



RREEF Alternative Investments

Real Estate

Infrastructure

Private Equity

Green Building from an Institutional Investor's Perspective

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RREEF Research

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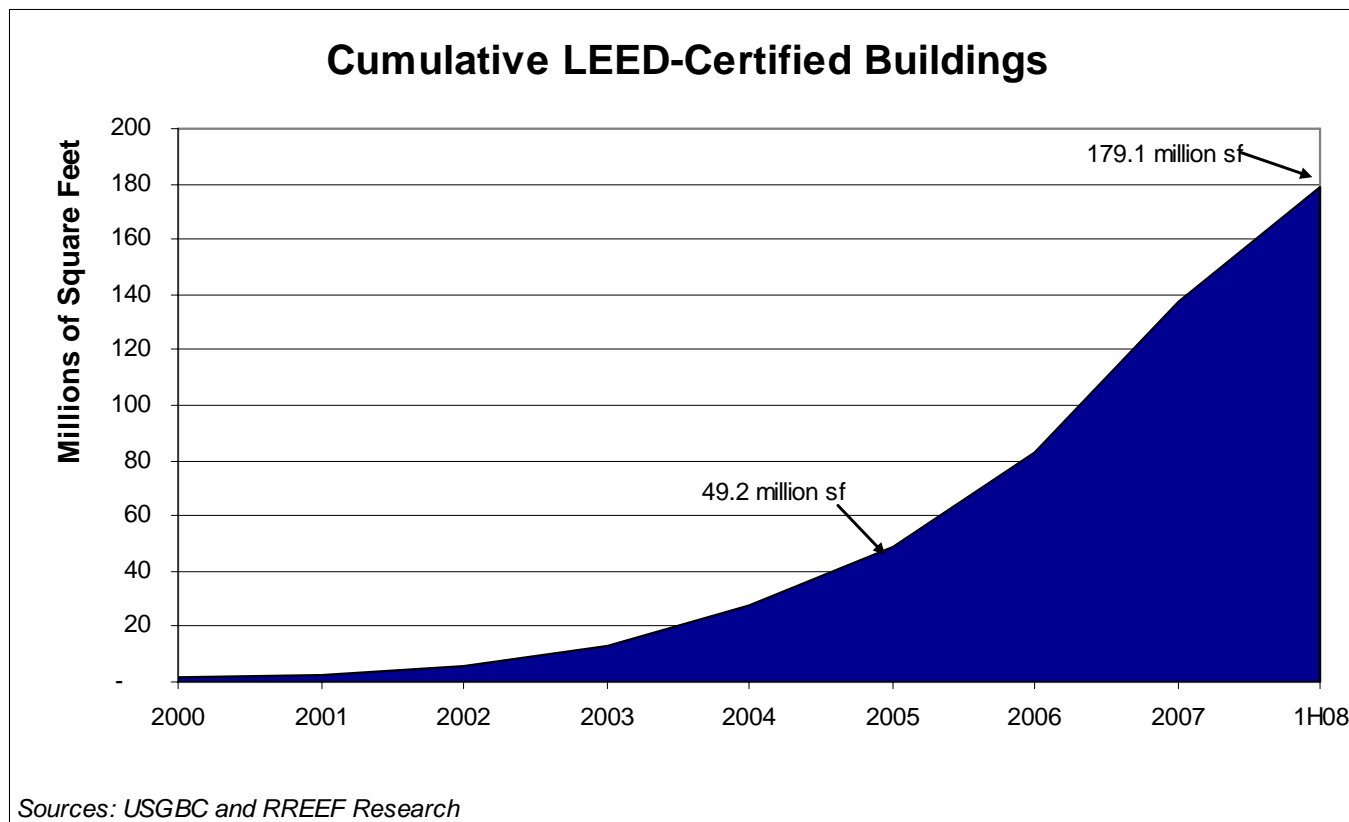


Presentation Overview

- U.S. Green Building Trends
- Factors Driving Green Building Investment
- Green Building Prospects
- Implications for Investors

