DO GREEN BUILDINGS MAKE DOLLARS AND SENSE?

Presented by:

Dave Pogue, LEED AP, National Director of Sustainability
Charlotte Eddington, EMEA Head of Sustainability
Karen Ellzey, Executive Managing Director, CBRE Strategic Consulting
Raymond Torto, Global Chief Economist, CBRE

DECEMBER 16, 2009

Global Research and Consulting
Facilitators

Karen Ellzey
Karen Ellzey is the Executive Managing Director of CBRE’s Strategic Consulting Organization. The team is organized to deliver tailored strategies to corporate real estate organizations through a core team of platform consultants, as well as through embedded, and project-based resources located all over the world.

karen.ellzey@cbre.com

Raymond Torto, PhD, CRE
Ray Torto is CBRE’s Global Chief Economist. He directs CBRE’s worldwide team of commercial real estate market analysts and serves as the firm’s primary spokesperson on macro economic issues and the global commercial real estate market.

He is active in many organizations including being Treasurer of the Pension Real Estate Association. As a former professor and author, he continues to teach in the Executive Education Program in the Harvard School of Design. Ray earned his Ph.D. in Economics from Boston College.

raymond.torto@cbre.com
David L. Pogue
Featured Speaker

As National Director of Sustainability, Dave Pogue is responsible for the leadership of CBRE’s sustainability programs for its portfolio across the Americas. Dave manages the development, introduction and implementation of sustainable practices and policies throughout CBRE’s 1.1 billion square foot Americas portfolio, focusing on maximum financial performance and responsible environmental stewardship.

Dave’s efforts have led to the introduction of the firm’s Sensible Sustainability program, which includes the aggressive endorsement of EPA ENERGY STAR, introduction of the Green Knights, company-wide delivery of the BOMA BEEP training and participation in USGBC’s pilot LEED EB Portfolio program. CBRE has been recognized the past two years as EPA ENERGY STAR “Partner of the Year” and was awarded the USGBC Leadership Award for Organizational Excellence.

dave.pogue@cbre.com
Charlotte Eddington

Featured Speaker

Charlotte Eddington leads the EMEA Energy & Sustainability Group, and specializes in energy project investment & corporate sustainability strategies. Charlotte has worked in the field of renewable energy and sustainability for eight years and has advised a wide range of clients on key strategic decisions related to investment opportunities and positioning in this field, at a corporate & project level. Charlotte graduated from the University of Reading with a BSc with Honors in Land Management, is a Chartered Surveyor (MRICS) and a Chartered Environmentalist (CEnv).

charlotte.eddington@cbre.com
Agenda

Background
US Market Overview
The Study
Summary of Findings
EMEA Perspective
Background on the Study
Aspirational
2006-07
Carbon Neutral by 2010
USGBC Partnership
ENERGY STAR®
Sustainability Group
Web and Intranet
Operational 2008

Property Standards
101 Sustainability Tips
LEED™ Consulting
BOMA BEEP
EPA Change a Light
Tenant Outreach
Green Knights

Standards of SUSTAINABILITY

OUR COMMITMENT to all of our buildings will:

1. Register all buildings to the ENERGY STAR® program, starting with all

   material utilized and pursing certification phases for all eligible buildings;

2. Complete the “Check List” Operations and Maintenance checklist,

   implementing all initiatives applicable to the property;

3. Complete all four modules of CBRE/BOMA BEEP scoring;

4. Adopt a plan to improve BOMA Green Seal, cleaning protocols, including

   products and processes, and utilize technical service contract to include

      green cleaning specifications and training;

5. Conduct a report and control collection waste audit;

6. Develop and implement the approved CBRE recycling program and complete

      a monthly waste reduction report for all buildings;

7. Develop and implement a low impact exterior maintenance plan utilizing

      green landscape management practices continued with an integrated and

      controlled program;

8. Utilize the CRE 101 sustainability checklist for all tenants for individual

      implementation of environmental solutions in their operations.

