



WHAT IS **LEED** ?



Leadership in Energy and Environmental Design

LEED is the nationally accepted benchmark for the design, construction, and operation of **high-performance**, green buildings.



Leadership in Energy and Environmental Design

LEED gives building owners and operators the tools they need to **measurably** impact and **improve** their buildings' performance.

LEED promotes an integrated, **systems-oriented** approach to **high-performance** design and construction.



Who & What Can Be LEED?

Buildings

>

Certified

Building
Professionals

>

Accredited



LEED™

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

LEED- History

- Over 10 Years in Development
- Available to the Public in March of 2000
- Initially 1 Program (for New Construction only)
- Now 7 Different LEED Rating Programs



LEED™

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

LEED Rating Programs

- **LEED-NC** (New Construction)
- **LEED-EB** (Existing Buildings)
- **LEED-CI** (Commercial Interiors)
- **LEED-CS** (Core & Shell)
- **LEED-H** (Homes)
- **LEED-S** (Schools)
- **LEED-ND** (Neighborhood Development)



LEED™

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

LEED-NC Rating Levels



26-32



33-38



39-51



52 +

69 Total Points Possible



LEED™

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

LEED Rating System Categories

- **SUSTAINABLE SITES**
- **WATER EFFICIENCY**
- **ENERGY & ATMOSPHERE**
- **MATERIALS & RESOURCES**
- **INDOOR ENVIRONMENTAL QUALITY**
- **INNOVATION IN DESIGN PROCESS**



LEED[™]

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

LEED ADVANTAGES

immediate

& measurable



PERCEIVED ADVANTAGES OF BUILDING GREEN

8-9% decrease in operating costs

7.5% increase in building values

6.6% improvement in roi

3.5% increase in occupancy

3% rent increase



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**



LEED[™]

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

What Does it *Really* Cost?

Cost of Green Revisited

Reexamining the Feasibility and Cost Impact of Sustainable Design in the Light of Increased Market Adoption

July 2007

Davis Langdon, Inc. founded in San Francisco in 1974 specifically to provide comprehensive construction cost management services to builders, architects and owners



