LEED GREEN BUILDING RATING SYSTEM
(USGBC)

BY SKY SLAYTON
WHAT IS LEED (LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN)?

• Established in 1993

• The U.S. Green Building Council is committed to a sustainable, prosperous future through LEED

• LEED is a certification system to rate how green a building design and construction is.

• Can be used on both public and private buildings; including residential homes, commercial buildings, hospitals, schools, etc.

• Internationally recognized green building rating system
- Nearly 500,000 LEED homes
- 100,000 Commercial Buildings either LEED certified or going through the process
- 2.2 million+ sqft

LEED’S PURPOSE:

- Aimed at improving:
  - energy savings
  - water efficiency
  - CO2 emissions reduction
  - indoor environmental quality
  - stewardship of resources
  - sensitivity to their impacts.
LEED 5 CERTIFICATION TYPES

1. Building Design and Construction (LEED BD+C)
2. Interior Design and Construction (LEED ID+C)
3. Operation and Maintenance (LEED O+M)
4. Homes
5. Neighborhood Development
LEED POINT SYSTEM

- Innovation and Design
- Awareness and Education
- Location and Transportation
- Sustainable Site
- Indoor Environmental Air Quality
- Water Efficiency
- Energy and Atmosphere
- Materials and Recourses
- Awareness and Education
- Location and Transportation
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LEED RATING

1. Platinum
2. Gold
3. Silver
4. Certification

Chris Baribeau, Eco Modern Flats, Fayetteville, AR, 2011
DOWNFALLS OF LEED

- People more concerned about points than being innovative
- Expensive or Time Consuming
- Needs constant updating
- “One-size-fits-all” approach to geography
- Based on a physics professor at Oberlin College, LEED Certified buildings use more site and primary energy than other medium energy non-LEED buildings.
AN EXAMPLE OF LEED DOWNFALL:

- 55 Stories Tall (+3 basement floors)
- 2,100,000sqft of Office Space
- First commercial high-rise of its size to get a Platinum LEED rating
- Uses twice as much energy as the Empire State Building
  - Their trading floor, making up a third of the tower, uses up most of the energy:
    - Each desk has five computer monitors to a desk
    - The system to heat, cool, and light the huge trading floors
AN EXAMPLE OF LEED DOWNFALL:

- First Platinum LEED building
- 32,000 sqft Office Building
- Shortly after opening water was getting into key structural components, Parallam.
- Not structurally sound
- Still Platinum LEED building
BENEFITS OF LEED

- Brings awareness and promotes eco-friendly materials/buildings
- Promotes low-carbon footprint
- A Universal Approach to Green Leaving
- Lower Electric, and Water Use
- Health of the Occupants
- Higher resale
- Better for environment
LEED Facts
for LEED BD+C: New Construction (v2009)

- Certification awarded Oct 2018
- Gold 65
- Sustainable sites 18/26
- Water efficiency 10/10
- Energy & atmosphere 14/35
- Material & resources 9/14
- Indoor environmental quality 6/15
- Innovation 4/6
- Regional priority credits 4/4

What makes it LEED?

- Underground rainwater cistern that funnels natural water from the roof to be stored for use in low-flow bathroom facilities
- A smart ventilation system that relies on carbon dioxide sensors to identify spaces where fresh air is needed
- An extensive use of windows to harness natural light and reduce electricity usage
- Construction with sustainable materials
LEED Platinum Certification

What makes it LEED?

- Recycled 87% of the construction debris
- Over 40% of the building materials locally
- Used over 20% recycled content
- Restored 700 feet of an adjacent stream
- Installed regenerative drive elevators
- Provided natural lighting to 97% of the occupied space
- Used energy recovery systems to provide large amounts of fresh outside air to all guests
- Sourced 90% of the furniture locally
LEED Platinum Certification

What makes it LEED?

- EcoStruxure Building Operations for GTB (Building Technical Management), a true building brain capable of automatically managing the settings of different equipment depending on the operating conditions and objectives.

LEED Facts
for LEED BD+C: New Construction (v4)

- Certification awarded Jan 2019
- Platinum: 83
- Integrative process credits: 0/1
- Sustainable sites: 8/10
- Water efficiency: 9/11
- Energy & atmosphere: 27/33
- Material & resources: 6/13
- Indoor environmental quality: 9/16
- Innovation: 6/6
- Regional priority credits: 4/4
- Location & transportation: 14/18
Jacobs Institute for Design Innovation, Leddy Maytum Stacy, Berkeley CA, 2015

**LEED Facts**
for LEED BD+C: New Construction (v2009)

<table>
<thead>
<tr>
<th>Certification awarded Nov 2016</th>
<th>84</th>
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<tbody>
<tr>
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<tr>
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- 24,035sqf
- College Campus
- 74KW Photovoltaic Array
- 90% Energy Reduction
- 58% Renewable Energy
- 84% Daylighting
- 84% Natural Ventilation
- +30% Dedicated Outdoor Air
- 50% Water Conservation
- 100% Stormwater Bio Filtration
AWARENESS AND EDUCATION

- LEED Green Associate
  - Exam (cost $250)
  - Experience recommended but not required

- LEED AP with Specialty
  - 18 years or older
  - Hold a current LEED Green Associate Credentials
  - Experience strongly recommended
  - Exam (cost $350)


• “LEED Green Building Certification.” USGBC, 2019, new.usgbc.org/leed.
**SOURCES**