Green Building Trends: Overall Volume

Yes, green building really is catching on

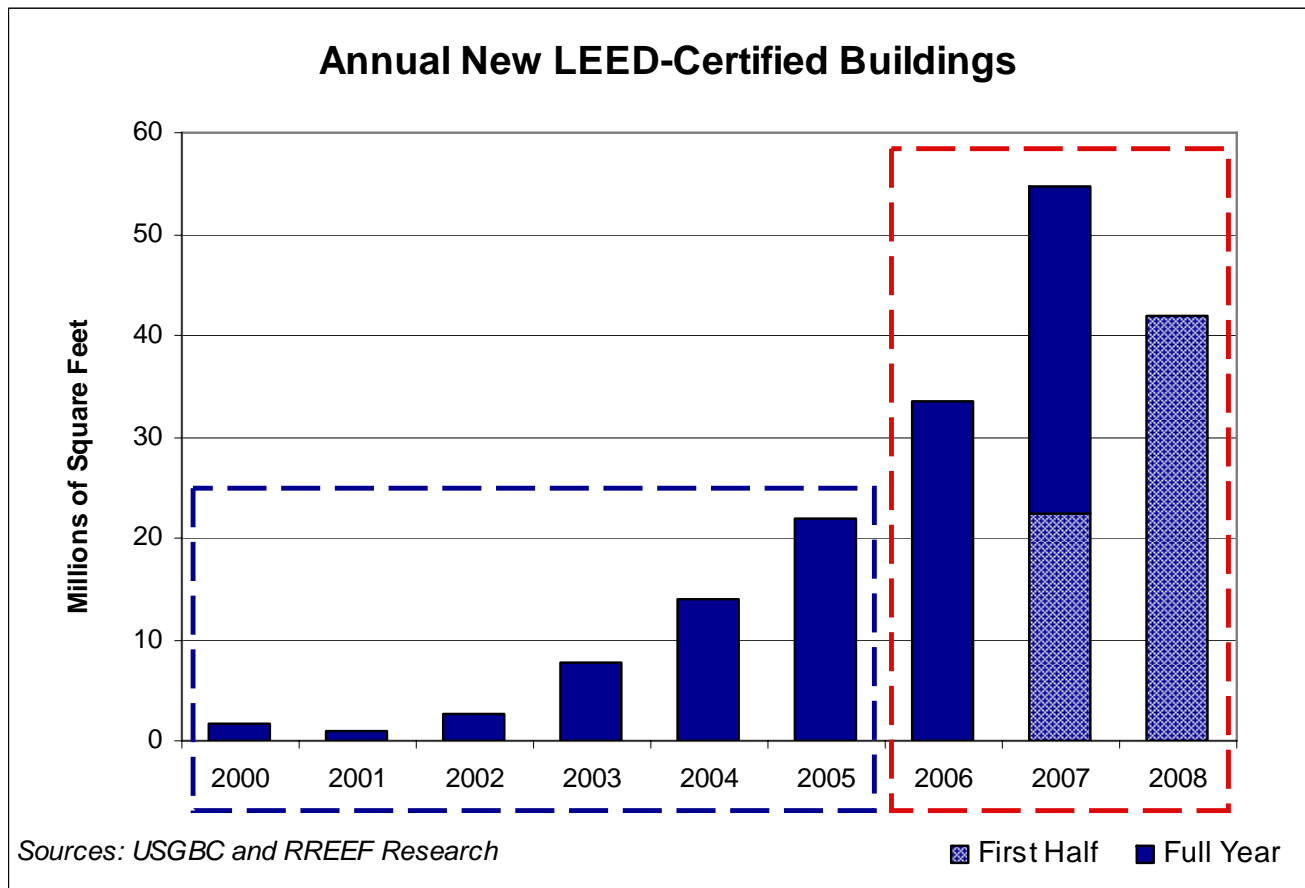


179M SF of building area in U.S. as of June 2008 + 5M SF more in July alone



Green Building Trends: Annual Volume

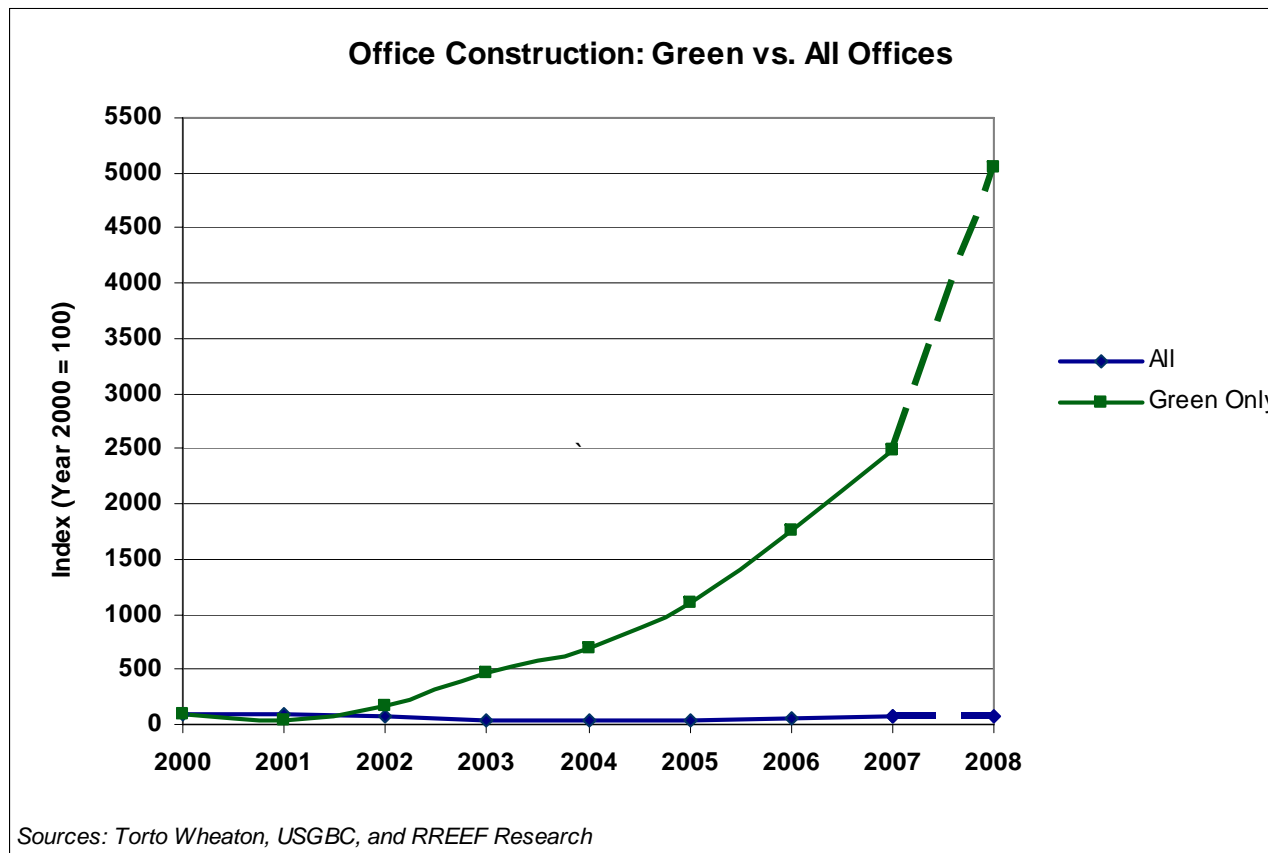
The amount of new green buildings is increasing each year. . .



