



**10 LEED STRATEGIES
FACILITY MANAGERS
CAN USE**

A GENSLER PRESENTATION
APRIL 19, 2012

WHAT DEFINES SUSTAINABILITY?

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“Meeting the needs of the present without compromising the ability of future generations to meet their own needs.”

—U.N World Commission
on Environment and
Development



SOME FACTS...

The average time Americans spend indoors => than 90%

Energy costs

Health care costs

24% of office workers feel that air quality is poor in their work environment

20% of office workers believe this affects work performance



FROM INTEREST TO MANDATE?

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Since its first release in 2000, voluntary LEED compliance has spread rapidly

LEED projects in all 50 states and 12 countries

Government agencies, corporations and universities have declared their intent to meet LEED standards

The momentum is growing!



WHAT IS LEED?

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Leadership in

Energy and

Environmental

Design

The USGBC



WHAT IS LEED?

Evaluates environmental performance from a “Whole Building” perspective

Establishes a market value

Provides independent, third-party verification

Works throughout a building’s life cycle

Prevents “greenwashing” by establishing a standard of measure

Hess Tower
LEED-CS Platinum



WHAT IS USGBC?

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Non profit organization
established in 1993

Develops LEED-based education &
research programs



USGBC's MISSION:

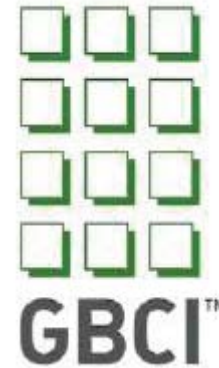
To promote the design and construction of buildings that are environmentally responsible, profitable, and healthy places to live and work.

WHAT IS GBCI?

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Established in 2008 to administer certifications

GBCI performs third-party technical reviews of registered projects to determine if they have met the LEED standards

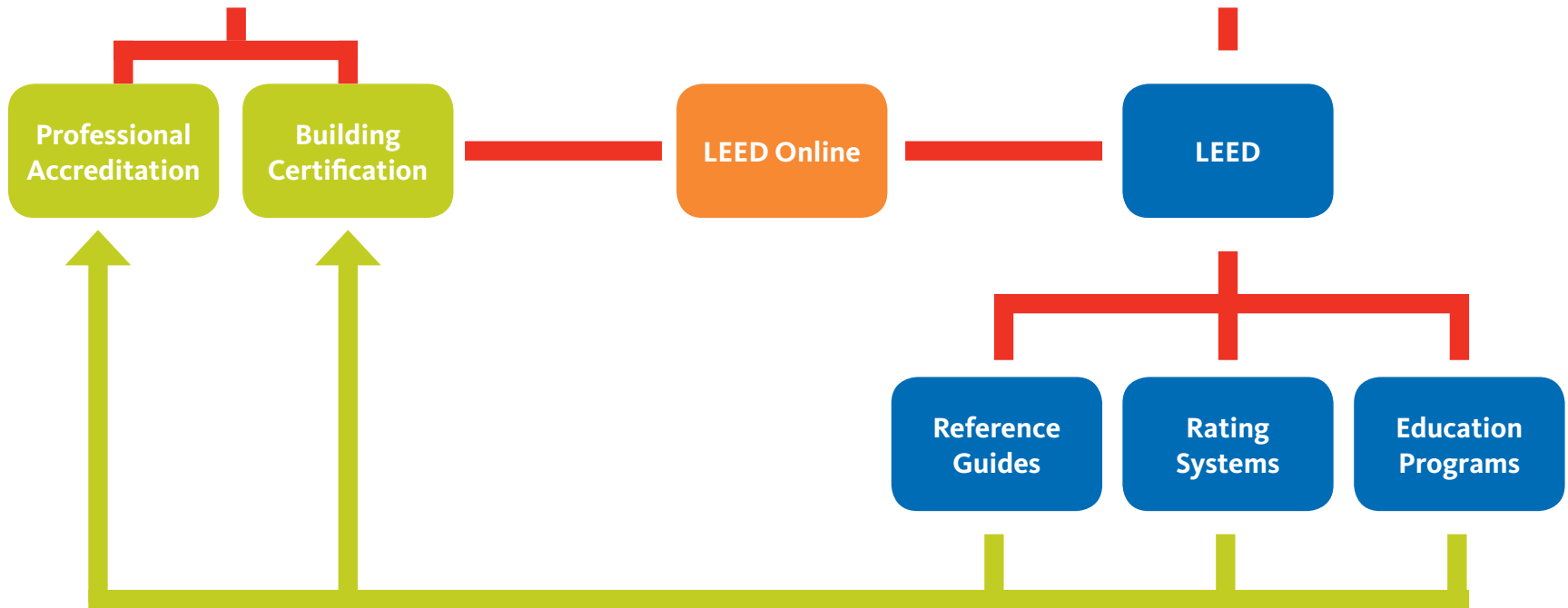
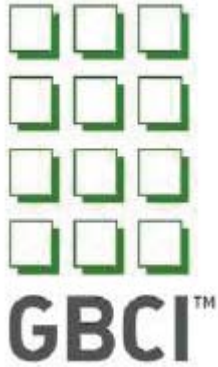


GBCI's MISSION:

To be the premier organization independently recognizing excellence in green building performance and practice globally.

HOW IT ALL FITS TOGETHER

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LEVELS OF LEED RATINGS

Green buildings worldwide are certified with a voluntary, consensus-based rating system.

USGBC has four levels of LEED.



