LEED V5

RATING SYSTEM

OPERATIONS AND MAINTENANCE: EXISTING BUILDINGS

FINAL DRAFT
FEBRUARY 2025

SCORECARD

LEED v5 for Operations and Maintenance: Existing Buildings

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INTEGRATIVE PROCESS, PLANNING, AND ASSESSMENTS (IP)

IP prerequisite: Climate Resilience Assessment

IPp1

Impact Area Alignment:

- ☑ Decarbonization
- ☑ Quality of Life
- -- Ecological Conservation and Restoration

Required

Intent

To promote a comprehensive assessment of observed, projected, and future natural hazards for climate resilience, aiming to enhance awareness of hazards, increase transparency of risks, reduce vulnerabilities, and ensure long-term safety and sustainability.

Requirements

Achievement Pathways	Points
Existing Buildings	N/A
Climate and Natural Hazard Assessment	

Complete a climate and natural hazard assessment.

As part of the assessment, identify observed, projected, and future natural hazards that could potentially affect the project site and building function. For the purpose of this prerequisite, hazards are site-specific natural hazards that include but are not limited to drought, earthquakes, extreme heat, extreme cold, flooding, hurricanes and high winds, hail, landslides, sea level rise and storm surge, tornadoes, tsunamis, wildfires and smoke, winter storms, and other relevant hazards (specify).

Identify two priority hazards, at minimum, to address through proposed operations and maintenance strategies. For each priority hazard, the project team must assess and specify the following:

- Intergovernmental Panel on Climate Change emissions scenario used, specifying the Shared Socioeconomic Pathways
- Projected service life of the LEED project (e.g., FY2050 or 100 years)
- Hazard level
- Hazard risk rating
- Exposure, sensitivity, adaptive capacity, vulnerability, and overall risk levels
- Potential impact on the project site and building function

Where possible, use the information from the assessment to inform the operations and maintenance of the project and describe how project-specific strategies were considered.

Impact Area Alignment:

-- Decarbonization

☑ Quality of Life

-- Ecological Conservation and Restoration

IP prerequisite: Human Impact Assessment

IPp2

Required

Intent

To ensure that the project is guided by a thorough understanding of the social context of the local community, workforce, and supply chain, helping to address potential social inequities and incorporate information about people impacted by the project into operations.

Requirements

Achievement Pathways	Points
Existing Buildings	N/A
Site Survey and Social Impact Assessment	

Complete and document a site survey and human impact assessment that draws on relevant information from the following categories, as applicable:

- *Demographics.* May include: race and ethnicity, gender, age, income, employment rate, population density, education levels, household types, and identification of nearby vulnerable populations.
- *Local infrastructure and land use.* May include: adjacent transportation and pedestrian infrastructure, adjacent diverse uses, relevant local or regional sustainability goals/commitments, and applicable accessibility code(s).
- *Human use and health impacts.* May include: housing affordability and availability, availability of social services (e.g., health care, education, social support networks), community safety, local community groups, and supply chain and construction workforce protections.
- *Occupant experience.* May include: opportunity for daylight, views, and operable windows; environmental conditions of air and water; and adjacent soundscapes, lighting, and wind patterns within the context of surrounding buildings (e.g., microclimate, solarscape, or neighboring structures).
- *Working conditions.* Address wages, benefits, training, worker protections, right to organize, and production rates for low-wage, on-site maintenance staff and contractors such as cleaners, window washers, landscapers, parking attendants, security guards, mail room attendees, food service workers, and other service workers.
- *Other (specify).*

Where possible, use the information from the assessment to inform the operations and maintenance of the project and describe how project-specific strategies were considered.

At a minimum, the assessment must address the parameters within the control of project and site management. The assessment may be used for multitenant complexes or campus projects in the same location.

Impact Area Alignment:

- ☑ Decarbonization
- ☑ Quality of Life
- ☑ Ecological Conservation and Restoration

IP prerequisite: Operations Assessment and Policy
IPp3

Required

Intent

To support holistic, high-performing, sustainable operations that address the LEED system goals: decarbonization, quality of life, and ecosystem conservation and restoration.

Requirements

Achievement Pathways	Points
Existing Buildings	N/A
Operations Assessment and Policy	

For the operational elements described below, complete the following:

- Assess current operational practices
- As appropriate, establish a baseline measurement and annual goals for maintaining or improving the project's ongoing performance
- Identify opportunities for implementing sustainable practices
- Create and implement a sustainable operations policy for managing each operational element within the facility. At a minimum, the policy (or a combination of policies) must address the parameters within the project and site management control for all elements listed below
- Identify the individual(s) responsible for implementing each element of the policy, communicate the policy to the building manager, and make the policy available to all project occupants

Operational Elements

- *Site operations.* Address best management practices to reduce harmful environmental impacts on the site, surrounding communities, and vulnerable populations. As applicable to the site, address the following: maintenance equipment; snow and ice removal; organic waste management; invasive plant species removal; cleaning of building exterior, pavement, and other impervious surfaces; irrigation management; fertilizer use; pest management; and bird-window collisions (through monitoring and/or identifying opportunities for mitigation).
- *Materials purchasing.* Address purchasing practices to reduce environmental harm from materials by considering the embodied carbon of products. As applicable, address ongoing consumables and durable goods.
- *Construction and renovations*. Address the environmental and air quality impacts of construction and renovation projects. As applicable, address materials purchased, waste diversion, and indoor air quality practices implemented during renovation and maintenance activities.
- *Occupant needs*. Identify how people are currently using the building and opportunities to improve underused spaces or spaces not meeting the needs of people. Identify opportunities to improve access to building features, usability, customization, connection with nature, and physical health. As applicable, provide recommendations for improving indoor environmental quality and experiential delight.
- *Green cleaning*. Address how the building and site areas are cleaned. Address the products used to clean the building and the janitorial paper, trash can liners, and miscellaneous janitorial products purchased for the project during regular operations. Identify safe handling, use, and disposal of products. Evaluate the cleaning performance and staffing methods, and cleaning personnel training.

Impact Area Alignment:

☑ Decarbonization

-- Quality of Life

-- Ecological Conservation and Restoration

IP prerequisite: Current Facilities Requirements and O+M Plan

IPp4

Required

Intent

To promote continuity of information to ensure that energy-efficient operating strategies are maintained and provide a foundation for green jobs training and system analysis.

Requirements

Achievement Pathways	Points
Existing Buildings	N/A
Current Facilities Requirements and O+M Plan	

Maintain a current facilities requirements (CFR) and operations and maintenance (O+M) plan that contains the information necessary to operate the project efficiently.

The plan must include the following:

- Current sequence of operations for the building
- Project occupancy schedule
- Equipment run-time schedules
- Set points for all HVAC equipment
- Set points for lighting levels throughout the project
- Information on ventilation system operation and preventative maintenance as outlined in ASHRAE 62.1-2022, Table 8.1
- Changes in schedules or set points for different seasons, days of the week, and times of day
- Systems narrative for mechanical and electrical systems and equipment in the project
- Preventive maintenance plan for mechanical, electrical, and envelope systems and equipment in the project

The CFR and O+M plan must be current at the time of the LEED application.

Impact Area Alignment:

-- Decarbonization

☑ Quality of Life

-- Ecological Conservation and Restoration

IP credit: Operational Planning for Resilience

IPc1

1 point

Intent

To encourage effective hazard response plans and readiness measures, aiming to ensure safety and maintain critical operations during and after emergencies.

Requirements

Achievement Pathways	Points
Existing Buildings	1
Emergency Response Plan	1

Support or institute an emergency response plan that addresses the priority hazards identified in IPp1: Climate Resilience Assessment.

Procedures and protocols in the plan must include the following:

- Identify essential personnel responsible for implementing the emergency response plan
- Perform ongoing emergency preparedness training and drills for essential personnel
- Communicate across departments during emergencies
- Control pedestrian and vehicle traffic during emergencies
- Address special needs for vulnerable populations
- Ensure protection and restoration of critical facilities and systems
- Ensure there is backup power for command centers and essential systems
- Perform ongoing maintenance of emergency response plan

Communicate the emergency response plan to relevant service providers, facilities staff, and occupants, including the points of contact for each procedure and protocol.

Impact Area Alignment:

-- Decarbonization

☑ Quality of Life

-- Ecological Conservation and Restoration

IP credit: Worker Safety and Training

IPc2

1 point

Intent

To promote and further social equity by addressing the needs and disparities among those working to operate and maintain the project by supporting safety and personal well-being, and by encouraging transparency through planning and training.

Requirements

Achievement Pathways	Points
Existing Buildings	1
Operations Safety Plan	1
AND	
Worker Safety Training	

Maximize worker safety by meeting the following requirements:

Operations Safety Plan

Develop an operations safety plan to promote worker safety for all workers on-site. The plan must include recommendations for the use of personal protective equipment (PPE) such as foot, head, eye, face, ear, respiratory, and/or fall protection, where applicable. Include provisions to ensure staff can take breaks, access essential services, and be protected from inclement weather while working in and around the building. Display safety policies and emergency procedures prominently in common areas and staff break rooms.

Perform an annual safety review to inform the operations safety plan. Assess each of the following systems, where applicable, for access, confined space, and fall and hazard exposures. Incorporate at least one protective measure for each of the following systems into the operations safety plan:

- *Roof systems.* For example, personnel access, equipment location, and fall protection needs.
- *Equipment rooms and systems.* For example, evaluate personnel access, confined spaces, and safety features, such as fall protection and eye wash stations.
- *Building exterior enclosure and window cleaning systems.* For example, access for cleaning and maintenance.
- *Storage and collection of recyclables.* For example, handling and reporting measures for recyclables, landfill, compost, and hazardous waste.
- *Green infrastructure features.* For example, confined space hazards and access for specific systems.
- *Cleaning and sanitary systems.* For example, physical and chemical hazards for janitorial, pest management, and window-cleaning staff.
- *Security systems.* Evaluate physical hazards for security personnel.
- *Essential services.* Ensure accessibility to safe essential services such as water and restrooms.

AND

Worker Safety Training

Develop or adopt comprehensive safety training modules specific to each system or service worker role. The training is to address general ergonomic and safety practices, emergency procedures, PPE usage, and role-specific hazard safety. Implement the following:

- Conduct training for all new hires and provide training review sessions at least annually for existing staff
- Maintain detailed records of all training sessions, including attendance, topics covered, and trainer credentials

- Include procedures for workers to report safety incidents and address unsafe conditions
- Use a combination of in-person, online, and hands-on training methods to accommodate different learning styles and ensure effective knowledge transfer
- For projects with over 100 FTEs, provide first aid, CPR, and AED training for a minimum of one operations and maintenance staff member

LOCATION AND TRANSPORTATION (LT)

LT credit: Sustainable Transportation Performance
LTc1

Impact Area Alignment:

- ☑ Decarbonization
- ☑ Quality of Life
- ☑ Ecological Conservation and Restoration

1–6 points

Intent

To promote livability, walkability, and transportation efficiency, including reduced vehicle distance traveled and associated emissions.

Requirements

Achievement Pathways	Points
Existing Buildings	1–6
Option 1. Transportation Survey	1–6
OR	
Option 2. Location Efficiency Score	1–6

Option 1. Transportation Survey (1–6 points)

Survey (1–6 points)
Using the results of a transportation survey conducted during the 12-month reporting period, demonstrate a sustainable transportation rate (Equation 1) that meets the thresholds specified in Table 1.

Table 1. Points for Project Sustainable Transportation Rate

Sustainable Transportation Rate	Points
> 0%	1
10%	2
25%	3
40%	4
65%	5
80%	6

Required Survey Methodology

- *Regular building occupants* must be surveyed. *Visitor*s must be surveyed if either the typical peak or daily average is greater than the number of regular building occupants.
- Meet survey response requirements addressed in Appendix II.

Equation 1. Calculating the Sustainable Transportation Rate

Sustainable transportation rate = the total percentage of occupants who traveled to the project by the following active and shared modes of transportation:

- Walked
- Bicycled
- Took public transportation (e.g., bus, streetcar, subway, railroad, ferryboat)
- Carpooled/vanpooled (i.e., car, truck, or van with two or more people in the vehicle)
- Worked at home (telecommuted)

The transportation mode choices presented in the survey may be modified to reflect local options, provided that all options are mapped to the list of modes above in the survey results.

