



# **Driving building performance through the lens of LEED v5**

NIBS Building Innovation Conference

May 23, 2024 | 9:15 – 10:15 AM

Washington, DC



# Ryan Snow

Regional Director

U.S. Green Building Council



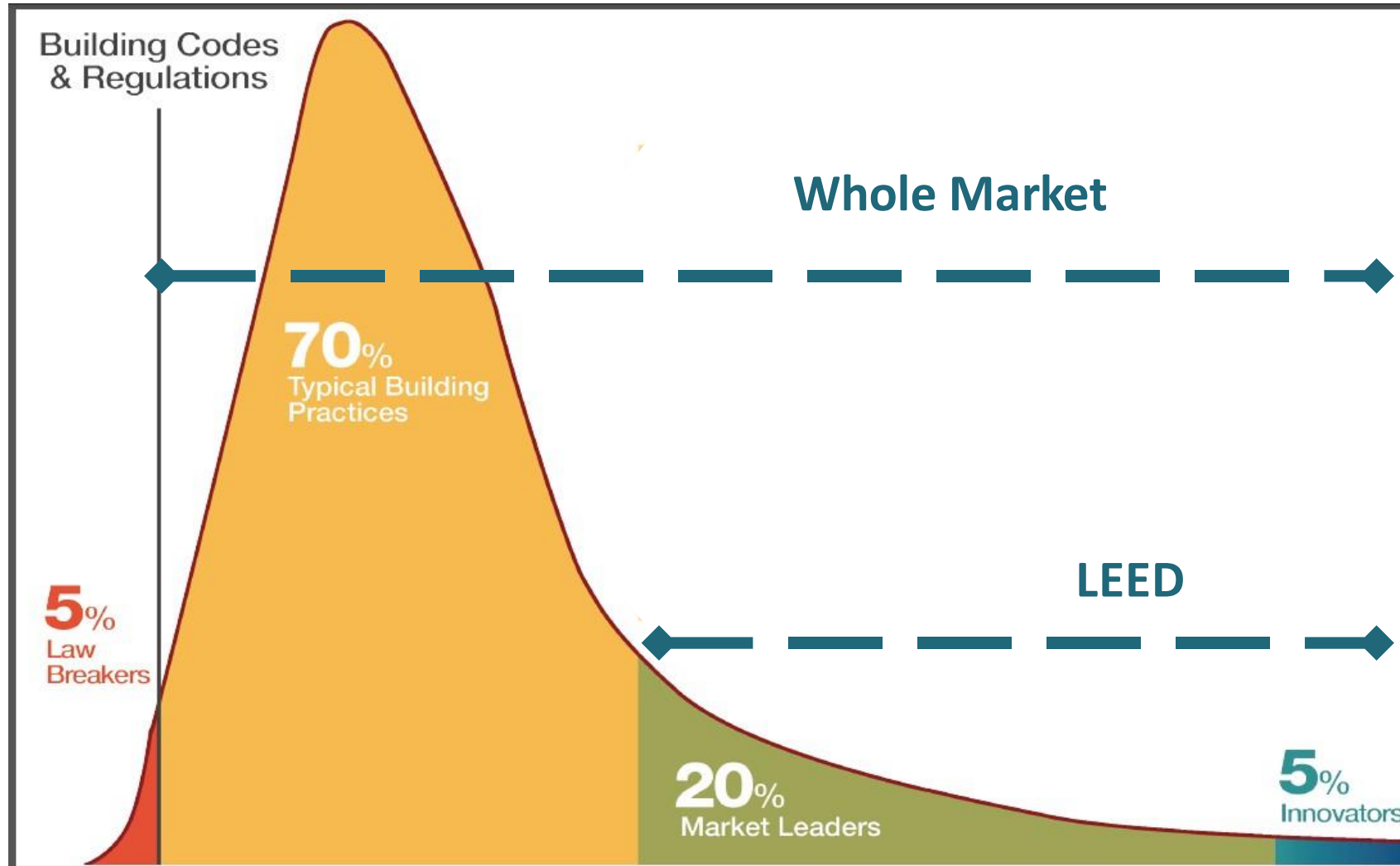
# Corey Enck

VP, Technical Development  
U.S. Green Building Council

**LEED** **V5**

What is your  
experience with  
LEED?

# MARKET TRANSFORMATION



# Benefits of LEED certification

- Save Money
- Consume Less Energy
- Use Less Water
- Use Fewer Resources
- Better Indoor Environmental Quality

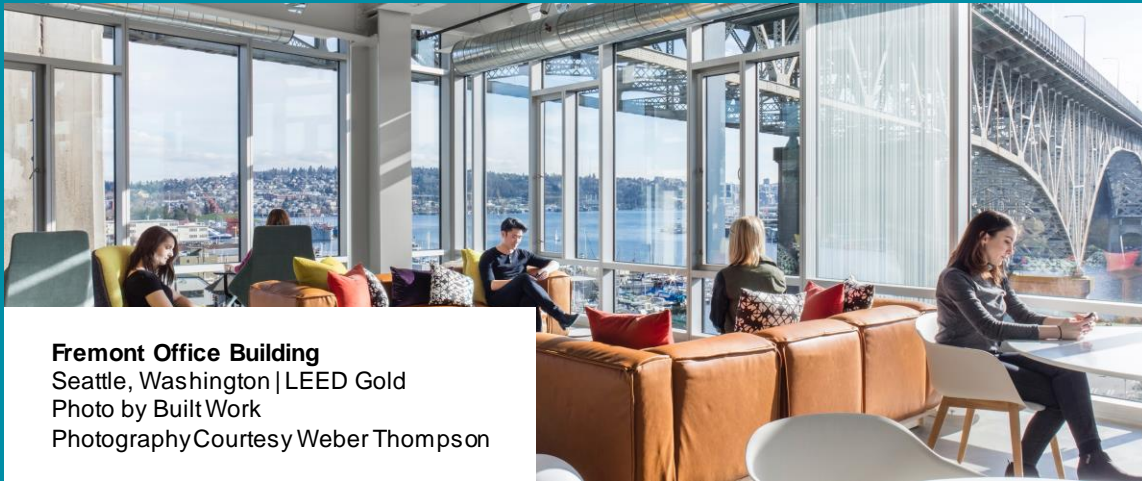
Since 2018, LEED-certified assets held a 21.4% higher average market sales price per square foot over non-LEED buildings.

Cushman & Wakefield. (2021). Green Is Good: Sustainable Office Outperforms in Class A Urban Markets.

