DO GREEN BUILDINGS MAKE DOLLARS AND SENSE?

Speakers:

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An ongoing study started in 2009

- An analysis of energy costs, energy savings, worker productivity and commercial office tenant attitudes towards sustainable real estate.

- The CBRE Commitment
  - Green Knights
  - Carbon Neutral

- The University of San Diego Commitment with CoStar support
  - The Journal of Sustainable Real Estate, see www.josre.org
Data 154 buildings, 755 tenants responding
Key Findings

Green buildings tend to be more intensively managed, making overall operating expenses equivalent to non-green buildings

- Average occupancy has been higher than market (until recently)
- Average rental rates higher than market
- Those surveyed agreed employees are:
  - More productive
  - Take fewer sick days
- Tenants will seek green buildings for future space
Recycling is an increasing priority.
Operations

Among others, water conservation practices are also prevalent.

Green Building Operations

- Water Conservation: 80%
- Restrictive Plumbing: 65%
- Integrated Pest Mgmt: 50%
- Motion Sensors: 15%
Operations

**High use** of green products by cleaning staff

Green Cleaning Products

- 81% Green Cleaning Practices
- CRI Certified Chemicals
- CRI Certified Floor Equipment
- Microfiber Wipes
**Operating Expenses**

- Overall, operating expenses were about the same between the Peer Set and other CBRE managed properties, including a similar average ENERGY STAR score.
- Most commonly reported expenses for both sets ran about $10-12 PSF per year.
- Survey Set buildings had less extremes at high end of distribution (e.g., the peer set had more poor performing outliers or “fat tails”)

**Expenses**

- Costs were about the same at $10-12 PSF.
- Survey Set had fewer “fat tails”
Improvement from 50 to 80 points would save an average of almost 25% in electricity costs.

Each higher point in ENERGY STAR score saved approximately .83% in electrical costs PSF/year.

Example:

<table>
<thead>
<tr>
<th>ES Score</th>
<th>Cost/PSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denver</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>$2.75</td>
</tr>
<tr>
<td>80</td>
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<td>70</td>
<td>$2.40</td>
</tr>
<tr>
<td>90</td>
<td>$1.40</td>
</tr>
</tbody>
</table>
Separate Metering

- Significant impact on electrical and gas savings
- Saved an average $.42 PSF/year over comparable non-separately metered buildings – green or not
- Metered buildings generated an average 21% savings for high ENERGY STAR buildings
Survey Set building occupants earn more than any other SIC employee category.
Nearly all the public companies had sustainable mission policy statements, and many strongly agreed with it.
About one-third shared commitment with their employees.

- Yes: 34%
- No: 66%
Commitment

Approx. same number has a dedicated “green” staff

Staff Dedicated to Sustainability Issues

Yes
32%

No
68%
55% agreed that productivity increased after moving. This 4.88% average boost translates to about $20 PSF/year for those who agreed.
Productivity
Average 2.88 decrease in sick days, or about $5.00 PSF/year

Fewer Sick Days vs. Previous Location

- Agree 45.5%
- Neutral 44.5%
- More 10%
Perceptions

While early in leasing and management of buildings with green features & policies, 71% say important

Best practices will become inherent in leases

Sustainable Practices in Lease Renewals

- Important 56%
- Not Important 29%
- Very Important 15%
Perceptions

Current leases focus on just a few aspects of green occupancy

Lease Provisions for Sustainability

- **72%** After Hours Lighting and HVAC Provisions
- **23%** Requirements for Recycling Participation
- **5.4%** Parking for Alternative Fuel Vehicles or Hybrids
Commitment

While encouraging compared to earlier surveys, most tenants pay more rent for green buildings independent of their survey response – see the results on the next few slides.

Would Pay Higher Rent for Green Space

- Yes: 18%
- No: 82%
Gross Rents Have Softened But There is Still a Green Premium
Office, 5 stories plus, 200,000 to 1 Million, Multi-tenant
Source: CoStar

LEED rents are running $2.90 more per square foot (10% more) but as shown on the next slide vacancy is also running higher.
Vacancy Percentage Rates:
Office, 5 stories plus, 200,000 sq ft to 1 Million, Multi-tenant
Source: Costar

Much of the high end newer supply of office is now being delivered as LEED certified or higher. This has resulted in higher vacancy rates by 6.4%. Rent premiums vary by market – see next two slides.
In California unlike Ohio, shown below, there is a significant rental premium for LEED buildings, but a slightly higher vacancy rate.
In Ohio unlike California there is no rental premium for LEED buildings (even negative) but then the occupancy rates are higher.
Summary

- Green buildings tend to be more intensively managed, have stronger occupancies & lower utility costs (including lower experience of much higher expenses)
- Separate metering has more impact on energy savings (21% savings) than almost any other factor
- Each point higher in ENERGY STAR saves .8-1% in electricity
- Green buildings observe higher claims of productivity in comfort, air, lighting and sick days
- Higher reported productivity + gains from fewer sick days = nearly $25/PSF improvement for those responding yes (nearly the amount of average rent)
Summary

- Most tenants won’t admit to paying more for green features, yet evidence shows that they do (and will) pay more for green.
- Green lease provisions are increasingly important (70%).
- Healthier indoor environments matter to tenants for staff retention (61%) and client image (74%).