



LEED v4.1



Our Mission

To transform the way buildings and communities are designed, built and operated, enabling an environmentally and socially responsible, healthy and prosperous environment that improves the quality of life.



42,000 + COMMERCIAL PROJECTS



7 BILLION+ SQUARE FEET



2.4 MILLION+ SQUARE FEET DAILY



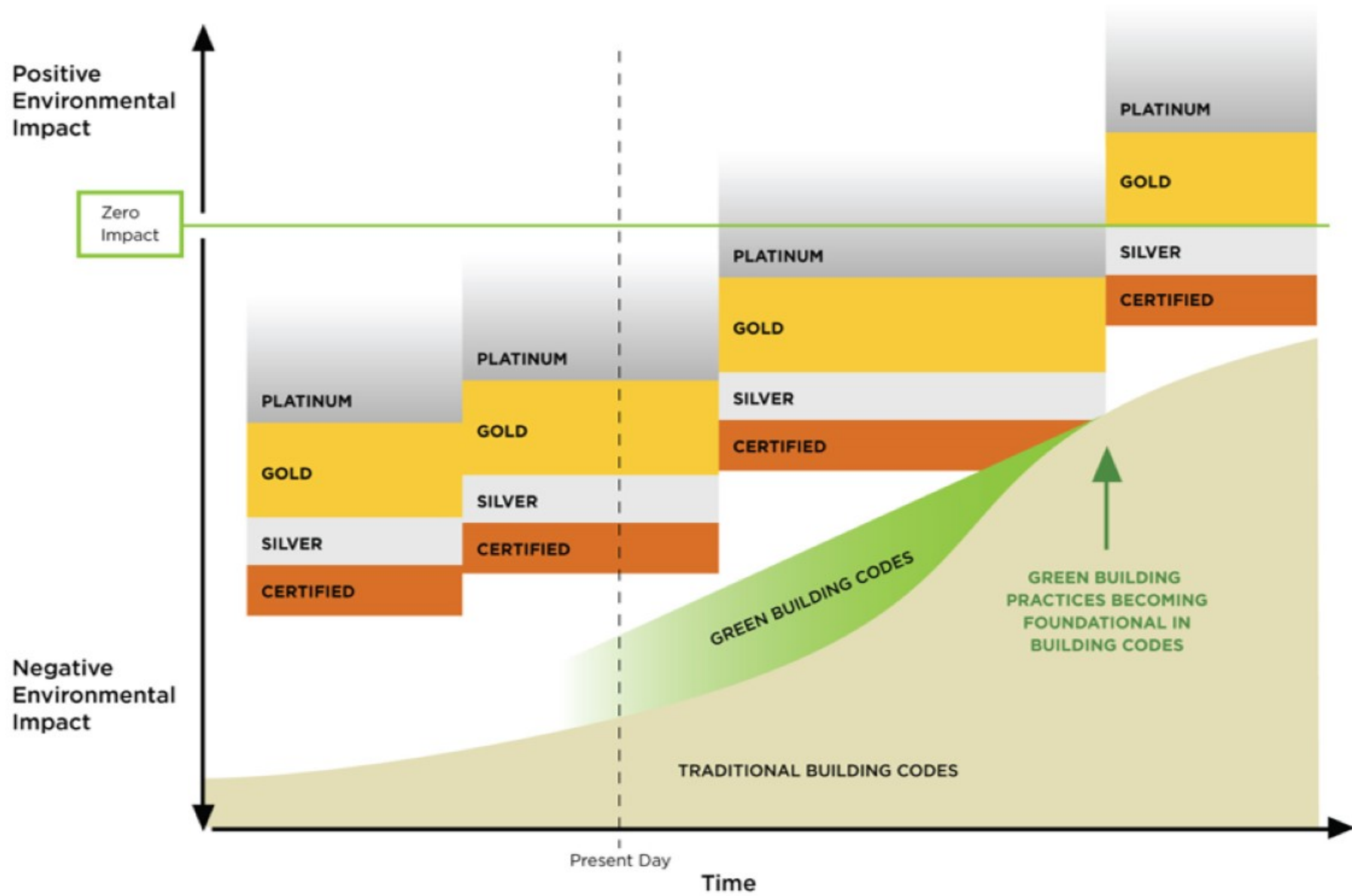
167 COUNTRIES





MARKET TRANSFORMATION





LEED v4.1



EVOLUTION OF LEED



LEED v1.0-2.2

1998 - 2009
Strategy based



LEED 2009

2009
Analytically
weighted



LEED v4

November 2013
Outcome oriented

LEED v4.1 beta

January 2019
(BD+C ID+C)
Timely updates

LEED v4.1
Technical Development Goals

ENSURE LEADERSHIP

INCREASE ACHIEVABILITY

EXPAND THE MARKET

IMPROVE PERFORMANCE

LEED v4.1
Technical Development Goals

ENSURE LEADERSHIP



LEED v4.1
Technical Development Goals

INCREASE ACHIEVABILITY



CREATIVE TENSION



LEED v4 CREDIT ACHIEVEMENT

LOCATION AND TRANSPORTATION

%

LT Credit: Sensitive Land Protection	High
LT Credit: High-Priority Site	Low
LT Credit: Surrounding Density and Diverse Uses	Medium
LT Credit: Access to Quality Transit	Medium
LT Credit: Bicycle Facilities	Medium
LT Credit: Reduced Parking Footprint	Medium
LT Credit: Green Vehicles	Low

SUSTAINABLE SITES

SS Credit: Site Assessment	Medium
SS Credit: Site Development—Protect or Restore Habitat	Low
SS Credit: Open Space	Low
SS Credit: Rainwater Management	Low
SS Credit: Heat Island Reduction	High
SS Credit: Light Pollution Reduction	Medium

WATER EFFICIENCY

WE Credit: Indoor Water Use Reduction	High
WE Credit: Outdoor Water Use Reduction	High
WE Credit: Cooling Tower Water Use	Low
WE Credit: Water Metering	High

ENERGY AND ATMOSPHERE

EA Credit: Enhanced Commissioning	High