LEED

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

Ambulatory Care





LEED

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

Community Centers





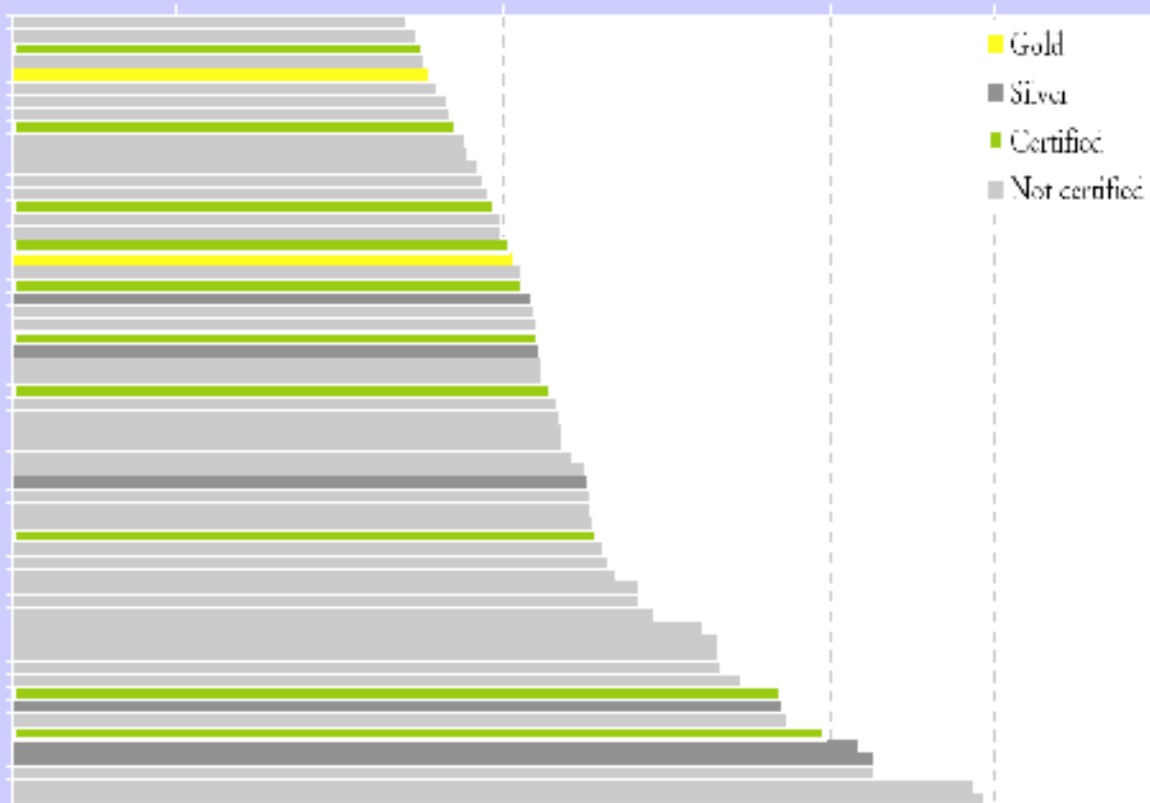
LEED™

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

Academic Buildings

Cost/\$f

0.00 100.00 200.00 300.00 400.00 500.00 600.00 700.00





LEED[™]
LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

What Does it *Really* Cost?

CONSTRUCTION COST

- The majority of the buildings are able to achieve LEED certification **without** additional funding.
- Some required additional funding, but only for **specific features**, such as photovoltaics.
- Cost per square foot for LEED buildings falls within the **existing range** of costs for similar buildings.



LEED[™]
LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

What Does it *Really* Cost? OVERALL COST

- Construction Costs are **Comparable**
- **8-10%** Increase in **A & E** Costs
- **LCA** (Life Cycle Analysis) Costing Shows LEED Buildings **Increase** ROI (Return on Investment) & **Save Money** overall

Additional Construction Costs for LEED-certified buildings

Average for offices and schools, based on 40 buildings

Conventional Building Cost (100%)

Additional Cost

PLATINUM (2 buildings)

6.8%

GOLD (9 buildings)