Amount in last 2.5 years = 2.6X more than amt in prior six years combined

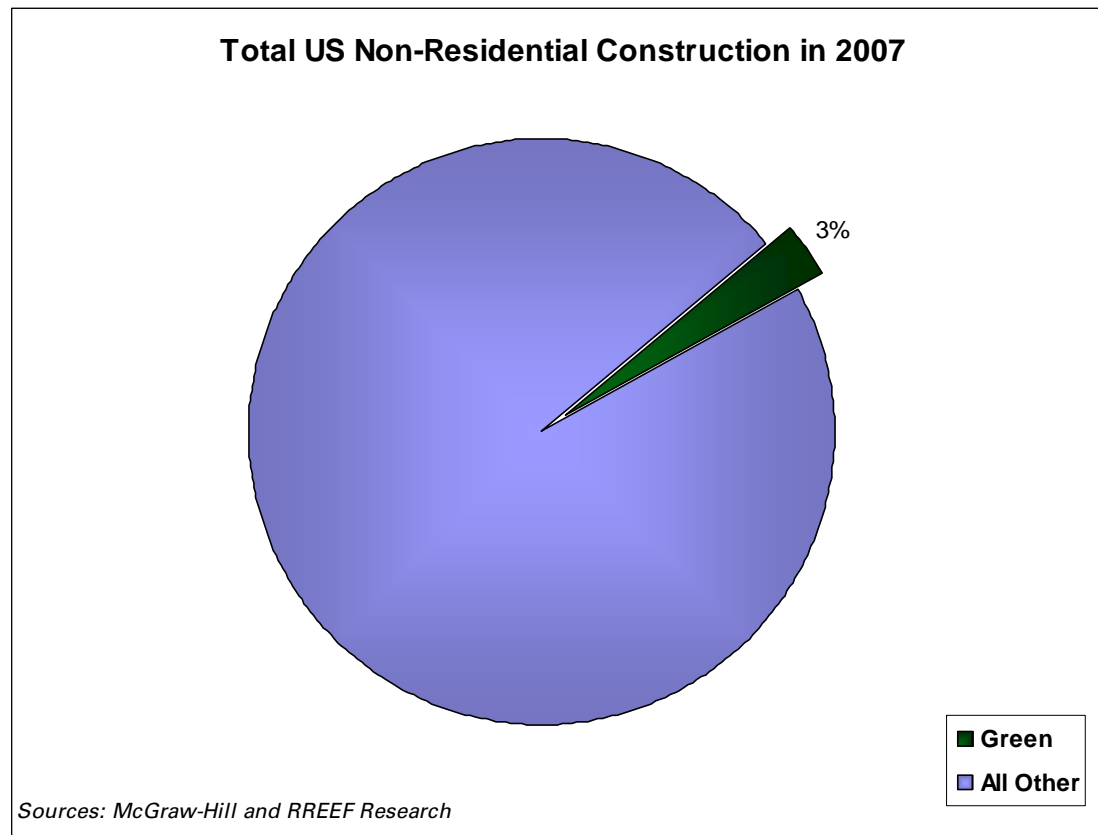
Green Building in Context

. . . while commercial construction overall has been flat . . .



