

IMPACTS OF U.S. BUILDINGS ON RESOURCES

40% primary energy use*

72% electricity consumption*

39% CO₂ emissions*

13.6% potable water consumption**

Sources:

*Environmental Information Administration (2008). EIA Annual Energy Outlook.

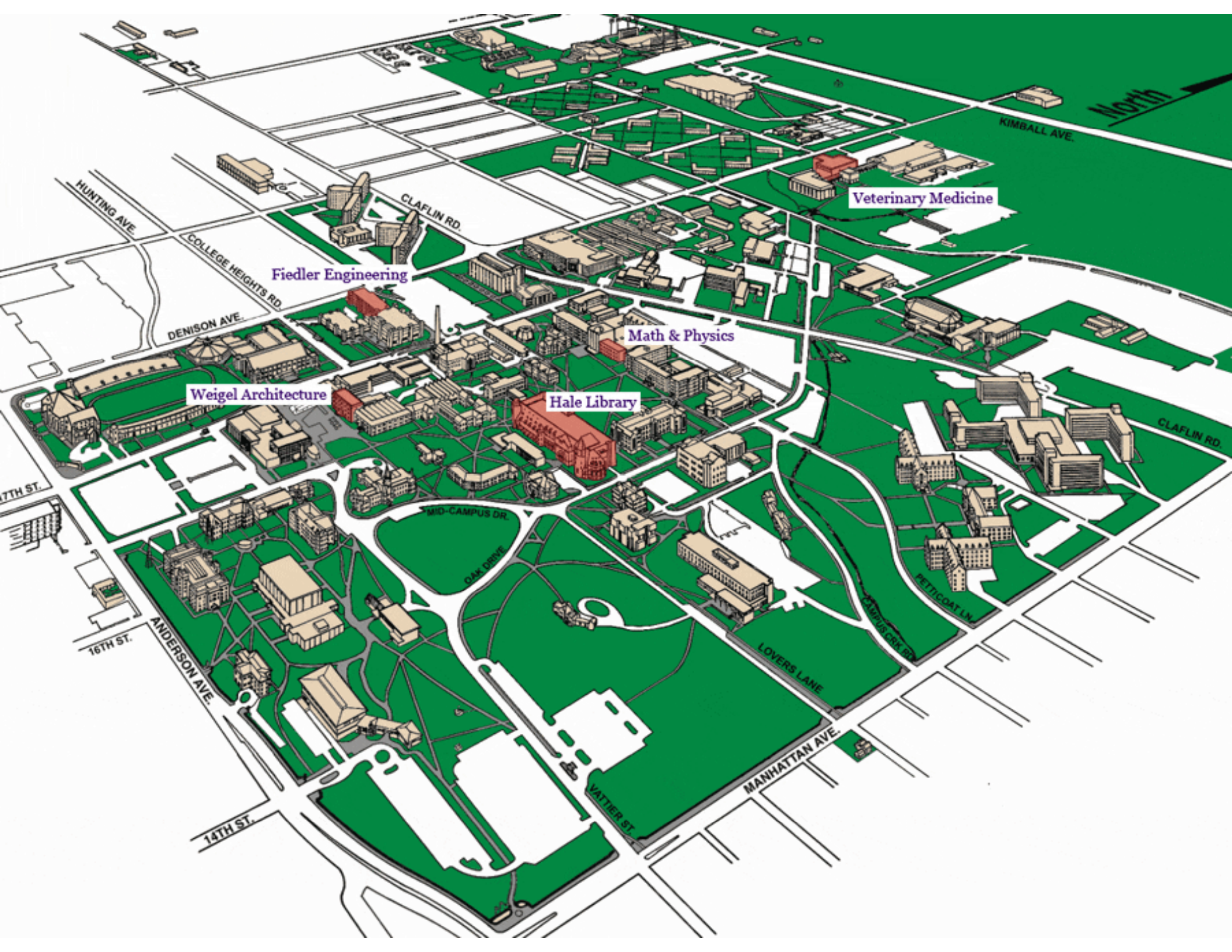
** U.S. Geological Survey (2000). 2000 data.

Global CO₂ Emissions by Sector

#1. Buildings

#2. Transportation

#3. Industry



North

KIMBALL AVE

Veterinary Medicine

CLAFIN RD.

Fiedler Engineering

COLLEGE HEIGHTS RD.
DENISON AVE.

Math & Physics

Weigel Architecture

Hale Library

CLAFIN RD.