9. Communicate sustainability measures monthly in tenant through CBRE

      splendid newsletters, video updates, portal updates, etc. using CBRE

      prepared or distributed materials and partner green building tools and

      regulations in other required sustainability practices;

10. Include an update on sustainability in each monthly report to ownership.
Informational
2009

6º of Sustainability
Global Network
125 Case Studies
Envirometric Tracking
Partner Campaigns
Interactive Media
Academic Research

It doesn’t take much to reduce our carbon footprint.

When you consider that 40% of all carbon emissions are produced by commercial office buildings, it makes sense that if we all pitch in,

And when you think about changing the world for

THE CLIMATE GROUP

A compendium of case studies by the global leader in commercial real estate services

Global Research and Consulting

2009 CB Richard Ellis/Burnham-Moores Center for Real Estate
Data Points

154 Buildings
Nationwide

Approx. 3,000
Tenants

51,614,501 SF
Rentable Space

ENERGY STAR
(83 Avg. Score)

$10.21 PSF
Avg. Operating Expense

Survey Locations

Seattle
Bay Area
So. California
Denver
Dallas
Houston
Atlanta
Chidago
Washington, DC
Boston
Denver
So. California
Dallas
Houston
Atlanta
Chidago
Washington, DC
Boston
Key Findings

- Green buildings tend to be more intensively managed, making overall operating expenses equivalent to non-green buildings
- Average occupancy higher than market
- 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
**Trending**

Fewer workers and continued rationalization by tenants; employers not quick to shed space.

CBRE Econometric Advisors, Bureau of Labor Statistics
Fall 2009
Market vs. Surveyed Rental Rates

2009 Q3
Survey Set outperforming General Market by more than 13%

Rent Per Square Foot

- General Market: $27.00
- Surveyed Set: $30.54

CB Richard Ellis
Fall 2009
Geographic Markets

- Central Business District, 44%
- Suburb, 54%
- N/A, 2%

Distribution

Roughly equal distribution between CBD and suburban markets
Building Profile

Most buildings self-declared as “A” Class

Buildings By Class

- A
- A-
- B

100%
80%
60%
40%
20%
Recycling is an increasing priority

<table>
<thead>
<tr>
<th>Material</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Paper</td>
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</tr>
<tr>
<td>Cardboard</td>
<td>60%</td>
</tr>
<tr>
<td>Aluminum</td>
<td>40%</td>
</tr>
<tr>
<td>Glass</td>
<td>20%</td>
</tr>
</tbody>
</table>

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Global Research and Consulting

@ 2009 CB Richard Ellis/Burnham-Moores Center for Real Estate
Among others, water conservation practices are also prevalent.
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”)

Costs were about the same at **$10-12 PSF**
Survey Set had fewer “fat tails”
$ PSF/Year for Electricity

- 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>
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</thead>
<tbody>
<tr>
<td>Denver</td>
<td></td>
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<tr>
<td>50</td>
<td>$2.75</td>
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<tr>
<td>80</td>
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<td>90</td>
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<td></td>
</tr>
<tr>
<td>70</td>
<td>$2.40</td>
</tr>
<tr>
<td>90</td>
<td>$1.40</td>
</tr>
</tbody>
</table>

Improvement from 50 to 80 points would save an average of almost 25% in electricity costs.
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
Tenant Profile

Nearly half surveyed have been in business 5 or more years.

Years in Business

- Less than 3: 27%
- 3-5: 24.2%
- 5-10: 23.6%
- 10-20: 18.6%
- 20+: 6.6%
Tenant Profile

While government occupies more than 2% of green space, this study is more representative of the market as a whole.

Legal Entity

- Publicly Traded, 26%
- Privately Held, 67%
- Government, 2%
- Non-Profit, 5%
Tenant Profile
Survey Set building occupants earn more than any other SIC employee category.