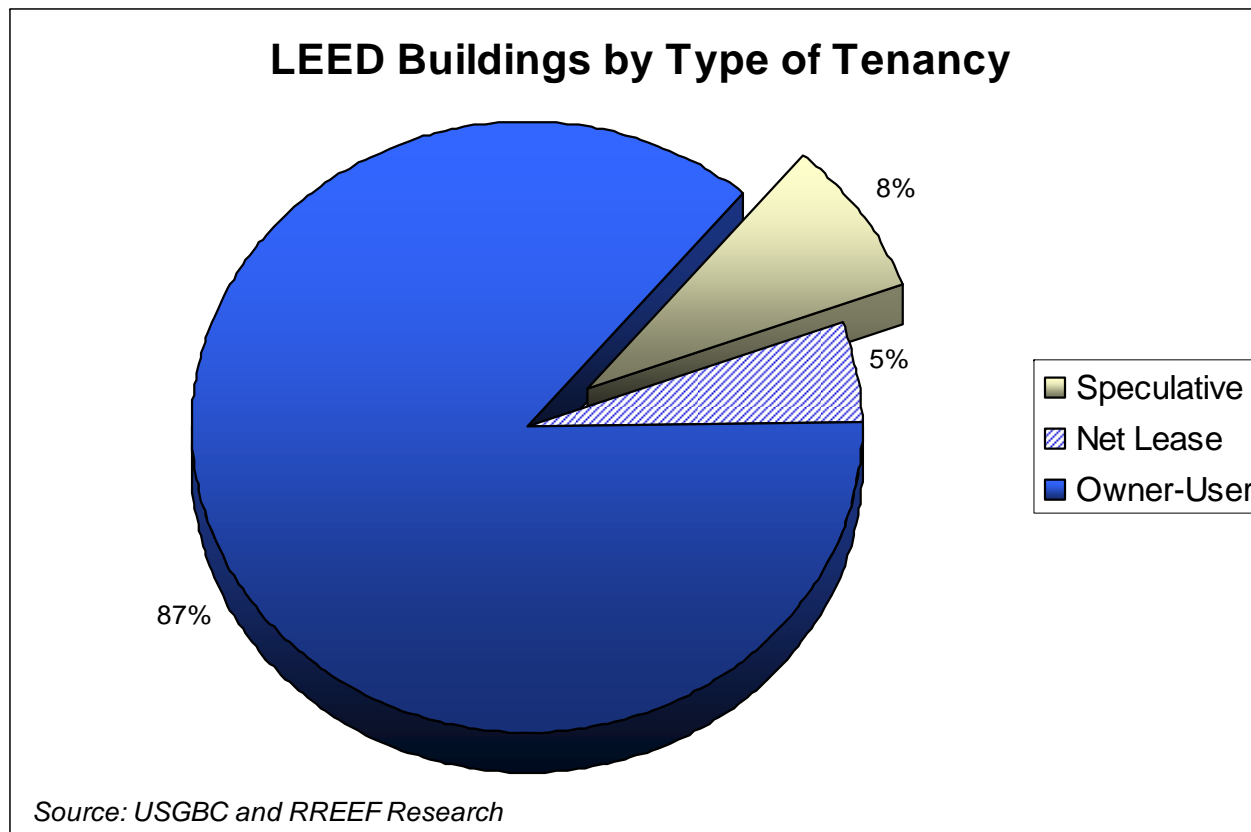
Green Building in Context

Still, green building accounts for negligible share of total construction . . .



