The Value of Green
Tri-City Speaker Series
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CRE, MAI, FRICS, AAPI, LEED AP
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It’s All about Value(s)

- Personal values
- Ethical values
- Cultural values
- Economic values
  - Business values
- Property values
  
  **Market Value**

**What the “Market” Values = Market Value**

Premise on which most investments are made
Business Perspective

- Leading corporations are competing to be “green”
  - USGBC now has more than 20,000 member companies
    - Boston Properties
    - General Electric Corporation
    - Wells Fargo
  - Number of major banks announcing commitments to “green”
    - Wachovia had announced plans to build 300 new green branches

- Rationale:
  - Increased focus on corporate accountability (CSR)
  - Client/customer demand & business pressure to green supply chain
  - Existing/impending legislation
  - Reputation
  - Attraction, retention and motivation of staff
Investment Real Estate Perspective

- **Shift in market**
  - Preference for “green” investments in response to shareholder concerns and future carbon-related risks
  - Incorporation of climate risk into lending policies

- **Socially Responsible Investors now considering RPI**

- **Principles for Responsible Investment (PRI)**
  - RREEF
  - MEPT
  - Kennedy
  - Lend Lease
  - PruPrim

- **Government standards/investment requirements**
Focus on Commercial Real Estate

- Significant environmental impact resulting from property development and building operations

U.S. Building Impacts:

- 12% water use
- 39% CO₂ emissions
- 65% waste output
- 71% electricity consumption

Source: USGBC
LEED Impact to Date

- Green Building Impact Report 2008
  - Independent organization – Greener World Media, Inc.
  - Study sponsored by Johnson Controls and Autodesk

- Identified impacts of building ‘green’ via LEED standards
  - Market trends
  - Environmental impacts
  - Land use
  - Water
  - Energy
  - Materials and resources
  - Indoor environmental quality
Findings Indicate Progress Has Been Made

- But a lot of work still remains to be done

- LEED certified projects now account for 6% of new commercial construction
  - Registrations up 40% in last year
  - Certification time frame roughly 2 years, with attrition rate of 25% to 30%

- LEED NC continues to lead the way
  - Accounts for 5.8% of new construction starts

- LEED EBOM still lagging, but seen as major area of opportunity going forward
Commercial Construction - Findings

- **Land Use**
  - Via efficient location and transportation alternatives supported by LEED:
    - Nearly 400 million VMTs have been avoided
    - By 2020, this is expected to increase to 4 billion VMTs

- **Water**
  - 2008 savings = 9.5 billion gallons due to LEED strategies
    - Savings would fill equivalent of 38 million qt. bottles – enough to circle the earth 300 times
  - If practices continue, as number of LEED buildings grow, the savings are expected to increase to 245.5 billion gallons by 2020
Commercial Construction - Findings

- **Energy**
  - Overall LEED buildings consume an average of 25% LESS energy than comparable commercial buildings
    - By 2020 these savings are expected to amount to almost 49 million tone of coal equivalent annually
    - Avoiding the emission of 78 million tons of CO2

- **Materials & Resources**
  - A green “economic stimulus” source
    - To date, certified projects have specified use of more than $10 billion of green materials
    - This market is expected to grow to more than $100 billion by 2020

- **Indoor Environmental Quality**
  - Productivity gains currently estimated at $170 million
Productivity/Labor

- Increased Productivity.
- Schools: 20% better test performance.
- Hospitals: 2 1/2 day earlier discharge.
- Retail: Increase in sales per square foot.
- Factories: Increased production.
- Offices: 2-16% productivity increase.

CUSHMAN & WAKEFIELD
Global Real Estate Solutions ™
Green Buildings

What Is Green Building?

