Business Case for Green Building

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Green Buildings Can Reduce...

Green Building Occupants Are Healthier & More Productive

- In the U.S., people spend, on average, 90% or more of their time indoors*

- Green buildings typically have better indoor air quality and lighting

- LEED certified project case studies illustrate 2-16% increased worker and student productivity**

** Source: LEED project data, USGBC
IMMEDIATE ADVANTAGES OF GREEN BUILDINGS

Lower Operating Costs
- Energy Savings 30%
- Water Use Savings 30-50%
- Waste Cost Savings 50-90%
- Carbon Savings 35%

Improved Indoor Air Quality

Increased Value

Reduced Liability

Improved Risk Management

Include Enhanced Productivity

Enhanced Recruitment

Reduced Absenteeism

Governmental Incentives
LONG-TERM ADVANTAGES OF GREEN BUILDINGS

- Improved air quality
- Potential for credit in state implementation plan
- Improved public health
- Reduced urban heat island effect
- Reduced peak demand for electricity
- Reduced utility costs for businesses and consumers
- Economic development opportunity
- Reduced demand for potable water
- Creation of green-collar jobs
From the U.S. Conference of Mayors:

75% of cities are changing their residential and commercial building codes and/or ordinances to encourage construction of new buildings that are energy efficient, healthy, and environmentally sustainable.

88% of cities are undertaking efforts to educate the public about the importance of making buildings energy efficient, healthy, and environmentally sustainable.
Dallas Green Building Program

- All City-funded buildings LEED Gold
- New program for all development:
  - Phase 1
    Effective October 2009
    Focuses on energy and water efficiency
  - Phase 2
    Effective October 2011
    Requires certification through accepted green building standard
- Incentives now being developed
Green building task force launched in 2003

Article 37, enacted in January 2007, requires all major new construction and rehabilitation projects to earn 26 LEED-NC points to be LEED-certifiable

LEED Silver rating goal for public buildings
All city-owned commercial projects funded in 2008 or later must attain certification, and district-funded housing projects would be required to follow similar environmental standards.

All commercial development of 50,000 square feet or more to meet LEED standards starting in 2012.
According to Survey of Real Estate Executives:

- Decreased Operating Costs 13.6%
- Increased Building Values 10.9%
- Improvement in ROI 9.9%
- Increased Occupancy 6.4%
- Rent Rise 6.1%

Value of Green Buildings

• 2008 Green Building Estimated Value:
  ➢ $36-$49 Billion Total
  ➢ $24-$29 Billion NonResidential
  ➢ $12-$20 Billion Residential

• 2013 Green Building Projected Value:
  ➢ $96-$140 Billion Total
  ➢ $56-$70 Billion NonResidential
  ➢ $40-$70 Billion Residential

PREDICTIONS IN GROWTH OF GREEN

Commercial: By 2010, approximately 10% (~$23 billion) of construction starts*

Corporate America: By 2009, 80% of corporate America expected to be engaged in green at least 16% of the time; 20% engaged 60% of the time**

Institutional: Dedication to green health care and educational facilities expected to increase dramatically over the next five years**

Sources:
** McGraw-Hill Construction, Greening of Corporate America SmartMarket Report, 2007
COSTAR STUDY

• Compared 1,300 LEED and Energy Star Buildings (apx. 351 million sf)

• Against non-green buildings with similar size, location, class, tenancy and year built characteristics

• Values likely due to limited supply with growing demand
• Energy Star Label Buildings vs Peers
  - $2.40/sf Rent Rate Premium!
  - 3.6% higher Occupancy!
  - Selling for average $61/sf Higher!

• LEED Certification vs Peers
  - $11.33/sf Rent Rate Premium!
  - 4.1% higher Occupancy!
  - Selling for average $171/sf Higher!
  - Source: Andrew Florance, president and CEO of CoStar
NEW EUROPEAN GREEN BUILDING RATING SYSTEM

- ING Real Estate, GE Real Estate Europe, AXA REIM, Nataxis AEW Europe partnered with French Bureau Veritas
- Over $250 Billion in Existing Buildings
- Rating Buildings based on
  - energy and water consumption,
  - waste produced
  - carbon emissions and transport links,
  - record on occupier health and safety
- Expect buildings with high ratings to command premium in value and rent rate
Energy Star Buildings:
• 9% increased value
• 30% IRR on building envelope
• Worker productivity up 10x over cost
• 20% higher occupancy
• $3.25 higher rent

Source: Karen Butler, EPA
Source: Sol Salinas, Deloitte & Touche
Private Multi-Tenanted LEED Buildings both built in 2005
95% leased in less than one year!