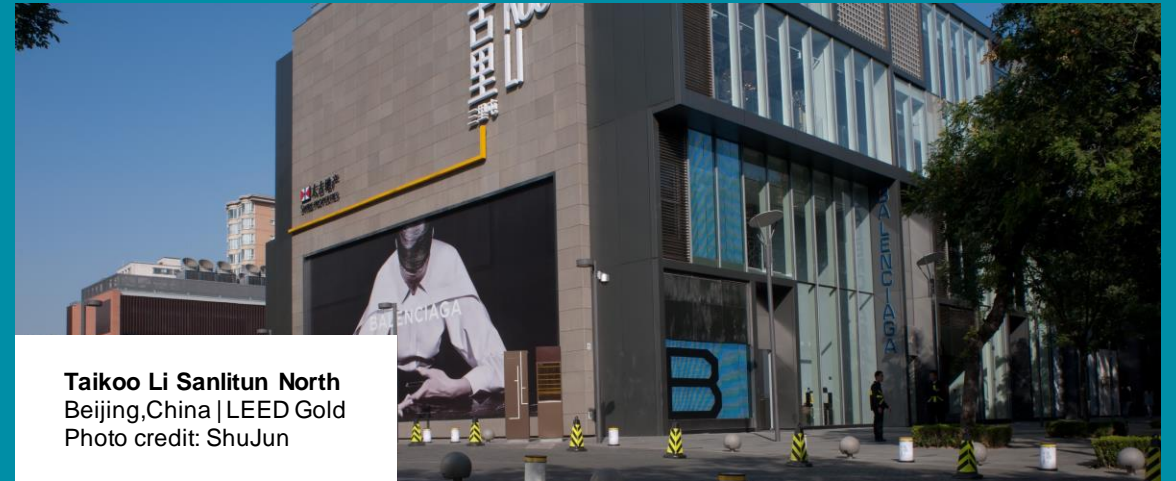


# A LEED for every project.

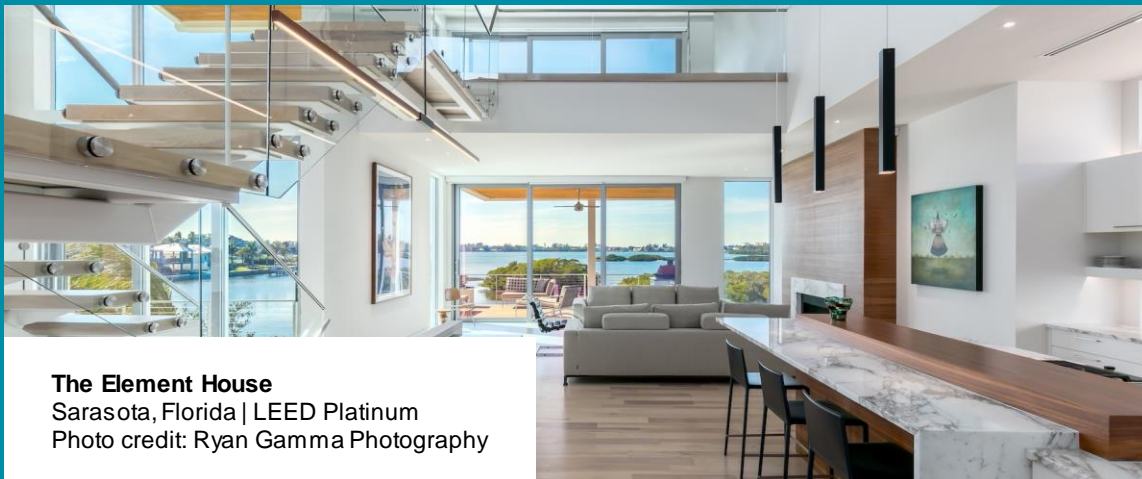
LEED addresses new and existing: interior spaces, buildings, homes, communities and cities.



**Fremont Office Building**  
Seattle, Washington | LEED Gold  
Photo by Built Work  
Photography Courtesy Weber Thompson



**Taikoo Li Sanlitun North**  
Beijing, China | LEED Gold  
Photo credit: ShuJun



**The Element House**  
Sarasota, Florida | LEED Platinum  
Photo credit: Ryan Gamma Photography



**Hoboken, New Jersey**  
LEED for Cities Gold  
Photo credit: ShuJun

Nearly  
**197,000**

total registered and  
certified **LEED projects**  
worldwide



Grupo Roble - Multiplaza Bogota | LEED Platinum  
Bogota, Colombia | Photo credit: © Ricardo Canino

# What's next?



**LEED is built by the market, used by the market, and advanced by the market.**



# LEED **V5** DEVELOPMENT

LEED is built by practitioners.

USGBC relies on community and volunteer engagement to deliver consensus-based rating systems.

U.S. GREEN BUILDING COUNCIL

LEED  
Steering  
Committee

Technical  
Advisory  
Groups

LEED v5

Working  
Groups

Consensus  
Committees



# LEED

A market ready rating system that will drive the built environment toward a near zero carbon future that is equitable, resilient, and promotes the wise, safe utilization of all resources.



# LEED v5 + Global reporting and investor frameworks

Developed with an awareness of international activity and momentum around global initiatives for tracking, reporting and disclosing impact.

## TRANSPARENCY

Encompassing social, economic, and environmental performance indicators and strategies with a clear, data-driven means of benchmarking and communicating progress.

## OPPORTUNITIES

Holistically identifying and prioritizing opportunities to improve asset performance and move assets towards long-term goals.

## DIFFERENTIATION

Providing investors and organizations with a robust and globally recognized green building framework to measure and manage their real estate performance.