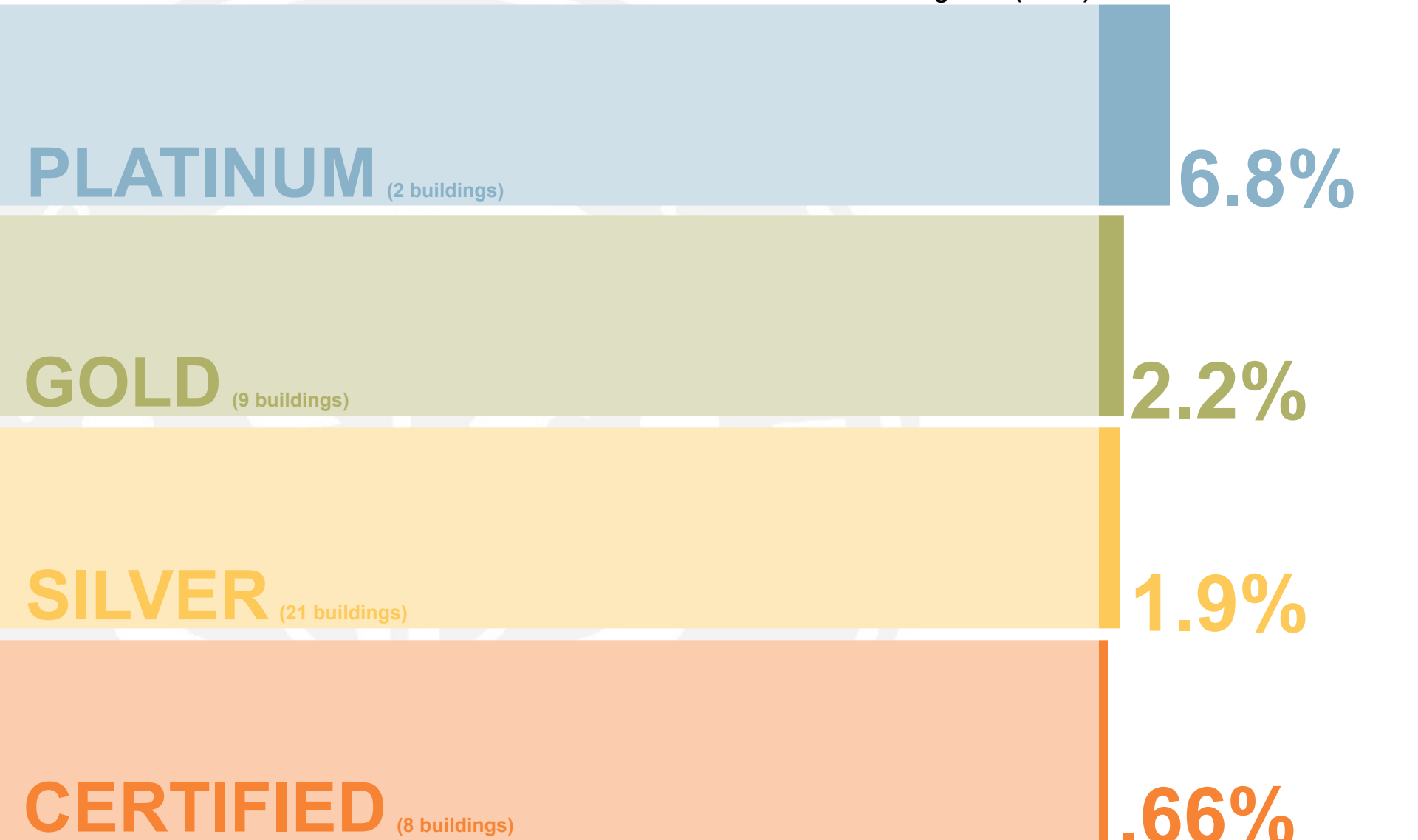
2.2%

SILVER (21 buildings)

1.9%

CERTIFIED (8 buildings)

.66%





LEED™

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

Who's Building LEED?

- Hospitals
- Universities
- Government (Federal, State, County, & Local)
- School Districts
- Corporations
- Private Home Owners