OR

Option 2. Location Efficiency Score (1–6 points)
Demonstrate that the project location meets a location-efficiency score via Walk Score®. Points are awarded according to Table 2.

Table 2. Points for Location Efficiency

Walk Score	Points
50–59	1
60–69	2
70–79	3
80–84	4
85–89	5
90–94	6

Impact Area Alignment:

- ☑ Decarbonization
- ☑ Quality of Life
- ☑ Ecological Conservation and Restoration

LT credit: Transportation Demand Management

LTc2

1 point

Intent

To promote multimodal transportation choices and reduce single-occupancy vehicles and associated emissions.

Requirements

Achievement Pathways	Points
Existing Buildings	1
Option 1. Unbundled Parking	1
OR	
Option 2. Shared Mobility Options	1
OR	
Option 3. Bicycle Network and Storage	1

Communicate the low-carbon transportation options to all project occupants, including information for the local transportation options and any supportive measures that are available to occupants.

Option 1. Unbundled Parking (1 point)
Implement a daily, monthly, or annual parking fee at a cost equal to or greater than the local market rate for parking for tenant and owner-occupied projects.

For tenant-occupied projects, sell the spaces separately from the rental or purchase fees for the life of the project so that tenants have the option of renting or buying parking spaces at an additional cost.

OR

Option 2. Shared Mobility Options (1 point)
Host or provide complimentary access to one of the following shared mobility services on-site or within a ¼ mile (400 meters) walking distance of a functional entrance for a minimum of 2% of regular building occupants:

- A fleet of bicycles or bicycle share
- A carshare service
- Other shared mobility options

OR

Option 3. Bicycle Network and Storage (1 point)

Bicycle Network
Provide a functional entry and/or bicycle storage within a 600 foot (180 meters) walking distance or bicycling distance of a bicycle network that meets the following criteria:

- *Is a contiguous network* that spans a distance of at least 3 miles (4,800 meters).
- Consists of bicycle paths, lanes, or multiuse trails that are at least 8 feet (2.5 meters) wide for a two-way path and at least 4 feet (1.2 meters) wide for a one-way path, or streets with a maximum speed limit of 25 mph (40 kph). Sidewalks where local code permits bicycles are acceptable.

Planned bicycle trails or lanes may be counted if they are fully funded by the end of the 12-month reporting period and are scheduled for completion within three years of that date.

School projects
Provide dedicated bicycle lanes, or sidewalks where local code permits bicycles, that extend from the student bike-parking location to *at least* the end of the school property without any barriers (e.g., fences on school property).

AND

Bicycle Storage
Provide *short-term bicycle storage* within a 600 foot (180 meters) walking distance to any main entrance, but no fewer than four storage spaces per building.

Provide *long-term bicycle* storage within a 300 foot (90 meters) walking distance of from any functional entry, but no fewer than four storage spaces per building, in addition to the short-term bicycle storage spaces.

Points are awarded according to Table 1 below.

Shared micromobility storage, bicycle-sharing stations, and/or publicly available bicycle parking may be counted for up to 50% of the required short-term *and* long-term storage space if it meets the maximum allowable walking distance, is not double counted (i.e., the short-term and the long-term storage spaces are counted separately), and the storage location is communicated to the building occupants and visitors.

Table 1. Number of Spaces Required for Short- and Long-Term Bicycle Storage

<table>
<tr><th></th><th>Commercial, Institutional, Schools, Health Care</th><th>Residential</th><th>Mixed-Use</th><th>Retail</th></tr>
<tr><td>Short-Term storage</td><td colspan="2">At least 2.5% of all peak visitors but no fewer than four spaces per building</td><td rowspan="2">Meet the storage requirements for the nonresidential and residential portions of the project separately</td><td>At least two short-term bicycle storage spaces for every 5,000 ft^2 (465 m^2) but no fewer than two storage spaces per building</td></tr>
<tr><td>Long-Term storage</td><td>At least 5% of all regular building occupants but no fewer than four storage spaces per building, in addition to short-term storage spaces</td><td>At least 15% of all regular building occupants but no less than one storage space per three dwelling units, in addition to short-term storage spaces</td><td>At least 5% of regular building occupants but no fewer than two storage spaces per building, in addition to the short-term bicycle storage spaces</td></tr>
<tr><td colspan="5">School projects can exclude students grade 3 and younger from the regular building occupant count for long-term storage.
Health care projects can exclude patients from the regular building occupant count for long-term storage.</td></tr>
</table>

Impact Area Alignment:

- ☑ Decarbonization
- ☑ Quality of Life
- ☑ Ecological Conservation and Restoration

LT credit: Electric Vehicles

LTc3

1 point

Intent

To encourage the use of electric vehicles and infrastructure and help diminish the negative health effects on communities by lowering greenhouse gas emissions and other pollutants emitted from conventionally fueled cars and trucks.

Requirements

Achievement Pathways	Points
Existing Buildings	1
Electric Vehicle Supply Equipment	1

Install electric vehicle supply equipment (EVSE) meeting the thresholds listed in Table 1. EVSE must meet the following criteria:

- Provide Level 2 or Level 3 charging capacity per manufacturer's requirements and the requirements of the National Electrical Code (NFPA 70)
- Ensure 208–240 volts or greater for each required space
- Comply with the relevant regional or local standard for electrical connectors, such as SAE Surface Vehicle Recommended Practice J1772, SAE Electric Vehicle Conductive Charge Coupler, or IEC 62196 of the International Electrotechnical Commission for projects outside the U.S.
- Meet the connected functionality criteria for ENERGY STAR-certified EVSE and be capable of responding to time-of-use market signals (e.g., price)
- At least one EV charging station must be an accessible parking space at least 9 feet (2.5 meters) wide with a 5-foot (1.5-meter) access aisle with charging station accessibility features for use by persons with mobility, ambulatory, and visual limitations

Table 1. Points for Installed EVSE (Percent of Total Parking Spaces)

Commercial Minimum EVSE Parking	Points
5% or at least 2 spaces, whichever is greater	1
Residential Minimum EVSE Parking	**Points**
10% or at least 5 spaces, whichever is greater	1

SUSTAINABLE SITES (SS)

SS credit: Heat Island Reduction
SSc1

1 point

Impact Area Alignment:

- ☑ Decarbonization
- ☑ Quality of Life
- ☑ Ecological Conservation and Restoration

Intent

To mitigate disparate impacts on microclimates and habitats caused by heat islands and extreme heat events.

Requirements

Achievement Pathways	Points
Existing Buildings	1
Heat Island Reduction Strategies	

Implement strategies to minimize the project's overall contribution to heat island effects that meet the criteria outlined in Equation 1 below:

Equation 1. Nonroof and Roof Calculation

$$\frac{\text{Area of Nonroof Measures}}{0.50} + \frac{\text{Area of High-Reflectance Roof}}{0.75} + \frac{\text{Area of Vegetated Roof}}{0.50} \geq \text{Total Site Paving Area} + \text{Total Roof Area}$$

Alternatively, a solar reflectance index (SRI) and solar reflectance (SR) weighted average approach may be used to calculate compliance.

Use any combination of nonroof, high-reflectance roof, and vegetative roof strategies so that the weighted sum of site design strategies is greater than or equal to the sum of the total pavement and roof areas. Each surface may only be counted once, even if it is addressed through multiple strategies.

Nonroof Measures

- Provide shade over pavement areas, measured in plain view at noon, through
  - Plants or vegetated structures that provide shade over paving areas (including playgrounds) on the site. For newly installed plants, base shade area on 10-year canopy.
  - Vegetated planters.
  - Structures covered by energy generation systems, such as solar thermal collectors, photovoltaics, and wind turbines.
  - Architectural devices or structures. If the device or structure is a roof, it shall have an aged SR value of at least 0.28 as measured in accordance with ANSI/CRRC S100. If the device or structure is not a roof, or if aged SR information is not available, it shall have an initial SR of at least 0.33 as measured in accordance with ANSI/CRRC S100.
- Use paving materials with an initial SR value of at least 0.33.
- Create an open-grid pavement system (at least 50% unbound).

High-Reflectance Roof

Use roofing materials that have an aged solar reflectance index (SRI) value equal to or greater than the values in Table 1. If an aged SRI is not available, the roofing material shall have an initial SRI equal to or greater than the values in Table 1.

Table 1. Minimum Solar Reflectance Index Value, by Roof Slope

	Slope	Initial SRI	Aged SRI
Low-sloped roof	≤ 2:12	82	64
Steep-sloped roof	> 2:12	39	32

A roof area that consists of functional, usable spaces (such as helipads, recreation courts, and similar amenity areas) may meet the requirements of nonroof measures. Applicable roof area excludes roof area covered by mechanical equipment, solar energy panels, skylights, and any other appurtenances.

Vegetated Roof

If newly installed, sufficient growing medium and plant material must be in place to provide full vegetative cover within three years.

Impact Area Alignment:

-- Decarbonization

-- Quality of Life

☑ Ecological Conservation and Restoration

SS credit: Light Pollution and Bird Collision Reduction

SSc2

1 point

Intent

To increase night sky access, improve nighttime visibility, and reduce the consequences of development for wildlife and people.

Requirements

Achievement Pathways	Points
Existing Buildings	1
Option 1. Limit Uplight	1
OR	
Option 2. Bird Collision Reduction	1

Option 1. Limit Uplight (1 point)
Meet all of the following uplight, interior lighting, and exterior lighting requirements:

Uplight
All exterior fixtures with a light output greater than 1,000 lumens must meet the full cutoff requirements as defined in the IESNA Cutoff Classifications.

AND

Interior Lighting
Meet at least one of the following measures:

- Limit the total duration of all nighttime lighting programmed “on” to less than 90 minutes per day. A manual override capability may be provided for occasional after-hours use.
- Reduce the amount of uplight leaving the building. Any suspended or wall- or floor-mounted luminaires with a direct line of sight above the horizon, through any glass windows, skylights, or doors, must be automatically controlled to turn “off” during all nighttime hours (the time between sunset and sunrise).
- Install automatic window shades or shielding that limits light transmittance to 10% or less during nighttime.
- The lighting in at least 50% of the nonresidential spaces adjacent to the building’s perimeter is controlled to turn off after hours and/or when there are no occupants in the space.

AND

Exterior Lighting
Meet at least one of the following measures:

- All nonessential exterior fixtures are turned off between midnight and 6 a.m.
- Meet the exterior lighting control requirements of ASHRAE 90.1-2019, Section 9.4.1.4.

OR

Option 2. Bird Collision Reduction (1 point)
Glass used below specified heights, on the exterior of the building and site structures, must have a maximum threat factor of 30, as defined in the American Bird Conservancy Threat Factor database.

This applies to all glass, including spandrel glass, when located

- From grade up to 50 feet (15 meters) measured at all points.

- Up to 20 feet (6 meters) measured from the finished grade of a green roof.
- At any distance from grade or roof for glass in guardrails and wind shields.

WATER EFFICIENCY (WE)

WE prerequisite: Water Metering and Reporting
WEp1

Impact Area Alignment:

-- Decarbonization

-- Quality of Life

☑ Ecological Conservation and Restoration

Required

Intent

To conserve potable water resources, support water management, and identify opportunities for additional water savings by tracking water consumption.

Requirements

Achievement Pathways	Points
Existing Buildings	N/A
Water Metering	

Install (or use existing) permanent water meters to monitor, record, and report the total water consumption for potable and alternative water sources for the building and associated grounds.

Report whole-project use for each type of water source supplied to the building and associated grounds with the following additional provisions:

- The facility manager and/or tenant must be able to access the meter data.
- Meter alternative water sources separately from municipally supplied potable water.
- Measure and report total water use for the entire 12-month reporting period.
- Commit to sharing with USGBC the resulting whole-project water usage data on an annual basis following certification.

Impact Area Alignment:

☑ Decarbonization

-- Quality of Life

☑ Ecological Conservation and Restoration

WE credit: Water Efficiency Performance

WEc1

1–14 points

Intent

To reduce potable water consumption and the associated energy consumption and carbon emissions required to treat and distribute water, and to preserve potable water resources through an efficiency-first approach.