80 - 110 Points 60 - 79 Points 50 - 59 Points 40 - 49 Points

© U.S. Green Building Council, 2008

COMMERCIAL PROJECTS

NUMBER OF LEED
REGISTERED PROJECTS

33,265

NUMBER OF LEED
CERTIFIED PROJECTS

11,961

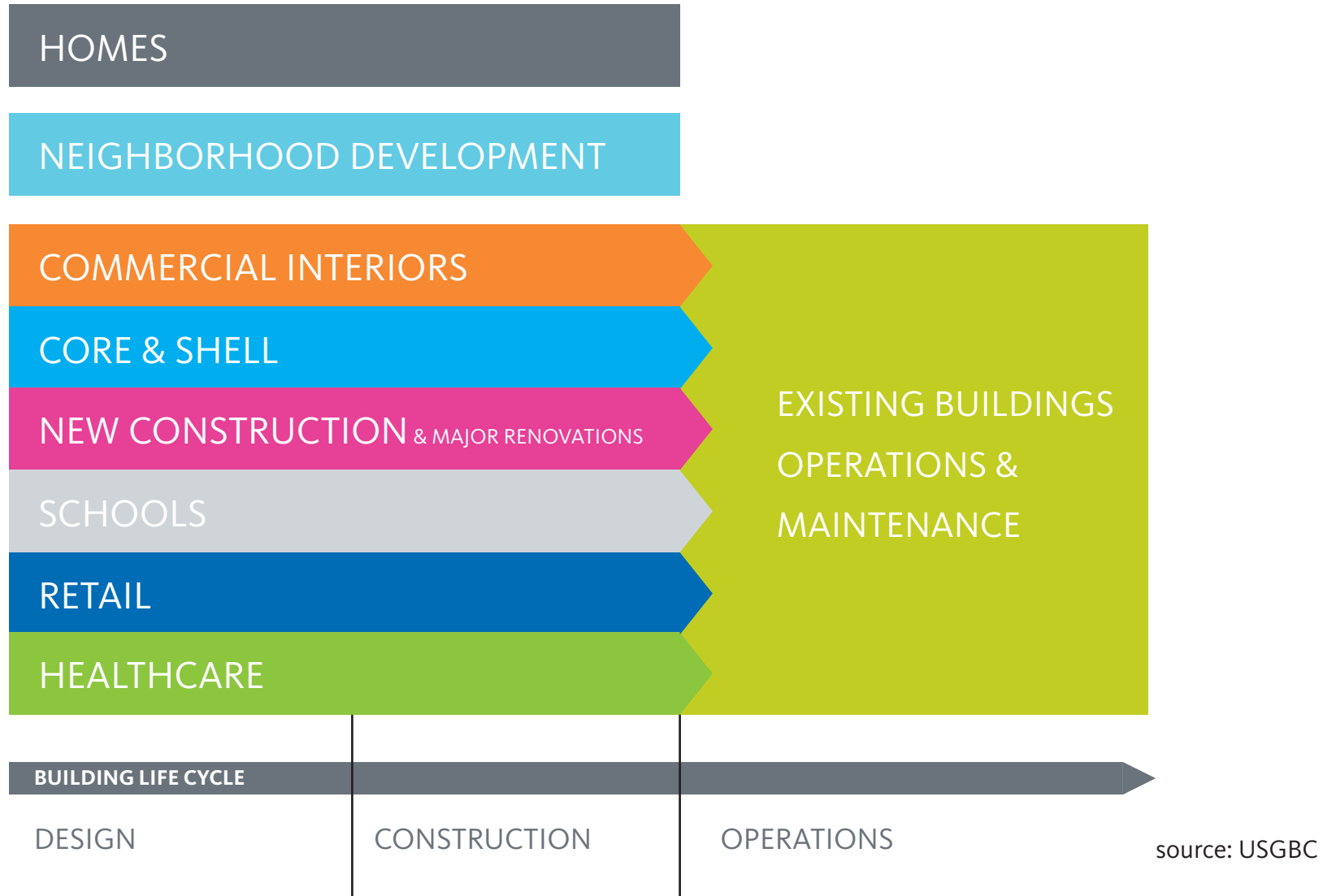
SQUARE FOOTAGE OF
LEED CERTIFIED PROJECTS

2 billion

© U.S. Green Building Council, 2011

As of February 2012

TYPES OF LEED CERTIFICATION



WHAT IS LEED EB: OM

LEED-OM

VS.

LEED-NC & CI


An on-going process → One-time opportunity

Operating budgets → Capital budgets

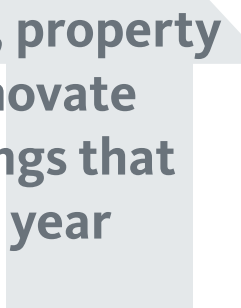
Life of building → Design & construction

THE POWER OF O&M

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Fastest-growing LEED Rating system in 2009, with more than 2,000 new projects representing 400 million square feet.



Over the next 30 years, property owners will build or renovate about 75% of all buildings that will be operating in the year 2040.



The EB market is 80 times larger than the New Construction Market.



More than 80% of these projects were registered by private sector owners, surest indication that greening of real state operations delivers marketplace benefits.

WHY LEED EB: OM

1. LEED certification provides third-party verification of a building's performance.
2. The process of certification helps facility managers evaluate current practices, identifies inefficiencies, and provides a road map to operational improvement.
3. Addresses building exterior and site maintenance programs, efficient and optimize use of energy and water, the purchase of environmentally preferred products and food, waste stream management and ongoing indoor environmental quality.

LEED EB: OM BUILDING ELIGIBILITY

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Owner-occupied

Multi-building projects

Single, multi-tenant buildings with all tenants' cooperation and participation

Individual tenant spaces are ineligible due to the whole-building rating system

A minimum of 50% occupancy (by square footage) for 12 consecutive months prior to certification

Federal, state and local environmental law/regulation compliance

LEED EB: OM PERFORMANCE PERIOD

The time frame within which all applicable policies, programs, and tracking systems must be in place and operational.

INITIAL CERTIFICATION

The most recent period of operations preceding certification application and must be a minimum of 3 months, with the exception of EA prerequisite 2 and credit 1, which have longer durations.

RECERTIFICATION

The performance period depends on whether the credit is newly pursued.

PREREQUISITES AND CREDITS EARNED IN THE INITIAL CERTIFICATION

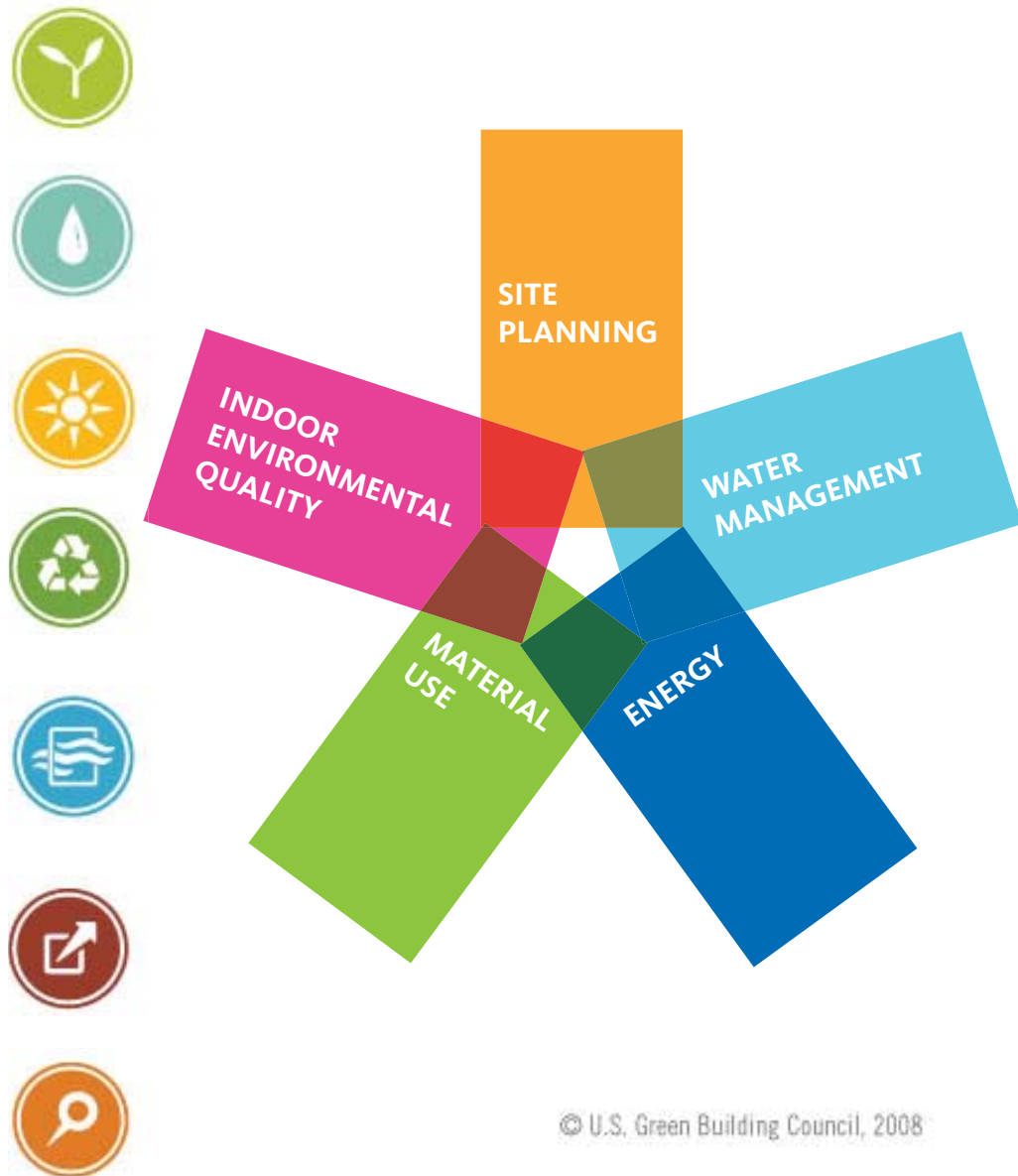
The performance period is the entire period between the previous certification and current application.

