

Architects

Federal,

Product
Manufacturers

Building
Owners

LEED

The Good, the Bad, and the Sometimes Ugly

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Midwest Director of Sustainable Design

Shaw Environmental & Infrastructure

Financial
Reps

Engineers

Interior
Designers

Building
Tenants

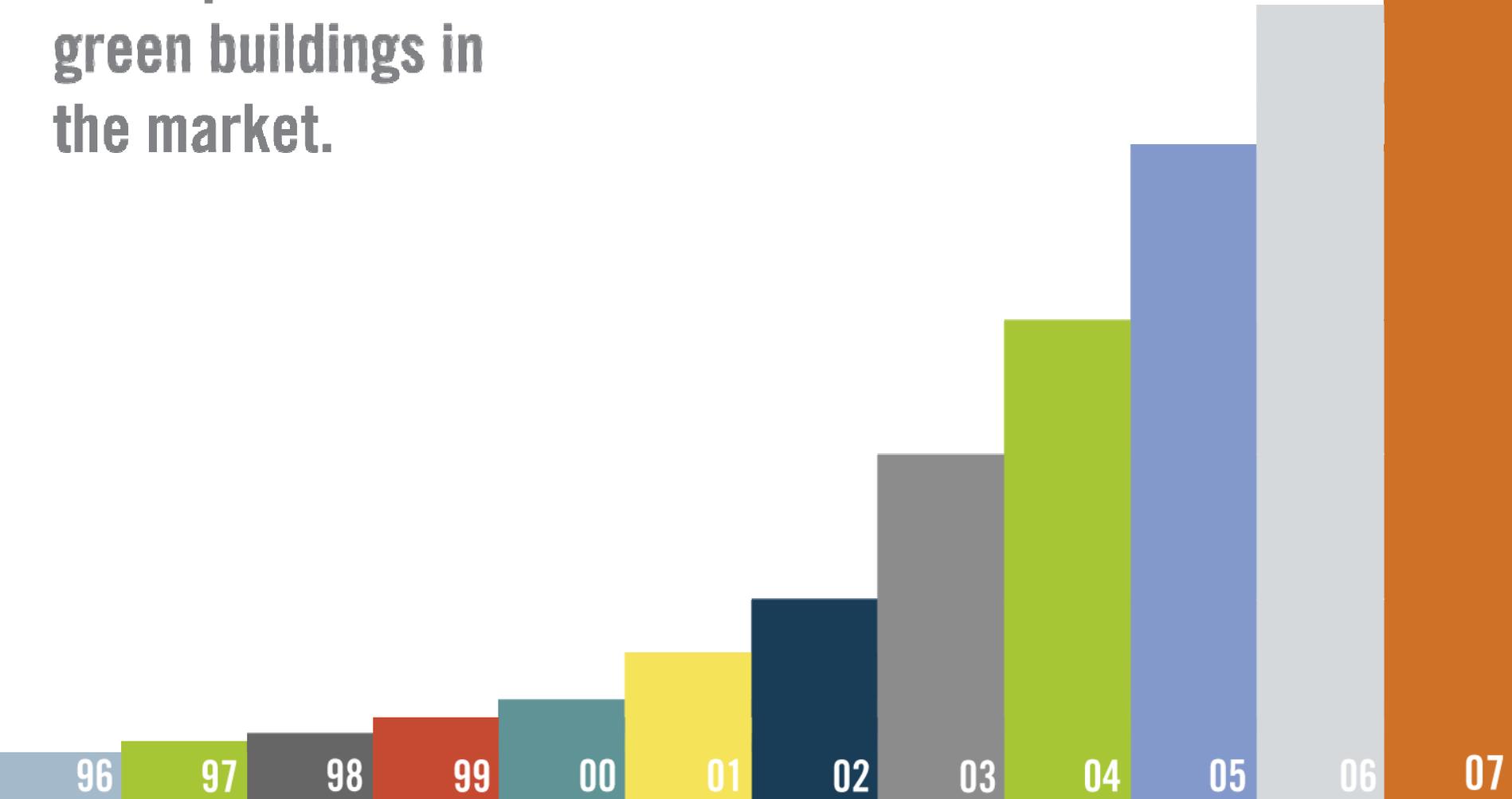
Property
Managers

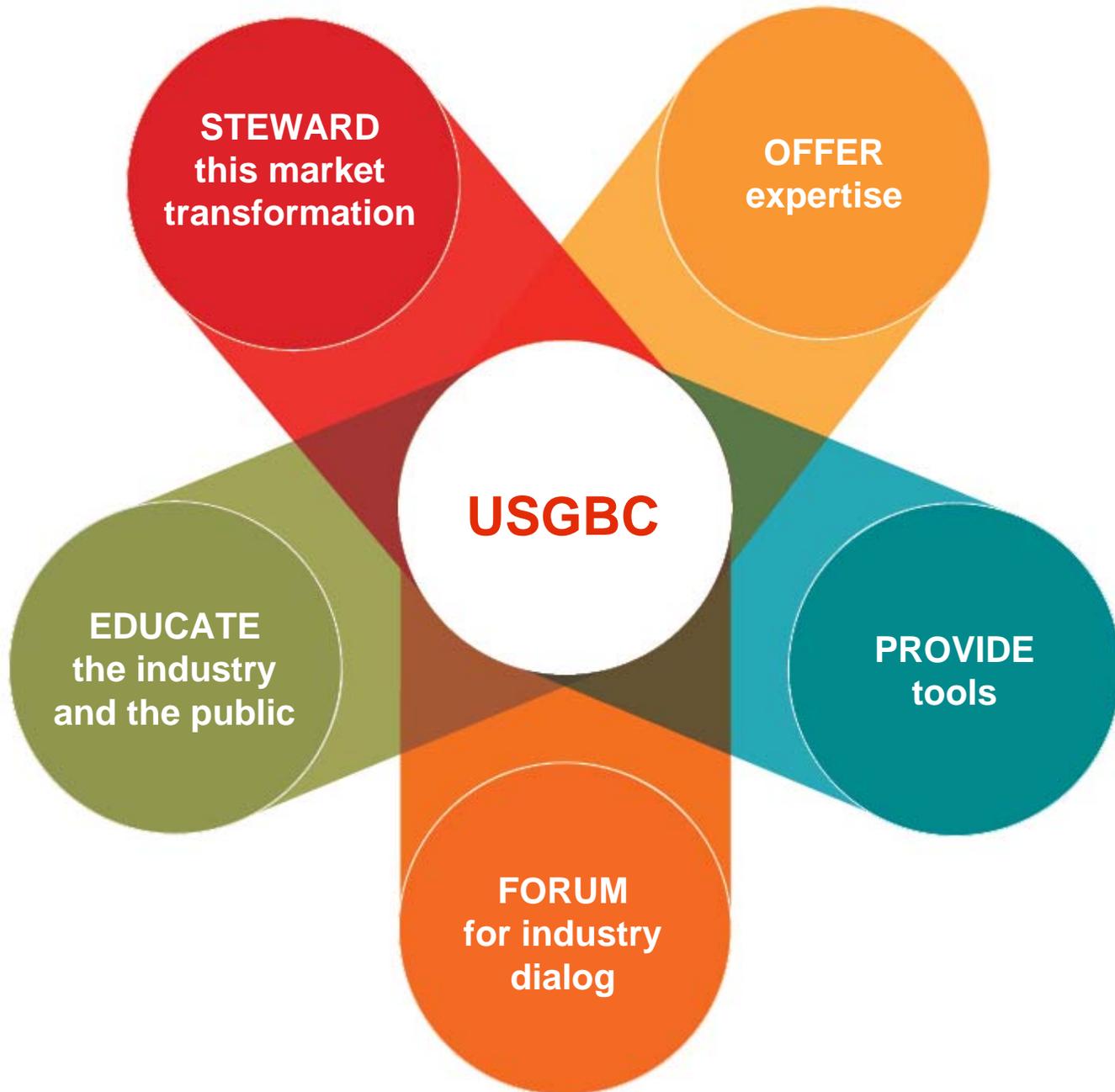
Code
Officials



USGBC
membership
growth reflects
the expansion of
green buildings in
the market.