Requirements

Achievement Pathways	Points
Existing Buildings	1–14
Water Performance	1–14

Points are awarded based on total potable water consumption during a 12-month reporting period using the metric of gallons per square foot per year (or liters per meter per year). To earn 1 point, meet the baseline water use intensity threshold for the applicable space type as shown in Table 1. To earn additional points, demonstrate a percent reduction from the baseline water use intensity threshold as shown in Table 2.

Table 1. Baseline Water Use Intensity Threshold

Space Type	Water Use Intensity Threshold (gal/ft^2/yr)	Water Use Intensity Threshold (l/m^2/yr)
College/university	12	489
Hospital	53	2,160
Hospitality	49	1,997
Industrial manufacturing	14	570
K–12 school	11	448
Laboratory	53	2,160
Medical office	22	896
Office	13	530
Other	22	896
Public assembly	12	489
Public order and safety	26	1,059
Residential	44	1,793
Retail	9	367
Senior living community	57	2,323
Service	9	367
Supermarket	30	1,222
Transit	15	611
Warehouse/distribution center	2	81

Table 2. Points for Water Performance

Percent Reduction From 1-Point Water Use Intensity Threshold (Table 1)	Points
Meet space type baseline threshold	1
2%	2
6%	3
10%	4
14%	5
18%	6
22%	7
26%	8
30%	9
34%	10

Percent Reduction From 1-Point Water Use Intensity Threshold (Table 1)	Points
38%	11
42%	12
46%	13
50%	14

Impact Area Alignment:

- ☑ Decarbonization
- -- Quality of Life
- ☑ Ecological Conservation and Restoration

WE credit: Advanced Water Metering

WEc2

1 point

Intent

To support water management and identify opportunities for additional water savings by tracking water consumption.

Requirements

Achievement Pathways	Points
Existing Buildings	1
Submeters	1

Establish permanently installed meters for at least two water subsystems.

- *Irrigation*. Meter water systems serving at least 80% of the irrigated landscaped area.
- *Indoor plumbing fixtures and fittings.* Meter water systems serving at least 80% of the indoor plumbing fixtures and fittings, either directly or by deducting all other measured water use from the measured total water consumption of the building and grounds.
- *Cooling towers.* Meter replacement water use of all cooling towers serving the facility.
- *Domestic hot water.* Meter water use of at least 80% of the installed domestic hot water heating capacity (including both tanks and on-demand heaters).
- *Reclaimed water.* Meter reclaimed water, regardless of rate. A reclaimed water system with a makeup water connection must also be metered so that the true reclaimed water component can be determined.
- *Other process water.* Meter at least 80% of expected daily water consumption for process end uses, such as humidifiers, dishwashers, clothes washers, and pools.

All meters, including whole-building meters, must be recorded at least weekly and used in a regular analysis of time trends. Meters must be calibrated within the manufacturer's recommended interval if the building owner, management organization, or tenant owns the meter.

ENERGY AND ATMOSPHERE (EA)

EA prerequisite: Carbon Projection from Energy Use
EAp1

Impact Area Alignment:

- ☑ Decarbonization
- -- Quality of Life
- -- Ecological Conservation and Restoration

Required

Intent

To provide a baseline operational carbon emissions projection from energy use and to increase carbon literacy at the project level and throughout the real estate industry.

Requirements

Achievement Pathways	Points
Existing Buildings	N/A
Operational Carbon Projection	
AND	
Building Performance Standard Business-as-Usual Projection	

Comply with the following requirements:

Operational Carbon Projection
Using the annual energy use data submitted, the project's current grid data, and the project's location, USGBC will generate a 25-year "business-as-usual" (BAU) projection of the project's carbon emissions, including a comparison with a straight-line reduction.

Provide a high-level estimated end use breakdown as shown in Table 1.

Table 1. Estimated End Use Breakdown

End Use	Electrical Used (Y/N)	Fuel Used (Y/N) and Type	% of Total Electrical Use	% of Total Fuel Use	% of Site Energy Use
Space heating					
Water heating					
Cooking					
Space cooling					
Lighting					
Plug, process, and other					

AND

Building Performance Standard Business-as-Usual Projection
Projects subject to a carbon-based or energy use intensity (EUI) based building performance standard (BPS) must create an ordinance-specific 25-year BPS-BAU projection, with an overlay of the BPS caps. For EUI-based BPS, the BPS-BAU must be an energy BAU, and for carbon-based BPS, the BPS-BAU must be a carbon BAU reflecting the electrical carbon coefficients as defined in the ordinance. If applicable, calculate the assessed annual fines or fees that will apply for exceeding the caps, and the cumulative fines or fees over the 25-year period.

The owner or owner's representative must attest that they have reviewed the project's BAU and fee projections.

Impact Area Alignment:

☑ Decarbonization

-- Quality of Life

-- Ecological Conservation and Restoration

EA prerequisite: Energy Monitoring and Reporting
EAp2

Required

Intent

To support energy management practices and facilitate identification of ongoing opportunities for energy and greenhouse gas (GHG) emissions savings by tracking and reporting building energy use and demand.

Requirements

Achievement Pathways	Points
Existing Buildings	N/A
Energy Monitoring	
AND	
Report Energy Data	

Comply with the following requirements:

Energy Monitoring

- Have permanently installed energy meters or submeters that measure total building energy consumption for each energy source (electricity, on-site renewable electricity, natural gas, chilled water, steam, hot water, fuel oil, propane, etc.). Utility-owned meters capable of aggregating total project energy use by energy source are acceptable. Delivered fuels, such as propane, oil, diesel, or wood, must be tracked and reported by delivery date and amount if they are not metered or submetered.
- Calibrate meters within the manufacturer's recommended interval if the project owner or management organization has oversight over the meter.
- Tenant meters may be excluded for up to 10% of the gross building area. When excluded, the associated area shall also be excluded for the determination of energy use intensity or GHG emissions intensity.

Report Energy Data

Report monthly energy use data by energy source for the 12-month reporting period. Commit to ongoing reporting of monthly energy data on an annual basis following certification.

Impact Area Alignment:

☑ Decarbonization

-- Quality of Life

-- Ecological Conservation and Restoration

EA prerequisite: Minimum Energy Performance
EAp3

Required

Intent

To promote resilience and reduce the environmental and economic harms of excessive energy use and greenhouse gas emissions by achieving a minimum level of energy efficiency.

Requirements

Achievement Pathways	Points
Existing Buildings	N/A
Option 1. ENERGY STAR Score	
OR	
Option 2. Energy Use Intensity Targets	
OR	
Option 3. Performance Relative to Historical Baseline	

Building Energy Efficiency

- Property types eligible to receive an ENERGY STAR score in the U.S. and Canada must comply with Option 1.
- Property types eligible to receive an ENERGY STAR score outside of the U.S. and Canada must comply with either Option 1 or Option 2.
- Property types referenced in Appendix I, Table 1, that are ineligible to receive an ENERGY STAR score must comply with either Option 2 or Option 3.
- All other property types must comply with Option 3 or review additional guidance/requirements.

Option 1. ENERGY STAR Score
During the 12-month reporting period, achieve an ENERGY STAR score of at least 60 using the U.S. Environmental Protection Agency ENERGY STAR Portfolio Manager tool.

To apply Option 1 to projects outside of the U.S. and Canada, consult ASHRAE Standard 169-2021, “Climatic Data for Building Design Standards,” and select an ENERGY STAR Portfolio Manager location in the same climate zone and with similar climate characteristics.

OR

Option 2. Energy Use Intensity Targets
For the 12-month reporting period, meet the site energy use intensity (EUI) or source EUI targets established for the project’s building type(s) and climate zone in Appendix I based on ASHRAE 100-2024.

OR

Option 3. Performance Relative to Historical Baseline
For property types not eligible to receive an ENERGY STAR score, compare the building's total annual site and source energy consumption for the 12-month reporting period with historical baseline site and source energy consumption data from a 12-month reporting period with similar occupancy occurring within eight years before the end of the 12-month reporting period. Demonstrate at least an 8% reduction in either site energy use or source energy use beyond the historical baseline. Historical data may be normalized against the reporting period for weather or operational variables such as occupancy or production throughput.

- For high-process-load buildings that meet the following criteria, demonstrate a 4% reduction in energy use for the performance relative to the historical baseline.
    - Building activity classification not referenced in Appendix I, Table 1, "Building Category Classifications," or a project narrative demonstrates that the building function is directly linked to heightened energy usage compared to other buildings with the same building activity classification.
    - Energy use associated with manufacturing or industrial equipment, including equipment used for conveyance of people or objects, uncontrollable loads, life safety requirements, and/or security requirements, contributes at least 50% of the total energy consumption, meaning that at least 50% of the total building energy consumption cannot be modified using standard efficiency/retrofit measures, including:
        - Envelope improvements.
        - Internal load reductions to lighting, ENERGY STAR-eligible equipment, etc.
        - HVAC or domestic hot water (DHW) efficiency upgrades.
        - Controls upgrades to HVAC, DHW, or lighting systems.

Impact Area Alignment:

☑ Decarbonization

-- Quality of Life

-- Ecological Conservation and Restoration

EA prerequisite: Fundamental Refrigerant Management

EAp4

Required

Intent

To reduce greenhouse gas emissions from refrigerants by accelerating the phaseout of refrigerants with high global warming potential (GWP) and by reducing refrigerant leakage.

Requirements

Achievement Pathways	Points
Existing Buildings	N/A
Refrigerant Policy	
AND	
Refrigerant Performance	

Comply with all of the following requirements:

Refrigerant Policy

Provide and implement a refrigerant policy addressing the following:

- *Removal of refrigerant-containing equipment.* Track the removal of refrigerant-containing equipment and ensure that such equipment and the refrigerants are disposed of properly, as per national and local requirements.
- *Refrigerant leakage management.* Comply with the current refrigerant leakage management requirements from the U.S. Environmental Protection Agency Section 608, the European Union F-Gas regulation, or relevant national or local requirements.

AND

Refrigerant Performance

Comply with the following requirements for all of the refrigerant-using equipment under the control of the property owner or management during the 12-month reporting period:

- *Refrigerant inventory.* Complete an inventory of all refrigerant-containing equipment, including the type, GWP, amounts of refrigerants contained in each, and the total GWP of all refrigerants.
- *Refrigerant leakage inspection and recharge.* Perform a visual inspection for refrigerant leaks and recharge equipment with leaks detected during inspection.
- *Refrigerant leakage tracking.* For the 12-month reporting period, track and report, by refrigerant type and weight, the project's refrigerant recharge or total procurement of refrigerants, and report the total GWP of the leaked refrigerants. For initial certifications, implement refrigerant tracking for no less than the last three months of the 12-month reporting period and report all recharge occurring during refrigerant leakage inspection and recharge.

Impact Area Alignment:

☑ Decarbonization

-- Quality of Life

-- Ecological Conservation and Restoration

EA credit: Greenhouse Gas Emissions Reduction Performance

EAc1

1–12 points

Intent

To reduce environmental and economic harm associated with greenhouse gas (GHG) emissions from building energy use that disproportionately impacts frontline communities.

Requirements

Achievement Pathways	Points
Existing Buildings	1–12
Option 1. Greenhouse Gas Emissions from On-Site Combustion	1–5
Path 1. ENERGY STAR NextGen Target	1–5
OR	
Path 2. Historical Baseline Target	1–5
OR	
Path 3. On-Site Combustion Emissions Intensity Target	1–5
AND/OR	
Option 2. Renewable Energy	1–4
AND/OR	
Option 3. Total Greenhouse Gas Emissions from Building Energy Use	1–3
Path 1. Performance Relative to Similar Buildings	1–3
OR	
Path 2. Performance Relative to Historical Baseline	1–3

Option 1. Greenhouse Gas Emissions from On-Site Combustion (1–5 points)
Demonstrate a percentage improvement in on-site combustion emissions below the on-site combustion emissions target based on the project energy data reported in EAp3:Minimum Energy Performance. Points are awarded according to Table 1.

Projects that neither use on-site combustion except for emergency support systems (used less than 200 hours per year) nor use district heating automatically achieve 5 points.

Determine the on-site combustion emissions target using any applicable path.

Path 1. ENERGY STAR NextGen Target (1–5 points)
Determine the target by multiplying the ENERGY STAR NextGen™ Direct GHGi target by 1.4.