NEW CREDITS

Performance period is the same as for initial certification.

LEED EB: OM CATEGORIES:

- 1.Sustainable Sites
- 2.Water Efficiency
- 3.Energy & Atmosphere
- 4.Materials and Resources
- 5.Indoor Environmental Quality
- 6.Innovation and Design
- 7.Regional Priority








LEED EB: OM TOTAL POINTS:

Total Possible Points:



Sustainable Sites	26
Water Efficiency	14
Energy & Atmosphere	35
Materials & Resources	10
Indoor Environmental Quality	15
Innovation Points	6
Regional Priority	4
Total Possible LEED Points:	110
Plus Prerequisites	9
Bonus Points (Regional)	4
Priority Credits????	

LEED® 2009 for Existing Buildings: Operations & Maintenance

Total Possible Points**	110*
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 Sustainable Sites	26
 Water Efficiency	14
 Energy & Atmosphere	35
 Materials & Resources	10
 Indoor Environmental Quality	15

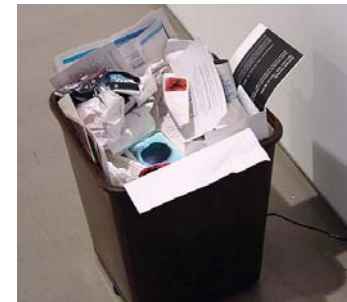
** Out of a possible 100 points + 10 bonus points*
*** Certified 40+ points, Silver 50+ points, Gold 60+ points, Platinum 80+ points*

 Innovation in Operations	6
 Regional Priority	4

LEED EB: OM ADDRESSES:

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- Exterior building site management
- Access to public transportation
- Water use and disposal
- Energy consumption overtime
- Sustainable purchasing
- Waste stream management
- Environmental preferred products for cleaning and facility alterations
- Integrated pest management
- Indoor air quality
- Thermal comfort
- Policies, programs and plans for ongoing operations
- Regional weighting issues
- Innovation in operations



WHY ARE TENANTS PURSUING LEED?

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attract &
retain
the **best &
brightest**

reduce
absenteeism
& increase
productivity

create a
comfortable
work
environment

gain **a green
reputation**

life cycle **cost
savings**

it's the **right
thing** to do



10 LEED STRATEGIES YOU CAN USE



1. Engage Executive Leadership

- Create a mission, clear goals, and sustainability policy
- Create a green CULTURE with Stakeholders:
 - Building occupants
 - Office managers
 - Lease holders
- Prepare corporate sustainability reporting
 - Emissions Reduction Reporting



10 LEED STRATEGIES YOU CAN USE

2. Make a Business Case

Continuous Performance

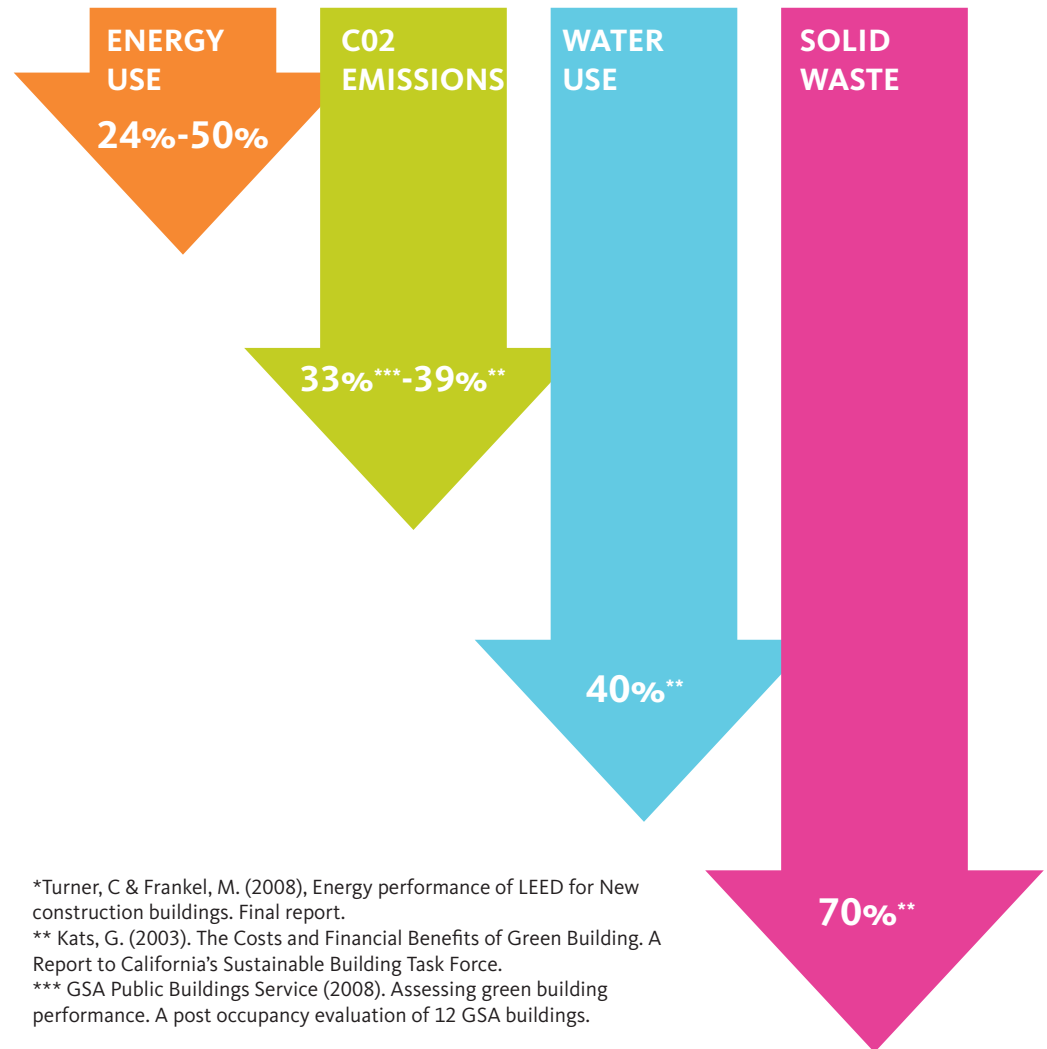
- LEED EB: O&M certification
- LEED EB: OM Recertification
- ENERGY STAR -Ongoing