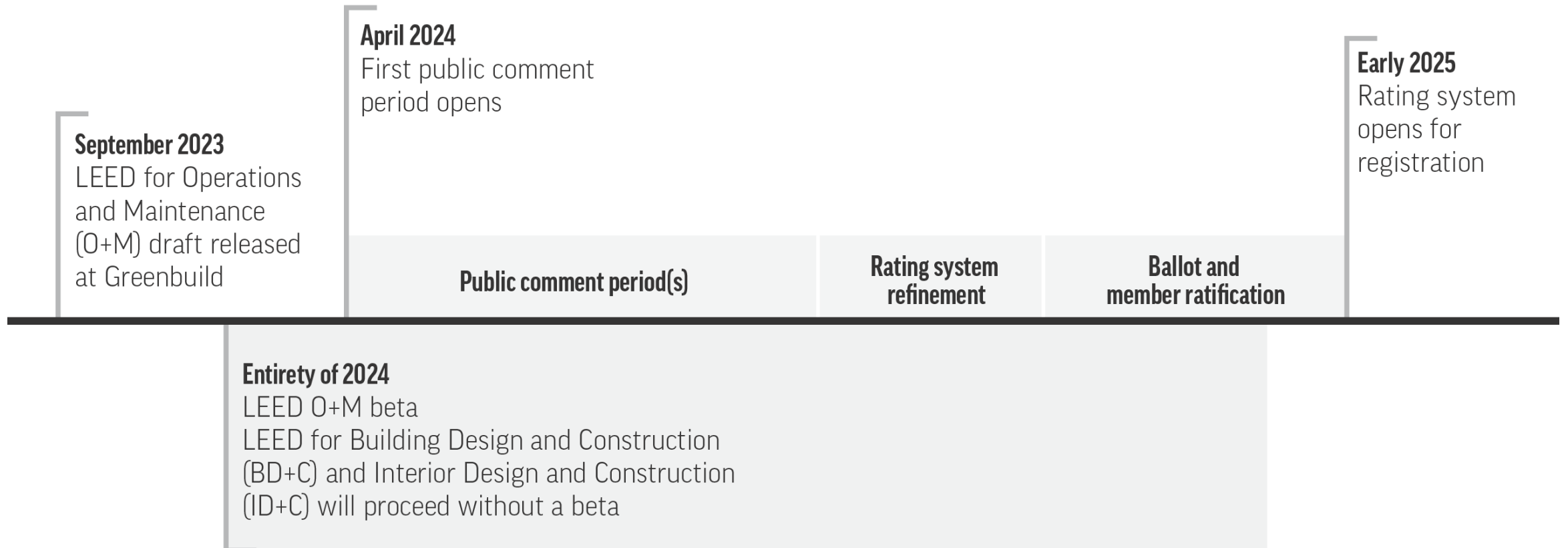


# LEED v5 PUBLIC COMMENT 1

April 3–May 24, 2024



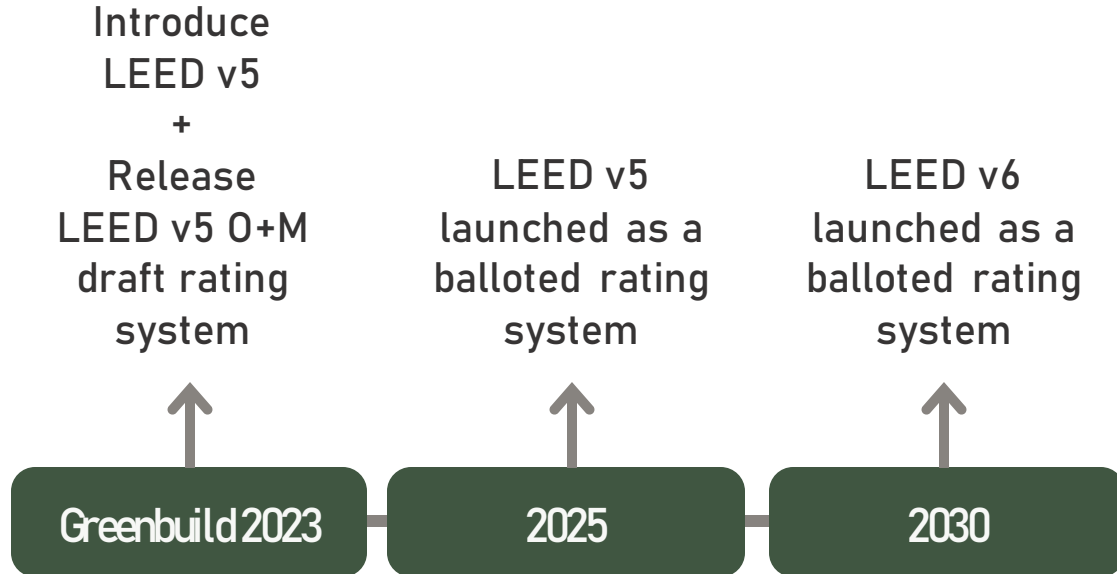
# LEED v5 DEVELOPMENT TIMELINE



# LEED v5 Rating Systems

LEED for Building Design and Construction (BD+C)	LEED for Interior Design and Construction (ID+C)	LEED for Building Operations and Maintenance (O+M)
<ul style="list-style-type: none"><li>• New Construction and Major Renovation</li><li>• Core and Shell Development</li></ul>	<ul style="list-style-type: none"><li>• Commercial interiors</li></ul>	<ul style="list-style-type: none"><li>• Existing Buildings</li></ul>

# The cycle of LEED rating system updates will now be once every 5 years



# Continuity across the building lifecycle



Initial development

Existing buildings for  
ongoing assessment of  
performance and guidance  
towards improvement  
where needed

Annual impact reporting

Ongoing certification

# Building Design and Construction


Drive new buildings to exemplify the decarbonized, humane, and biodiverse future that we want to provide and inhabit.

How we get there:

- Enable customized methodology based on project context.
- Integrate strategies that can be leveraged to inform decision making during design.
- Provide a recipe to create buildings that will be near-zero carbon by 2050.
- Evolve established sustainability practices to effectively tackle contemporary challenges.




# LEED v5 Building Design + Construction: New Construction

 <b>Integrative Process, Planning &amp; Assessments</b>		<b>1</b>
Prereq	Climate Resilience Assessment	Required
Prereq	Social Equity Assessment	Required
Prereq	Carbon Assessment	Required
Credit	Integrative Design Process	1

 <b>Location &amp; Transportation</b>		<b>15</b>
Credit	Sensitive Land Protection	1
Credit	Equitable Development	2
Credit	Compact and Connected Development	6
Credit	Active Travel Facilities	2
Credit	Transportation Demand Management	2
Credit	Electric Vehicles	2

 <b>Sustainable Sites</b>		<b>11</b>
Prereq	Minimized Site Disturbance	Required
Prereq	Resilient Site Design	Required
Credit	Protect and Restore Biodiverse Habitat	2
Credit	Accessible Open Space	1
Credit	Rainwater Management	3
Credit	Enhanced Resilient Site Design	2
Credit	Heat Island Reduction	2
Credit	Light Pollution and Bird Collision Reduction	1

 <b>Water Efficiency</b>		<b>9</b>
Prereq	Water Metering and Reporting	Required
Prereq	Minimum Water Efficiency	Required
Credit	Enhanced Water Efficiency	6
Credit	Water Reuse	2
Credit	Water Metering and Leak Detection	1

 <b>Energy &amp; Atmosphere</b>		<b>33</b>
Prereq	Operational Carbon Projection and Decarbonization Plan	Required
Prereq	Minimum Energy Efficiency	Required
Prereq	Fundamental Commissioning	Required
Prereq	Energy Metering and Reporting	Required
Prereq	Fundamental Refrigerant Management	Required
Credit	Electrification	5
Credit	Reduce Peak Thermal Loads	5
Credit	Enhanced Energy Efficiency	10
Credit	Renewable Energy	5
Credit	Enhanced and Ongoing Commissioning	4
Credit	Grid Interactive	2
Credit	Enhanced Refrigerant Management	2

 <b>Materials &amp; Resources</b>		<b>18</b>
Prereq	Planning for Zero Waste Operations	Required
Prereq	Assess Embodied Carbon	Required
Credit	Building and Materials Reuse	3
Credit	Reduce Embodied Carbon	6
Credit	Low Emitting Materials	2
Credit	Optimized Building Products	5
Credit	Construction and Demolition Waste Diversion	2

 <b>Indoor Environmental Quality</b>		<b>13</b>
Prereq	Fundamental Air Quality	Required
Prereq	No Smoking or Vehicle Idling	Required
Prereq	Building Accessibility	Required
Credit	Enhanced Air Quality	1
Credit	Occupant Experience	6
Credit	Connecting with Nature	1
Credit	Enhanced Building Accessibility	1
Credit	Resilient Spaces	2
Credit	Air Quality Testing and Monitoring	2

 <b>Project Priorities &amp; Innovation</b>		<b>10</b>
Credit	Project Priorities	9
Credit	LEED Accredited Professional	1