Reference: ENERGY STAR Portfolio Manager Technical Reference for ENERGY STAR NextGen™ Direct GHGi Targets.

OR

Path 2. Historical Baseline Target (1–5 points)
Calculate the total GHG emissions from on-site combustion for the current 12-month reporting period compared to a historical baseline from a 12-month reporting period with similar occupancy occurring within eight years before the end of the 12-month reporting period.

Historical data may be normalized against the reporting period for weather or operational variables such as occupancy or production throughput.

OR

Path 3. On-Site Combustion Emissions Intensity Target (1–5 points)
(Available only to projects using EAp3: Minimum Energy Performance, Option 2.)

Determine *on-site combustion emissions intensity targets* for the project's building type(s) and climate zone according to Appendix I.

Table 1. Points for Percentage Reduction Below On-Site Combustion Emissions Targets

Points	% Reduction Below On-Site Combustion Emissions Targets
1	20%
2	40%
3	60%
4	80%
5	100%

AND/OR

Option 2. Renewable Energy (1–4 points)
Supply or procure renewable energy meeting the renewable energy criteria below. Points are awarded according to Table 2.

Points documented for Tier 1, Tier 2, and/or Tier 3 renewable energy may be added together up to a maximum of 4 points.

Table 2. Points for Renewable Energy Procurement

Points	Tier 1			Tier 2	Tier 3
	Minimum Rated Capacity[1]	or	Percent of Annual Electric Energy Use	Percent of Annual Electric Energy Use	Percent of Annual Electric Energy Use
1	A * 1 W / ft^2 (A * 10.8 W/m^2)	or	5%	20%	50%
2	A * 2 W / ft^2 (A * 22.5 W/m^2)	or	10%	40%	100%
3			20%	60%	
4			30%	80%	

[1]*A = the sum of gross floor area of all floors up to the three largest floors.*

Renewable Energy Criteria
Renewable Energy Classifications

Tier 1. On-site renewable energy generation or social impact project

- The renewable generation equipment may be located
  - On the project site.
  - On the campus on which a project is located.
  - On the site of an equity project, provided that the renewable power system is provided, installed, and commissioned at no cost to the equity entity; that the ownership of the renewable power system is transferred to the equity entity; and that the rights to the power provided be given to the equity entity.

Tier 2. *New off-site renewable electricity*

- Off-site renewable electricity produced by new generation asset(s):
  - Off-site renewable electricity produced by new generation asset(s) initially contracted no more than five years after the asset's commercial operations date

Tier 3. Off-site renewable energy

- Off-site renewable electricity that is Green-e Energy certified or equivalent
- Renewable fuels that are Green-e Energy certified or equivalent

Renewable Energy Contract Length

- Project shall demonstrate a minimum of a three-year contractual commitment that begins no later than the project's reporting period start date. Contract length shall be three years or prorated across three years for shorter contract lengths.

Renewable Energy Environmental Attributes

- *Ownership*. All environmental attributes (energy attribute certificates [EACs] or renewable energy certificates [RECs]) associated with renewable energy generation must be retired on behalf of the LEED project for the renewable energy procurement to contribute to credit achievement.
- *Vintage*. EACs/RECs credited to the project must be generated no earlier than 18 months before the LEED project's initial submission date.
- *Location*. Tier 2 and Tier 3 renewable assets must be in the same country or region where the LEED project is located.

AND/OR

Option 3. Total Greenhouse Gas Emissions from Building Energy Use (1–3 points)
Demonstrate a percentage improvement in project GHG emissions from building energy use below the total GHG emissions target. Points are awarded according to Table 3.

Calculate the project GHG emissions for the 12-month reporting period using the project energy consumption for each energy source and the project GHG emissions factors for each energy source. Report project electricity use with a GHG emissions factor of zero when the electricity is supplied or offset by Tier 1, on-site renewable energy generation or equity project, and/or Tier 2, new off-site renewable electricity, documented in Option 2. Renewable Energy.

Calculate GHG emissions targets using one of the following:

Path 1. Performance Relative to Similar Buildings (1–3 points)
GHG emissions targets shall be calculated based on the site energy use intensity targets for fuel and electricity for the project's building type and climate zone in Appendix I. For all project locations, multiply these targets by the published U.S. Environmental Protection Agency national CO_2 equivalent (CO_2eq) emissions factors for natural gas and electricity from the most recently published year.

OR

Path 2. Performance Relative to Historical Baseline (1–3 points)
Calculate the historical baseline target derived using the site energy data for each building energy source from a 12-month reporting period with similar occupancy occurring within eight years before the end of the 12-month reporting period, and the project GHG emissions factor for each energy source during the historical reference period.

Historical data may be normalized against the reporting period for weather or operational variables such as occupancy or production throughput.

If the project generated on-site renewable energy or procured off-site renewable energy during the historical reporting period, treat this identically to nonrenewable energy for the purposes of calculating the GHG emissions target.

Table 3. Points for Percentage Reduction Below GHG Emissions Target

Points	% Reduction
1	15%
2	30%
3	60%

For all options:

***District Energy*.** Projects with district energy must comply with the requirements of this credit at the district facility or see additional guidance for interpretation of credit requirements.

Impact Area Alignment:

☑ Decarbonization

-- Quality of Life

-- Ecological Conservation and Restoration

EA credit: Optimized Energy Performance

EAc2

2–12 points

Intent

To operate buildings that minimize energy use to reduce the environmental damage caused by resource extraction, air pollution, and greenhouse gas emissions and facilitate the transition to a clean energy future.

Requirements

Achievement Pathways	Points
Existing Buildings	2–12
Option 1. ENERGY STAR Score	2–12
OR	
Option 2. Energy Use Intensity Targets	2–12
OR	
Option 3. Performance Relative to Historical Baseline	2–12

Refer to EAp3: Minimum Energy Performance for requirements associated with each path. No further data entry or calculations are required for this credit.

- Property types eligible to receive an ENERGY STAR score in the U.S. and Canada must comply with Option 1.
- Property types eligible to receive an ENERGY STAR score outside of the U.S. and Canada must comply with either Option 1 or Option 2.
- Property types referenced in Appendix I, Table 1, that are ineligible to receive an ENERGY STAR score must comply with either Option 2 or Option 3.
- All other property types must comply with Option 3 or see additional guidance/requirements.

Option 1. ENERGY STAR Score (2–12 points)
Points are awarded for ENERGY STAR scores of 69 or above from the Environmental Protection Agency Portfolio Manager tool, according to Table 1.

Table 1. Points for ENERGY STAR Performance Rating (2–12 points)

ENERGY STAR Rating	Points
69	2
71	3
73	4
75	5
77	6
79	7
81	8
83	9
86	10
89	11
92	12

OR

Option 2. Energy Use Intensity Targets (2–12 points)
Points are awarded according to Table 2 based on the building category (Category 1 or Category 2) referenced in Appendix I, and the greater of

- The percent improvement in project site energy use intensity (EUI) beyond the median site EUI target, or
- The percent improvement in project source EUI beyond the median source EUI target.

Table 2. Points for Percentage Improvement Over EUI Target

Category 1 Building % Improvement	Category 2 Building % Improvement	Points
8%	6%	2
12%	9%	3
16%	12%	4
20%	15%	5
24%	18%	6
28%	21%	7
32%	24%	8
36%	27%	9
40%	30%	10
44%	33%	11
48%	36%	12

OR

Option 3. Performance Relative to Historical Baseline (2–12 points)
Points are awarded according to Table 3 based on the greater of

- The percent reduction in normalized site energy use beyond the historical baseline, or
- The percent reduction in normalized source energy use beyond the historical baseline.

Table 3. Points for Percentage Energy Improvement Over Historical Baseline

Percentage Reduction	Percentage Reduction High Process Load Buildings[1]	Points
15%	8%	2
18%	10%	3
21%	12%	4
24%	14%	5
27%	16%	6
30%	18%	7
33%	20%	8
36%	22%	9
40%	24%	10
44%	27%	11
48%	30%	12

1. High process load buildings applying the lower percentage reduction thresholds must meet all criteria for high process load buildings referenced in EA prerequisite Minimum Energy Performance.

Impact Area Alignment:

☑ Decarbonization

-- Quality of Life

-- Ecological Conservation and Restoration

EA credit: Enhanced Refrigerant Management Performance

EAc3

1–2 points

Intent

To encourage reduced leakage of older refrigerants with high global warming potential (GWP) and ozone-depleting potential (ODP), and to encourage the installation of equipment using refrigerants with low GWP.

Requirements

Achievement Pathways	Points
Existing Buildings	1–2
Enhanced Refrigerant Management Performance	1–2

Refrigerant leakage emissions ratio. To calculate the refrigerant leakage emissions ratio, divide the total GWP of the refrigerants leaked during the 12-month reporting period by the total weight of all refrigerants present in the project.

Points are awarded according to Table 1.

Table 1. Refrigerant Leakage Emissions Ratio

Refrigerant Leakage Emissions Ratio	Points
≤ 50	1
≤ 25	2

Projects that neither have refrigerant-using equipment in the project nor receive district thermal energy generated from refrigerant-using equipment automatically achieve the 2-point threshold.

Equation 1. Refrigerant Leakage Emissions Ratio

$$\textbf{Refrigerant leakage emissions ratio} = \frac{\sum_{i=1}^{n}[(\text{GWP}) \text{ x } (\text{Weight of Refrigerant Leaked})]_{\text{i}}}{\sum_{i=1}^{n}[\text{Rc}]_{\text{i}}}$$

Where:

- i = Each refrigerant-using system in the project
- GWP = The global warming potential for the refrigerant used in each system
- Rc = Refrigerant charge—the amount (lbs or kg) of refrigerant in the system at full charge

Impact Area Alignment:

☑ Decarbonization

-- Quality of Life

-- Ecological Conservation and Restoration

EA credit: Peak Load Reduction Performance

EAc4

1 point

Intent

To reduce the stress on the grid from peak loads, reduce greenhouse gas emissions, increase grid reliability, and make energy generation and distribution systems more affordable and more efficient.

Requirements

Achievement Pathways	Points
Existing Buildings	1
Option 1. Electric Demand Reduction	1
OR	
Option 2. Thermal Demand Reduction	1

Option 1. Electric Demand Reduction (1 point)
Have electric interval meters that measure building electric demand at least hourly. Utility meters with monthly peak electric demand reporting capabilities are acceptable. For a building with multiple electric meters, building peak monthly demand may be determined using either monthly peak coincident demand or the sum of peak monthly demand from each meter. Tenant meters or meters without hourly interval metering capabilities may be excluded for up to 20% of the gross building area.

Report the monthly peak building electric demand for the current 12-month reporting period and for a baseline 12-month reporting period occurring within eight years before the end of the 12-month reporting period. Comparing the current reporting period to the baseline reporting period, demonstrate a 10% reduction in the sum of monthly peak demand for the two months with highest demand. Data may be normalized for equipment electrification.

OR

Option 2. Thermal Demand Reduction (1 point)
Have thermal meters or measurement devices capable of measuring and recording the following for at least 80% of the project's total installed thermal capacity:

- Heating demand—for climate zones 3–8, measure total hourly thermal energy consumed for space heating, service water heating, and process heating.
- Cooling demand—for climate zones 0–5, measure total hourly thermal energy consumed for space cooling and process cooling.

Report the monthly peak hourly heating demand and the monthly peak hourly cooling demand for the current 12-month reporting period and for a baseline 12-month reporting period occurring within eight years before the end of the 12-month reporting period. Comparing the current reporting period to the baseline reporting period, demonstrate a 10% reduction in the sum of the maximum monthly heating demand and the maximum monthly cooling demand.

Impact Area Alignment:

☑ Decarbonization

-- Quality of Life

-- Ecological Conservation and Restoration

EA credit: Decarbonization and Efficiency Plans

EAc5

2–4 points

Intent

To support long-term planning for deep reductions in greenhouse gas emissions from building energy and refrigerants through 2050.