- Sustainable Sites
- Water Efficiency
- Energy & Atmosphere
- Material & Resources
- Indoor Environmental Quality

Source: USGBC

Green Building Rating Systems
Valuers Facing New Challenges

- Vernacular and principles previously not considered, particularly in the US

- This is about Best Practices
  - High performance
  - Best possible product for consumer and environment

- Need to know the vocabulary, the relevance and application of sustainable principles and practices:
  - Right-sizing
  - Commissioning
  - Trade-off Analysis
    - Versus Value Engineering
  - Life Cycle Cost Analysis
“High Performance” equals Main Goal

- Though environmental factors a primary consideration, maximizing building performance is ultimate goal

- Historical perspective has not been that how a building “goes together” has potential to:
  - Improve NOI
  - Reduce maintenance costs and reserves
  - Mitigate risk (early obsolescence or marketability)
  - Establish market positioning
  - Redefine Class A quality
Regulatory Issues

- **Carrots/Incentives**
  - Entitlement Related
    - Density bonuses
    - Waiver or reduction in fees
  - Permitting Process
    - San Francisco
    - Chicago and others

- **Sticks**
  - Growth Restrictions
    - Arizona – water requirement
  - Building Code Changes
    - Washington DC – LEED
    - Portland DJC
California Leads the Way

- SB 375 - takes on environmental issues via planning strategies
  - California Air Resources Board (CARB) will set regional ghg reduction targets which will be incorporated into each region’s Regional Transportation Plan (RTP)
  - Pushes communities toward a “preferred growth scenario”
  - Creates incentives for regions to reduce pollution from cars and trucks by calculating how emissions would vary with different development scenarios

- Funding approval will be tied to implementation

- California Energy Commission
  - Proposes regional and statewide planning strategies
  - Suggests state and local tax policies “affect and guide” land use practices and revise policies inconsistent with efficiency goals
What if You Do?  Know the Differences

Number of Potential Benefits:

- Different “Capital Stack”
  - Could include incentives
- Preferred financing
- Lower costs
  - Maintenance and Operating
  - Capital Reserves
- Recognition of value may take different forms
  - Quicker absorption
  - Better tenant retention
  - Less down time between leases
  - Lower TI’s
What If You Don’t…..

- How Will the Market View Your Decision?
- Early Obsolescence
- Reputational Risk
- Environmental Risk
- Regulatory Risk
  - Building codes
  - Taxation/penalties

- Diminished Capital Investment
  - Bruce Kahn, ecological economist, Citicorp Global Markets

- What happens if you don’t build a high performance building? Or retro-fit existing assets?
What about Other Risks?

- Lenders and Institutional Investors
  - Just as interested in what could go wrong
  - No existing standards

- Lack of empirical data
  - No IREM, BOMA, or other “industry” stats
  - Developer projections
    - Commissioning

- Availability of Qualified Professionals
  - Contractors, Service Providers
  - Property Management
  - Appraisers
How About the Really Big Questions.....

- **Is it worth more? Am I going to get more rent?**
  - *IT’S UP TO THE MARKET!*
  - Currently limited sales data/cap rate info
  - Need to know your market
    - If your clients aren’t asking you – you should be asking them
  - Geographically specific
    - Does your market recognize these practices?
    - Is there demand – or greater demand?
  - Simple payback analysis won’t provide accurate assessment of long term benefits/value
How Does This Translate?

- Report templates and cash flow assumptions:
  - Tenants – types and quality
    - Lease terms
    - Length of lease (tenant retention)
    - Recoveries
  - Rental Rates
  - Absorption
  - Renewal probability
  - Downtime between leases
  - Tenant improvement costs
Expenses & Offsets

- **Energy costs**
  - Potential for reduced consumption

- **Maintenance costs**
  - Daytime cleaning
  - Products
  - Low maintenance surfaces and components

- **Provision for incentives**
  - Local
  - State
  - Federal
  - Expedited permitting
  - Accelerated depreciation
Green Value – How does the TCRD Get There?