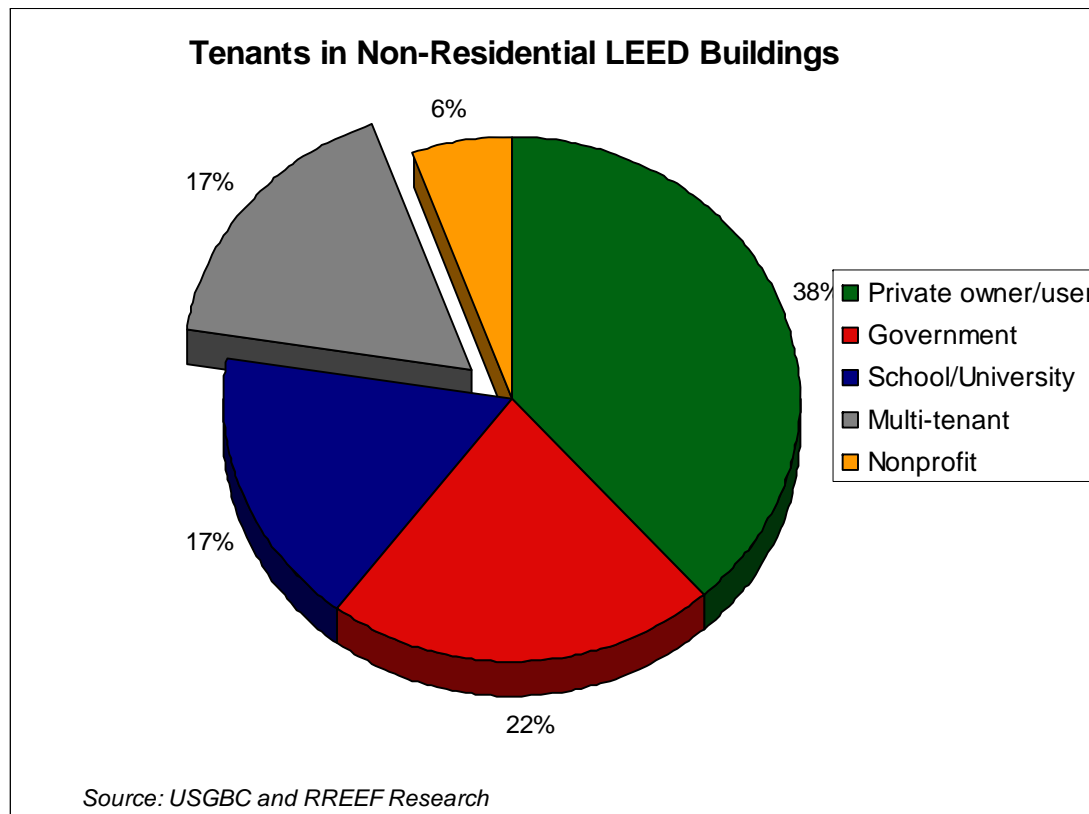
Green Building in Context

. . . and vast majority of green product is owner-occupied or build-to-suit . . .



Green Building in Detail

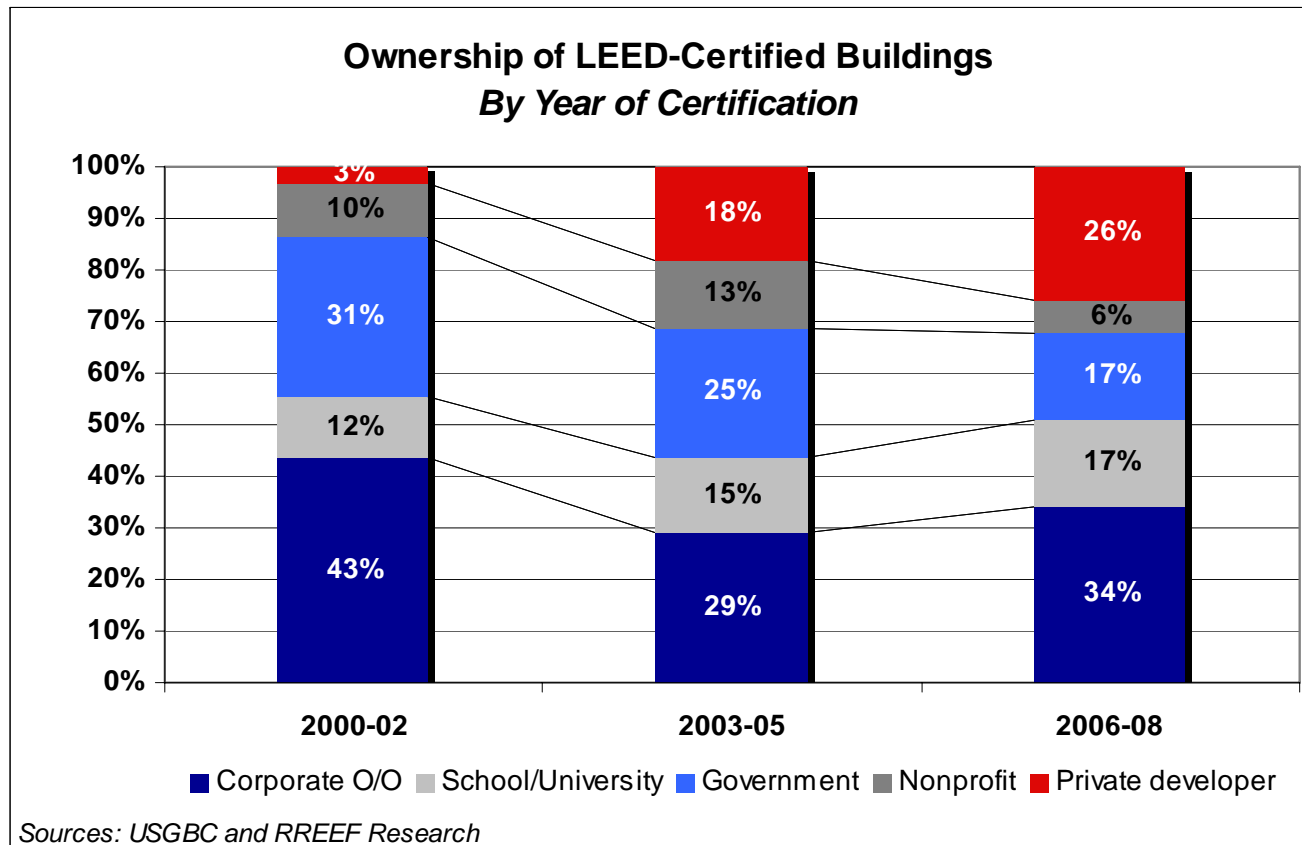
... as large corporations / institutions account for most green bldgs ...



Buildings with multi-tenant leases account for small share of green building area

Green Building in Detail

. . . though the o/o share is dropping and developer share is rising.