Benefits for building owners

- Utility cost savings
- Higher building value
- Higher rents
- Greater occupancy
- Public Relations
- Tax benefits

Document Sustainable Building Cost Impacts

GREEN BUILDINGS CAN REDUCE



*Turner, C & Frankel, M. (2008), Energy performance of LEED for New construction buildings. Final report.

** Kats, G. (2003). The Costs and Financial Benefits of Green Building. A Report to California's Sustainable Building Task Force.

*** GSA Public Buildings Service (2008). Assessing green building performance. A post occupancy evaluation of 12 GSA buildings.

10 LEED STRATEGIES YOU CAN USE

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2. Make a Business Case

“We no longer see a green premium; we believe the market will be placing a brown discount on properties that are not making the effort to improve efficiency”

- Gerald D. Oliver, Senior Vice President
of Property Management, Behringer
Harvard

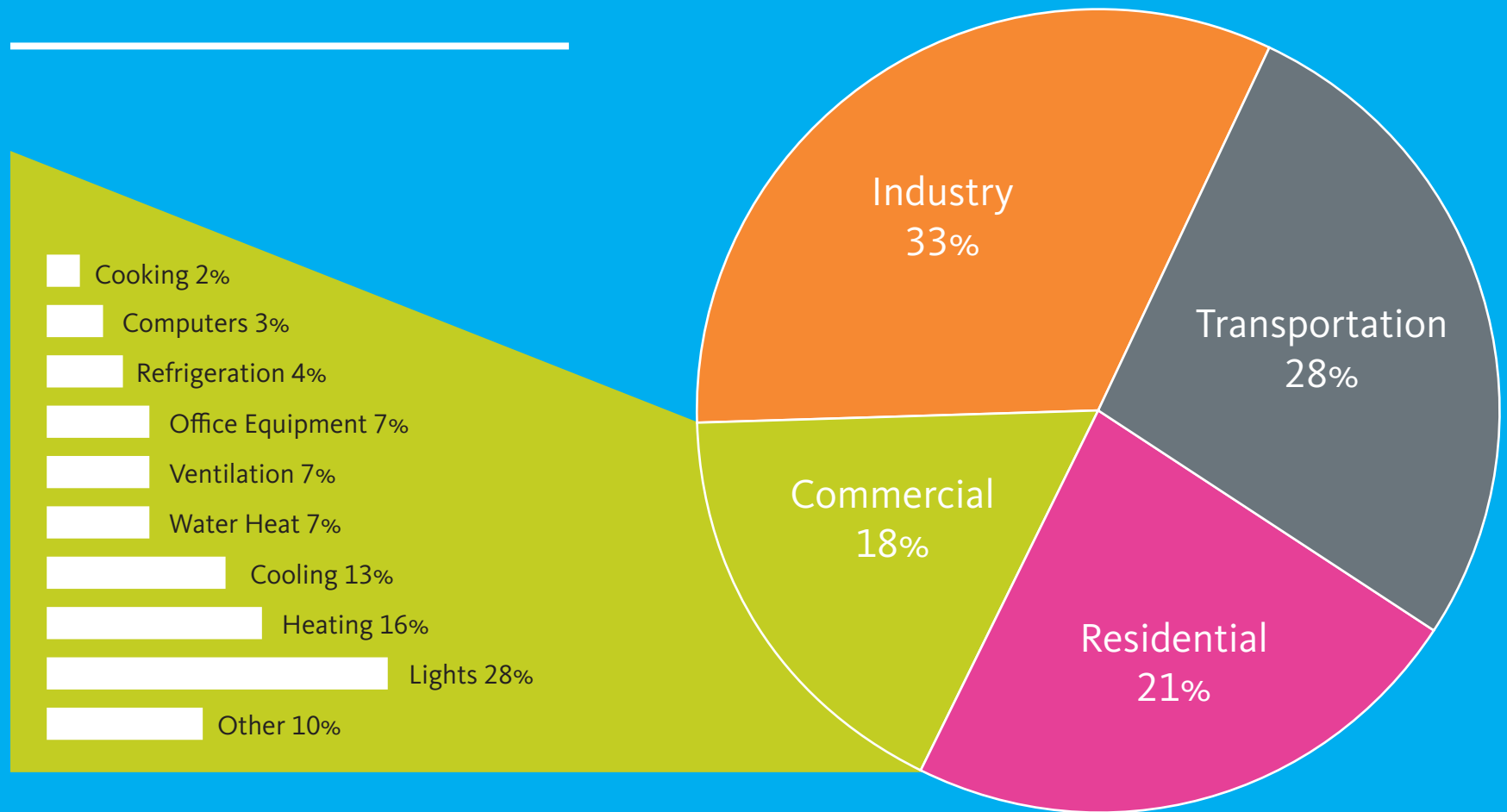
“...green is rapidly going to become an integral component of being a first class office building”

-Andrew McAllan, Senior Vice President
of Real Estate Management, Oxford
Properties



10 LEED STRATEGIES YOU CAN USE

2. Make a Business Case



10 LEED STRATEGIES YOU CAN USE

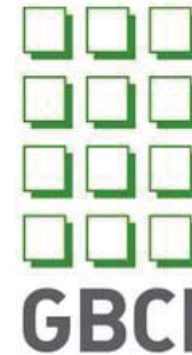
3. Use Third Party Validation

LEED for Existing Building: O&M
Energy Star

- Target Finder
- Portfolio Manager

Other tools

- Green Office Challenge Houston
- IFMA
- GreenPrint Foundation



EPA's ENERGY STAR Measurement and Tracking Tool: Portfolio Manager

Maureen K. Roskoski
P.E., LEED AP O+M
Senior Professional
Facility Engineering Associates,
PC

Laurie Gilmer
P.E., CFM, LEED AP O+M, CxA
Associate
Facility Engineering Associates,
PC

