USGBC Update:
LEED v4.1 and Arc
April 18, 2018
Doug Widener
Lana Crouse
LEED v4.1
GREEN BUILDINGS FOR ALL
LEED v4.1
Goals of technical development

Address market barriers and lessons learned from LEED v4 project teams.
LEED v4.1
Goals of technical development
Update performance requirements to ensure LEED remains the global leadership standard for green buildings.

LEED v4.1
Goals of technical development
Expand the marketplace for LEED.
LEED FOR OPERATIONS AND MAINTENANCE

Evolve LEED v4 O+M to be a data-driven rating system that incorporates both strategies and performance and is accessible to diverse existing buildings projects.
GOALS

Integrate performance outcomes

Data as documentation

Increase global applicability

Address interior spaces

Encourage leadership to meet today’s challenges
<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
<th>Prereq</th>
<th>Credit</th>
<th>Notes</th>
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<tr>
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<td>Possible Points:</td>
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Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points
## LEED v4.1 for Operations & Maintenance: Existing Buildings Scorecard

### Location and Transportation
- **Possible Points:** 14
- **Achieved Points:** 0
- **Prereq:** Transportation Performance

### Sustainable Sites
- **Possible Points:** 4
- **Achieved Points:** 0
- **Credit:** Rainwater Management
- **Credit:** Heat Island Reduction
- **Credit:** Light Pollution Reduction
- **Credit:** Site Management

### Water Efficiency
- **Possible Points:** 15
- **Achieved Points:** 0
- **Prereq:** Water Performance

### Energy and Atmosphere
- **Possible Points:** 35
- **Achieved Points:** 0
- **Prereq:** Energy Efficiency Best Management Practices
- **Prereq:** Fundamental Refrigerant Management
- **Prereq:** Energy Performance
- **Credit:** Enhanced Refrigerant Management
- **Credit:** Grid Harmonization

### Indoor Environmental Quality
- **Possible Points:** 22
- **Achieved Points:** 0
- **Prereq:** Minimum Indoor Air Quality
- **Prereq:** Environmental Tobacco Smoke Control
- **Prereq:** Fundament Refrigerant Management
- **Prereq:** Green Cleaning Policy
- **Credit:** Green Cleaning
- **Credit:** Integrated Pest Management

### Innovation
- **Possible Points:** 1
- **Achieved Points:** 0
- **Credit:** Innovation

### Materials and Resources
- **Possible Points:** 9
- **Achieved Points:** 0
- **Prereq:** Ongoing Purchasing and Waste Policy
- **Prereq:** Facility Maintenance and Renovations Policy
- **Prereq:** Waste Performance
- **Credit:** Purchasing - Ongoing

### Totals
- **Possible Points:** 100
- **Certified:** 40-49 points, **Silver:** 50-59 points, **Gold:** 60-79 points, **Platinum:** 80+ points
## LEED v4.1 for Operations & Maintenance: Existing Buildings Scorecard

### Location and Transportation
<table>
<thead>
<tr>
<th>Credit</th>
<th>Description</th>
<th>Points</th>
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<tr>
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### Sustainable Sites
<table>
<thead>
<tr>
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<th>Description</th>
<th>Points</th>
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<td>Light Pollution Reduction</td>
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### Water Efficiency
<table>
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### Energy and Atmosphere
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### Materials and Resources
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### Indoor Environmental Quality
<table>
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<td>Minimum Indoor Air Quality</td>
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<td></td>
<td>Environmental Tobacco Smoke Control</td>
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<tr>
<td></td>
<td>Green Cleaning Policy</td>
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### Innovation
<table>
<thead>
<tr>
<th>Credit</th>
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### Totals
- **Possible Points:** 100
- **Certified:** 40-49 points
- **Silver:** 50-59 points
- **Gold:** 60-79 points
- **Platinum:** 80+ points
### LEED v4.1 for Operations & Maintenance: Existing Buildings Scorecard

#### Location and Transportation
- **Prereq:** Transportation Performance
- **Credit:**
  - Y

#### Sustainable Sites
- **Credit:**
  - Rainwater Management
  - Heat Island Reduction
  - Light Pollution Reduction
  - Site Management

#### Water Efficiency
- **Prereq:** Water Performance
- **Credit:**
  - Purchasing-Ongoing

#### Energy and Atmosphere
- **Y**
  - Prereq: Energy Efficiency Best Management Practices
  - Prereq: Fundamental Refrigerant Management
  - Credit: Enhanced Refrigerant Management
  - Credit: Grid Harmonization