EA Credit: Advanced Energy Metering	Medium
EA Credit: Optimize Energy Performance	High
EA Credit: Demand Response	Low
EA Credit: Renewable Energy Production	Low
EA Credit: Enhanced Refrigerant Management	Medium
EA Credit: Green Power and Carbon Offsets	Low

MATERIALS AND RESOURCES

%

MR Credit: Building Life-Cycle Impact Reduction	Low
MR Credit: Building Product Disclosure and Optimization—Environmental Product Declarations	Low
MR Credit: Building Product Disclosure and Optimization – Sourcing of Raw Materials	Low
MR Credit: Building Product Disclosure and Optimization – Material Ingredients	Low
MR Credit: Construction and Demolition Waste Management	High

INDOOR ENVIRONMENTAL QUALITY

EQ Credit: Enhanced Indoor Air Quality Strategies	Medium
EQ Credit: Low-Emitting Materials	Low
EQ Credit: Construction Indoor Air Quality Management Plan	High
EQ Credit: Indoor Air Quality Assessment	Low
EQ Credit: Thermal Comfort	Low
EQ Credit: Interior Lighting	Medium
EQ Credit: Daylight	Low
EQ Credit: Quality Views	Low
EQ Credit: Acoustic Performance	Low



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Technical Development Goals

EXPAND THE MARKET



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Technical Development Goals

IMPROVE PERFORMANCE





Beta

Proposals

Draft

Comments

Goals

Vote

LAUNCH



LEED v4.1

WAYS TO PARTICIPATE

Register a
LEED v4.1
project

Upgrade a
LEED v4
project

Substitute
LEED v4.1
credits

LEED v4.1



An aerial view of a rooftop solar panel installation site. Several workers in hard hats and safety vests are seen working on the panels. The roof is covered with rows of solar panels, and there are HVAC units and other mechanical equipment visible in the background. The scene is brightly lit, suggesting a sunny day.