Greg Hughes
LEED AP
Project Engineer
Facility Engineering Associates,
PC

2nd Edition



Commissioning Existing Buildings

H. Jay Enck
CxA, FPM, LEED AP, CFM, BIFAP
Principal
Commissioning and Green
Building Solutions, Inc. (CGBS®)



10 LEED STRATEGIES YOU CAN USE

3. Use Third Party Validation

LEED EB: OM

Phase 1: Audit/Gap analysis

Phase 2: Plan

Phase 3: Program Development

Phase 4: Performance Period

Phase 5: Education



10 LEED STRATEGIES YOU CAN USE

3. Use Third Party Validation

ENERGY STAR

Phase 1: Target finder

Phase 2: Portfolio manager

Benefits

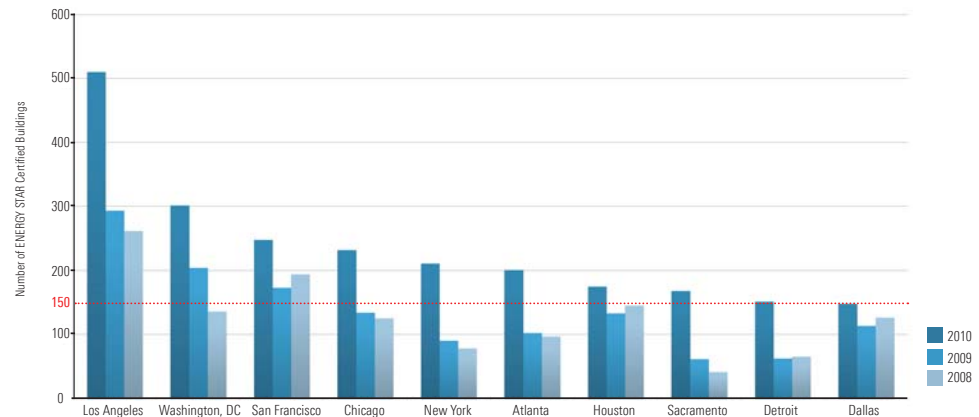
- Significant effect through reducing energy use
- Investors pay more for energy efficient buildings
- Generally yield 3.3 percent higher rental rates than other green buildings
- Tenants pay higher rent for energy efficient buildings



An Historical Perspective: Top Cities with the Most ENERGY STAR Certified Buildings 2008-2010

For the past three years, EPA has released an annual list of the top cities in the U.S. with the most ENERGY STAR certified buildings. A closer look at these annual rankings highlights the exponential growth in 2010 compared to the prior two years. In fact, in 2008, only two of the cities in the top 10 (Los Angeles and San Francisco) had more than 150 certified buildings. Now, nine of the top 10 cities have more than 150 buildings, and Dallas is just two buildings short of that number.

Top 10 Cities with the Most ENERGY STAR Certified Buildings in 2010:
Number of Buildings in each city over a three-year period

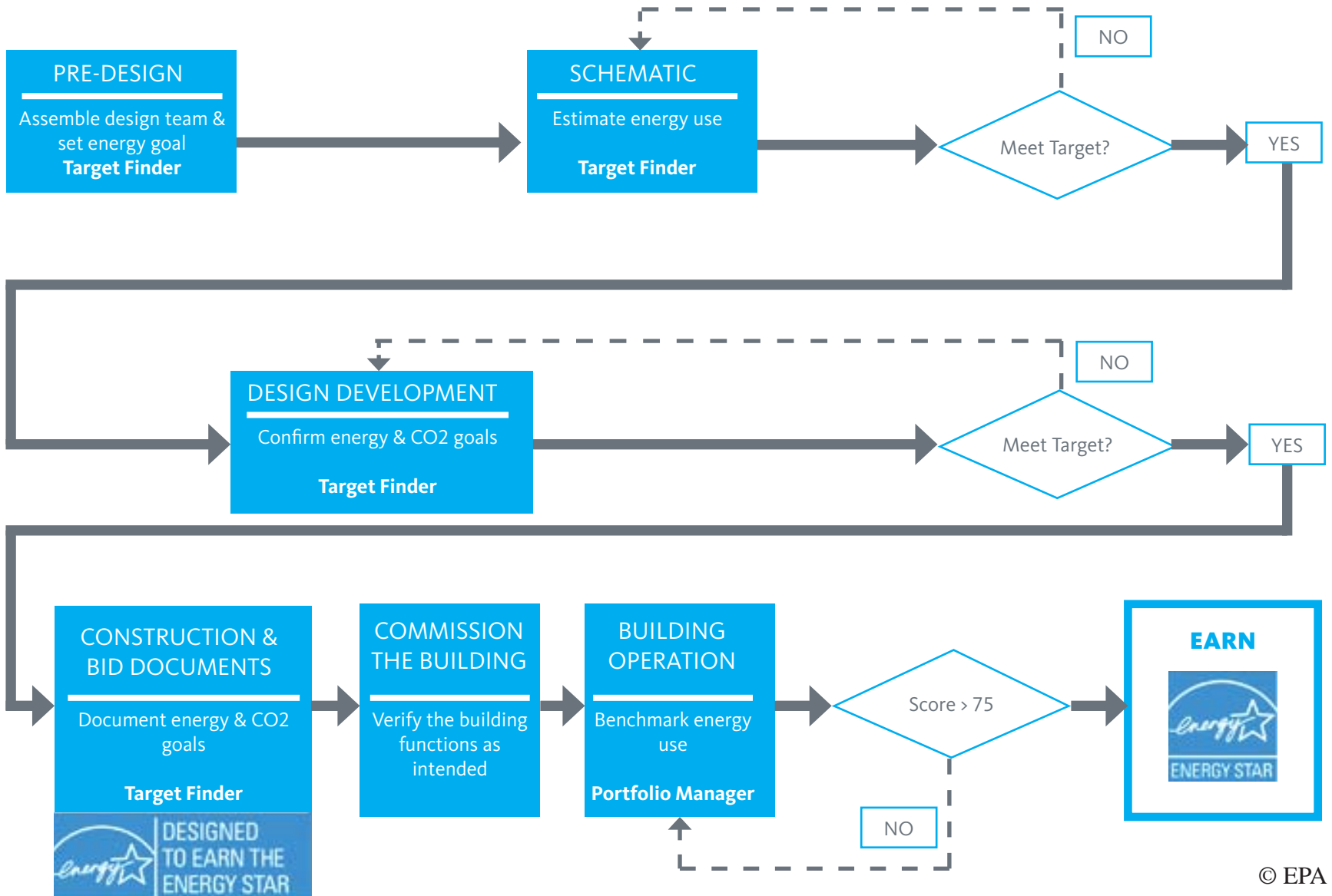


Top 10 Cities with the Most ENERGY STAR Certified Buildings in 2010, 2009, and 2008