LEED™

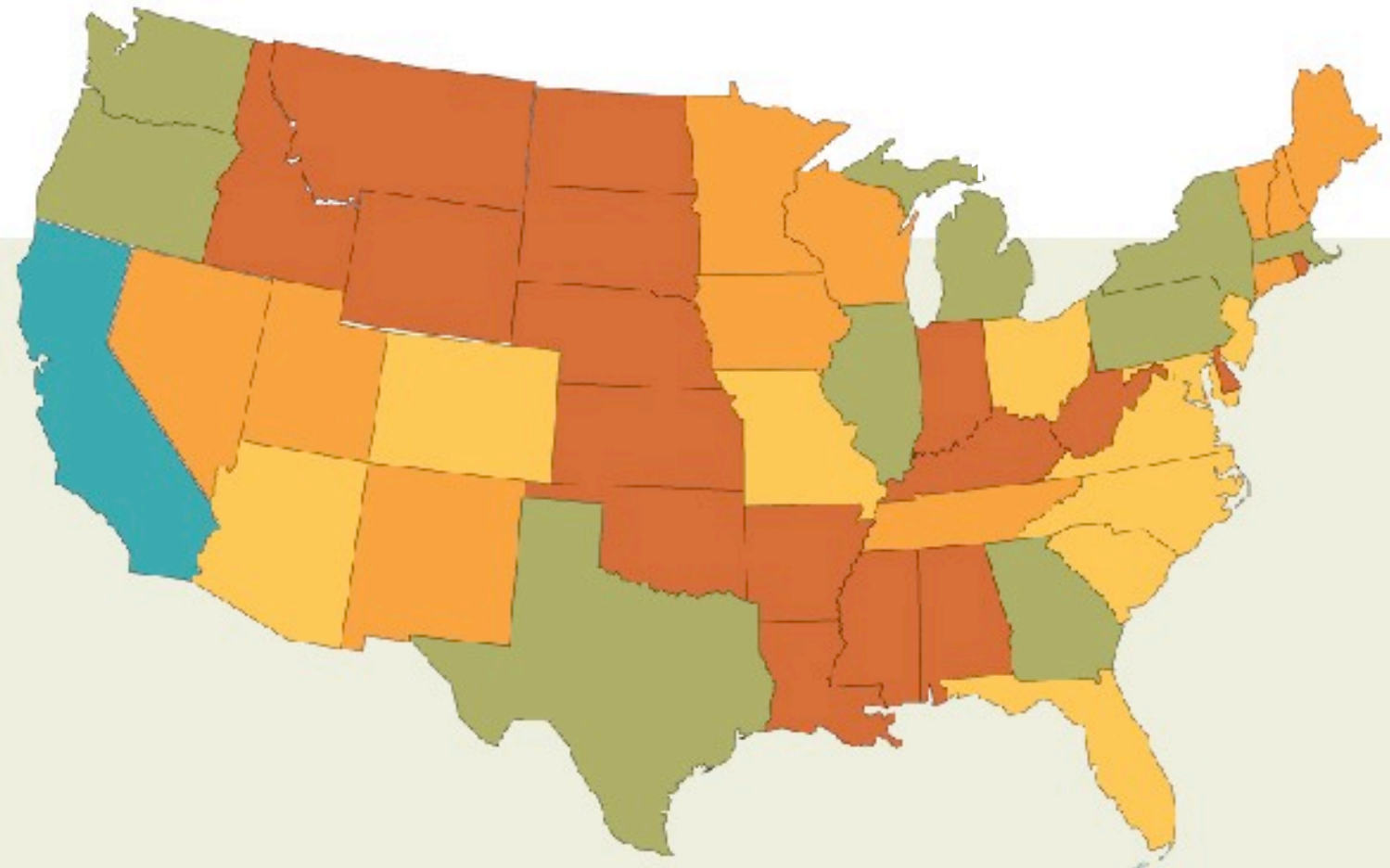
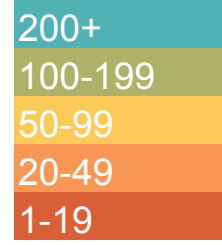
LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

Commitments to LEED...

- 100 Cities & Counties Nationwide
- 33 School Districts
- 25 State Mandates
- 12 Different Federal Agencies