**Total** **Possible Points: 110**

# LEED v5 Building Design + Construction: New Construction

## Decarbonization

IP Prereq	Carbon Assessment	Required
LT Credit	Compact and Connected Development	6
LT Credit	Active Travel Facilities	2
LT Credit	Transportation Demand Management	2
LT Credit	Electric Vehicles	2
SS Credit	Heat Island Reduction	2
WE Prereq	Minimum Water Efficiency	Required
WE Prereq	Enhanced Water Efficiency	6
WE Prereq	Water Reuse	2
WE Prereq	Water Metering and Leak Detection	1
	Operational Carbon Projection and Decarbonization Plan	Required
EA Prereq	Minimum Energy Efficiency	Required
EA Prereq	Fundamental Commissioning	Required
EA Prereq	Energy Metering and Reporting	Required
EA Prereq	Fundamental Refrigerant Management	Required
EA Credit	Electrification	5
EA Credit	Reduce Peak Thermal Loads	5
EA Credit	Enhanced Energy Efficiency	10
EA Credit	Renewable Energy	5
EA Credit	Enhanced and Ongoing Commissioning	4
EA Credit	Grid Interactive	2
EA Credit	Enhanced Refrigerant Management	2
MR Prereq	Planning for Zero Waste Operations	Required
MR Prereq	Assess Embodied Carbon	Required
MR Credit	Building and Materials Reuse	5
MR Credit	Reduce Embodied Carbon	8
MR Credit	Construction and Demolition Waste Diversion	2

## Quality of Life

IP Prereq	Climate Resilience Assessment	Required
IP Prereq	Social Equity Assessment	Required
LT Credit	Equitable Development	2
LT Credit	Compact and Connected Development	6
LT Credit	Active Travel Facilities	2
LT Credit	Transportation Demand Management	2
SS Prereq	Resilient Site Design	Required
SS Credit	Accessible Open Space	1
SS Credit	Enhanced Resilient Site Design	2
SS Credit	Heat Island Reduction	2
WE Credit	Water Metering and Leak Detection	1
MR Credit	Low Emitting Materials	2
MR Credit	Optimized Building Products	5
EQ Prereq	Fundamental Air Quality	Required
EQ Prereq	No Smoking or Vehicle Idling	Required
EQ Prereq	Building Accessibility	Required
EQ Credit	Enhanced Air Quality	1
EQ Credit	Occupant Experience	6
EQ Credit	Connecting with Nature	1
EQ Credit	Enhanced Building Accessibility	1
EQ Credit	Resilient Spaces	2
EQ Credit	Air Quality Testing and Monitoring	2

## Ecological Conservation and Restoration

LT Credit	Sensitive Land Protection	1
LT Credit	Compact and Connected Development	6
SS Prereq	Minimized Site Disturbance	Required
SS Credit	Protect and Restore Biodiverse Habitat	2
SS Credit	Accessible Open Space	1
SS Credit	Rainwater Management	3
SS Credit	Enhanced Resilient Site Design	2
SS Credit	Heat Island Reduction	2
SS Credit	Light Pollution and Bird Collision Reduction	1
WE Prereq	Water Metering and Reporting	Required
WE Prereq	Minimum Water Efficiency	Required
WE Credit	Enhanced Water Efficiency	6
WE Credit	Water Reuse	2
WE Credit	Water Metering and Leak Detection	1
MR Prereq	Planning for Zero Waste Operations	Required
MR Credit	Building and Materials Reuse	3
MR Credit	Optimized Building Products	5
MR Credit	Construction and Demolition Waste Diversion	2
EQ Prereq	No Smoking or Vehicle Idling	Required



# Operations and Maintenance

Position every building on a path to improved performance while maintaining the pursuit of market transformation and leadership.

How we get there:

- Provide education and leadership in a critical time.
- Establish a roadmap of actionable and transformational criteria, and a plan for improvement over time.
- Achieve certification through measurable building performance.
- Reward existing buildings that start down the path toward decarbonization by creating strategic long-term plans and taking immediate steps.



# LEED v5 Operations + Maintenance: Existing Buildings

## Integrative Process, Planning & Assessments 4

Prereq	Operations Assessment: Climate Action, Quality of Life and Ecological Conservation and Restoration	Required
Credit	Operational Planning and Response for Resilience	2
Credit	Equity within Operations and Maintenance Staff	2

## Location and Transportation 10

Credit	Sustainable Transportation Performance	10
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## Sustainable Sites 4

Credit	Rainwater Management	2
Credit	Heat Island Reduction	1
Credit	Light Pollution and Bird Collision Reduction	1

## Water Efficiency 14

Prereq	Water Metering & Reporting	Required
Credit	Water Performance	14

## Energy and Atmosphere 37

Prereq	Energy, Carbon & Operations Foundations	Required
Credit	Decarbonization and Efficiency Plans	5
Credit	GHG Emissions Reduction	12
Credit	Refrigerant Impact Reduction	2
Credit	Grid Interactive	4
Credit	Energy Performance and Commissioning	14

## Materials and Resources 11

Credit	Waste Performance	9
Credit	Embodied Carbon of Interior Materials During Renovations	2

## Indoor Environmental Quality 20

Prereq	Verification of Ventilation and Filtration	Required
Prereq	No Smoking	Required
Credit	Indoor Air Quality Performance	12
Credit	Occupant Satisfaction Survey	3
Credit	Green Cleaning	3
Credit	Integrated Pest Management	2

## Project Priorities & Innovation 10

Credit	Project Priorities	10
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<b>Total</b>	<b>Possible Points:</b>	<b>110</b>
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# LEED v5 Operations + Maintenance: Existing Buildings

## Decarbonization

IP Prereq	Operations Assessment: Climate Action, Quality of Life and Ecological Conservation and Restoration	Required
LT Credit	Sustainable Transportation Performance	10
SS Credit	Heat Island Reduction	1
WE Credit	Water Performance	14
EA Prereq	Energy, Carbon & Operations Foundations	Required
EA Credit	Decarbonization and Efficiency Plans	5
EA Credit	GHG Emissions Reduction	12
EA Credit	Refrigerant Impact Reduction	2
EA Credit	Grid Interactive	4
EA Credit	Energy Performance and Commissioning	14
MR Credit	Waste Performance	9
MR Credit	Embodied Carbon of Interior Materials During Renovations	2

## Quality of Life

IP Prereq	Operations Assessment: Climate Action, Quality of Life and Ecological Conservation and Restoration	Required
IP Credit	Operational Planning and Response for Resilience	2
IP Credit	Equity within Operations and Maintenance Staff	2
LT Credit	Sustainable Transportation Performance	10
SS Credit	Heat Island Reduction	1
EQ Prereq	Verification of Ventilation and Filtration	Required
EQ Prereq	No Smoking	Required
EQ Credit	Indoor Air Quality Performance	12
EQ Credit	Occupant Satisfaction Survey	3
EQ Credit	Green Cleaning	3
EQ Credit	Integrated Pest Management	2

## Ecological Conservation and Restoration

IP Prereq	Operations Assessment: Climate Action, Quality of Life and Ecological Conservation and Restoration	Required
LT Credit	Sustainable Transportation Performance	10
SS Credit	Rainwater Management	2
SS Credit	Heat Island Reduction	1
SS Credit	Light Pollution and Bird Collision Reduction	1
WE Prereq	Water Metering & Reporting	Required
WE Credit	Water Performance	14
MR Credit	Waste Performance	9
EQ Credit	Integrated Pest Management	2

# Project Priorities and Innovation Credit Category

The Innovation in Design credit category evolves to become “Project Priorities and Innovation”

## FLEXIBILITY

This update creates greater flexibility for projects to address their unique contexts and priorities including typology, culture, location, areas of innovation and individual performance objectives.