17TH ST.

MID-CAMPUS DR.

OAK DRIVE

PETTIGOAT LN.

16TH ST.

ANDERSON AVE.

LOVERS LANE

14TH ST.

VATTIER ST.

MANHATTAN AVE.

**ENERGY
USE**

24%* -50%**

**CO₂
EMISSIONS**

33%*** -39%**

**WATER
USE**

40%**

**SOLID
WASTE**

70%**

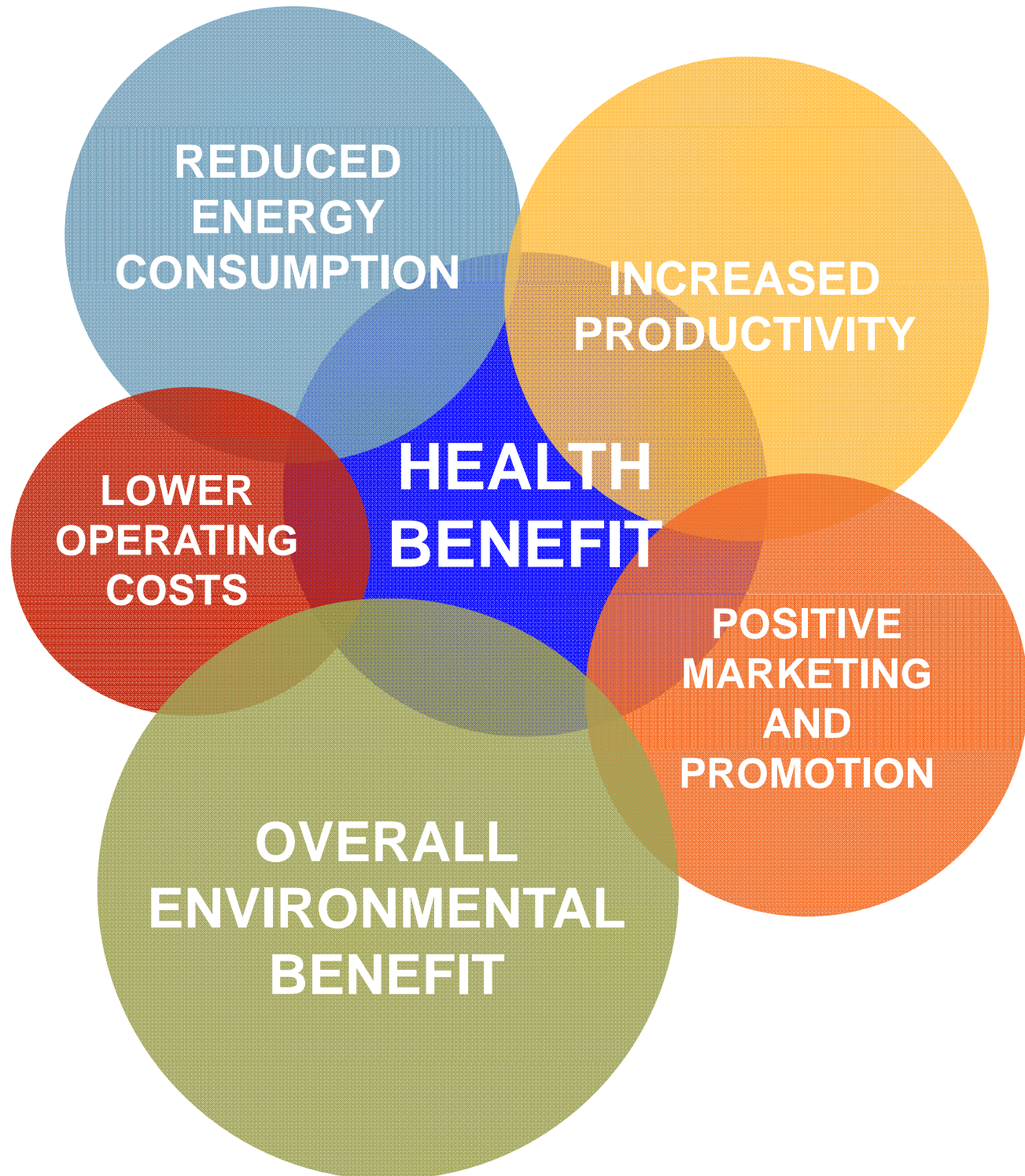
Green Buildings Can Reduce...

* 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.