- Layer on top of all the other previous considerations the Triple Bottom Line

- Challenge is to identify and quantify the full range of benefits of the assets being analyzed
RPI Metrics – Economic (Re)Vitalization

- Metrics for Performance
  - Geographic targeting
  - Jobs
  - Diversity
  - Affordable and Workforce Housing
  - Stakeholder engagement

- Environmental Metrics
  - Energy efficiency
  - Resource Use
  - Transit-orientation
  - Brownfield redevelopment
  - Third party standards

- Business Case for Market Rate Investments
  - Opportunity for growth
  - Underutilized resources
  - Upzoning potential
  - Public incentives
  - Investor relationships

- Business Case
  - Reduced operating costs
  - Reduced regulatory risk
  - Upzoning potential
  - Investor relationships

Metrics Courtesy of David Wood, Director
Responsible Property Investing Center - Boston College
Real Life Examples: Banner Bank Building

- Number of tenants were pulled from competing Class A buildings as a direct result of BB’s sustainable approach, particularly of better air quality and working conditions.

- Significant savings through innovative integrated design strategies:
  - Savings in steel costs and applications
  - Under floor, low flow air created more comfortable space and reduced energy costs by more than 50%.
  - Demountable walls and carpet tiles save time and fit-out costs.
  - Lack of columns increases tenant floor space & plan flexibility.
  - Reduced building envelope size, floor heights.
  - Significant tax benefits as a result of design implementation.
Operational Cost Savings: LEED EB

Adobe Systems HQ

- Project: Head quarter campus, San Jose, CA
- Number of buildings: 3 (989,358 SF)
- Rating System: LEED EB
- Certification level: Platinum
Operational Cost Savings: LEED EB

Adobe Headquarters

- **Resource reductions:**
  - Electricity: 35% reduction (per occupant)
  - Natural gas: 41% (per occupant)
  - Domestic water: 22%
  - Landscape irrigation: 76%

- **Pollution reduction:**
  - All sources: 26%
  - CO2 emissions: 16%
  - Solid waste reduction: 95% (through composting and recycling)
  - Use of public transportation: 20% (of employees, compared to county-wide average of 4%)
Operational Cost Savings: LEED EB

Adobe Systems HQ

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<tr>
<th>Return on Investment</th>
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<tbody>
<tr>
<td>Capital Costs</td>
<td>$1.4 million</td>
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<tr>
<td>Rebates</td>
<td>$389,000</td>
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<tr>
<td>Cost Savings</td>
<td>$1.2 million</td>
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<tr>
<td>Average Simple Payback</td>
<td>9.5 months</td>
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<td>ROI</td>
<td>121%</td>
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- **Awards:**
  - BOMA International Earth
  - CoreNet Global Sustainability Leadership
  - California GEELA
GSA Post Occupancy Evaluations

- Assessing Green Building Performance
  - POE’s performed on 12 GSA properties

- Findings support LEED Impact 2008 report
  - Energy compared to CBECS (Commercial Buildings Energy Consumption Survey) baseline
    - LEED buildings performed 29% better than CBECS averages
    - Top performers (LEED Gold) cost 43% less than other properties in study
  - Water results less consistent, more variance geographically
  - Maintenance costs reduced
    - Averaged 13% less than other buildings in portfolio
  - Tenant satisfaction higher based on Center for Built Environment study
    - GSA’s LEED buildings scored 22% higher than other properties
    - Tenant satisfaction for LEED Gold buildings is 34% higher

- Other studies on sustainable properties available on GSA website
  - *Sustainability Matters* series
Other Examples – Limited but Growing

- **OHSU – River Building One**
  - LEED Platinum
  - $3.5M Savings in MEP
  - Natural ventilation
  - Water treatment

- **The Henry**
  - Fast absorption
  - Higher price points
  - Highest re-sales

- **The Louisa**
  - Quicker absorption than competition
  - Higher rental rates and occupancy
  - Better tenant retention
Thank You!

- Theddi Wright Chappell, MAI, CRE, FRICS, AAPI, LEED AP
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  Green and Sustainability Consulting Practice
  Managing Director,
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