## RESPONSIVENESS

This approach will support LEED project teams in responding to rapidly emerging industry knowledge, technologies and innovative solutions.

## CREDIT POINT THRESHOLD RAISED

This category will afford project teams greater creativity and versatility in balancing their respective priorities.

# New requirements for Platinum certification

## LEED O+M Platinum requirements

Highly energy-efficient	Earn Energy Star Score of 80
Low operational emissions	Meet Energy Star NextGen Direct Emissions target for your building type and climate zone
Procures renewable energy from on-site/off-site sources	Earn 2 points under Energy and Atmosphere (EA) credit GHG Emissions Reductions, Option 2
Plans for further operational emissions reductions	Earn 5 points under EA credit Decarbonization and Efficiency Plans

## LEED BD+C and ID+C Platinum requirements

Highly energy-efficient	Earn 10 points under EA credit Enhanced Energy Efficiency
Has no GHGs from on-site emissions except emergency and backup needs	Earn 5 points under EA credit Electrification
Has 100% renewable energy from on-site/off-site sources	Earn 5 points under EA credit Renewable Energy
Reduces embodied carbon	Earn 2 Points under Materials and Resources (MR) credit Reduce Embodied Carbon, Options 1-3



## DECARBONIZATION

LEED v5 drives the industry towards a decarbonized built environment across all major sources of emissions: operational, embodied and transportation.

LEED v5 provides a clear framework to  
achieve ultra-low carbon from energy  
for new and existing buildings

## Decarbonization

IP Prereq	Carbon Assessment	Required
LT Credit	Compact and Connected Development	6
LT Credit	Active Travel Facilities	2
LT Credit	Transportation Demand Management	2
LT Credit	Electric Vehicles	2
SS Credit	Heat Island Reduction	2
WE Prereq	Minimum Water Efficiency	Required
WE Prereq	Enhanced Water Efficiency	6
WE Prereq	Water Reuse	2
WE Prereq	Water Metering and Leak Detection	1
EA Prereq	Operational Carbon Projection and Decarbonization Plan	Required
EA Prereq	Minimum Energy Efficiency	Required
EA Prereq	Fundamental Commissioning	Required
EA Prereq	Energy Metering and Reporting	Required
EA Prereq	Fundamental Refrigerant Management	Required
EA Credit	Electrification	5
EA Credit	Reduce Peak Thermal Loads	5
EA Credit	Enhanced Energy Efficiency	10
EA Credit	Renewable Energy	5
EA Credit	Enhanced and Ongoing Commissioning	4
EA Credit	Grid Interactive	2
EA Credit	Enhanced Refrigerant Management	2
MR Prereq	Planning for Zero Waste Operations	Required
MR Prereq	Assess Embodied Carbon	Required
MR Credit	Building and Materials Reuse	5
MR Credit	Reduce Embodied Carbon	8
MR Credit	Construction and Demolition Waste Diversion	2

# Building Design + Construction: New Construction





# DECARBONIZATION

LEED v5 provides a clear framework for delivering ultra-low carbon buildings.

All major sources of carbon are addressed:

- Operational carbon
  - Energy efficiency
  - Electrification
  - Reduced peak loads
  - Renewable energy
  - Refrigerants
- Embodied carbon
  - Structure and enclosure, products
- Transportation
  - Compact, connected, transit-orient, TDM, electric vehicles

# LEED v5 Prerequisites for Decarbonization

## EA Prerequisite:

Operational Carbon Projection & Decarb Plan

## EA Prerequisite:

Tally refrigerant GWP

## MR Prerequisite:

Tally GWP of upfront emissions from structure, enclosure & hardscape

## LT Credit:

Projected transportation emissions

## Prerequisite:

## Carbon Assessment

Intent: To understand and reduce long term carbon emissions including onsite combustion, grid-supplied electricity, refrigerants, upfront embodied carbon, and transportation.

# NEW LEED v5 BD+C and ID+C EA Credits

## Electrification (5 plus 3)

- Designed for no onsite combustion > 20 F
  - Credits system-by-system
- Additional credit for no combustion
- 3 regional credits for cold climates

## Reduce Peak Thermal Loads (6)

- Enhanced envelope and ventilation
  - Tighter envelopes
  - Ventilation heat recovery
  - Reduced thermal bridging
  - Reduced thermal peaks

# UPDATED LEED v5 BD+C and ID+C EA Credits

Enhanced Energy Efficiency (10)	Renewable Energy (5)	Enhanced / Ongoing Commissioning (4)	Grid Interactive (2)	Enhanced Refrigerant Management (2)
<ul style="list-style-type: none"><li>• Prescriptive and performance paths</li><li>• More focus on plug loads</li></ul>	<ul style="list-style-type: none"><li>• Tiers 1, 2, and 3 as in v4.1</li><li>• New options:<ul style="list-style-type: none"><li>○ Area based for onsite</li><li>○ Located on equity site</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Enhanced Cx for HVAC &amp; Envelope</li><li>• Monitoring-based-commissioning developed with DOE<ul style="list-style-type: none"><li>○ EIS and/or FDD</li><li>○ Includes tech, process, &amp; communications</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Energy Storage</li><li>• Demand Response</li><li>• Power Resiliency</li></ul>	<ul style="list-style-type: none"><li>• Low and ultra-low GWP refrigerants</li><li>• Reduced leakage rates</li></ul>

# LEED v5 BD+C and ID+C MR Credits Addressing Embodied Carbon

Assess Embodied Carbon (Prerequisite)	Reduce Embodied Carbon (6)	Building & Material Reuse (1-3)	Optimized Building Products (5)	Construction & Demolition Waste Diversion (2)
<ul style="list-style-type: none"><li>• Structure</li><li>• Enclosure</li><li>• Hardscapes</li></ul>	<ul style="list-style-type: none"><li>• Option 1: Whole Building LCA</li><li>• Option 2: Procurement of Low-Embodied Carbon Structural Materials</li><li>• Option 3: EPD Analysis</li><li>• Option 4: Track Carbon Emissions from Construction Activities</li></ul>	<ul style="list-style-type: none"><li>• Building reuse</li><li>• Material reuse</li><li>• Targets specific materials for recovery and preservation:<ul style="list-style-type: none"><li>• Carpet</li><li>• Drywall</li><li>• Ceilings</li><li>• Furniture</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Nonstructural materials by 8 product categories</li><li>• Multi-attribute assessment of products</li><li>• Rewards products with EPDs and reduced embodied carbon</li><li>• “Other” category can include MEP</li></ul>	<ul style="list-style-type: none"><li>• Rewards higher quality diversion and more accurate reporting</li><li>• Targets specific materials for diversion:<ul style="list-style-type: none"><li>• Carpet</li><li>• Drywall</li><li>• Ceilings</li><li>• Furniture</li></ul></li></ul>

# NEW LEED v5 BD+C Transportation

## Compact & Connected Development (1-6)

- Reduces vehicle-dependent travel
- Rewards points for
  - Density
  - Access to Transit
  - Walkability

## Transportation Demand Management (1-2)

- Encourages alternative transportation networks
- Estimates the total reduction of carbon emissions for building occupants.