Green Building benefits:





Leadership in Energy & Environmental Design



Nutrition Facts

Serving Size 8 crackers (28g)
Servings Per Container About 12

Amount Per Serving

Calories 120 Calories From Fat 30

% Daily Value*

Total Fat 3.5g **5%**

Saturated Fat 1g **5%**

Trans Fat 0g

Polyunsaturated Fat 1.5g

Monounsaturated Fat 0.5g

Cholesterol 0mg **0%**

Sodium 140mg **6%**

Total Carbohydrate 22g **7%**

Dietary Fiber Less than 1g **3%**

Sugars 7g

Protein 2g

Vitamin A 0% • Vitamin C 0%

Calcium 10% • Iron 4%

* Percent Daily Values are based on a 2,000 calorie diet.

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What is the LEED System?

LEADERSHIP in ENERGY and ENVIRONMENTAL DESIGN

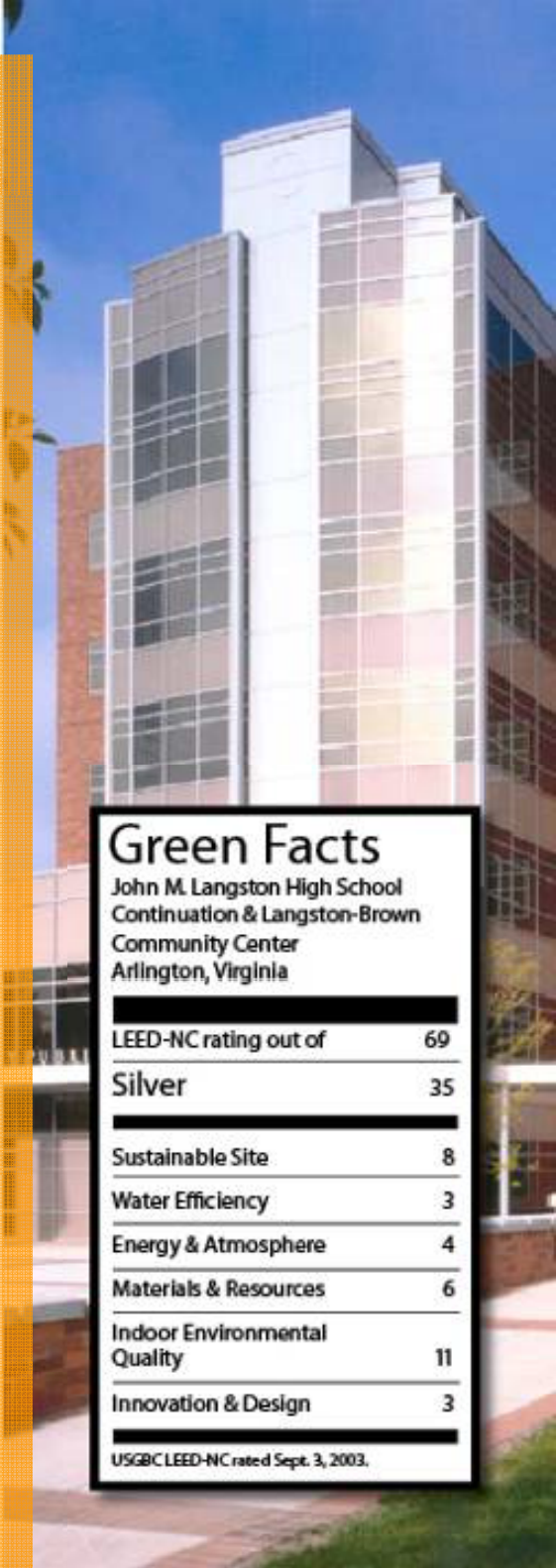
A leading-edge system for certifying DESIGN, CONSTRUCTION, & OPERATIONS of the greenest buildings in the world

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

For instance, LEED assesses in detail:

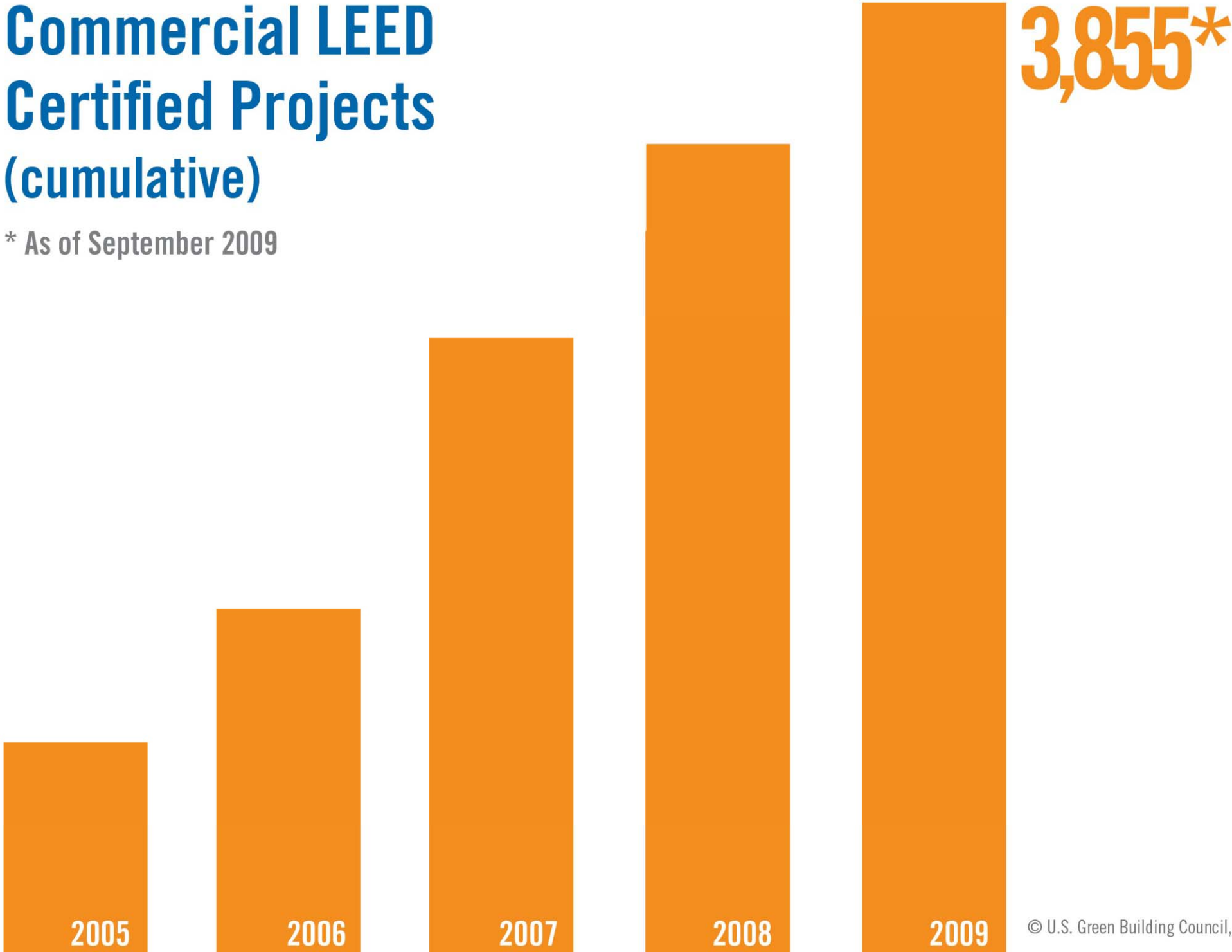
1. Site Planning
2. Water Management
3. Energy Management
4. Material Use
5. Indoor Environmental Air Quality
6. Innovation & Design Process

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.	