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Energy & Atmosphere



ENSURE LEADERSHIP

Minimum/Optimize Energy Performance

Prerequisite and credit

ASHRAE 90.1-2016

On-site renewables contribute to prerequisite compliance

New metrics: Energy cost and greenhouse gas emissions

New off-site renewables contribute to GHG emissions metric

**ENERGY
COST**

METRICS:

+

**GREENHOUSE
GAS EMISSIONS**

Reduction	Points
5%	1
10%	2
15%	3
20%	4
25%	5
30%	6
35%	7
40%	8
45%	9
50%	EP

Reduction	Points
5%	1
10%	2
16%	3
24%	4
32%	5
40%	6
50%	7
65%	8
80%	9
100%	EP



EXPAND THE MARKET

Renewable energy

Credit

Combination of Renewable Energy Production credit and Green Power and Carbon Offsets credit

Includes more types of renewable energy procurement:

- Tier 1: On-site
- Tier 2: New off-site in desirable location
- Tier 3: New off-site
- Tier 4: Green-e RECs
- Tier 5: RECs



Points	Tier 1	Tier 2		Tier 3		Tier 4		Tier 5	
		15-year	1-year	15-year	1-year	15-year	1-year	15-year	1-year
1	2%	20%	150%	30%	225%	40%	300%	50%	375%
2	5%	30%	225%	40%	300%	60%	450%	75%	562.5%
3	10%	40%	300%	50%	375%	80%	600%		
4	20%	50%	375%	60%	450%				
5	40%	60%	450%	70%	525%				
EP	60%	70%	525%	80%	600%	100%	750%	100%	750%

Tier 1: On-site renewable energy generation

Tier 2: Off-site renewable energy produced by a generation asset(s) built within the last 5 years, or contracted to be operational within one year of building occupancy, and generated by either:

- an asset(s) in the project’s grid subregion or
- an asset(s) in a grid subregion with higher greenhouse gas emissions rates**

Tier 3: Off-site renewable energy that is produced by a generation asset(s) built within the last 5 years or contracted to be operational within one year of building occupancy

Tier 4: Off-site renewable energy that is Green-e Energy certified or equivalent

Tier 5: Off-site renewable energy that is produced by a generation asset(s) that meet Green-e’s certification criteria (or equivalent) for eligible renewables, has a mechanism to prevent double counting in place, and is third-party certified to an ecolabel standard.

The background image shows a bright, modern office space. In the foreground, a large, light-colored oval table is surrounded by wooden chairs. A person is seated at the table, looking at a laptop. In the background, other people are working at various tables, some with laptops. The ceiling has several pendant lights hanging down. A large window on the right side provides natural light. A green graphic is overlaid on the image, consisting of a horizontal bar at the top and a larger rectangular frame below it. The text 'MR' is centered in the green bar, and 'Materials & Resources' is written in large green letters inside the frame below it.

MR

Materials & Resources

SINGLE ATTRIBUTES

MULTIPLE ATTRIBUTES







INCREASED ACHIEVABILITY

Building life-cycle impact reduction

Credit

Option 4. Whole-Building Life-Cycle Assessment

Path 1: Conduct a life cycle assessment of the project's structure and enclosure (1 point)

Path 2: 5% reduction (2 points)

Path 3: 10% reduction (3 points)

Path 4: 20% reduction (GWP) + 10% reduction + reuse (4 points)

ENVIRONMENTAL PRODUCT DECLARATION

CASHMERE®

CERTAINTEED
CASHMERE® AND FINE FISSURED HIGH NRC MINERAL FIBER
CEILING PANELS



Two families of ceiling products with a range of aesthetic, acoustical, and other performance properties to meet your needs in education, office, and healthcare buildings.