# UPDATED LEED v5 BD+C and ID+C Transportation

## Active Travel Facilities (1-2)

- Micro-mobility and affordable transit opportunities
- Updates encouraging bicycle infrastructure

## Electric Vehicles (1-2)

- Reduces vehicle-dependent travel
- Rewards points for
  - Density
  - Access to Transit
  - Walkability

LEED v5 helps project teams understand their carbon emissions quantitatively through assessments and visualization tools.

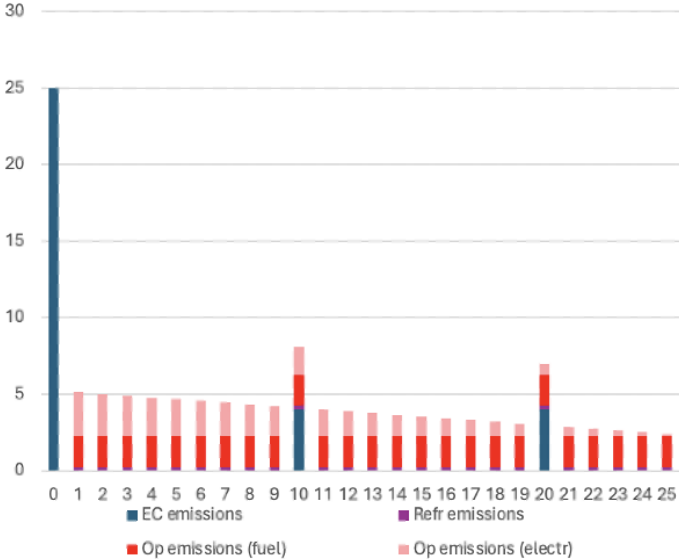


# LEED v5 D+C Cross-categorical carbon assessment (25 years)

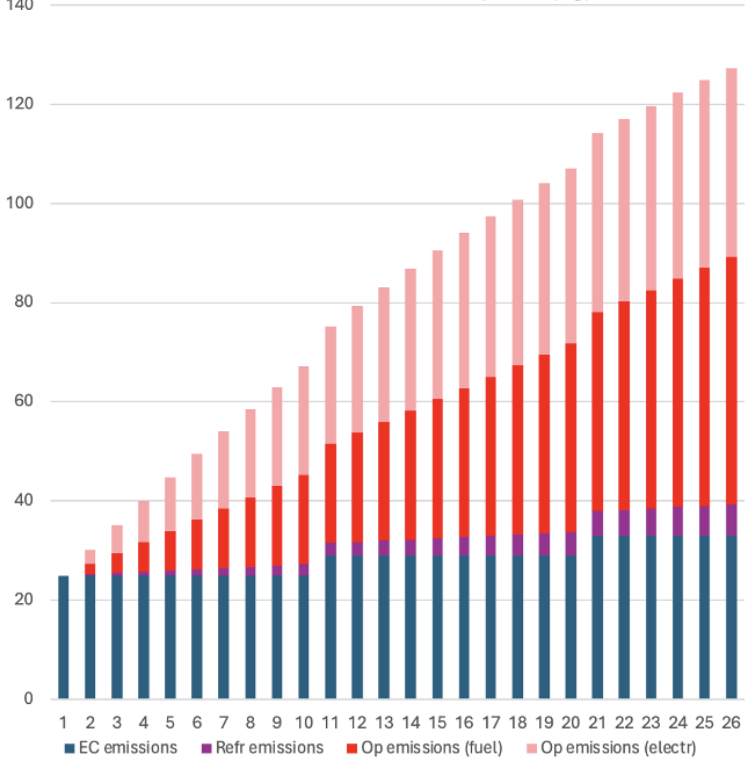
## Data inputs:

- Energy Pre-req
  - Estimate fuel & electrical use
- Refrigerant Pre-req
  - Refrigerant inventory + estimate 5% leakage
- Embodied Carbon Pre-req
  - Measured upfront carbon from Struct+ Encl , MEP and Interiors
  - Interior Renovations

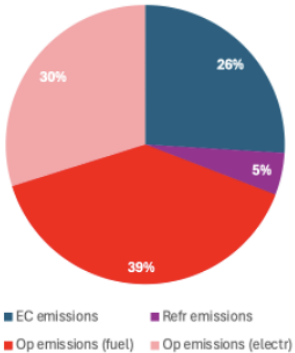
Annual CO2e emissions per sf (kg)



Cumulative CO2e Emissions per sf (kg)



% of 25 year CO2e emissions



Notes:

- Eventually cover EC of sites and sequestrion.

# LEED Zero Carbon

No on-site combustion

Achieve deep efficiency with ESPM score  $\geq 85$

Manage refrigerants with leakage  $\leq 5\%$

Reduce embodied carbon during renovations



100% Renewable Energy (on and offsite)

LEED Gold as baseline holistic approach

Transportation measures



## QUALITY OF LIFE

LEED v5 uses human-centric strategies to improve health and well-being, resilience, and equity and inclusion for building occupants and their communities.

## Quality of Life

IP Prereq	Climate Resilience Assessment	Required
IP Prereq	Social Equity Assessment	Required
LT Credit	Equitable Development	2
LT Credit	Compact and Connected Development	6
LT Credit	Active Travel Facilities	2
LT Credit	Transportation Demand Management	2
SS Prereq	Resilient Site Design	Required
SS Credit	Accessible Open Space	1
SS Credit	Enhanced Resilient Site Design	2
SS Credit	Heat Island Reduction	2
WE Credit	Water Metering and Leak Detection	1
MR Credit	Low Emitting Materials	2
MR Credit	Optimized Building Products	5
EQ Prereq	Fundamental Air Quality	Required
EQ Prereq	No Smoking or Vehicle Idling	Required
EQ Prereq	Building Accessibility	Required
EQ Credit	Enhanced Air Quality	1
EQ Credit	Occupant Experience	6
EQ Credit	Connecting with Nature	1
EQ Credit	Enhanced Building Accessibility	1
EQ Credit	Resilient Spaces	2
EQ Credit	Air Quality Testing and Monitoring	2

# Building Design + Construction: New Construction

NEW

# LEED v5 Prerequisites for Quality of Life







## Climate Resilience Assessment

Identify observed, projected, and future natural hazards and assess relevant effects to the project site and building function. Identified hazards may be currently affecting the project or may affect it in the future.

## Social Equity Assessment

Complete the LEED Project Team Checklist for Social Impact (or equivalent\*) to identify and address issues of inequity related to the project, its community, team, and supply chain.