Global Factors Driving Green Building and Investment

- Tenant Demand
- Investor Demand
- Globalization of Real Estate Markets
- Environmental Change Agents
- Government
- The Business Case for Green Buildings

Tenant Demand

- Market differentiator / goodwill benefits
- Civic responsibility / corporate accountability
 - Corporate Sustainability Reporting (CSR)
 - Carbon Disclosure Project (CDP) and carbon neutrality
- Financial motivations
 - reduce operating costs
 - productivity gains
 - employee attraction and retention

→ *tenants will increasingly migrate from conventional to greener buildings, esp. large anchor tenants that demand premium space.*

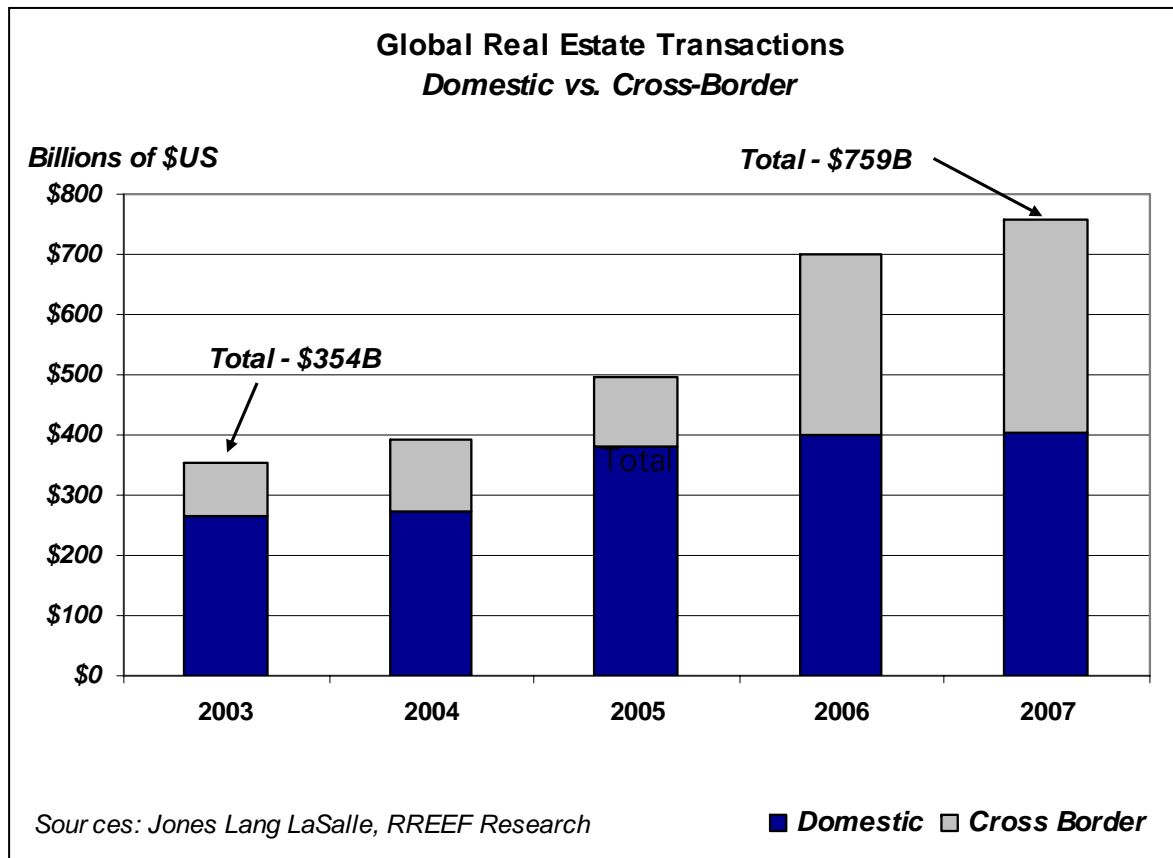
Investor Demand

- Institutional investors (traditional real estate investors)
 - private equity
 - pension funds
 - public markets (REITs)
- Green investors
 - “next wave” investors – motivated by green *profits*
 - “social” investors – motivated by green *impacts*

➔ *developers, lenders, and fiduciaries increasingly pressured and empowered to adopt greener policies*

Globalization of Real Estate Markets

All markets are local, but investment is increasingly global



Cross-border investment now = half of all real estate transactions



Role of Environmental Change Agents

- Investment research firms
- Institutional investor groups
 - Investor Network on Climate Risk (INCR)
 - Institutional Investors Group on Climate Change (IIGCC)
- UNEP's Property Working Group
- Corporate responsibility groups
 - Carbon Disclosure Project (CDP)
 - Global Reporting Initiative (GRI) – CSR standards

➔ *real estate industry pressured by society to be greener.*

Role of Government

- Market influence
 - as buyer/developer – gov't usually country's largest landlord (by far)
 - as renter – gov't usually country's largest tenant (by far)
- Raise awareness / demonstrate efficacy
- *Local* regulation: subsidies → mandates
- *Federal* regulation: caps, taxes, and transparency