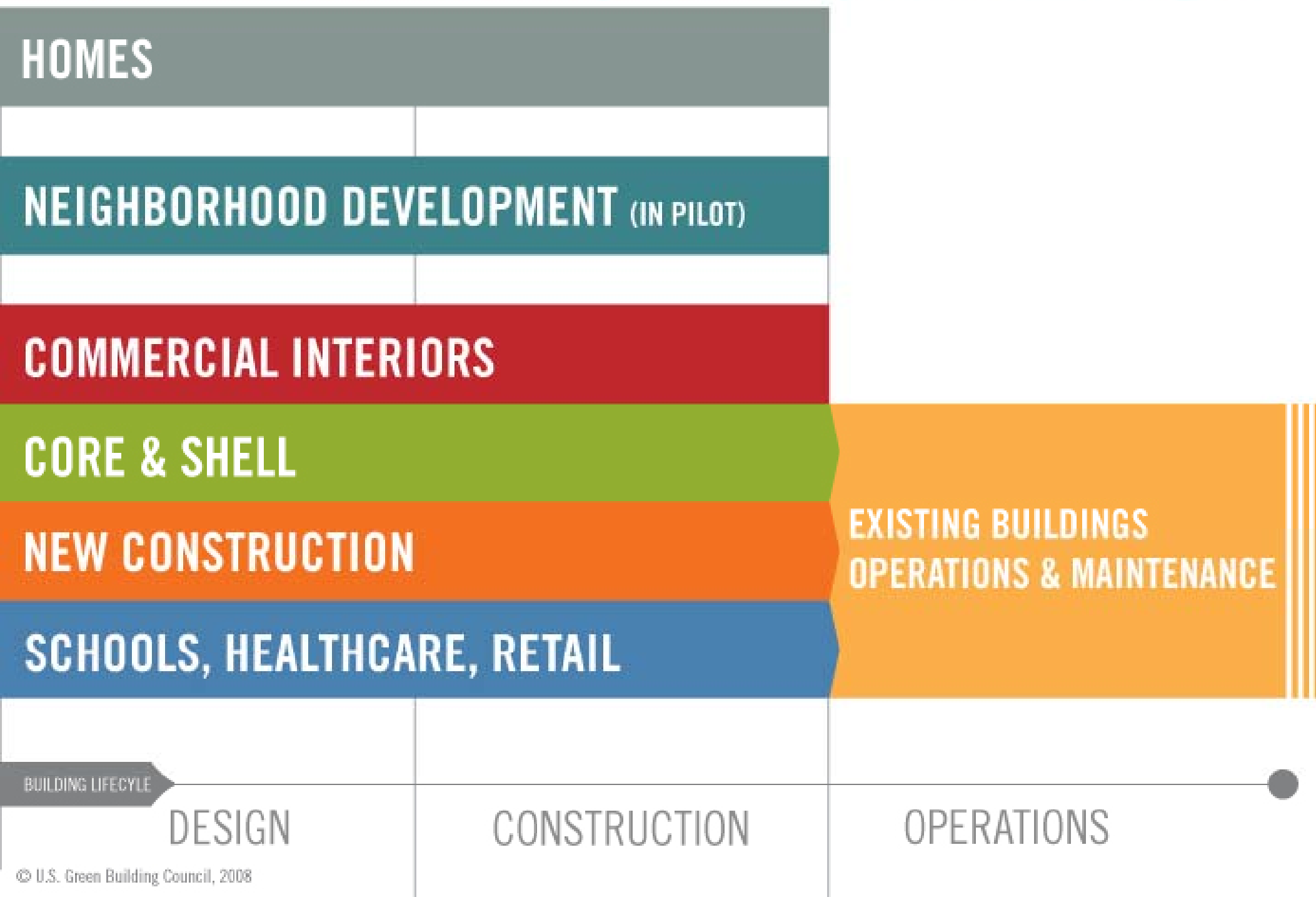


Commercial LEED Certified Projects (cumulative)

* As of September 2009



LEED address the complete lifecycle of buildings:



Federal Government Use of LEED



- General Services Administration (GSA)
- U.S. Air Force, U.S. Navy
- U.S. Army Corps of Engineers
- Departments of State, Interior, Agriculture
- Department of Energy (DOE)
- Environmental Protection Agency (EPA)
- Depts. of Agriculture, Interior, State
- NASA, Smithsonian
- Health & Human Services

State Government Use of LEED



Arkansas, Arizona, California, Colorado
Connecticut, Georgia, Maine, Maryland
Massachusetts, Nevada, New Jersey, New York
Ohio, Oregon, Pennsylvania, Washington
Florida, Hawaii, Illinois, Indiana, Kentucky
Louisiana, Michigan, Minnesota, New Mexico
North Carolina, Oklahoma, Rhode Island
S Carolina, S Dakota, Virginia, Wisconsin

Government & School Use of LEED



44 states

122 cities

34 counties

30 towns

31 state governments

12 federal agencies or departments

15 public school jurisdictions

39 institutions of higher education

USDA Service Center Manhattan, KS LEED Version 2.1 Silver





School of Leadership Studies
Kansas State University

OPUS
January 23, 2009



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%



Incremental Capital Costs of 33 USGBC LEED Certified Projects

Level of LEED Certification	Average Green Cost Premium (%of total construction cost)
1. Certified (8 projects)	0.66% (Opus +/- 0%)
2. Silver (18 projects)	2.11%
3. Gold (6 projects)	1.82% (Opus +/- 4%)
4. Platinum (1 project)	6.50%
Average of 33 Buildings	1.84%



THANKS!