2010	ENERGY STAR Certified Buildings	2009	ENERGY STAR Certified Buildings	2008	ENERGY STAR Certified Buildings	
1	Los Angeles, CA	510	293	1	Los Angeles, CA	262
2	Washington, DC	301	204	2	San Francisco, CA	194
3	San Francisco, CA	248	173	3	Houston, TX	145
4	Chicago, IL	232	136	4	Washington, DC	136
5	New York, NY	211	134	5	Dallas-Fort Worth, TX	126
6	Atlanta, GA	201	133	6	Chicago, IL	125
7	Houston, TX	175	120	7	Denver, CO	109
8	Sacramento, CA	168	113	8	Minneapolis-St. Paul, MN	102
9	Detroit, MI	151	102	9	Atlanta, GA	97
10	Dallas-Fort Worth, TX	148	90	10	Seattle, WA	83

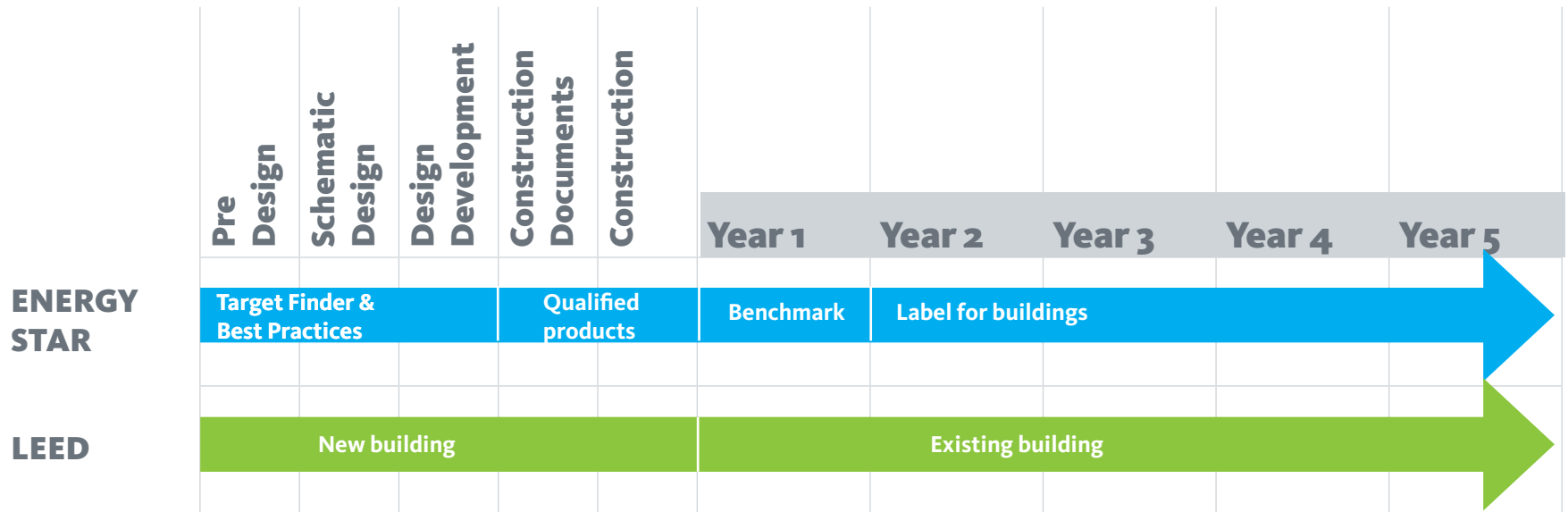
10 LEED STRATEGIES YOU CAN USE

ENERGY STAR PROCESS



10 LEED STRATEGIES YOU CAN USE

ENERGY STAR



10 LEED STRATEGIES YOU CAN USE

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4. Find Incentives

- **Federal tax energy incentives**
Created by the Energy Policy Act of 2005
- **Local tax energy incentives**
- **Insurance discounts**
- **Permitting**



10 LEED STRATEGIES YOU CAN USE

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5. Create a Task Force

- Create a green core team
- Designate a LEED champion
- Commit to Sustainability
- Create a process for success
 - Baseline operations
 - Implementation
 - Measure and verification



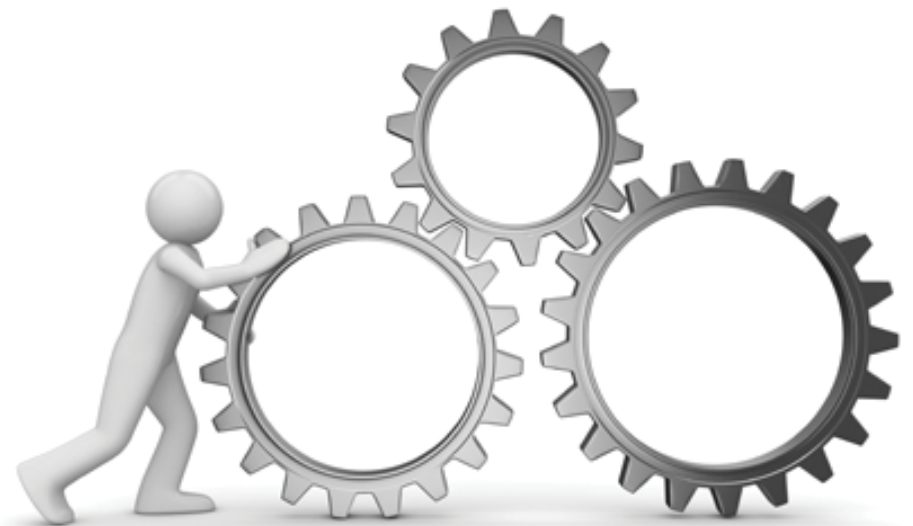
6. Develop Operations, Policies & Plans

LEED Prerequisites:

- Sustainable purchasing policy
- Solid waste management policy
- Environmental Tobacco Smoke (ETS) policy
- Green cleaning policy

Additional:

- IAQ best management practices - IAQ management program
- Building exterior and hardscape management plan
- Integrated pest management, erosion control, and landscape management plan



7. Develop Construction Policies

Facility alterations and additions refers to changes that affect usable space in the building.

- Sustainable purchasing
- Solid waste management
- IAQ management plan



10 LEED STRATEGIES YOU CAN USE

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Policies are required to include:

- Scope
- Performance Metrics
- Goals
- Procedures and Strategies
- Responsible Party
- Time Period



8. Incorporate Green Operations

Sustainable Sites

- Implement a transportation survey
- Promote transportation options
 - Mass transit
 - Carpools/Vanpools
 - Bicycling
- Reduce Heat Island
 - Non-Roof
 - Roof
- Reduce Light Pollution



10 LEED STRATEGIES YOU CAN USE

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8. Incorporate Green Operations

Water

- Reduce potable water use from indoor plumbing fixtures by 20% (Energy Policy Act 1992)
- Implement a Water efficient irrigation system to reduce the quantity of potable water use by 50%
- Install Drought resistant landscape
- Use non-potable water source for the Cooling Tower



8. Incorporate Green Operations

Energy

- Conduct an ASHRAE level I Energy Audit that includes:
 - Walk-through Analysis
 - Energy Use Breakdown
 - Opportunities for immediate low or no-cost measures
- Develop the following documents:
 - Building Operating plan
 - Systems narrative
 - Sequence of Operations
 - Preventive Maintenance Plan
- Develop a retro-commissioning and ongoing commissioning plan



