\$107,976	61%
Monitor & Controls	1	\$39,472	\$11,000	\$12,001	42%
Water Management	3	\$145,732	\$5,396	\$31,287	22%
Waste Management	2	\$0	\$0	\$137,380	immediate
Office Supplies	1	\$0	\$0	\$8,700	immediate
Janitorial	1	\$0	\$0	\$0	n/a
Indoor Air Quality	1	\$0	\$0	\$0	n/a
Alternative Trans	1	\$0	\$0	\$0	n/a
Alternative Energy	1	\$16,000	\$0	\$0	n/a
LEED Consult	1	\$105,000	\$0	\$0	n/a
Registration/Cert	1	\$12,000	\$0	\$0	n/a
<b>Total</b>	<b>64</b>	<b>\$1,362,592</b>	<b>\$389,326</b>	<b>\$1,182,145</b>	<b>121%</b>

## Adobe/Cushman: It Doesn't Need To Be Fancy

Project	Cost	Rebate	Annual Savings	Payback (Yrs)	ROI
Lighting Dimmers	\$84,034	\$21,108	\$46,853	1.4	73%
Waterless urinals	\$35,374	\$5,396	\$6,338	4.7	21%
Drip irrigation	\$ 3,610	\$0	\$9,001	5 months	249%
Garage fan reprogram	\$ 200	\$0	\$98,000	immediate	48,204%

## 1801 McGill College Montreal, Canada

- Substantial renovation, 2007
- **20%** reduction in heating costs
- Energy savings part of repositioning
- BOMA Canada Office Building of the Year winner



1801 Avenue McGill College  
Montreal, Quebec

# 1801 McGill College Avenue Montreal



# Emerging Green Investment Trends

- Strong institutional investor interest
- Green funds coming to market
- Commercial lenders beginning to develop programs
- ESCOs
- Emerging trends
  - Green CMBS
  - RECs, carbon trading (monetizes green energy savings)



1180 Peachtree Street  
Atlanta, Georgia

# Green Investment: Most Vehicles are Private Equity

- Most of the action is in **private equity**
- **Green private equity:**
  - Hines/CalPERS
  - Rose Smart Growth Fund
  - JP Morgan
  - Principal
  - Other funds being formed
- **2009 spin: distress buys with green value-add**



Southeast Regional Treatment Center  
Madison, Indiana, HOK

# Few Public Vehicles

- Conventional REITs adding green: Liberty Property Trust, ProLogis.
- Green spinoffs in future?
- Potential: SRI investors, \$2.3 trillion U.S., €1 trillion EU; public plans; union plans



Liberty Property Trust  
Plaza at PPL, Allentown, PA

# Debt Financing Opportunities

- **Larger lenders: selective and growing interest**

**Wells Fargo:** \$3 billion in green projects

**B of A:** initiating new training program for lenders, planning to expand platform

- **Regional construction lenders:** small programs, preferred review, interest rate and LVR incentives



# Selected Regional **Green** Construction Loan Programs

<u>Bank</u>	<u>Locations Served</u>	<u>Incentives</u>	<u>Green Criteria</u>
Banner Bank	Oregon, Washington, Idaho, Arizona considered	¼ point discount	LEED
Community Bank of Arizona	Arizona, S, California	½ point discount	LEED, Energy Star
Howard Bank	Howard County, Maryland	¼ point discount	LEED, Energy Star
New Resource Bank	San Francisco, California area; Other California	¼ point discount	Third party certification; LEED; Energy Star
Second Angel Bancorp	California, Oregon, Washington, Nevada	Preferred review	LEED elements, flexible
Shorebank Pacific	Oregon, Washington	Potentially higher LTV Performance pricing Oregon tax credit pass-through	Third party certification; LEED; Energy Star
Umpqua Bank	Oregon, Washington, California, Idaho	Preferred review Oregon tax credit pass-through	LEED, Energy Star
United Community Bank	Chatham, Georgia; contiguous counties	¼ point discount	Pilot program, LEED

Source: Green Real Estate News, February 2008, [www.greenrealestatenews.com](http://www.greenrealestatenews.com)

# Non-Mortgage Finance Alternatives for Existing Owners/Retrofits

- Huge market potential:  
Finance retrofits without conventional debt.
- Energy-savings performance contracts/ESCOs  
Long-term lease of energy-saving technology; utility savings pays lease. Immediate savings, but no equipment ownership.
- Chauffage/MESA  
Third party installs energy-saving technology and takes over property utility bills under long-term contract at rate equal to historical energy bills. No immediate savings, but equipment owned outright.



# The Role of Public Policy

- Good progress to date: but more to needs to be done
- Trends:
  - Municipal and provincial regulations
  - Building code requirements
  - Energy labeling
  - New public finance trends (“on bill” or “tax lien” financing)
  - National economic stimulus initiatives



**Ontario Green Energy Act: 2009**

# Global Climate Change Policy

- IPCC: real estate sector leading sector for effective climate change policy
- Energy efficiency improvements are “cost negative”
- IPCC: cost-effective building energy improvements could reduce 2020 baseline property emissions by 30%. Impact: 7%-10% reduction in total 2020 emissions
- UN: recommends overhaul of Kyoto framework to incorporate property sector.



# Top 10 Rules for Green Success

1. Use well-established protocols: BOMA Canada, Canada GBC
2. Expert interdisciplinary teams: design, construction, finance, energy, legal, marketing, building operations
3. Plan ahead: Early incorporation of green features into design, construction, renovation, operating plans
4. Conduct tenant market research during design
5. Use green features as a market differentiator
6. Train leasing and sales brokers to sell green
7. Consider greening your tenant leases: tenant responsibilities, recoveries
8. Green your contracts: contractor performance clauses; energy-savings performance contracts
9. Use public incentives to offset costs
10. Operate smart: tenant/staff manuals and training



Bank of Montreal Building  
Regina, Saskatchewan

**GREEN BUILDINGS:**  
**A NEW WAY TO CREATE REAL ESTATE  
VALUE**



**Leanne Tobias**

+1-301-320-9060

[www.malachitellc.com](http://www.malachitellc.com)

[leanne.tobias@malachitellc.com](mailto:leanne.tobias@malachitellc.com)