# Prerequisites & Credits for Resilience

	IP Prerequisite: Climate Resilience Assessment
	SS Prerequisite Resilient Site Design
	SS Credit: Enhanced Resilient Site Design
	EQ Credit: Resilient Spaces





- Drought
- Earthquake
- Extreme Heat and Cold
- Flooding
- Hurricane and High Winds
- Hail
- Landslide
- Sea Level Rise and Storm Surge
- Tornado
- Tsunami
- Wildfire and Smoke
- Winter Storm
- Other (Specify)

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# Prerequisites & Credits for Equity

Equitable Outcomes	
	IP Prerequisite: Social Equity Assessment
	LT Credit: Equitable Development
	SS Credit: Accessible Open Space
	EQ Prerequisite: Building Accessibility
	EQ Credit: Enhanced Building Accessibility

# QUALITY OF LIFE

Resilience	
	IP Prerequisite: Climate Resilience Assessment
	SS Prerequisite Resilient Site Design
	EQ Prerequisite: Fundamental Air Quality
	EQ Credit: Enhanced Air Quality

Health & Occupant Experience	
	EQ Prerequisite: Fundamental Air Quality
	EQ Credit: Enhanced Indoor Air Quality
	EQ Credit: Occupant Experience
	EQ Credit: Air Quality Testing and Monitoring

Equitable Outcomes	
	IP Prerequisite: Social Equity Assessment
	LT Credit: Equitable Development
	SS Credit: Accessible Open Space
	EQ Prerequisite: Building Accessibility
	EQ Credit: Enhanced Building Accessibility



# QUALITY OF LIFE



## EQ Prerequisite: Building Accessibility

### Intent

To support diverse physical needs of occupants and increase widespread usability of the building.

### Requirements

All projects must support access for those with physical disabilities through designs meeting all locally applicable accessibility codes.

AND

Include the following strategies:

1. All regularly used exterior entrances are ADA compliant with ramps to accommodate elevation change (not wheelchair lifts).
2. Reception desks, security counters, and service counters all have a front approach wheelchair accessible section.
3. Provide wave-to-open or vertical hand/foot press door operators at all building entrances.
4. Primary circulation paths are minimum 6 feet (1.8 meters) width.
5. Turn circles in primary circulation paths and all restrooms are minimum 5'-7" (1.7 meters)

Exceptions to the requirements because of a limited scope of work, historic preservation requirements, or local code exemptions will be considered.

# QUALITY OF LIFE



## EQ Credit: Occupant Experience

### Intent

To optimize people's comfort, well-being, and enjoyment and maximize the likelihood of consistent satisfaction and ongoing stewardship related to the indoor environment.

### Requirements

**Option 1. Customizable Environment**

AND/OR

**Option 2. Thermal Environment:**

AND/OR

**Option 3. Sound Environment**

AND/OR

**Option 4. Lighting Environment**

**Path 1. Visual Comfort & Solar Glare**

AND/OR

**Path 2. Window Access**

**Path 3. Daylight Simulation**



# QUALITY OF LIFE



## EQ Credit: Connecting with Nature

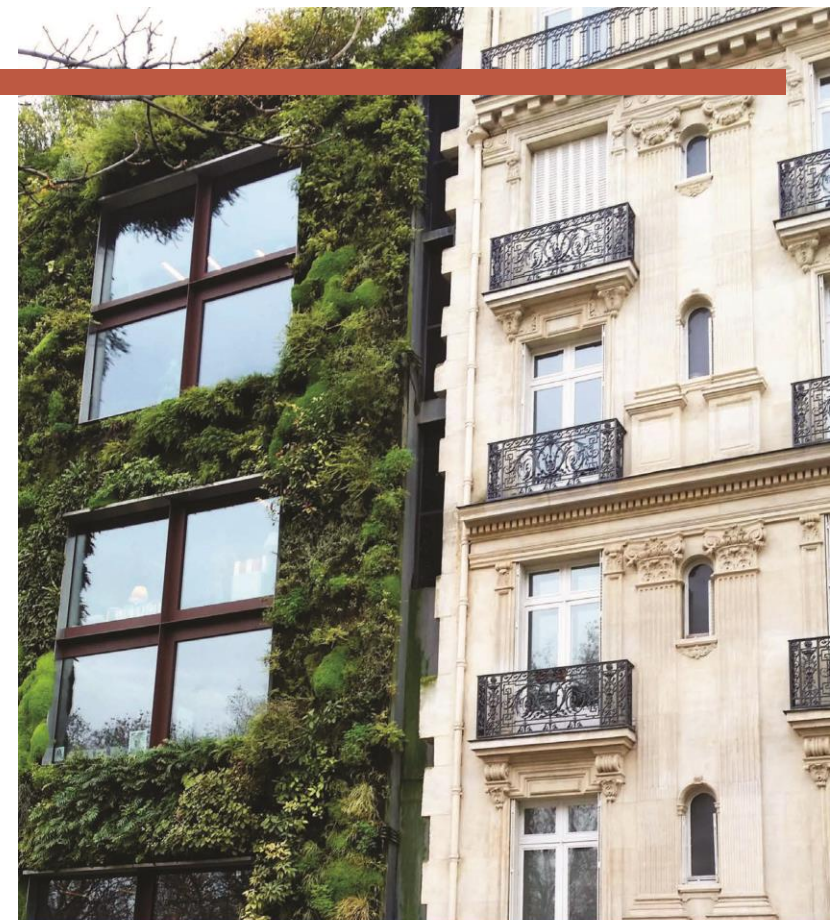
### Intent

To encourage holistic biophilic design with benefits for both human health and the environment.

### Requirements

Integrate attributes from *The Practice of Biophilic Design* by Kellert and Calabrese:

- Direct Experience of Nature.
- Indirect Experience of Nature.
- Experience of Space and Place.



THE PRACTICE OF BIOPHILIC DESIGN

Stephen R. Kellert, Elizabeth F. Calabrese



The Practice of Biophilic Design  
Stephen R. Kellert & Elizabeth F. Calabrese  
[biophilic-design.com](http://biophilic-design.com)





# ECOLOGICAL CONSERVATION AND RESTORATION

LEED v5 emphasizes strategies and actions that can be implemented at the individual asset level to limit environmental degradation and contribute towards the restoration of ecosystems.



# ECOLOGICAL CONSERVATION AND RESTORATION

LEED's comprehensive framework considers the interconnectedness of ecological systems and human-built environments, aiming to minimize ecological harm while promoting restoration and biodiversity conservation.