#### Indoor Environmental Quality
- **Y**
  - Prereq: Minimum Indoor Air Quality
  - Prereq: Environmental Tobacco Smoke Control
  - Prereq: Green Cleaning Policy
  - Prereq: Indoor Environmental Quality Performance
  - Credit: Green Cleaning
  - Credit: Integrated Pest Management

#### Innovation
- **Credit:**
  - Innovation

#### Materials and Resources
- **Prereq:** Ongoing Purchasing and Waste Policy
- **Prereq:** Facility Maintenance and Renovations Policy
- **Credit:**
  - Purchasing-Ongoing

#### Totals
- **Possible Points:** 100
  - Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points
Data → Points from performance + credits → LEED Certification level
<table>
<thead>
<tr>
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<tr>
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<td>Category</td>
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<td>Water</td>
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<td>Human Experience</td>
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<tr>
<td>Category</td>
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<td>Up to 14</td>
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<tr>
<td>Human Experience</td>
<td>Up to 20</td>
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</table>

Points for performance = up to 90
Points from other credits + up to 10
Total points = up to 100
Register project in LEED Online

Pursue prerequisites & optional credits
Provide data & receive performance scores
Submit documentation

Receive review by GBCI
Earn initial certification
Continue to report data
Earn ongoing certification
What’s new?

Data as documentation
Minimum performance scores
Simplified rating system
7 remaining prerequisites
10 additional credits
Updates to prerequisite & credit language
Addresses interiors
Certification is annual
Beta
Occasionally, this process can include beta tests that allow the market to work with the draft and provide feedback based on real-world applications.

Proposals
Stakeholders can submit their ideas for LEED that will be reviewed by the LEED Steering Committee.

Comments
Public comment periods for the proposed updates are a critical part of the process and are open to all stakeholders, including both USGBC members and non-members.

Goals
Goals are determined, prioritized, and presented to the LEED Steering Committee for approval.

Vote
Once a final draft has been approved by both the LEED Steering Committee and USGBC's Board of Directors, the draft is voted on by a consensual body balanced to represent USGBC's membership.
ALL BUILDINGS IN
STRATEGIC IMPERATIVES

1. Expand the green building marketplace
2. Expand sustainable, healthy and resilient communities, cities and cultures
3. Calibrate and communicate the full benefit of green building, communities, cities and cultures
4. Ensure viability through organizational and community excellence
Measure your green performance.

Arc is a state of the art platform designed to help you collect, manage and benchmark your data so you can improve sustainability performance.
THE BENEFITS:

- Demonstrate your building’s commitment to sustainability and human health
- Educate occupants & visitors on the importance of sustainability measures
- Provide shared accessibility and continuity of data across teams and over time
- Identify policies that will reduce resource consumption and operating costs
The building provides data across 5 categories to generate score:

- Energy
- Water
- Waste
- Transportation
- Human Experience
<table>
<thead>
<tr>
<th>Category</th>
<th>Score out of 100</th>
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<tr>
<td>Human Experience</td>
<td>20</td>
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</tbody>
</table>

**Base score**: out of 10
LEED v4
Building Operations + Maintenance
LEED for Building Operations and Maintenance:

✔ Supports continuous progress toward a better building and higher occupant satisfaction

✔ Helps a building set performance goals and implement strategies to reach those goals

✔ Tracks performance data then translates it into a tangible, actionable score

✔ Leverages a wide range of rating systems, standards, protocols and guidelines
Performance score to LEED certification
Improve performance and certify to LEED:

Step 1: Register your building
Step 2: Pre-certify (optional)
Step 3: Share data to receive a score
Step 4: GBCI review
Step 5: Certify to LEED v4 O+M
REGISTER:

- Select one of Arc’s programs:
  - Buildings
  - Communities
  - Cities
  - Transit
PRECERTIFY:

• Register the project in Arc
• Complete prerequisites
• Complete set up for tracking performance
• Optional: Complete the desired base credits
• Submit for review
• Visit usgbc.org/buildingperformance for more information
ENTER DATA:
VISUALIZE SCORE:
CERTIFY:

- 40+ CERTIFIED
- 50+ SILVER
- 60+ GOLD
- 80+ PLATINUM
ENERGY

- Provide 12 months of whole building energy use
- Visualize a score
- Compare against historical scores, local and global averages
- Lower energy use related carbon emissions in a higher score
- Review score analytics
- Aggregate utility bills for GBCI’s review
- Score is based on an emissions per capita and unit area
WATER

- Provide 12 months of whole building water use
- Visualize a score
- Compare against historical scores, local and global averages
- Lower water use results in a higher score
- Review score analytics
- Aggregate utility bills for GBCI’s review
- Score is based on a consumption per capita and per unit area

WATER SCORE: 0-15
WASTE

- Provide at least one waste analysis that includes:
  - Weight of waste generated
  - Weight of waste diverted from landfills
- Visualize a score
- Compare against historical scores, local and global averages
- Lower waste generation and higher waste diversion rate results in a higher score
- Review score analytics
- Aggregate reports for GBCI’s review
- Score is based on weight generated and diverted per capita
TRANSPORTATION

- Administer a survey and receive a minimum response rate based off the building’s occupancy
- Survey link is provided in the platform
  - Email the survey to occupants or make available in a common area on an internet enabled device
- Visualize a score
- Compare against historical scores, local and global averages
- Review score analytics
- Distance traveled is converted into carbon emissions via mode of transportation. The lower the emissions the better the score.
HUMAN EXPERIENCE

- Administer a survey and receive a minimum response rate based off the building’s occupancy
- Survey link is provided in the platform
  - Email the survey to occupants or make available in a common area on an internet enabled device
- Conduct at least one air quality sampling for CO2 & TVOC concentrations at every 25,000 sf
- Visualize the score
- Compare against historical scores, local and global averages
- Review score analytics
- Higher occupant satisfaction and better indoor air quality results in higher score

HUMAN EXPERIENCE
SCORE: 0-20
Innovation Unlimited
2101 L Street NW
Washington, District of Columbia 20037
United States

<table>
<thead>
<tr>
<th>Project ID</th>
<th>Gross Floor Area</th>
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<td>254</td>
<td>June 2016 to May 2017</td>
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**Overall Score**
81 out of 100 at the end of reporting period
Highest score during reporting period: 91
Lowest score during reporting period: 33

**Energy**
30 out of 33

Highest score: 31
Annual Energy Consumption
Project: 0
Per SQ FT: 0
Per OCC: 0
Manage performance across a global portfolio

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RESOURCES

- arcskoru.com
- contact@arcskoru.com
- LEED v4 O+M: usgbc.org/buildingperformance
- Arc tutorials: youtube.com/usgbc
- Pricing: usgbc.org/cert-guide/fees#om
Arc’s mission is to connect all actions through a single platform that create a higher quality of life.

Arc is a state of the art platform designed to help you collect, manage and benchmark your data so you can improve sustainability performance.

With Arc, buildings can benchmark against themselves and other similar buildings locally and globally.

Arc offers a solution for every building, community and city.
LET’S GET STARTED!
arcshelf.com
### Fees

<table>
<thead>
<tr>
<th>Operations and Maintenance Fees Per Building</th>
<th>Silver, Gold and Platinum Level Members</th>
<th>Organizational or Non-Members</th>
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<tbody>
<tr>
<td>Registration</td>
<td>$1,200</td>
<td>$1,500</td>
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#### Precertification (Performance Path Projects Only—Available In Arc)

- **Flat fee (per building)**: $4,000
- **Expedited review (reduce from 20-25 business days to 10-12, available based on GBCI review capacity)**: $5,000

#### Certification Review

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<th>Project Gross Floor Area (Excluding Parking):</th>
<th>Rate</th>
<th>Minimum</th>
<th>Rate</th>
<th>Minimum</th>
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<td>$1,900</td>
<td>$0.046 /sf</td>
<td>$2,250</td>
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<td>250,000 - 499,999 sq ft</td>
<td>$0.035 /sf</td>
<td>$9,500</td>
<td>$0.042 /sf</td>
<td>$11,400</td>
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<td>500,000 - 749,999 sq ft</td>
<td>$0.030 /sf</td>
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<tr>
<td>More than 750,000 sq ft</td>
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<td>Contact GBCI</td>
<td></td>
<td>Contact GBCI</td>
</tr>
<tr>
<td>Expedited review (reduce from 20-25 business days to 10-12, available based on GBCI review capacity)</td>
<td></td>
<td>$10,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Visit usgbc.org/cert-guide/fees for more information
Thank you!

QUESTIONS??

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