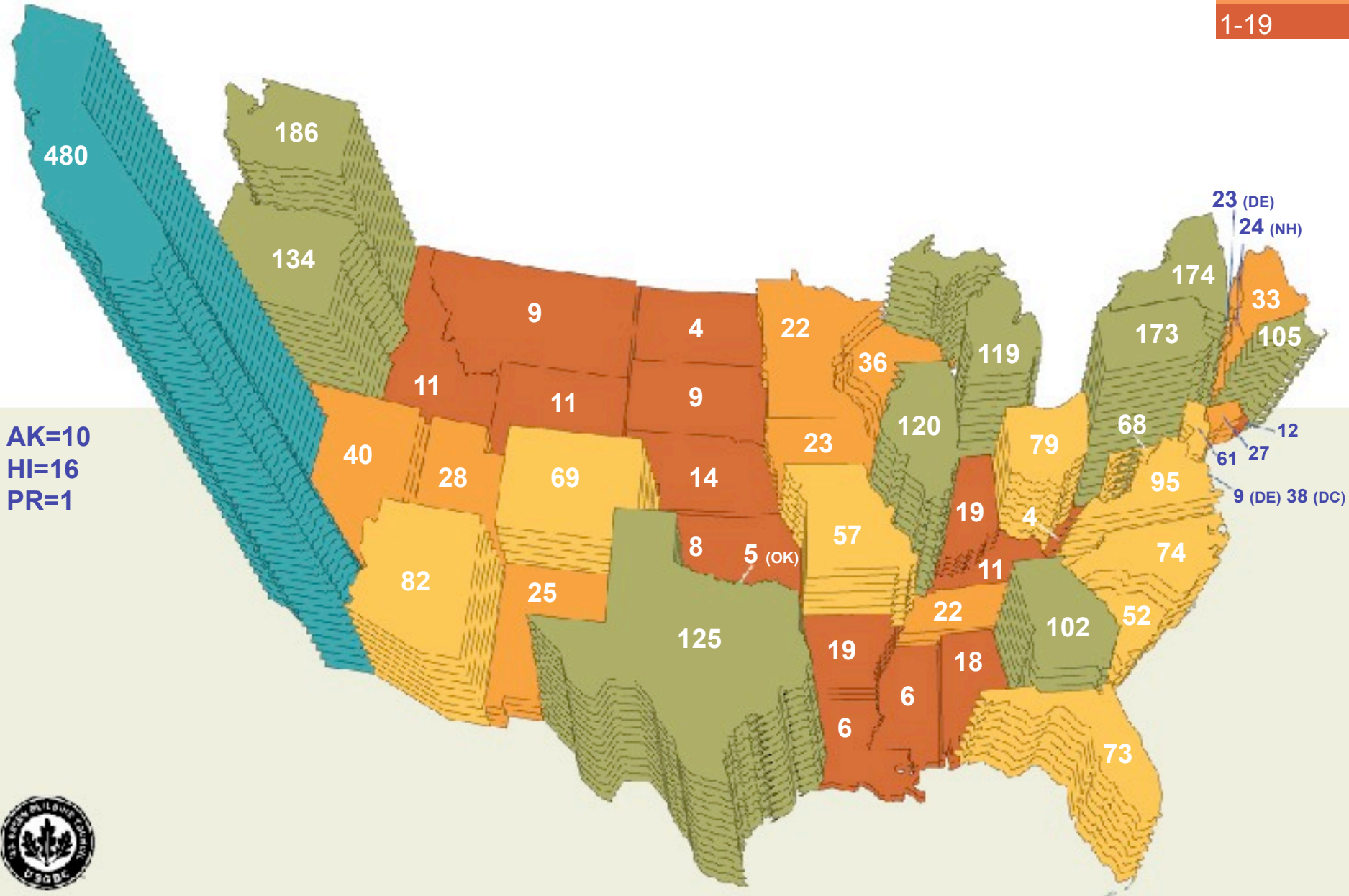
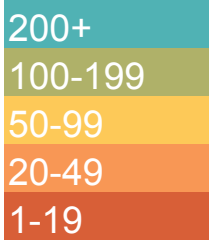
LEED for new construction buildings as of 07/06