## Focus on:















- Reducing impact on and restoring natural habitats
  - Use of land in compact and mixed-use developments
  - Rainwater management
  - Minimize site impact and increase connectivity
  - Create pollinator pathways and reduce impact on wildlife
- Efficient resource use
  - Increase density and increase mobility options
  - Whole building lifecycle assessment for building materials
  - Reducing waste and planning for zero waste operations

## Ecological Conservation and Restoration

LT Credit	Sensitive Land Protection	1
LT Credit	Compact and Connected Development	6
SS Prereq	Minimized Site Disturbance	Required
SS Credit	Protect and Restore Biodiverse Habitat	2
SS Credit	Accessible Open Space	1
SS Credit	Rainwater Management	3
SS Credit	Enhanced Resilient Site Design	2
SS Credit	Heat Island Reduction	2
SS Credit	Light Pollution and Bird Collision Reduction	1
WE Prereq	Water Metering and Reporting	Required
WE Prereq	Minimum Water Efficiency	Required
WE Credit	Enhanced Water Efficiency	6
WE Credit	Water Reuse	2
WE Credit	Water Metering and Leak Detection	1
MR Prereq	Planning for Zero Waste Operations	Required
MR Credit	Building and Materials Reuse	3
MR Credit	Optimized Building Products	5
MR Credit	Construction and Demolition Waste Diversion	2
EQ Prereq	No Smoking or Vehicle Idling	Required

# Building Design + Construction: New Construction

# ECOLOGICAL CONSERVATION AND RESTORATION

Resource Efficiency		Protect and Preserve Biodiversity and Ecosystems		Land Use	
	WE Prerequisite/Credit Water Efficiency		LT Credit: Sensitive Land Protection		LT Credit: Sensitive Land Protection
	WE Credit: Water Reuse		LT Credit: Compact and Connected Development		LT Credit: Compact and Connected Development
	MR Prerequisite: Planning for Zero Waste Operations		SS Credit: Accessible Open Space		SS Credit: Protect and Restore Biodiverse Habitat
	MR Credit: Building and Materials Reuse		SS Credit: Light Pollution and Bird Collision Reduction		SS Credit: Heat Island Reduction
	MR Credit: C&D Waste Diversion		MR Credit: Optimized Building Products		

# ECOLOGICAL CONSERVATION AND RESTORATION

Land Use	
	LT Credit: Sensitive Land Protection
	LT Credit: Compact and Connected Development
	SS Credit: Protect and Restore Biodiverse Habitat
	SS Credit: Heat Island Reduction

- Avoid development of environmentally sensitive lands
- Encourage development in areas with existing infrastructure
- Minimize site impact, conserve natural areas, enhance biodiversity, and restore damaged areas
- Minimize heat islands and impacts on microclimate through site materials and plantings



# ECOLOGICAL CONSERVATION AND RESTORATION

## Protect and Preserve Biodiversity and Ecosystems



LT Credit: Sensitive Land Protection



LT Credit: Compact and Connected Development



SS Credit: Protect or Restore Biodiverse Habitats








SS Credit: Light Pollution and Bird Collision Reduction



MR Credit: Optimized Building Products

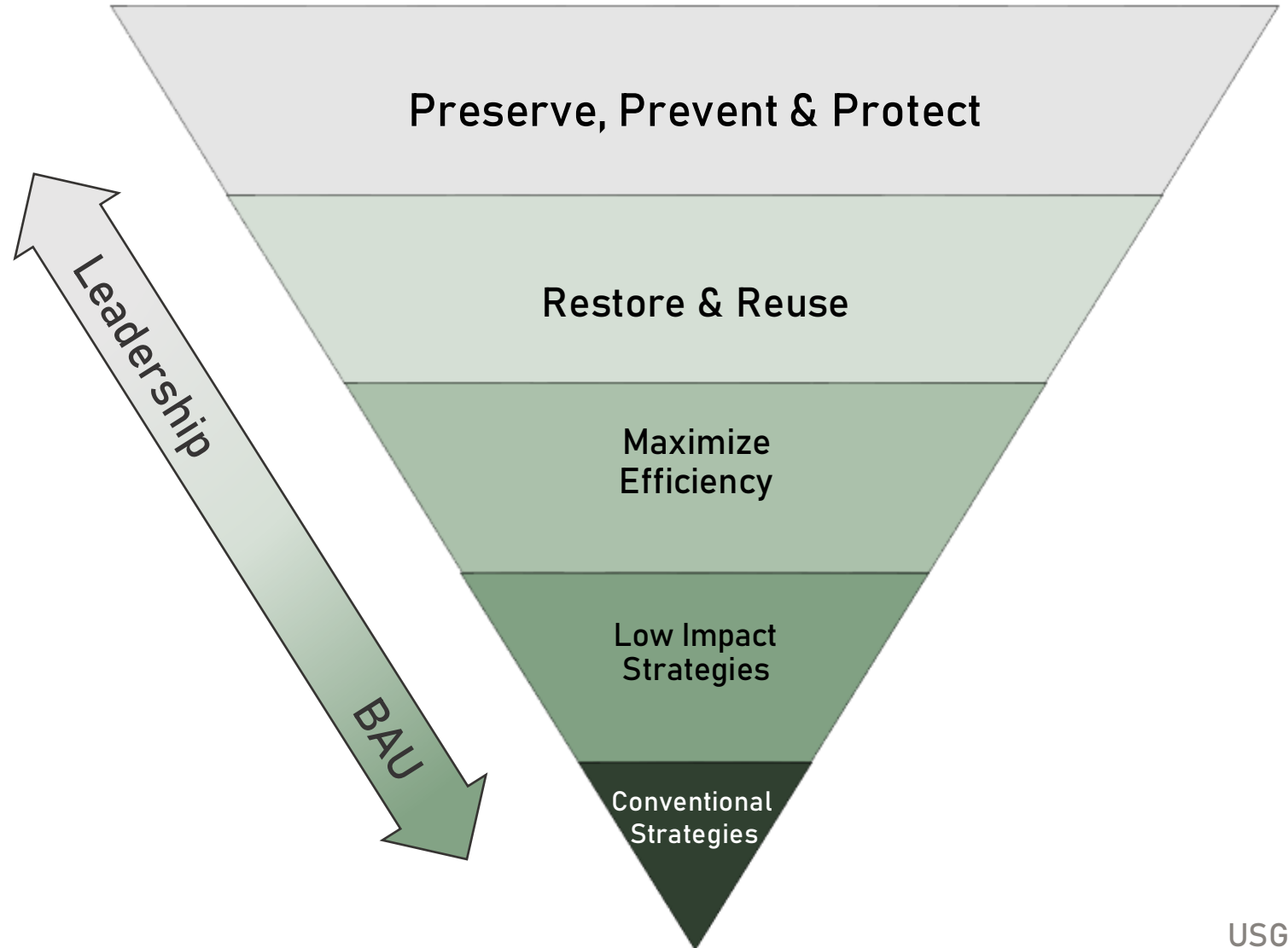
- Conserve ecosystem resources by avoiding development of environmentally sensitive lands and habitats
- Encourage development in areas with existing infrastructure
- Minimize site impact, conserve natural areas, enhance biodiversity, and restore damaged areas
- Create pollinator pathways and reduce impact to wildlife
- Mitigate buildings impact on birds and wildlife
- Reduce impacts from products on the ecosystems

# ECOLOGICAL CONSERVATION AND RESTORATION

Resource Efficiency	
	WE Prerequisite/Credit Water Efficiency
	WE Credit: Water Reuse
	MR Prerequisite: Planning for Zero Waste Operations
	MR Credit: Building and Materials Reuse
	MR Credit: C&D Waste Diversion

- Water efficiency and reuse
- Waste minimization and planning for materials recovery and circularity
- Building and material reuse
- Rewarding high quality diversion and more accurate reporting
- Targeting specific materials for recovery, preservation, diversion: carpet, gypsum wallboard, ceilings, furniture

# RESOURCE PRIORITIES



# DISCUSSION

# LEED v5 PUBLIC COMMENT 1

April 3–May 24, 2024





**LEED** **V5**