INCREASED ACHIEVABILITY

Building product disclosure and optimization - environmental product declarations

Credit

Option 1. Environmental Product Declaration (EPD)

Product-specific Type III EPD (third-party certified) = 1.5 products

All other product LCAs or EPDs = 1 product

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INCREASED ACHIEVABILITY

Building product disclosure and optimization - environmental product declarations

Credit

Option 2. Multi-Attribute Optimization

Cost requirement lowered from 50% to 10%

OR Option for # of products
(10 for all project types)



Building product disclosure and optimization – environmental product declarations

Credit

Option 2. Multi-Attribute Optimization

- i. **Action Plan:** Reward manufacturer progress towards optimization by analyzing product lifecycle impacts and publicly committing to reductions (50% of cost or ½ product)
- ii. **Life Cycle Impact Reductions in Embodied Carbon:**
 - i. **reduction in GWP:** compared to industrywide EPD, product-specific LCA, or Type III EPD (100% of cost, or 1 products)
 - ii. **10% reduction in GWP:** compared to industrywide EPD, product-specific LCA, or Type III EPD (150% or 1.5 products)
 - iii. **20% reduction in GWP:** considered exemplary; must be compared against type III EPDs only; must also include 5%+ reduction in two additional categories (200% or 2 products)





INCREASED ACHIEVABILITY

Building product disclosure and optimization – sourcing of raw materials

Credit

Removed Option 1: Sourcing and Extraction Reporting

- Lack of uptake and clear pathways of compliance
- Will be refined as a Pilot Credit



INCREASED ACHIEVABILITY

Building product disclosure and optimization – sourcing of raw materials

Credit

Option 2 is now worth up to 2 points:
Incremental achievement rewarded for selecting compliant products (all project types):

20% by cost: 1 point
40% by cost: 2 points



INCREASED ACHIEVABILITY

Building product disclosure and optimization - sourcing of raw materials

Credit

Option 2:

- Reuse now valued at 200%
- Extended Producer Responsibility
- Recycled content
- FSC Wood
- Biobased materials



INCREASED ACHIEVABILITY

Building product disclosure and optimization - material ingredients

Credit

Option 1. Material Ingredient Reporting

Choose 20 products for 1 point

(10 products for ID+C, Core & Shell, and Warehouse/Distribution Centers)

Third party verified disclosures count for 1.5 products



Building product disclosure and optimization – material ingredients

Credit

Option 2. Material Ingredient Optimization

- i. **Action Plan:** Reward manufacturer progress towards optimization following the principles of green chemistry (50% of cost or ½ product)
- ii. **Advanced Screening & Assessment:** Avoid known hazards from most of the product (GHS Cat-1 and GS BM-1s); resolve data gaps (unknowns) and make assessments public; 3rd party verification (100% of cost, or 1 products)
- iii. **Full Assessment:** Full inventory and assessment of at least 95% of ingredients by weight; avoid known hazards and CMRs; 3rd party verification (150% or 1.5 products)





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Indoor Environmental Quality



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Environmental Tobacco Smoke Control

Prerequisite

Teams determine best way to communicate no smoking policy

Updated definition of indoor smoking: Includes tobacco smoke, cannabis, electronic smoking devices

ID+C:

Prohibit smoking in project space

Smoking prohibited in all common areas used by project occupants and served by the same HVAC system

Ensure ETS cannot migrate by mechanical or natural ventilation into project space





INCREASE ACHIEVABILITY

Low-emitting materials Credit

Restructured credit around product categories

- Paints and coatings
- Adhesives and sealants,
- Flooring
- Walls
- Ceilings
- Insulation
- Furniture
- Composite wood

Lowered thresholds: 90/100% to 75%

Simplified international requirements for
VOC emissions



INCREASE ACHIEVABILITY

Indoor air quality assessment

Credit

Option 2: Air testing

Path 1, PM and inorganic gases (4
compounds)

Path 2, Reduced list of VOCs (12
compounds)

No concentration limit for TVOC

Added more options to allow monitoring
instruments and test methods



INCREASE ACHIEVABILITY

Daylight Credit

Removed 10% threshold for Annual Sunlight Exposure

Adjusted thresholds and points for all options

Option 3, Measurement option, only requires one measurement



INCREASE ACHIEVABILITY

Acoustic Performance Credit

Reduced scope, 2 of 3:

- Sound transmission
- HVAC background noise
- Reverberation

Updated requirements for sound transmission

Flexibility in classifying spaces



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Location & Transportation



INCREASE ACHIEVABILITY

High priority site Credit

Option 1: High Priority Site

Removed 'Priority Designations' (Opportunity Zones, etc.) and added criteria to define economically disadvantaged communities