Requirements

Achievement Pathways	Points
Existing Buildings	2–4
Option 1. Strategic Decarbonization Plan	2–4
OR	
Option 2. Carbon Neutral and Energy Efficient	4

Option 1. Strategic Decarbonization Plan (2–4 points)

Create a strategic decarbonization plan (SDP) and commit to a five-year capital plan.
Create an SDP that will deliver deep reductions in carbon emissions from on-site combustion and site energy use within 20 years. Create a five-year capital plan that includes the measures in the SDP to be pursued within the next five years and commit to implementing the capital plan. The following conditions apply:

- All project energy use is included, including tenant energy use.
- On-site combustion emissions include emissions from fuel burned on-site and from nonrenewable fuels burned by district heating systems.
- Carbon emissions from emergency power systems are excluded.
- Energy provided by on-site renewables is not included in site energy.
- Energy used to charge electric vehicles is not included in site energy.
- In developing the SDP and five-year capital plan, projects must complete all process steps listed in Table 3.

Points are awarded according to Table 1 and Table 2.

Table 1. Required Reductions for SDPs and Five-Year Plans

Points	SDP On-Site Combustion Emissions Reduction	SDP Site Energy Use Reduction	Sum of Five-Year Reductions of On-Site Combustion Emissions and Site Energy Use
2	≥ 50%	≥ 20%	≥ 10%
3	≥ 75%	≥ 25%	≥ 10%
4	100%	≥ 30%	≥ 10%

Projects that earn a minimum of 7 points in EAc2: Optimized Energy Performance or that have process loads that equal 30% or more of their site energy must meet the requirements in Table 2. For the 12-month reporting period, on-site combustion must represent at least 25% of site energy for a project pursuing 3 or 4 points in Table 2.

Table 2. Required Reductions for SDPs and Five-Year Plans for High-Performing Projects

Points	SDP On-Site Combustion Emissions Reduction	SDP Site Energy Use Reduction	Sum of five-Year Reduction of On-Site Combustion Emissions and Site Energy Use
2	≥ 50%	≥ 10%	≥ 5%
3	≥ 75%	≥ 12%	≥ 5%
4	100%	≥ 15%	≥ 5%

Table 3. Required Process for Strategic Decarbonization Plan and Five-Year Capital Plan

Phase	Action
Preplanning	**Create project team** to include at least: team leader; owner or owner's representative; energy expert or mechanical, electrical, and plumbing engineer; expert on the building's operations; financial expert and/or asset manager; architect; someone with construction experience; and cost estimator. Team list must include name, company, and expertise.
	Create carbon business as usual (BAU). Basic BAU will be provided by USGBC. Projects subject to building performance standards (BPSs) must create energy and/or carbon BAUs as per *EA prerequisite Carbon Projection from Energy Use.*
	Create financial BAU based on estimated costs of energy, cost to replace major equipment in kind, and carbon or energy fees.
	Develop inventory of equipment and system information, including end of useful life for major equipment.
	Create end-use analysis. Create breakdown of energy use by type and system. Determine the percent of each type of energy used for heating, service hot water, and cooking and other process loads.
	Collect any audits, retro-commissioning reports, and other energy-related analyses that have been performed.
	Create a list of trigger events and a timeline, including replacement of major equipment or façade elements, refinancing, sunsetting of incentives, asset repositioning, etc.
	Develop conceptual plans (at least two) with a rough estimate carbon impact analysis, including at least one that achieves an estimated reduction of on-site combustion emissions > 90%.
Planning	**Conduct a design charette**, which may be in-person, virtual, or hybrid, and should include as many team members as possible. Present materials developed in the preplanning stage. Discuss conceptual plans, issues that make them unfeasible, how to overcome the obstacles, possible changes to the plans, and other ideas to consider.
	Develop multiple decarbonization options. Building on the charette discussion, develop at least two decarbonization options, one of which must reduce on-site combustion emissions by > 90%. Each option must include a narrative and a list of measures, with the timeline and projected impact of each measure on energy and carbon emissions and realistic costs of the decarbonization measures, including architectural, structural, and code costs incurred.
	Create the strategic decarbonization plan (SDP). Develop the SDP the project intends to pursue, which may be a decarbonization option from above, an amendment of either, or a new plan. The plan must include a narrative and a list of measures, with the timeline and projected impact of each measure on energy and carbon emissions, and realistic costs of the decarbonization measures, including architectural, structural, and code costs incurred.
	Create a five-year capital plan of SDP measures to be pursued in the next five years. Develop the five-year plan sufficiently for accurate carbon assessments and budgeting. The five-year plan must include a list of measures, with the timeline, cost, and projected impact of each measure on energy and carbon emissions.
Attestation and commitment	**Attestation**. The owner or owner's representative must attest that they have reviewed the SDP and the five-year capital plan.
	Commitment. Provide documentation of the owner's commitment to implement the measures in the five-year plan, with changes limited to minor modifications, more ambitious implementation, or delays outside of the owner's control.

Visualization of plans: From the information provided, USGBC will generate graphs of the carbon and energy trajectories of the SDPs.

OR

Option 2. Carbon Neutral and Energy Efficient (4 points)

Demonstrate carbon neutrality and high performance by achieving: 12 points in EAc1: Greenhouse Gas Emissions Reduction Performance AND 12 points in EAc2: Optimize Energy Performance.

Impact Area Alignment:

☑ Decarbonization

-- Quality of Life

-- Ecological Conservation and Restoration

EA credit: Peak Load Management

EAc6

1 point

Intent

To reduce the stress on the grid from peak loads, reduce greenhouse gas emissions, increase grid reliability, and make energy generation and distribution systems more affordable and more efficient.

Requirements

Achievement Pathways	Points
Existing Buildings	1
Option 1. Demand Side Management	1
Path 1. Demand Response Program Participation	1
OR	
Path 2. Automated Demand Side Management	1
OR	
Option 2. Building Envelope Performance	1
Path 1. Low Air Leakage	1
OR	
Path 2. Reduced Air Leakage Rates	1

Option 1. Demand Side Management (1 point)
Participate in a demand response program and/or provide automated demand side management. For both Path 1 and Path 2, include the demand side management processes in the current facilities requirements and operations and maintenance plan and perform at least one full test of a demand response event or automatic load-shedding event.

On-site electricity generation and fuel combustion cannot be used to meet the demand side management criteria.

Path 1. Demand Response Program Participation (1 point)
During the 12-month reporting period, participate in an existing demand response program with a utility or demand response aggregator.

OR

Path 2. Automated Demand Side Management (1 point)
Have in place a control system that automatically sheds 10% of peak electricity demand for a minimum of one hour in response to triggers denoting strain on the grid or high grid emissions. Examples include

- Data obtained through an API indicating high grid emissions.
- Peak demand tariff period, when the grid is operating in the highest demand window.
- Time-of-use rate when pricing is highest.
- Signal from a demand response aggregator.

OR

Option 2. Building Envelope Performance (1 point)

Path 1. Low Air Leakage (1 point)
Demonstrate a measured air leakage rate of the building envelope that is less than or equal to the maximum air leakage rates in Table 1 (for Path 1). Air leakage testing must have occurred no later than eight years before the end of the 12-month reporting period.

Table 1. Limits on Air Leakage Rates

Building Conditioned Floor Area (CFA)	Pressure Test Conditions Across the Building Envelope	Maximum Air Leakage
≥ 5,000 ft^2 (465 m^2)	At pressure difference of 50 Pascals (0.2 in H_2O)	0.27 cfm/ft^2 (1.4 L/s*m^2)
	At pressure difference of 75 Pascals (0.3 in H_2O)	0.35 cfm/ft^2 (1.8 L/s*m^2)
< 5,000 ft^2 (465 m^2)	At 50 Pascals (0.2 in in H_20)	2.5 ACH
	At 75 Pascals (0.3 in H_2O)	3.4 ACH

- *For projects ≥ 5,000 ft^2 (465 m^2), air leakage is per ft^2 or m^2 of building envelope area.*
- *Complete air leakage testing using ASTM E779, ANSI/RESNET/ICC 380, ASTM E3158, ASTM E1827, or equivalent.*

OR

Path 2. Reduced Air Leakage Rates (1 point)

Demonstrate a minimum reduction in air leakage rates of 25% through air leakage testing before and after alterations are implemented. Both air leakage tests must have occurred no later than eight years before the end of the 12-month reporting period.

Impact Area Alignment:

☑ Decarbonization

-- Quality of Life

-- Ecological Conservation and Restoration

EA credit: Commissioning

EAc7

1–2 points

Intent

To use the existing building commissioning process to improve building operations and energy and resource efficiency.

Requirements

Achievement Pathways	Points
Existing Building	1–2
Option 1. Retro-Commissioning	2
OR	
Option 2. Monitoring-Based Commissioning	1–2
Path 1. Basic MBCx	1
OR	
Path 2. Enhanced MBCx	1

Option 1. Retro-Commissioning (2 points)
Complete a retro-commissioning (RCx) process no more than three years before the end of the 12-month reporting period.

- *Engagement phase.*
  - Engage a third-party retro-commissioning provider (RCxP) with experience on at least two projects of similar type and scale.
- *Planning phase.*
  - Assemble a project team to include, at a minimum, the RCxP, an owner's representative, and the building operator.
  - Develop the owner's objectives for the RCx process.
- *Assessment phase.*
  - Develop the RCx plan, to include owner and tenant requirements, documentation requirements, regulatory requirements, etc.
  - Perform a site visit and site assessment, including functional tests.
  - Develop a list of retro-commissioning measures (RCMs), identifying all problems to be remedied and the responsible party who will address each measure, as well as the timeline and estimated cost, if applicable.
  - Develop a rough estimate of predicted energy savings due to RCx.
- *Implementation phase.*
  - Complete all RCMs except for RCMs that entail significant capital expense, as determined by the owner.
- *Verification phase.*
  - Verify that RCMs are performing as intended.
- *Handoff phase.*
  - Finalize the RCx report. Update the current facilities requirements (CFRs) and operations and maintenance (O+M) plan and train the building operator.

OR

Option 2. Monitoring-Based Commissioning (1–2 points)

Path 1. Basic MBCx (1 point)
Implement a monitoring-based commissioning (MBCx) process during the 12-month reporting period with a plan for continuing MBCx for a minimum of three years. Include all of the following:

- *MBCx plan.* Develop an MBCx plan and include it in the CFR and O+M plan. The MBCx plan must describe
    - Roles and responsibilities.
    - Training of facilities staff.
    - Software technology description, including frequency and duration of trend monitoring.
    - Action plan for identifying, prioritizing, and correcting operational errors, and for verifying the correction of operational errors.
    - Review and report criteria. At least annually, provide a summary report of trends, benchmarks, faults, energy savings opportunities, corrective actions taken, and planned actions to facilities management and/or building ownership.
- *Energy information systems (EIS).* Have in place a remotely accessible platform with software functionality to perform smart analytics and visually present energy consumption and electricity demand data. Tenant energy use and electricity demand may be excluded. Include the following functionality:
    - Annual energy benchmarking of energy use intensities
    - Comparison of total energy consumption and energy consumption by energy source to the prior interval annually and monthly
    - Metering and visualization of electricity, at least hourly, including an hourly "load shape" and comparison of hourly electricity to the prior interval, and to the same interval of the prior year: annually, monthly, weekly, and daily
- *Training.* Train building facilities staff to use the EIS to proactively inform energy-efficient operations or confirm training occurred within the past six years.
- *LEED reporting period.* During the 12-month reporting period, initiate corrective action addressing anomalies or faults identified, and provide at least one annual MBCx summary report.

OR

Path 2. Enhanced MBCx (1 point)

Comply with Path 1 AND implement the following enhanced MBCx practices and software capabilities:

- *MBCx provider (MBCxP).* Contract MBCx services or assign MBCx responsibilities to a qualified staff person with tasks included in their job description. Fully coordinate the MBCx process between the facilities management staff and the MBCxP.
- *Process and communications.* The MBCx process must include:
    - Expeditious communication of major anomalies or faults identified by the MBCxP to facilities staff.
    - At least quarterly, an MBCxP summary of anomalies and faults detected and communication with facilities staff to discuss and prioritize issues.
    - For projects with fault detection and diagnostics (FDD), train building facilities staff in the use of FDD to proactively identify and correct building system issues for optimized system operation, or confirm training occurred within the past six years.