10 LEED STRATEGIES YOU CAN USE

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8. Incorporate Green Operations

Energy

- Receive an ENERGY STAR rating of 75 or higher (LEED req 69)
- Switch to Energy Star equipment to reduce plug loads by half
- Establish a lighting power budget of less than 1 watt/sf
- Install occupancy and lighting controls
- Implement a refrigerant management plan



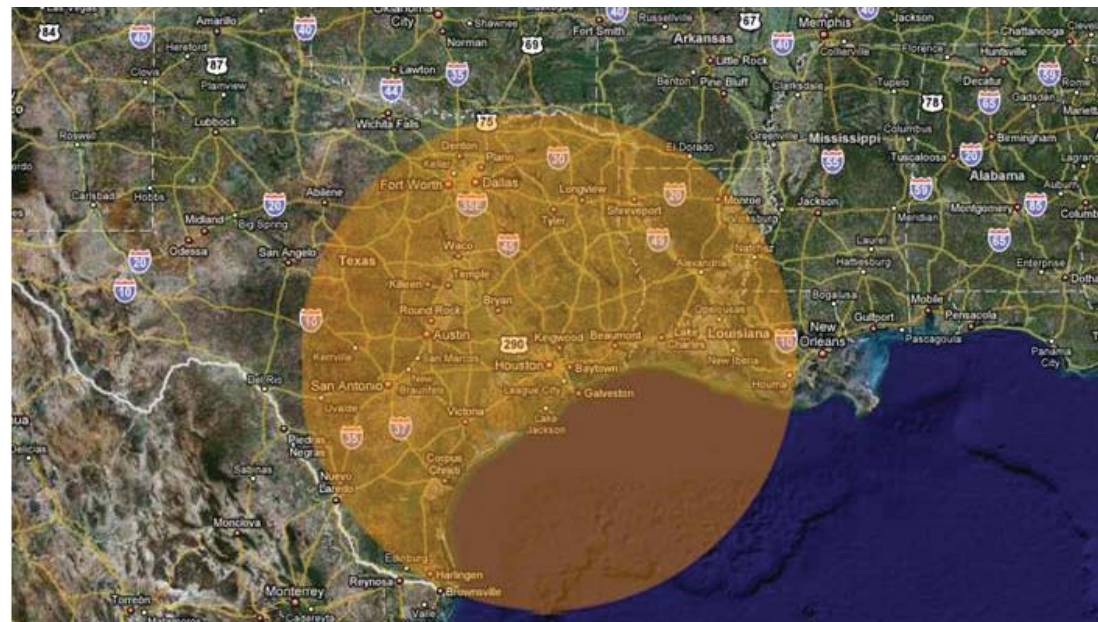
10 LEED STRATEGIES YOU CAN USE

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8. Incorporate Green Operations

Materials and Resources

- Implement a Sustainable Purchasing policy:
 - Ongoing Consumables (40%)
 - Durable Goods, Electric
 - Durable Goods, Furniture
 - Reduced Mercury in Lamps
 - Food
- Perform a Waste stream Audit
- Implement a Solid Waste Management policy:
 - Ongoing Consumables (50%) Diversion
 - Durable Goods



8. Incorporate Green Operations

Indoor Environmental Quality

- Supply outdoor air ventilation rate as required by ASHRAE 62-2007
- Implement an Environmental Tobacco Smoke (ETS) policy
- Specify low-emitting materials and equipment
- Implement a Green Cleaning policy
 - Product purchases
 - Equipment purchases
 - Entryway maintenance
 - Ventilation of storage areas
 - Custodial audits (APPA)



8. Incorporate Green Operations

Indoor Environmental Quality

- Specify high-performance filters with a Minimum Efficiency Reporting Value (MERV) rating of 13 or above
- Establish an HVAC filter inspection and replacement program
- Track and record air temperature, humidity and air speed. Monitoring allows for increased occupant comfort, fewer complaints and easier management



9. Keep Going Green

- Training
- Internal education
- Knowledge management



10. Communicate

- Internal
 - Tenant newsletters
 - Tenant meetings
 - Lobby Posters
 - Information boards in mail rooms
 - Letters to stakeholders
- External
 - Property websites
 - Owner websites
 - Tenants websites
 - Local media
- Ongoing with all the stakeholders
 - Building owners
 - Building operators
 - Tenants



10 LEED STRATEGIES YOU CAN USE

10. Communicate

Engage through special events:

- Recycling or reuse events:
 - E-waste collection day
 - Office supply reuse swap
- Bike to work day (Third Friday of May)
- Arbor Day, another global event, it takes place the fourth Friday in April
- Earth Day, celebrated on April 22
- Change the world, Start with ENERGY STAR, runs annually through Earth Day of each year.
- Earth Hour, this global event asks people to turn off their lights for one hour the last Saturday of March every

Community Connectivity Quiz
12:30 - 1:30 LUNCH TIME: **Pecha Kucha**
presentation by select Gensler employees
on topics of sustainability outside the office.

MONDAY 

 **TUESDAY** *Socially Conscious Work Quiz*
12:30 - 1:30 LUNCH TIME: Presentation by
Dan Phillips self-taught carpenter. Receives worldwide
attention for homes created of salvageable scraps.

Food Facts Quiz
12:30 - 1:30 LUNCH TIME:
Picnic @ **Farmer's Market**

WEDNESDAY 

EARTH WEEK 2012  April
16 - 20
GENSLER HOUSTON

 **THURSDAY** *Residential Water Use Quiz*
12:30 - 1:30 LUNCH TIME: Presentation by
Clayton Farmer LEED for home / Home Auditing
5:00pm **HAPPY HOUR**

Global Comparison Quiz
12:30 - 1:30 LUNCH TIME: **Art Asylum**
Art contest will be judged. - **Bike to Work Day**

FRIDAY 

"TRASHLESS ART" DISPLAY ALL WEEK AT THE LIBRARY

10 LEED STRATEGIES YOU CAN USE

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1. Engage Executive Leadership
2. Make a Business Case
3. Use Third Party Validation
4. Find Incentives
5. Create a Task Force
6. Develop Operations, Policies & Plans
7. Develop Construction Policies
8. Incorporate Green Operations
9. Keep Going Green
10. Communicate



WHAT DO TENANTS WANT?

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Sustainability
“MUST HAVES”



WHAT DO TENANTS WANT?