Household income below 80% AMI

20% of population below poverty line

Unemployment 150% of state average

Added Option 2: Equitable Development

Path 1: Equity and community benefits

Path 2: Affordable housing



INCREASE ACHIEVABILITY

Access to quality transit Credit

Adjustments to weekend minimums

Added intermediate thresholds

Clarified privately-run shuttle eligibility



INCREASE ACHIEVABILITY

Bicycle facilities

Credit

Adjusted storage requirements from 30% to 15% of occupants for residential projects

Bike share stations can count towards up to 50% of storage requirements

Adjusted shower requirements for high-occupancy projects

Distance from storage to entrance increased

Clarified bike network definition



INCREASE ACHIEVABILITY

Reduced parking footprint

Credit

Removed cases

Simplified threshold for all projects

Removed carpool requirement

Four options for compliance:

- No Off-Street Parking
- Reduce Parking
- Car share
- Unbundling Parking



INCREASE ACHIEVABILITY

Electric vehicles

Credit

Switched from green vehicles to electric vehicles

Reward installation of electric vehicle infrastructure

Removed preferred parking requirements and ACEEE ratings

A photograph of a school building with a large, cylindrical metal water tank on the roof. Several students are on the roof, some looking at the tank. The scene is bright and sunny, with shadows cast on the ground. The text 'LEED v4.1' is overlaid on a green rectangular background.

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Water Efficiency



EXPAND THE MARKET

Cooling tower and process water use

Credit

Adjust thresholds: two points can be earned for increasing maximum cycles by 25%

New option: No cooling tower

New option: Process water use



EXPAND THE MARKET

Core and Shell: Revised point allocations

Points re-allocated from Indoor water use reduction to Outdoor water use reduction and Cooling tower and process water



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Sustainable Sites



INCREASE ACHIEVABILITY

Rainwater management Credit

Thresholds for percentile reductions
adjusted

Clarified acceptable low impact
development (LID) techniques

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WAYS TO PARTICIPATE

Register a
LEED v4.1
project

Upgrade a
LEED v4
project

Substitute
LEED v4.1
credits

FORMS & LEED ONLINE

 **LEED Online**

Streamline your LEED project management experience, organize your work, and engage with your whole team.
Now available for LEED v4 and LEED 2009 projects.

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CREATE AN ACCOUNT

RESOURCES

NEW.USGBC.ORG/LEED-V41



LEED v4.1 Ask the Experts

Need help? Contact education@usgbc.org
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LEED v4.1 Ask the Experts Recordings

GBC: 0920018677

Missed the latest Ask the Experts LEED v4.1 webinar? Catch up here and find bonus links and resources!

Program: LEED v4.1
Published on: February 12, 2019

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About

Registration is now open for LEED v4.1 Building Interior Design and Construction (BD+C) and Ope projects, along with a number of resources including educational videos, to support you as you get fa

To help answer your questions, we're also hosting Experts' sessions, where you will be able to con and ask questions.

Note: To earn CE hours for these sessions, ple recordings are not eligible for GBCI CE hours.



Need help? Contact education@usgbc.org 479 completions
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Introduction to LEED v4.1 for Design and Construction

GBCI: 0920018334

LEED v4.1 for Building Design and Construction and Interior Design and Construction are now available. Learn the basics of why USGBC is launching LEED v4.1, how it increases accessibility for new buildings and spaces, and what to expect from this latest evolution of the rating system.

1.5

Program: LEED v4.1
Published on: January 28, 2019
Average: 4.5 (50 votes)
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About

This interactive course walks through why USGBC created LEED v4.1, what it delivers, and goes into details on LEED v4.1 for Building Design and Construction (BD+C) and LEED v4.1 for Interior Design and Construction (ID+C). This course includes a review of the entire rating system, highlighting key updates in LEED v4.1 for BD+C and ID+C.

This course is aimed at LEED practitioners with at least a basic knowledge of new construction and LEED. It will ensure learners start with LEED v4.1 BD+C and

[TAKE THE QUIZ](#)

LEVEL **Basic**



Questions?