- *Enhanced EIS.* Include the following additional functionality:
    - Normalization of energy consumption
    - Automated reporting of energy use anomalies
    - Greenhouse gas emissions reporting
    - Hourly metering and visualization of electricity for the following, if applicable:
        - On-site electricity generation
        - HVAC or refrigeration equipment with thermal energy capacity exceeding 900,000 Btu/hr (264 kW, 75 tons), or with rated fan power exceeding 75 hp (56 kW)
        - Electricity use for process equipment with thermal energy capacity exceeding 900,000 Btu/hr (264 kW, 75 tons)
        - Commercial kitchen equipment in spaces with more than 25 kW of rated capacity
        - Process equipment in spaces with more than 25 kW of rated capacity
- *FDD for projects with large HVAC and refrigeration capacity*. For total project installed capacity of either cooling systems, heating systems, or refrigeration systems exceeding 7,200 kBtu/hr (600 tons or 2110 kW), provide a remotely accessible FDD system that addresses at least 60% weighted by capacity of
    - Air-handling equipment AND
    - Large hydronic or commercial refrigeration equipment (chillers, boilers, etc.).

  The FDD system must include the following functionality:
    - Perform smart analytics and visually present FDD data
    - Direct link from reported fault to view relevant trend data
    - Fault sorting and filtering
    - Exporting of fault reports (summary reports and detailed individual faults)
    - Data historian capable of storing critical trend data for at least three years

MATERIALS AND RESOURCES (MR)

MR credit: Waste Reduction Performance

MRc1

Impact Area Alignment:

- ☑ Decarbonization
- -- Quality of Life
- ☑ Ecological Conservation and Restoration

1–12 points

Intent

To prevent waste and reduce the amount of materials from building operations and maintenance that is disposed of in landfills or incinerators.

Requirements

Achievement Pathways	Points
Existing Buildings	1–12
Waste Diversion	1–12

Divert materials generated from building operations and maintenance activities from reaching landfills, incineration (waste-to-energy), or other disposal methods. Diversion includes strategies such as waste prevention (reduction), reuse, recycling, or composting. Points are awarded according to Table 1.

Table 1. LEED Points for Waste Diversion

Waste Diversion	Points
6%	1
12%	2
18%	3
24%	4
30%	5
36%	6
42%	7
48%	8
54%	9
60%	10
70%	11
80%	12

Waste Diversion Calculation

Calculate a waste diversion rate by tracking the total amount of materials generated from ongoing building operations and maintenance activities for a minimum of three consecutive months within the 12-month reporting period. Track waste generation monthly and include material type and weight of all nonhazardous, solid materials.

Track or estimate variations in materials management that occur outside the reporting period, such as seasonal collection or intermittent waste streams.

Calculate waste diversion by tracking the amount of materials (by weight) diverted from landfill and incineration. For diverted materials, specify the diversion method (reduce, reuse, recycle, compost, etc.). If estimates of material quantities are used, provide the methodology and/or source references used to make calculations. If actual weights are not available for certain material types or hauling methods, volume-to-weight conversion average values can be used.

To calculate the overall diversion rate, divide the weight of materials diverted by the total weight of materials generated for the same reporting period. Account for seasonal collection or intermittent waste streams within the calculations. See Equation 1 for the waste diversion calculation:

Equation 1. Waste Diversion Calculation

$$\text{Diversion (\%)} = 100 \times \frac{\left(\begin{array}{c}\textit{Amount of}\\ \textit{Diverted Materials:}\\ \text{Waste Prevention}\\ \text{(by weight)}\end{array}\right) + \left(\begin{array}{c}\textit{Amount of}\\ \textit{Diverted Materials:}\\ \text{Reuse}\\ \text{(by weight)}\end{array}\right) + \left(\begin{array}{c}\textit{Amount of}\\ \textit{Diverted Materials:}\\ \text{Composting or Organics}\\ \text{(by weight)}\end{array}\right) + \left(\begin{array}{c}\textit{Amount of}\\ \textit{Diverted Materials:}\\ \text{Recycling}\\ \text{(by weight)}\end{array}\right)}{\begin{array}{c}\text{Total amount of materials generated from}\\ \text{ongoing operations and maintenance activities}\\ \text{(by weight)}\end{array}}$$

Impact Area Alignment:

- ☑ Decarbonization
- -- Quality of Life
- ☑ Ecological Conservation and Restoration

MR credit: Waste Reduction Strategies

MRc2

1 point

Intent

To prevent waste and reduce the amount of materials generated by building operations and maintenance that is disposed of in landfills or incinerators.

Requirements

Achievement Pathways	Points
Existing Buildings	1
Option 1. Organics Recycling	1
OR	
Option 2. Waste Collection Management and Education	1
OR	
Option 3. Zero Waste Audit	1

Option 1. Organics Recycling (1 point)
Implement an organics recycling/composting program. Include training, appropriate signage, and implementation guidance for effective organics recycling/composting to minimize contamination. This pathway is available to projects that do not have an organics recycling/composting program prior to the reporting period.

OR

Option 2. Waste Collection Management and Education (1 point)
Inventory all collection infrastructure and clearly label receptacles for recyclables, compostables, landfill material, and other diversion streams as applicable. Evaluate all collection containers to ensure appropriate size and schedules are in place. Implement a strategy for the periodic review of these containers to adjust sizes and pickup frequencies with service providers.

Within the 12-month reporting period, provide training for employees, contractors, vendors, consultants, and other on-site staff on the acceptable items for each receptacle type. Assign at least one staff person to a waste prevention leadership role and provide regular progress updates to employees.

OR

Option 3. Zero Waste Audit (1 point)
Conduct a zero waste audit of all inbound and outbound materials at least once during 12-month reporting period and analyze results.

INDOOR ENVIRONMENTAL QUALITY (EQ)

EQ prerequisite: Verification of Ventilation and Filtration

EQp1

Impact Area Alignment:

-- Decarbonization

☑ Quality of Life

-- Ecological Conservation and Restoration

Required

Intent

To understand the amount of outdoor air being delivered by ventilation, exhaust, and filtration systems in comparison with ventilation standards for indoor air quality (IAQ).

Requirements

Achievement Pathways	Points
Existing Buildings	N/A
Ventilation and Filtration Verification	

Meet all of the following requirements to verify the operational quality of ventilation, exhaust, and filtration systems:

Include information on ventilation system operation and preventative maintenance as outlined in ASHRAE 62.1-2022 (or later), Table 8-1, “Minimum Maintenance Activity and Frequency for Ventilation System Equipment and Associated Component,” in the current facilities requirements and operations and maintenance plan required for compliance with IPp4: Current Facilities Requirements and O+M Plan.

Investigate local and regional outdoor air quality. Determine the regional air quality status and conduct an observational survey of the building site and its immediate surroundings to identify local contaminants from surrounding areas that will be of concern if able to enter the building.

Meet the following requirements for mechanically ventilated spaces (with the exception of residential units. See residential section below):

- Calculate the minimum amount of outdoor air required by ASHRAE 62.1-2022 or later. Use simplified calculations from the standard or the ventilation rate procedure.
- Measure the amount of outdoor air being delivered by each ventilation system serving the project. Measurements may be made directly or by installed flow measurement devices in the system that are calibrated per manufacturer recommendations. Measurements taken within five years prior to the end of the 12-month reporting period are acceptable.
- Compare the measured results for each ventilation system with the calculated minimum amount of outdoor air required by ASHRAE 62.1-2022 and determine next steps. If spaces are under ventilated, document the circumstances and potential corrective actions. Compliance with minimum outdoor rates is highly encouraged but not required for this prerequisite (excluding residential units).
- Identify the filtration level (minimum efficiency reporting value [MERV] level in accordance with ASHRAE 52.2 or filtration media class as defined by ISO 16890-2016) for each ventilation system that supplies outdoor air and each HVAC system that supplies recirculated air to occupied spaces. If filtration levels are below MERV 13 (or equivalent filtration media class of ePM1 50%), evaluate options for improving filter efficiency and document the circumstances and potential corrective actions. Compliance with MERV 13 is highly encouraged but not required for this prerequisite.

For systems with outdoor air economizers, confirm current equipment is operating per design intent and modify if necessary.

For naturally ventilated spaces, identify the opening types, location of the openings, and size of the openings. Visually inspect each opening and adjacent areas for cleanliness and integrity and clean as needed. Remove all visible debris or visible biological material observed and repair physical damage to louvers and screens if such damage impairs the item from providing the required outdoor air entry. Test and confirm manual and/or automatic opening apparatus for proper operation and repair or replace as necessary.

For spaces with mechanical exhaust, test and modify if necessary to confirm proper operation of the exhaust systems as outlined in the current facilities requirements and operations and maintenance plan.

Residential

For all common areas in the building, meet the requirements above.

For residential units, have an operable window in each bedroom with the total openable window area a minimum of 4% of the room floor area or meet the following minimum requirements for the entire unit.

In IP units:
Minimum outdoor air rate in cfm = 0.03 cfm/ft^2 **x** dwelling unit floor area (in ft^2) + 7.5 cfm/person **x** (number of bedrooms + 1)

In SI units:
Minimum outdoor air rate in L/s = 0.15 L/s*m^2 **x** dwelling unit floor area (in m^2) + 7.5 cfm/person **x** (number of bedrooms + 1)

Compliance with minimum outdoor rates is required for each residential unit for this prerequisite.

In each full bathroom, have either an exhaust fan that vents directly to the outdoors or an operable window.

On each floor of the residential unit, have a carbon monoxide (CO) monitor hardwired with battery backup. CO monitors are required in all types of units, regardless of the type of equipment installed in the unit.

Impact Area Alignment:

-- Decarbonization

☑ Quality of Life

-- Ecological Conservation and Restoration

EQ prerequisite: No Smoking

EQp2

Required

Intent

To prevent or minimize exposure of building occupants, indoor surfaces, and ventilation air distribution systems to environmental tobacco smoke.

Requirements

Achievement Pathways	Points
Existing Buildings	N/A
Prohibit Smoking	
Existing Buildings—Schools	N/A
Prohibit Smoking	
Existing Buildings—Residential	N/A
Option 1. No Smoking	
OR	
Option 2. Compartmentalization of Residential Units	

Comply with all of the following requirements:

- *Indoor smoking.* Prohibit smoking inside the building.
- *Outdoor smoking.* Prohibit smoking outside the building except in designated smoking areas located at least 25 feet (7.5 meters) (or the maximum extent allowable by local code) from all entries, outdoor air intakes, and operable windows.
- Communicate the no-smoking policy to occupants of the building and have in place provisions for enforcement or prohibitive signage.

School projects

Prohibit smoking on-site. Signage must be posted at the property line indicating the no-smoking policy.

Residential Only

Option 1. No Smoking

Meet the requirements above.

OR

Option 2. Compartmentalization of Residential Units

Meet the requirements above for common areas.

If smoking is not prohibited in the dwelling units and on private balconies, each unit must be compartmentalized to prevent excessive leakage between units:

- Weather-strip all exterior doors and operable windows in the residential units to minimize leakage from outdoors.
- Weather-strip all doors leading from residential units into common hallways.
- Minimize uncontrolled pathways for the transfer of smoke and other indoor air pollutants between residential units by sealing penetrations in the walls, ceilings, and floors and by sealing vertical chases (including utility chases, garbage chutes, mail drops, and elevator shafts) adjacent to the units.

- Demonstrate a maximum leakage of 0.50 cubic feet per minute per square foot (2.54 liters per second per square meter) at 50 Pa of enclosure (i.e., all surfaces enclosing the apartment, including exterior and party walls, floors, and ceilings) or establish a baseline and demonstrate a 30% improvement in leakage for each unit.

Impact Area Alignment:

-- Decarbonization

☑ Quality of Life

-- Ecological Conservation and Restoration

EQ credit: Indoor Air Quality Performance
EQc1

1–10 points

Intent

To support indoor air quality (IAQ) awareness and identify opportunities for additional air quality improvements or energy savings.

Requirements

Achievement Pathways	Points
Existing Buildings	1–10
Option 1. Continuous Indoor Air Monitoring	1–10
AND/OR	
Option 2. Targeted One-Time Air Testing	1–3
AND/OR	
Option 3. Targeted One-Time Individual Volatile Organic Compounds Testing	1–2

Option 1. Continuous Indoor Air Monitoring (1–10 points)
Continuously measure one or more of the indicated indoor air parameters for a minimum of three consecutive months at an interval of no longer than one hour (15 minutes for carbon dioxide), with data collected at any point during the 12-month reporting period. Monitors must be building grade or better.