11,185 +





What is the LEED System?

LEADERSHIP in ENERGY and ENVIRONMENTAL DESIGN

A leading-edge system for certifying
DESIGN, CONSTRUCTION, & OPERATIONS
of the greenest buildings in the world

Scores are tallied for different aspects of efficiency and design in appropriate categories.

For instance, LEED assesses in detail:

1. Site Planning
2. Water Management
3. Energy Management
4. Material Use
5. Indoor Environmental Air Quality
6. Innovation & Design Process

Green Facts

John M. Langston High School
Continuation & Langston-Brown
Community Center
Arlington, Virginia

LEED-NC rating out of 69

Silver 35

Sustainable Site 8

Water Efficiency 3

Energy & Atmosphere 4

Materials & Resources 6

Indoor Environmental Quality 11

Innovation & Design 3

USGBC LEED-NC rated Sept. 3, 2003.

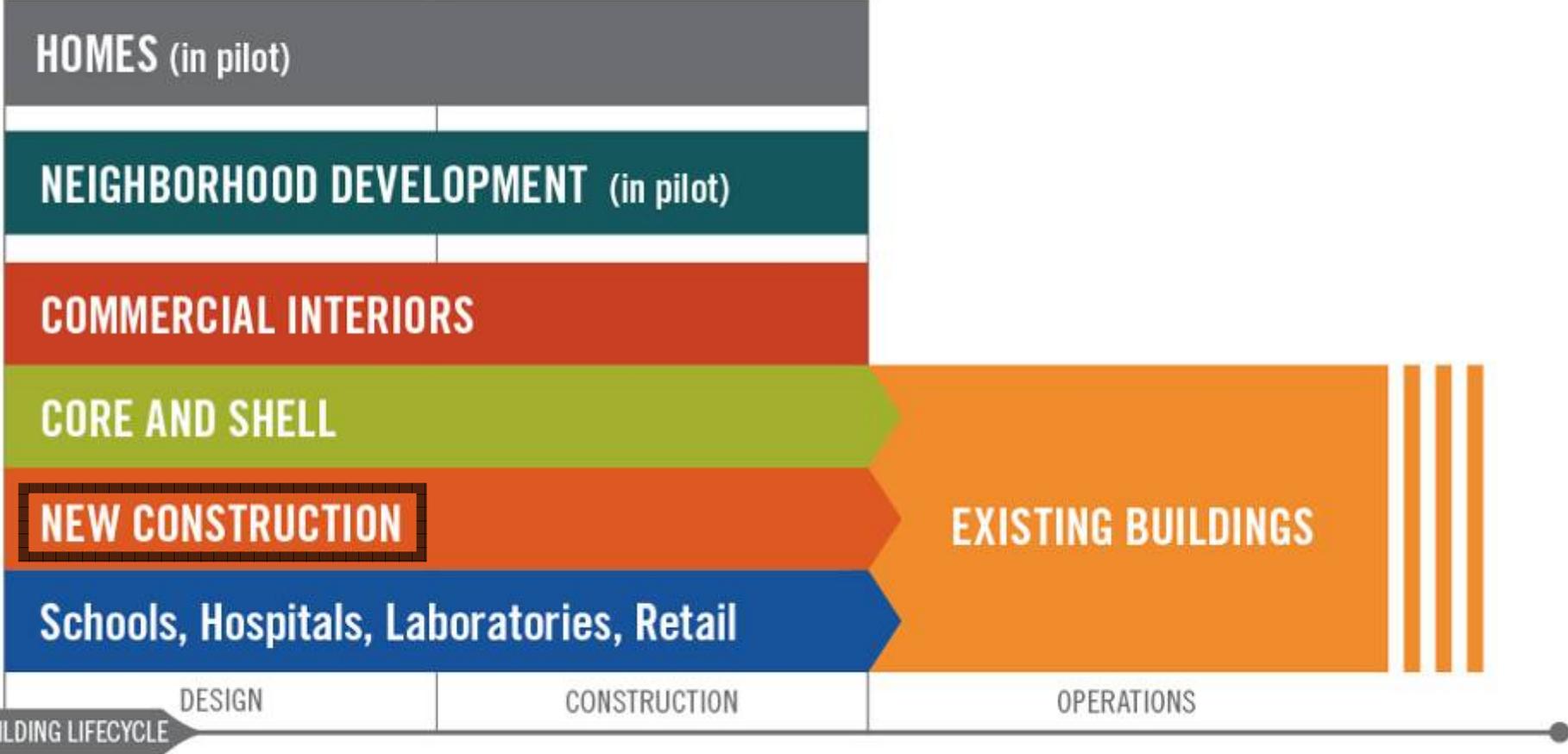


Levels of LEED Ratings

Green Buildings worldwide are certified with a voluntary, consensus-based rating system. USGBC has four levels of LEED.



LEED addresses the complete building lifecycle.



What is green building?

Design and construction practices that meet specified standards, resolving much of the negative impact of buildings on their occupants and on the environment.