Distribution by geography



LEED for new construction buildings as of 07/06

Distribution by geography

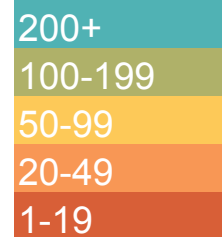


AK=10
HI=16
PR=1

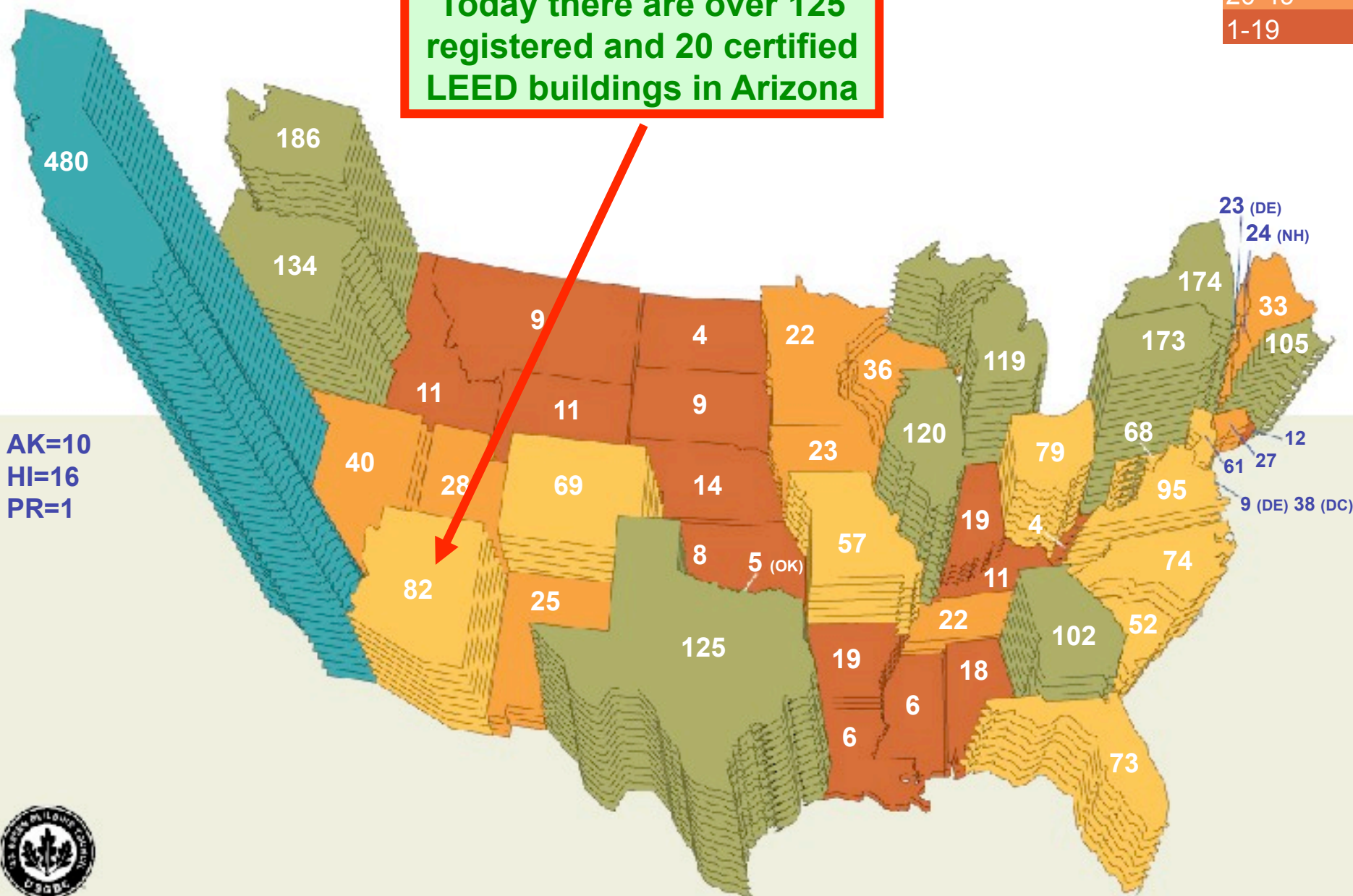


LEED for new construction buildings as of 07/06

Distribution by geography



Today there are over 125 registered and 20 certified LEED buildings in Arizona





LEED™

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

Arizona Commits to LEED...

- State of Arizona- LEED Certification
Mandate
- City of Scottsdale- LEED Gold Ordinance
- City of Phoenix- LEED Rating System
Guidelines



LEED™

LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

LEED in Arizona

- 89 Certified Projects
- 5- Platinum, 32- Gold, 30- Silver, 22- Basic
- ~300 Projects Registered
- 1st Platinum- ASU's BioDesign Research Center
- 1st Yavapai County LEED Building-
Yavapai College Agri-Business Center
- Prescott's 1st LEED Building-