One Dearborne St. = Built for $200 Mil. Sold for $344 Mil
72% ROI

111 S. Wacker = Built for $270 Mil. Sold for $386 Mil.
43% ROI

Both record sales for their areas

Source: Craig Sheehy, Envision Realty
SABRE CORPORATE CAMPUS

• LEED Silver 470,000 sq ft (2 buildings)

• 20% energy savings vs ASHRAE = $450,000 annually

• 64% Recycled construction waste = $199,500 net savings

• 100% irrigation from storm water retention = $50,000 annual savings
  – Saving 7,000,000 gallons annually

Per Kay Alig presentation April 2008
Jack Evans Police Headquarters
350,000 s.f.

LEED Silver certified December 2005

40% energy use reduction, $246,000 in annual savings expected

Redeveloped Brownfield site
100% of building irrigation is from collected and stored rain water
50% reduction of potable water use
80% of construction waste diverted from the landfill
25% regionally manufactured building materials

Energy load reduction strategies
Higher wall insulation values
Reflective roof material
Occupancy sensors
Passive heat-gain reduction strategies
Pat Lobb Toyota, McKinney
50,000 sf auto dealership

- Certified LEED Silver 2007
- 5% construction premium
- 3-5 year payback
- Sustainable site orientation
- Green wall absorbs heat
- Cool roof design
- Recycled materials
- 80% construction waste recycled
- Graywater reuse system
US NAVAL BASE BUILDINGS

- US Navy built LEED Gold building in Chesapeake Bay area
- Found costs were 1-2% less than traditional building because 90% less change orders!
FOR BUILDING OWNERS AND TENANTS

$1.80/SF MAX DEDUCTION
   MUST ATTAIN A 50% REDUCTION IN THE TOTAL ANNUAL ENERGY USAGE.

APPLIES TO:
   INTERIOR LIGHTING SYSTEMS
   HEATING & COOLING, HOT WATER
   THE BUILDING ENVELOPE.

CAN RECEIVE PARTIAL CREDIT
American Recovery & Reinvestment Act of 2009

Commercial Buildings:

- **5 year Net Operating Loss Carry Back**
  - Tax Refund for Current Losses to recover prior year taxes
  - Only for companies up to $15 Mil in revenue

- **Extends 50% Bonus Depreciation**
  - Depreciate 50% + 12.5% = 62.5% in first year
  - Depreciate 12.5% in years 2-4

- **Defer Cancellation of Debt Income until 2014-2018**
2008 Stimulus Package – Sec. 179

- 50% Depreciation Bonus in first year Personal Property Asset Purchases

- Example – Purchase $1 million in equipment
  - Depreciate 50% + 12.5% = 62.5% in first year
  - Depreciate 12.5% in years 2-4

- Does not include real estate
RENEWABLE ENERGY INCENTIVES

• Public Utility Commission Curtailment Incentives to offset cost of renewable energy systems

• 30% Federal Tax Rebate on solar, wind, geothermal, biomass energy

• Energy Service Provider Renewable Energy Incentives
  – ONCOR, AEP, Austin Power
✓ FOR BUILDING OWNERS

✓ INCLUDES SOLAR, BIOMASS AND WIND POWERED DEVICES WHICH PRODUCE ENERGY FOR USE ON SITE

✓ 100% OF THE TOTAL COST OF THE SYSTEM IS EXEMPT FROM PROPERTY TAX

✓ 100% OF THE TOTAL COST OF THE SYSTEM CAN BE EXEMPT FROM FRANCHISE TAX
• Certified Green Building Replacement & Green Upgrade Coverage
  – Discount for LEED certified buildings
  – Rebuild/Replace with Sustainable Materials
    • No/Low VOC paints, sealants and carpets
    • Energy Star efficient equipment
    • Water efficient plumbing
    • Energy Star-qualified Roof and Insulation
  – Pays for Building Certification Application Process
RESOURCES

- For more information on LEED or the USGBC  
  [www.usgbc.org](http://www.usgbc.org)

- EPA’s Energy Star Program  
  [www.energystar.gov](http://www.energystar.gov)

- Database Of State Incentives for Renewables & Efficiency  
  [www.dsireusa.org](http://www.dsireusa.org)

- Public Citizen  
  [www.citizen.org](http://www.citizen.org)

- American Institute of Architects  
  [www.aia.org](http://www.aia.org)

- Build-Smarter.com  
  [www.build-smarter.com](http://www.build-smarter.com)

- Building Green.com  
  [www.buildinggreen.com](http://www.buildinggreen.com)

- Whole Building Design Guide  
  [www.wbdg.org](http://www.wbdg.org)
QUESTIONS

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