Sustainable Sites

Erosion and Sedimentation Control

Age of Building

Green Site and Building Exterior Management

High Development Density Building and Area Alternative Transportation

Reduced Site Disturbance

Stormwater Management

Heat Island Reduction

Light Pollution Reduction



Sustainable Sites

Efficient Water Use

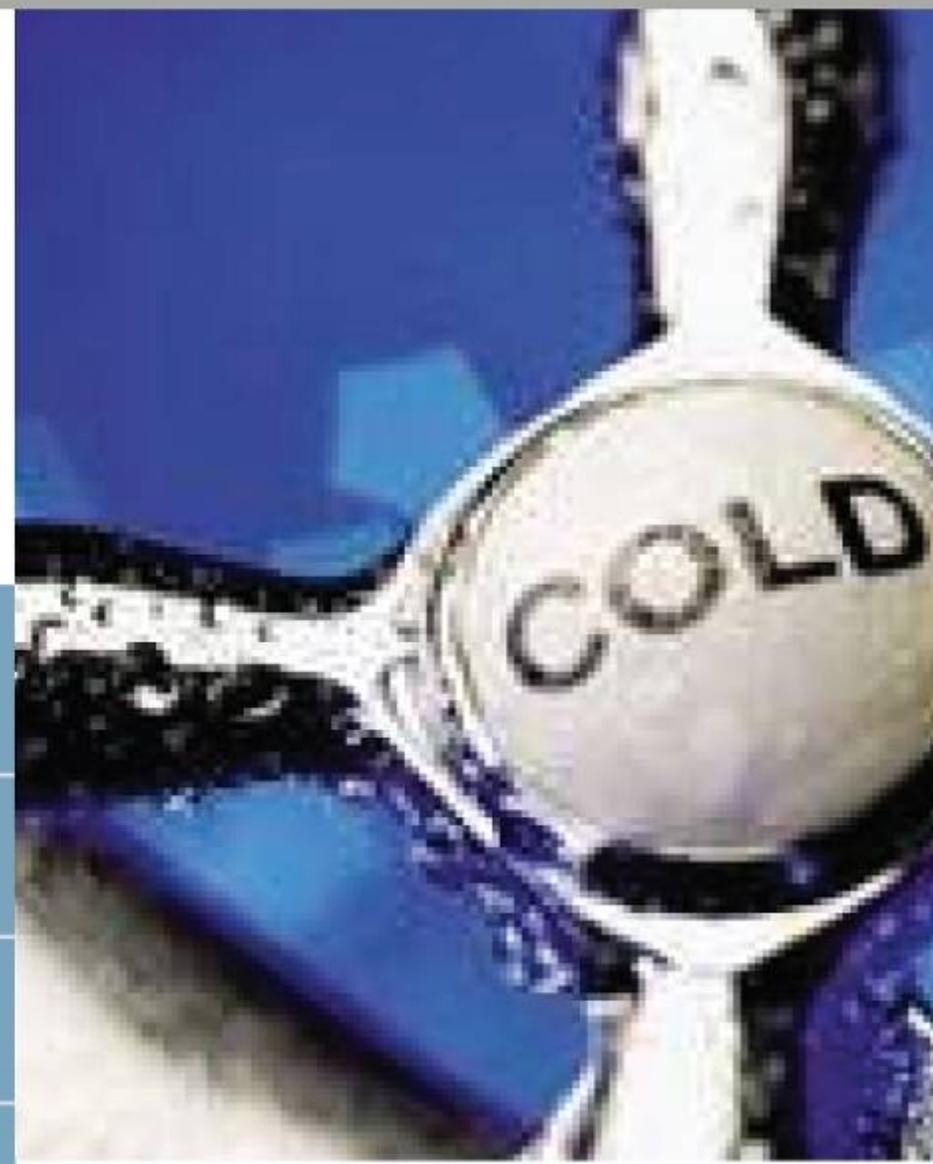
Minimum Water Efficiency

Discharge Water Compliance

Water Efficient Landscaping

Innovative Wastewater Technologies

Water Use Reduction



Sustainable Sites

Efficient Water Use

Energy & Atmosphere

Existing Building Commissioning

Minimum Energy Performance

Ozone Protection

Optimize Energy Performance

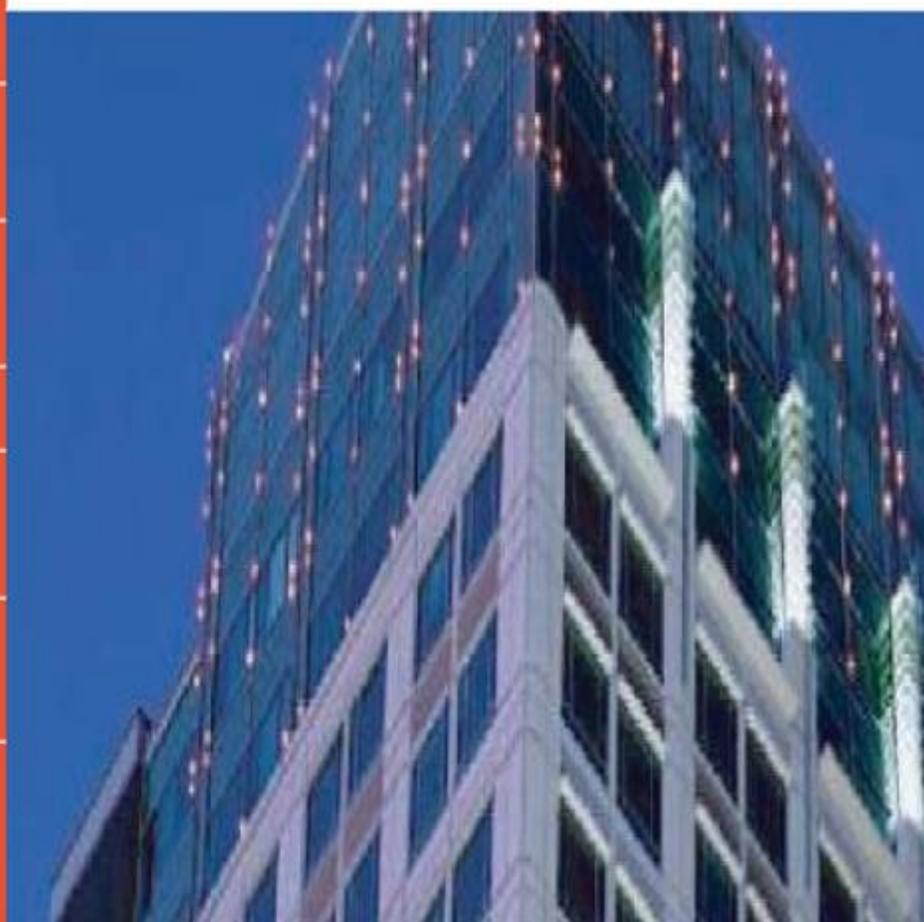
On/Off Site Renewable Energy

Building O&M

Additional Ozone Protection

Performance Measurement

Documenting Cost Impacts



Sustainable Sites

Efficient Water Use

Energy & Atmosphere

Materials & Resources



- Source Reduction & Waste Management
- Toxic Material Source Reduction
- Construction Waste Management
- Optimized Use of Alternative Materials
- Optimized Use of IAQ Compliant Products
- Sustainable Cleaning Products
- Occupant Recycling
- Additional Toxic Material Source Reduction