Mean Wage of Employees

- Computer/Math: 70K
- Financial Ops: 60K
- Architecture & Engineering: 65K
- Legal: 90K
- Education: 45K
- Healthcare: 62K
- Insurance Sales: 58K
- Construction & Extraction: 39K
- Office and Administration: 30K
- Real Estate Brokerage: 75K
- Green Building Occupants: 110K

David L. Pogue
Nearly all the public companies had sustainable mission policy statements, and many strongly agreed with it.

Public and Client Image

- Agree: 40%
- Strongly Agree: 34%
- Neutral: 25%
- Disagree: 1%
70% agree that occupying green space is important for image.

This percentage is even higher for public companies.

**Owner and Shareholder Image**

- **Agree**: 42%
- **Strongly Agree**: 28%
- **Neutral**: 29%
- **Disagree**: 1%
Commitment

Fewer than 25% shared commitment with their clients

Written Policy Shared with Clients

Yes 23%

No 73%
Written Policy Shared with Employees

- **Yes**: 34%
- **No**: 66%

*About one-third shared commitment with their employees.*
Commitment

Approx. same number has a dedicated “green” staff

Staff Dedicated to Sustainability Issues

Yes 32%

No 68%
Perceptions

Nearly half agree a sustainable building provides a healthier indoor environment.

Healthier Indoor Environments

- Neutral: 50%
- Agree: 34%
- Strongly Agree: 13%
- Strongly Disagree: 1%
- Disagree: 2%

Nearly half agree a sustainable building provides a healthier indoor environment.
A smaller group felt green buildings helped specific employment issues.

**Perceived Benefits of Green Space**

- More Effective Client Meetings: 30%
- Easier Recruiting: 24%
- Higher Morale: 18%
- Lower Turnover: 12%
- Other benefits: 6%
Perceptions

**Nearly half** agreed that favorable amenities improved retention.

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**Favorable Amenities for Staff Retention**

- **Agree**: 39%
- **Neutral**: 38%
- **Strongly Agree**: 22%
- **Disagree**: 1%
55% agreed that productivity increased after moving.

This 4.88% average boost translates to about $20 PSF/year for those who agreed.
Average 2.88 decrease in sick days, or about $5.00 PSF/year.
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%
Would Pay Higher Rent for Green Space

While encouraging compared to earlier surveys, most tenants pay more rent for green buildings independent of their survey response.

- Yes: 18%
- No: 82%
Commitment
While encouraging compared to earlier surveys, most tenants pay more rent for green buildings independent of their survey response.

Would Pay Higher Rent for Green Space

CBRE Econometrics

Rent Per Square Foot

$27.00
$30.54
$30
$40
$20

Market
Survey
Summary

Operations
- 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

Productivity
- 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

Commitment

- 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%)
Economics of Sustainable Buildings

Key Findings

Development Costs:

- **Basic levels of certification**
  Development costs rise by only 2-3% compared to a standard building

- **High standards of accreditation**
  Add between 5% and 7.5% to construction costs

- **CBRE analysis of residential sector**
  Development of a zero carbon building could add a construction cost premium of around 12.5%
Translates to Investment Returns?

Very little evidence in European markets, muddied by:

- No single definition of a “green building” to encompass all aspects of design, development and use
- Lack of understanding and confusion in the market
- Landlord/Tenant divide

However…

- IPF/IPD constructing an investment index
- Big push in UK for “Display Energy Certificates” showing occupiers’ consumption on all commercial buildings
Additional Information

For more information about the Green Buildings study, please visit:

cbre.com/USA/Sustainability/Envirometrics

For additional information about the studies, contact:

DAVID L. POGUE
National Director of Sustainability
+1 408 453 7444
dave.pogue@cbre.com

CHARLOTTE EDDINGTON
EMEA Head of Sustainability
+44 207 182 3490
charlotte.eddington@cbre.com
Thank You

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**Raymond G. Torto, PhD, CRE**
CBRE Global Chief Economist
raymond.torto@cbre.com

**CB Richard Ellis**

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