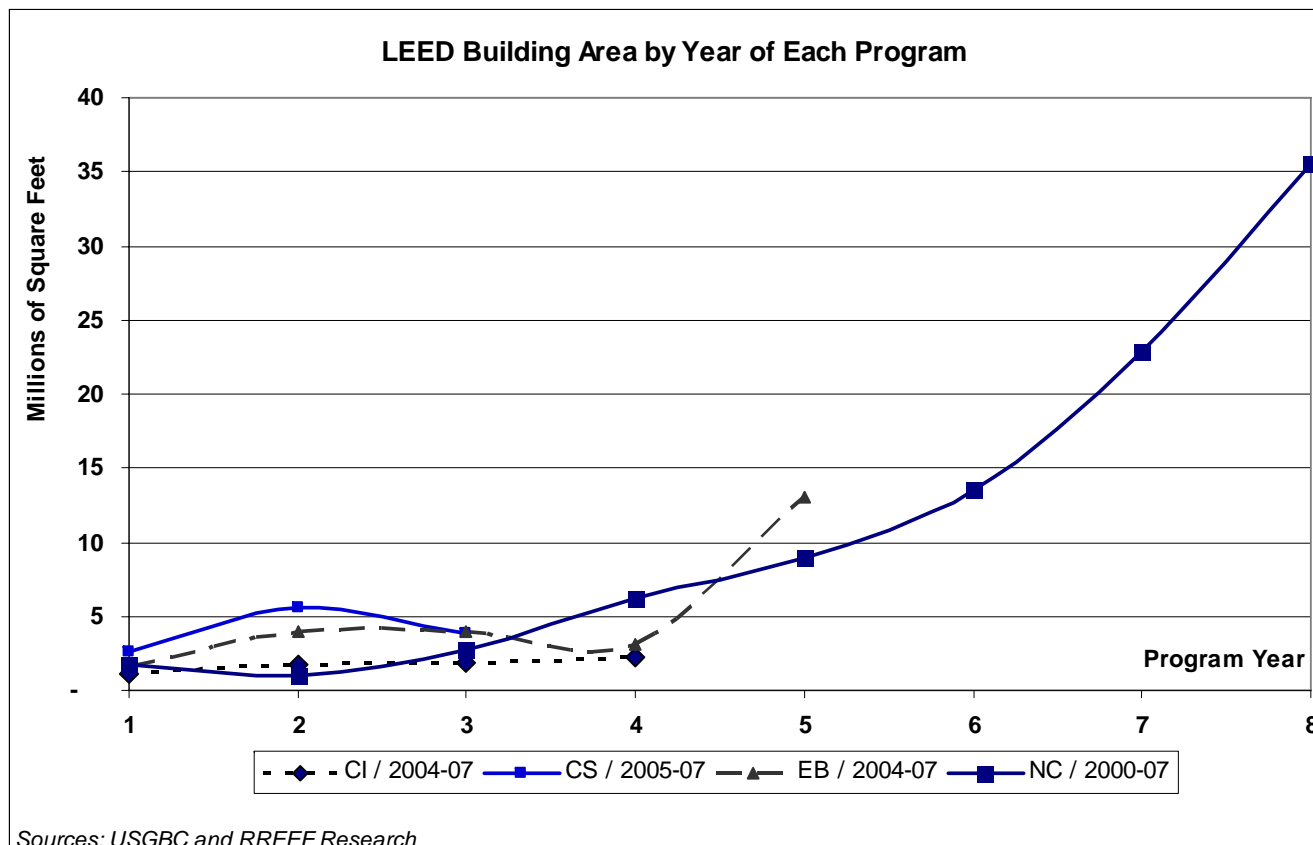
→ *conventional buildings will be increasingly difficult to construct, and more costly to operate.*

The Business Case for Green Buildings (from *Investor's* Perspective)

- *New construction*: minimal cost premiums, offset by incentives
- *Renovating existing buildings*: probably, but . . . diversity of the stock makes blanket statements impossible
- *Operating performance premiums*: higher rents, lower vacancies and turnover (for now)
- *Financial returns*
 - longer system lives and lower maintenance expenses but . . .
 - value premiums upon resale uncertain though likely