- Recycled Content



Sustainable Sites

Efficient Water Use

Energy & Atmosphere

Materials & Resources

Indoor Environmental Quality



Outside Air Exhaust

Tobacco Smoke Control

Asbestos/PCB Removal

Outdoor Air Delivery Monitoring

Increased Ventilation Construction

IAQ Management Plan

Documenting Productivity Impacts

Indoor Chemical & Pollutant Source Control

Controllability of Systems

Thermal Comfort

Daylighting & Views

Contemporary IAQ Practice

Green Cleaning



- Sustainable Sites
- Efficient Water Use
- Energy & Atmosphere
- Materials & Resources
- Indoor Environmental Quality
- Innovation**



Up to 5 additional credits

LAP: 1 Credit

Innovation: 1–4 Credits



Sustainable Design is a Process

1. Savings come through integration
2. Start early
3. Seek the opportunities and constraints
4. Involve and educate stakeholders.
5. Analyze costs
 - Life cycle
 - Pay-back vs. cash flow
6. Get contractor input

Not-so-positive aspects to LEED

- Only *one* tool – gets too much emphasis
- Works *against* integrated design
- Point chasing/gaming is a problem
 - Points are not weighted by impact
- USGBC certification is an additional cost
\$450 registration, \$1,750 certification (up to 50,000sf + \$0.035/sf above)
- Is often just an overlay

Positive aspects to LEED

- Good initial framework
 - science based
- Creates a focus for the effort
- Provides a solid documentation process
- Provides 3rd party verification
- Can help in funding (grants, tax credits, etc)



Managing LEED

- Periodic LEED Assessment.
 - Point vulnerability varies
 - Don't lose focus.
- Assess cost implications of each point. Seek the “low-hanging fruit” first.
 - No Cost: Orientation, Low-VOC paints
 - Low-Cost: Better windows, higher ceilings, efficient equipment
 - Understand and manage point cost

Managing LEED

- Clarify responsibility for each point.
 - Identify a key person.
 - Responsibility shifts over time
- Integrate LEED into the entire process.
 - specific implications for each phase
 - Contractor/subcontractors must understand goals
 - Tie documentation to existing contractor systems

Thank you

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Shaw Environmental & Infrastructure

Questions?

Presenters and Topics

Tim Shireman: 2007 Program Review

Nick Evans: Technical Energy Analysis
Guidelines Refresher

Kevin Pierce: LEED: The Good, the Bad and
the Sometimes Ugly