Points for continuously monitoring parameters are shown in Table 1. Projects can earn additional points by demonstrating compliance with the minimum and enhanced IAQ limits indicated in Table 1.

Table 1. Points for Continuous Indoor Air Monitoring

Parameter	Benchmark	LEED Points
Carbon dioxide (CO_2)	> 1000 ppm	2
	1000 ppm	3
	800 ppm	4
PM2.5	> 15 µg/m^3	2
	15 µg/m^3	3
	12 µg/m^3	4
TVOC	Any level	2

*Meet the data requirements for each parameter for each sensor as follows:

- Carbon dioxide (CO_2): 95th percentile value
- PM2.5: Daily average
- TVOC: Daily average in unity of ppm or micrograms per cubic meter

AND/OR

Option 2. Targeted One-Time Air Testing (1–3 points)
Test for parameters listed in Table 2 at least once during the 12-month reporting period. Include a concurrent measurement of outdoor ambient air quality within the project boundary for reference comparison.

One point is available for testing and meeting the minimum IAQ limit for every two parameters listed in Table 2, for a total of up to three points. Use one of the allowed test methods listed in Table 2. One-Time Air-Testing. Project teams may use laboratory-based or direct-read test methods.

Table 2. One-Time Air Testing

		Allowed Test Methods	
Parameter	**Concentration Limit ($\mu g/m^3$)**	**Laboratory-Based**	**Direct-Reading Instrument Minimum Specifications**
Carbon monoxide (CO)	9 ppm and no more than 2 ppm above outdoor levels	ISO 4224 EPA Compendium Method IP-3 GB/T 18883-2002 for projects in China	Direct calibrated electrochemical instrument with accuracy of +/– 3% of reading and resolution of 0.1 ppm NDIR CO sensors with accuracy of 1% of 10 ppm full scale and display resolution of less than 0.1 ppm
Particulates: PM 10	ISO class 8 or lower per ISO 14644-1:2015 ***OR meet*** 50 $\mu g/m^3$	IP-10A	Accuracy (+/–): Greater of 5 $\mu g/m^3$ or 20% of reading Resolution (+/–): 5 $\mu g/m^3$
Particulates: PM2.5*	ISO class 8 or lower per ISO 14644-1:2015 ***OR meet*** 12 $\mu g/m^3$	IP-10A	Accuracy (+/–): Greater of 5 $\mu g/m^3$ or 20% of reading Resolution (+/–): 5 $\mu g/m^3$
	OR, for projects located in an area where the national standard or guideline for PM2.5 is exceeded, meet 35 $\mu g/m^3$		
Ozone	0.07 ppm	ISO 13964 ASTM D5149-02 EPA-designated methods for ozone	Monitoring device with accuracy greater of 5 ppb or 20% of reading and resolution (5 min average data) +/– 5 ppb
Nitrogen dioxide (NO_2)	40 $\mu g/m^3$. (21 ppb).		Monitoring device with measurement range of 0–500 ppb, and lower detectable limit of 5 ppb
TVOC*	N/A		Monitoring device that meets or exceeds building-grade sensor requirements

** May not earn points for both targeted one-time air testing and continuous indoor air monitoring for the same parameter.*

AND/OR

Option 3. Targeted One-Time Individual Volatile Organic Compounds Testing (2 points)
Test for all volatile organic compounds (VOCs) listed in Table 3 at least once during the 12-month reporting period. Laboratories that conduct the tests must be accredited under ISO/IEC 17025 for the test methods they use.

Calculate the total volatile organic compounds (TVOC) value per EN 16516:2017; CDPH Standard Method v1.2 2017, Section 3.9.4; or an alternative calculation method as long as a full method description is included in the test report. If the TVOC levels exceed 500 µg/m^3, investigate for potential issues by comparing the individual VOC levels to associated cognizant authority health-based limits. Correct any identified issues and retest.

Two points are available for demonstrating that all contaminants do not exceed the concentration limits listed in Table 3.

Table 3. One-Time Air Testing of Individual Volatile Organic Compounds

Contaminant (CAS#)	**Concentration Limit (µg/m^3)**	**Allowed Test Methods (Laboratory-Based)**
TVOC	Investigate and take corrective action if levels exceed 500 µg/m^3.	ISO 16000-6; EPA TO-17; EPA TO-15
Formaldehyde 50-00-0	20 µg/m^3 (16 ppb)	ISO 16000-3, 4; EPA TO-11a; EPA comp. IP-6A; ASTM D5197-16
Acetaldehyde 75-07-0	140 µg/m^3	
Benzene 71-43-2	3 µg/m^3	ISO 16000-6; EPA IP-1; EPA TO-17; EPA TO-15; ISO 16017-1, 2; ASTM D6196-15
Hexane (n-) 110-54-3	7,000 µg/m^3	
Naphthalene 91-20-3	9 µg/m^3	
Phenol 108-95-2	200 µg/m^3	
Styrene 100-42-5	900 µg/m^3	
Tetrachloroethylene 127-18-4	35 µg/m^3	
Toluene 108-88-3	300 µg/m^3	
Vinyl acetate 108-05-4	200 µg/m^3	
Dichlorobenzene (1,4-) 106-46-7	800 µg/m^3	
Xylenes—total 108-38-3, 95-47-6, and 106-42-3	700 µg/m^3	

Impact Area Alignment:

-- Decarbonization

☑ Quality of Life

-- Ecological Conservation and Restoration

EQ credit: Ventilation Performance

EQc2

3–5 points

Intent

To provide increased indoor air quality to better protect the health of building occupants.

Requirements

Achievement Pathways	Points
Existing Buildings	3–5
Ventilation Performance	3–5

Ventilation per ANSI/ASHRAE Standard 62.1
Demonstrate that outdoor air ventilation rates of all occupied spaces meet or exceed ASHRAE 62.1-2022 or later based on the measurements reported in *EQp1: Verification of Ventilation and Filtration*. Alternatively, the rates may meet or exceed the ventilation rate procedure outlined in Section 6.2 of ASHRAE 62.1, editions 2016, 2013, 2010, or 2007. If demonstrating exceedance from the referenced standard, increased outdoor air rates shall be provided to 95% of all regularly occupied spaces.

Naturally ventilated spaces meet ASHRAE 62.1-2022, “Natural Ventilation Procedure,” or exceed opening sizes or natural ventilation airflow rates of ASHRAE 62.1-2022, “Natural Ventilation Procedure.”

Points are awarded according to Table 1.

Table 1. Points for Ventilation

Ventilation Performance	Points
Meet referenced standard	3
Exceed referenced standard by 15%	4
Exceed referenced standard by 30%	5

Impact Area Alignment:

-- Decarbonization

☑ Quality of Life

-- Ecological Conservation and Restoration

EQ credit: Occupant Experience Performance

EQc3

1–3 points

Intent

To assess how well the building is performing for the occupants with regard to comfort, customization, joy, and belonging, and to better understand paths toward consistent satisfaction.

Requirements

Achievement Pathways	Points
Existing Buildings	1–3
Occupant Experience Survey	1–3

Conduct an occupant experience survey of the building occupants to assess their experience and satisfaction with the indoor environment during the 12-month reporting period.

Points are awarded according to Table 1.

Table 1. Points for Occupant Experience Survey

Survey Action	Points
> 60% of occupants are satisfied	1
> 80% of occupants are satisfied	2
> 90% of occupants are satisfied	3

Required Survey Methodology

- Regular building occupants must be surveyed. Surveying visitors is optional.
- Use the following survey question (or similar): "Indicate how satisfied you are with the indoor environment in this building." Additional questions are optional but encouraged.
- Use a seven-point response scale (e.g., very dissatisfied, dissatisfied, somewhat dissatisfied, neither satisfied nor dissatisfied, somewhat satisfied, satisfied, and very satisfied).
- Calculate the percentage of occupants that are satisfied, mean satisfaction level, and response variance.
    - When calculating the percentage of occupants that are satisfied, only include occupants that respond somewhat satisfied (5), satisfied (6), and very satisfied (7).
- Meet survey response rates in Appendix II.

Impact Area Alignment:

-- Decarbonization

☑ Quality of Life

-- Ecological Conservation and Restoration

EQ credit: Facility Stewardship Performance

EQc4

1–3 points

Intent

To assess how well the building is being maintained and to gather information about paths toward increased stewardship.

Requirements

Achievement Pathways	Points
Existing Buildings	1–3
Option 1. Facility Maintenance Performance	1–2
AND/OR	
Option 2. Measure Cleaning Performance	1
Path 1. Cleaning Appearance Audit	1
OR	
Path 2. Cleaning Surface Testing Audit	1

Option 1. Facility Maintenance Performance (1–2 points)
Conduct an audit to determine the maintenance level of the facility during the 12-month reporting period. Points are awarded according to Table 1.

Level 3: Managed Maintenance
Representative of an average building. Building equipment and components are functional but occasionally break down. Response times to service and maintenance calls are inconsistent. Equipment is upgraded on an as-needed basis. Overall facility shows a basic level of care. At least 50% of maintenance activities are considered proactive (conducted before failure and malfunction).

Level 2: Comprehensive Maintenance
Representative of an above average building. Building equipment and components are functional and in operating condition. Response times to service and maintenance calls are consistent and timely. Equipment is upgraded regularly and meets current standards. Overall facility shows an enhanced level of care. At least 75% of maintenance activities are considered proactive (conducted before failure and malfunction).

Level 1: Exemplary Facility
Representative of an exemplary building. Building equipment and components are functional and in top condition. Response times to service and maintenance calls are prompt. Equipment is upgraded regularly. Overall facility shows a high level of care. All (100%) maintenance activities are considered proactive (conducted before failure and malfunction).

Table 1. Points for Maintenance Level

Maintenance Level		Points
Maintenance level	Audit score level is ≤ 2.5 (between Managed Maintenance and Comprehensive Maintenance)	1
	Audit score level is ≤ 1.5 (between Comprehensive Maintenance and Exemplary Facility)	2

Audit Methodology

- Audit considers the entire facility, including building materials, lighting, equipment, maintenance, customer service, and facility upkeep and care.
- Use five levels for scoring (e.g., limited management, critical response, managed maintenance, comprehensive maintenance, and exemplary facility).

AND/OR

Option 2. Measure Cleaning Performance (1 point)

Path 1. Cleaning Appearance Audit
Conduct an audit in accordance with APPA Leadership in Educational Facilities Custodial Staffing Guidelines, or equivalent, to determine the appearance level of the facility during the 12-month reporting period. The facility must score 2.5 or better.

OR

Path 2. Cleaning Surface Testing Audit
Conduct an audit using ATP testing to assess the level of cleanliness of the facility during the 12-month reporting period. The facility must score “needs improvement” or “effective cleaning” using the International Sanitary Supply Association Clean Standard methodology or similar.

Impact Area Alignment:

-- Decarbonization

☑ Quality of Life

-- Ecological Conservation and Restoration

EQ credit: Air Filtration

EQc5

1 point

Intent

To demonstrate indoor air quality management that meets or exceeds fundamental filtration standards.

Requirements

Achievement Pathways	Points
Existing Buildings	1
Air Filters	1

Each ventilation system used to meet the ASHRAE ventilation rate procedure that supplies outdoor air and/or recirculated air to regularly occupied spaces must meet one of the following:

- Minimum efficiency reporting value (MERV) of 13 or higher, in accordance with ASHRAE Standard 52.2-2017.
- Equivalent filtration media class of ePM1 50% or higher, as defined by ISO 16890-2016, “Particulate Air Filters for General Ventilation—Determination of the Filtration Performance.”

Note: Spaces listed in ASHRAE Standard 62.1-2022, Exception to 6.1.4, may be excluded from this requirement.

Filtration media must be maintained and replaced according to the manufacturer’s recommended interval.

Impact Area Alignment:

-- Decarbonization

☑ Quality of Life

-- Ecological Conservation and Restoration

EQ credit: Resilient Spaces

EQc6

1 point

Intent

To support operational features that increase the capacity for occupants to adapt to changing climate conditions and be protected from events that may compromise the quality of the indoor environment and, subsequently, occupant health and well-being.