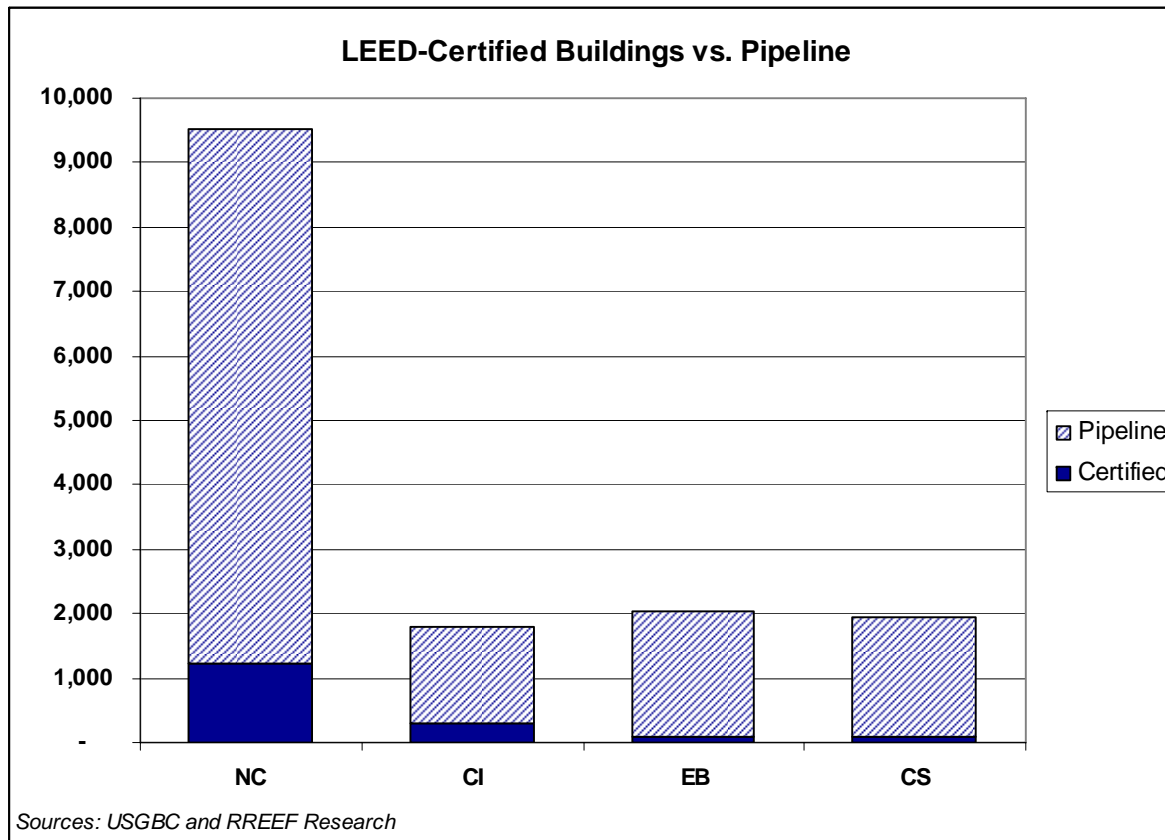
Green Building Potential

LEED programs take time to take hold



Green Building Potential

Pipeline of (mostly) constructed projects ensures more new supply

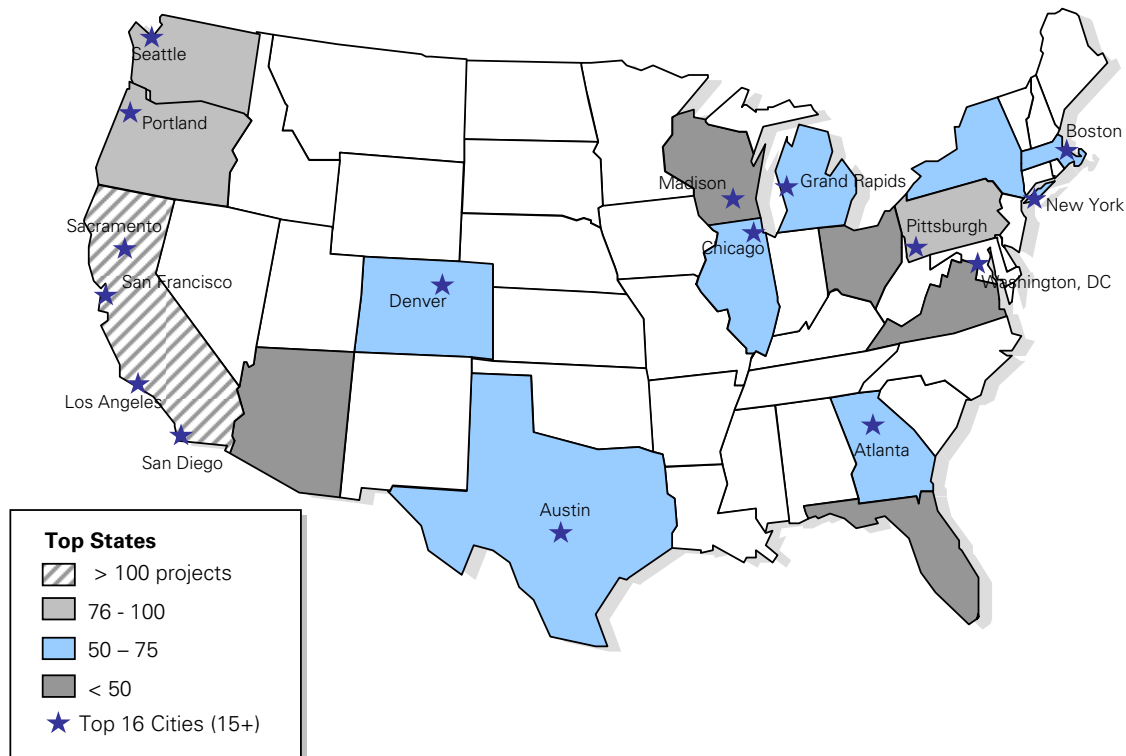


Green building stock will continue to grow even as conventional construction stops



Green Building Trends: What's Next and Where?

**LEED-Certified Buildings
Top States and Cities**



Sources: USGBC and RREEF Research



Implications for Investors

- Investment opportunities
 - limited near-term opportunities for new green construction
 - growing opportunities to purchase green buildings
 - even greater opportunities to retrofit existing stock
- Risks to existing buildings (and their owners)
 - market risks
 - regulatory risks
 - environmental risks

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