James Environmental Learning Center

PRESCOTT ARIZONA'S 1ST LEED CERTIFIED BUILDING

1ST LEED-GOLD IN YAVAPAI COUNTY



C CATALYST ARCHITECTURE, LLC



Highlands Center For Natural History

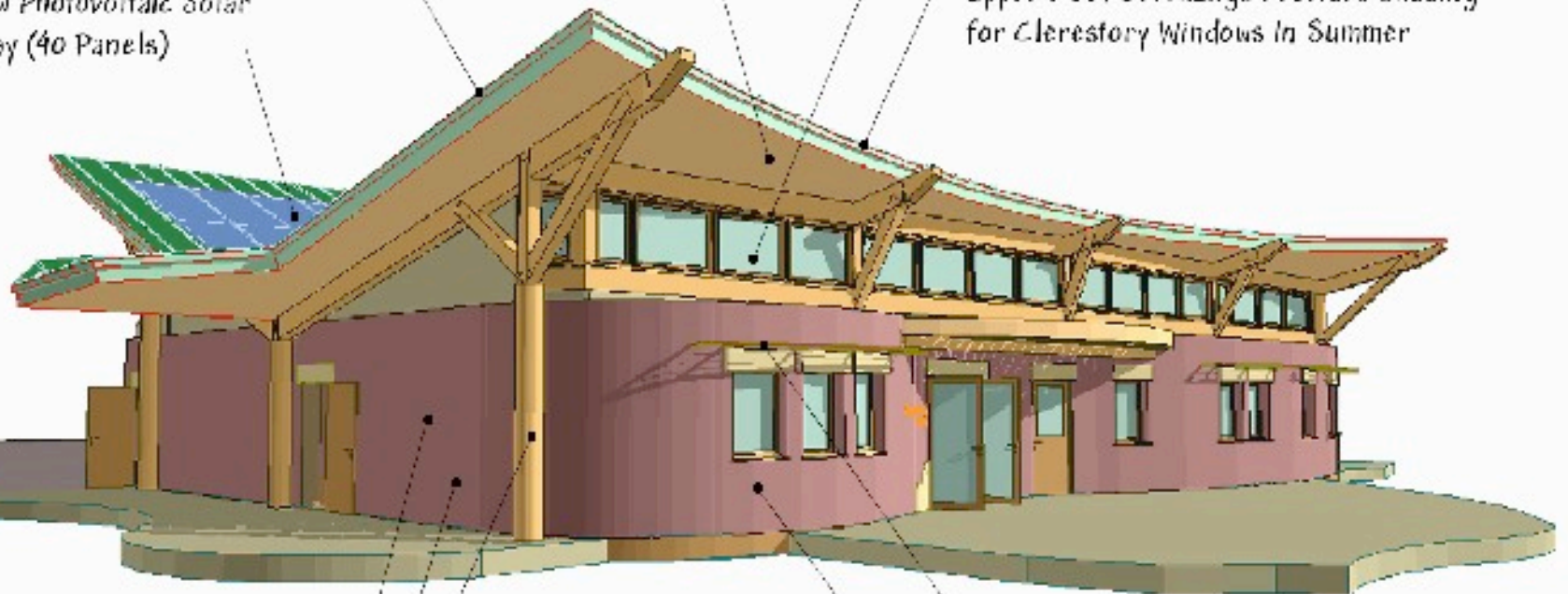
"Butterfly" Roof Shape Captures Rainwater For Landscaping

High Performance, Spray-On Foam Roof Insulation, R-Value = 34

Operable Clerestory Windows For Solar Gain, Natural Daylight & Ventilation

7 Kw Photovoltaic Solar Array (40 Panels)

Upper Roof Overhangs Provides Shading for Clerestory Windows In Summer



Wood Framed 2 x 8 Wall With Blown-In Cellulose Insulation, R-Value = 28

Regionally Harvested Tree Poles For Supporting Structure

Vine Covered Trellises Will Provide Shading Over Lower Windows In Summer

Low-Flow Plumbing Fixtures Conserve Water Usage

Formaldehyde-Free Plywood With Non-Toxic, Low-VOC Paints & Finishes