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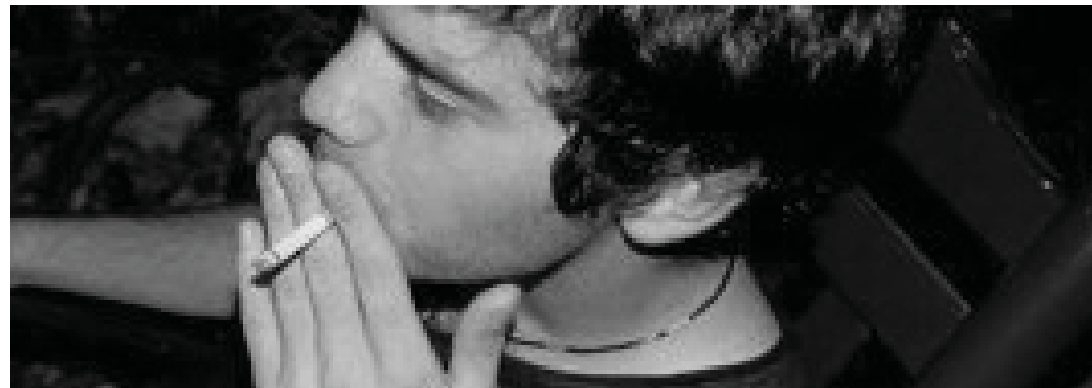
Does the building's energy performance comply with ASHRAE IESNA standard 90.1-2007?



Does the building's indoor air quality comply with ASHRAE 62.1-2007?



Does the building have a no smoking policy and designated smoking areas at least 25' from the building?



WHAT DO TENANTS WANT?

Gensler



Has the building eliminated CFC refrigerants from its HVAC and refrigerant systems?

Is the building fitted with water efficient fixtures, primarily toilets and sinks, that reduce water consumption by 20%?

WHAT DO TENANTS WANT?

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Is the building's fresh air intake more than 25 feet from the loading dock?



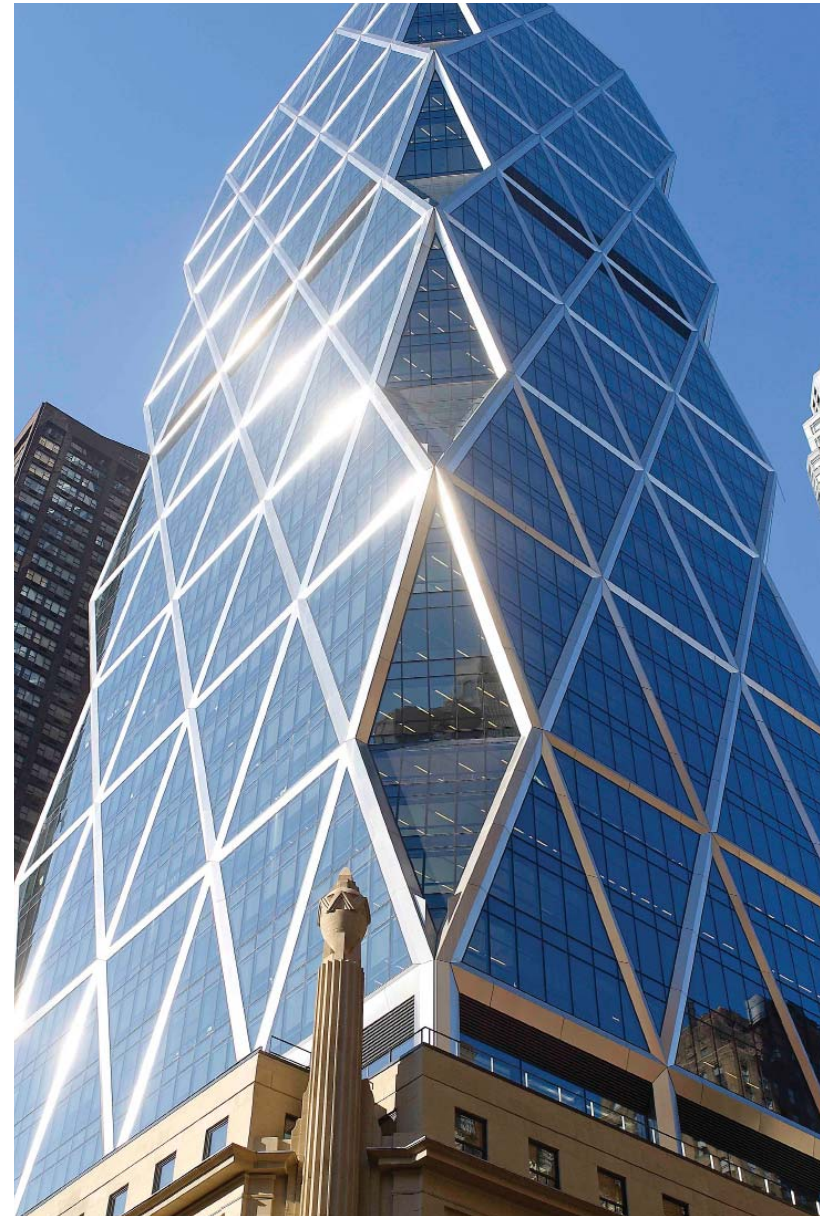
Does the building have a recycling program?



WHAT DO TENANTS WANT?

Gensler

Sustainability
“GREAT TO HAVES”



WHAT DO TENANTS WANT?

Gensler

Access to Amenities



Does the building have bike storage and provisions for tenant shower facilities?

Is the building within a quarter mile from bus lines or a mile from the light rail?

Does the building have priority parking for van/car pools?

WHAT DO TENANTS WANT?

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Building Systems

Does the building use any irrigation or high efficiency irrigation systems for landscape?



If it's not a LEED Building, does the building use on site renewable energy?



Can tenants choose their own electricity company for power or does the building have electrical service that includes provisions for green energy?



WHAT DO TENANTS WANT?

Gensler

Building Attributes



How far away are the windows from the space, and are they floor to ceiling or is there a ledge?



Is the building LEED or will it be LEED certified?

WHAT DO TENANTS WANT?

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Building Management

Does the building have a monitoring system to ensure tenant comfort in public spaces, as well as sufficient air changes?



Does the building support recycling of construction waste?



WHAT DO TENANTS WANT?

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Things
Worth LEED
Points



WHAT DO TENANTS WANT?

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Things Worth LEED Points

**Include allowance
for showers in
tenant space**



WHAT DO TENANTS WANT?

Gensler

Things Worth LEED Points



**Negotiate a 10
year or longer
lease term**

WHAT DO TENANTS WANT?

Gensler

Things Worth LEED Points

Negotiate a net lease with utility cost paid by tenant and not included in the lease



WHAT DO TENANTS WANT?

Gensler

Things Worth LEED Points



Provide separate energy and/or water metering for the tenant space

WHAT DO TENANTS WANT?

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Things Worth LEED Points

Negotiate allowance for upgrades to restroom fixtures that will use 20% less water



WHAT DO TENANTS WANT?

Gensler

Things Worth LEED Points



**Negotiate
ability for tenant
to purchase
renewable energy**

WHAT DO TENANTS WANT?

Gensler

Things Worth LEED Points



Negotiate additional allowance for recycling of non-hazardous material that's removed from the space before construction

WHAT DO TENANTS WANT?

Gensler

Things Worth LEED Points

**Fewer reserved
parking spots for
the tenant**



THANK YOU!

Gensler



Maria Perez
LEED AP BD+C, ID+C, ND, O&M
Regional Sustainable Design Leader
maria_perez@gensler.com
713.356.1330