Requirements

Achievement Pathways	Points
Existing Buildings	1
Option 1. Management Mode for Episodic Outdoor Ambient Conditions	1
OR	
Option 2. Management Mode for Respiratory Diseases	1

Option 1. Management Mode for Episodic Outdoor Ambient Conditions (1 point)
Assess, plan, and implement the capability to operate an episodic outdoor event management mode as described in ASHRAE Guideline 44. The mode shall address varying outdoor conditions or events that could negatively influence indoor air quality, such as wildfire smoke. Include the management mode in the IPp4: Current Facilities Requirements and O+M Plan.

OR

Option 2. Management Mode for Respiratory Diseases (1 point)
Assess, plan, and implement the capability to operate an infection risk management mode for the building using ASHRAE 241-2023, Section 9, “Operations and Maintenance.” Incorporate the building readiness plan in the IPp4: Current Facilities Requirements and O+M Plan.

Impact Area Alignment:

-- Decarbonization

☑ Quality of Life

-- Ecological Conservation and Restoration

EQ credit: Green Cleaning

EQc7

1–2 points

Intent

To foster a healthy building interior and site, and to reduce the potential negative impact of cleaning, disinfecting, and maintenance products and processes on cleaning personnel, building occupants, and the environment.

Requirements

Achievement Pathways	Points
Existing Buildings	1–2
Option 1. Certified Cleaning Service	1
AND/OR	
Option 2. Cleaning Products and Materials	1

Option 1. Certified Cleaning Service (1 point)
Clean the project with a cleaning service certified and in good standing under one of the following:

- Green Seal's Environmental Standard for Commercial Cleaning Services (GS-42).
- ISSA, The Worldwide Cleaning Industry Association's Cleaning Industry Management Standard for Green Buildings (CIMS-GB) and Sustainability.
- Local equivalent for projects outside the U.S.

In addition, work with the cleaning contractor to create goals and strategies for conserving energy, water, and chemicals during cleaning and integrate the goals and strategies in the green cleaning policy as addressed in IPp3: Operations Assessment and Policy.

AND/OR

Option 2. Cleaning Products and Materials (1 point)
At least 75% of all cleaning products and materials, by cost, must meet at least one of the following standards. Compliance may be demonstrated from a minimum of three months of purchases during the 12-month reporting period.

For projects outside the U.S., any Type 1 eco-labeling program as defined by ISO 14024:1999 or later developed by a member of the Global Ecolabelling Network is acceptable as a local equivalent to the standards below.

Cleaning and Degreasing Products

- Environmental Protection Agency (EPA) Safer Choice Standard
- Green Seal (GS-37 for general purpose, bathroom, glass, and carpet cleaners used for industrial and institutional purposes; GS-40 for industrial and institutional floor care products; GS-52/53 for specialty cleaning products)
- UL ECOLOGO 2700 (UL 2792 for cleaning and degreasing compounds; UL 2759 for hard-surface cleaners; UL 2795 for carpet and upholstery care; UL 2777 for hard-floor care; UL 2796 for odor control additives; UL 2791 for drain or grease trap additives; UL 2798 for digestion additives for cleaning and odor control)
- Cleaning product generated on-site via a cleaning device that complies with one of the above standards and uses only ionized water, stabilized aqueous ozone, or electrolyzed water

Hand Soaps and Hand Sanitizers

- EPA Safer Choice Standard
- Green Seal (GS-41 for hand cleaners and hand sanitizers for industrial and institutional hand cleaners)
- UL ECOLOGO (UL 2784 for hand cleaners and hand soaps; UL 2783 for hand sanitizers)
- No antimicrobial agents (other than as a preservative) except where required by health codes and other regulations (e.g., food service and health care requirements)

Disinfectants

- EPA-registered disinfectant product formulated with only the active ingredients identified by EPA's Design for the Environment Logo for Antimicrobial Pesticide Products
- Ultraviolet-C disinfecting device manufactured in an EPA-registered establishment. These devices can be included regardless of when purchased. For cost, use the cost prorated over the life of the device.

Janitorial Paper

- 40% or greater postconsumer recycled content
- Green Seal (GS-01 for sanitary paper products)
- UL ECOLOGO (UL 175 for sanitary paper products) if product has a minimum of 30% recycled content
- Janitorial paper products derived from agricultural waste and/or tree-free fibers and certified by the Roundtable for Sustainable Biomaterials standard for advanced products, or under ANSI/LEO-4000, "American National Standard for Sustainable Agriculture"
- FSC certification (FSC 100% or FSC Recycled), PEFC certification, or SFI Chain of Custody certification

Bags and Liners for Trash or Compostable Organic Materials

- 40% or greater postconsumer recycled content for plastic trash can liners
- ASTM D6400 and EN 13432 standard specifications for compostable plastics
- Biodegradable Products Institute certified compostable
- Green Seal (GS-60 for plastic trash bags and can liners)

Impact Area Alignment:

-- Decarbonization

☑ Quality of Life

☑ Ecological Conservation and Restoration

EQ credit: Integrated Pest Management
EQc8

1 point

Intent

To minimize pest problems and exposure to pesticides.

Requirements

Achievement Pathways	Points
Existing Buildings	1
Option 1. In-House Integrated Pest Management Program	1
OR	
Option 2. Certified Integrated Pest Management Service	1

Option 1. In-House Integrated Pest Management Program (1 point)
Have in place an integrated pest management (IPM) plan for the building and grounds. The IPM plan must include the following elements:

- *Identification of an IPM team.* Identify roles for building management, pest management contractors, maintenance staff, and liaisons with building occupants. Review social responsibility reports for any pest management service providers to ensure they are using a legal and properly trained workforce and addressing other social responsibility aspects.

- *Provisions for annually identifying and monitoring pests.* Specify inspections, pest population monitoring, and a reporting system that allows occupants, maintenance staff, and others to report evidence of pest infestations.

- *Pest management thresholds.* Specify thresholds to take pest management actions for all pests likely to be encountered in the building. Include a process for modifying action thresholds, as necessary, through active communication between occupants and the IPM team.

- *Pest control methods*. Identify pest management thresholds to be used when action thresholds are exceeded. For each pest, list all potential control methods considered and preferentially adopt the lowest-risk options, considering the risks to the applicator, building occupants, and the environment, as well as the risks of incomplete pest control. When pesticides must be used, first specify the use of least-risk pesticides.

- *Nonchemical pest preventative measures.* Use nonchemical pest preventative measures either designed into the structure or implemented as part of the pest management activities.

- *Identification of least-risk pesticides.* Determine least-risk pesticides based on inherent hazard and exposure potential, using a hazard review process such as the San Francisco Pesticide Hazard Screening Protocol. If a pesticide that is not in the least-risk category is selected, document the reason.

- *Documentation protocol.* Choose a mechanism for documentation of inspection, monitoring, prevention, and control methods and for evaluation of the effectiveness of the IPM plan. Specify the metrics by which performance will be measured and describe the quality assurance process to evaluate and verify successful implementation of the plan.

- *Communication protocol.* Establish a strategy for communications between the IPM team and the building occupants (for schools, faculty and staff). This strategy must include education about the IPM

plan, participation in problem-solving, feedback mechanisms (e.g., a system for recording pest complaints), tracking repairs aimed at preventing pests, and a provision for notification of pesticide applications. At a minimum, the facility manager must notify any building occupant or employee who requests the IPM plan and post a sign at the application site (with pesticide name, EPA registration number [or local equivalent], and date of application), which must remain in place for at least 24 hours prior to application and 24 hours after notification.

OR

Option 2. Certified Integrated Pest Management Service (1 point)
Use a fully licensed pest management contractor to provide IPM services for the building. The company must be certified and in good standing with GreenPro, EcoWise, GreenShield, or a local equivalent, and the service provided must constitute a certified service. If chemical pesticides are under consideration for landscape areas within the project boundary, use a contractor with appropriate licensure (e.g., as a Pest Control Advisor or Qualified Applicator) to manage these areas.

PROJECT PRIORITIES (PR)

PR credit: Project Priorities

PRc1

1–10 points

Intent

To promote achievement of credits that address geographically sensitive or adaptation-specific environmental, social equity, and public health priorities. To encourage projects to think creatively to test and accelerate new sustainable building practices and strategies.

Requirements

Achievement Pathways	Points
Existing Buildings	1–10
Regional Priority	1–10
Project-Type Priorities	
Exemplary Performance	
Pilot Credits	
Innovative Strategies	
LEED Accredited Professional	

Achieve any combination of the following for a maximum of 10 points:

Regional Priority
Achieve a regional priority credit from USGBC's credit library. These credits have been identified by USGBC as having additional regional importance for the project's region.

Project-Type Priorities
Achieve a project-type credit from USGBC's credit library. These credits have been identified by USGBC as addressing unique needs for the given adaptation or building application.

Exemplary Performance
Achieve an exemplary performance credit from USGBC's credit library. These credits have been identified by USGBC as going above and beyond an existing LEED v5 prerequisite or credit in the LEED v5 priority areas of scale, decarbonization, resilience, health, equity, and/or ecosystems.

Pilot Credits
Achieve a pilot credit from USGBC's credit library.

Innovative Strategies
Achieve significant, measurable, environmental performance using a strategy not addressed in the LEED v5 green building rating system.

Identify all of the following:

- The intent of the proposed innovation strategy
- Proposed requirements for compliance
- Proposed submittals to demonstrate compliance
- The design approach or strategies used to meet the requirements

LEED Accredited Professional
At least one on-site principal participant of the property team (e.g., owner, owner's representative, or facility manager) must be a LEED AP Operations + Maintenance (LEED AP O+M).

APPENDIX I: LEED PLATINUM REQUIREMENTS

LEED O+M Platinum Requirements	
Highly energy efficient	EAc2: Optimized Energy Performance: Earn 7 points or equivalent
Low operational emissions	EAc1: Greenhouse Gas Emissions Reduction Performance, Option 1: Earn a minimum of 2 points or equivalent
Energy use emissions reduction	EAc1: Greenhouse Gas Emissions Reduction Performance, Option 2 AND/OR Option 3: Earn a minimum of 2 points
Plans for further operational emissions reductions	EAc5: Decarbonization and Efficiency Plans: Earn 2 points

APPENDIX II: SITE EUI TARGETS

Targets for the project's building type(s) and climate zone are referenced to ASHRAE 100-2024, "Energy Efficiency in Existing Buildings," Addendum c, Appendix A, multiplying by the operating shift normalization factor (S) in ASHRAE 100-2024, Table 7-7. For projects with multiple building activities, targets shall be calculated using the weighted average of the targets for each building activity.

Targets are referenced to ASHRAE 100-2024, Table B-1 ("Alternative Building Activity Site Energy Use Intensity Targets"); ASHRAE 100-2024, Table B-3 ("Alternative Building Activity Electricity Site Energy Use Intensity Targets"); and/or ASHRAE 100-2024, Table B-4 ("Alternative Building Activity Fossil-Fuel Site Energy Use Intensity Targets").

- Site energy use intensity (EUI) targets: ASHRAE 100-2024, Table B-1

- Source EUI targets: Calculate by multiplying the site EUI targets for fuel (ASHRAE 100-2024, Table B-4) and electricity (ASHRAE 100-2024, Table B-3) by the associated source-to-site ratios for natural gas and electricity.

- Greenhouse gas emissions intensity targets: Calculate by multiplying the site EUI targets for fuel (ASHRAE 100-2024, Table B-4) and electricity (ASHRAE 100-2024, Table B-3) by the associated U.S. Environmental Protection Agency (EPA) national CO_2 equivalent (CO_2eq) emissions factors published for natural gas and electricity from the most recent published year.

- On-site combustion emissions intensity targets: Calculate by multiplying the site EUI targets for fuel (ASHRAE 100-2024, Table B-4) by the U.S. EPA national CO_2 equivalent (CO_2eq) emissions factors published for natural gas.

Table 1. Building Category Classifications

No.	Building Activity	Building Category
1	Admin/professional office	Category 1
2	Bank/other financial	Category 1
3	Government office	Category 1
4	Medical office (nondiagnostic)	Category 1
5	Mixed-use office	Category 1
6	Other office	Category 1
7	Laboratory	Category 2
8	Distribution/ship center	Category 1
9	Nonrefrigerated warehouse	Category 1
10	Convenience store	Category 2
11	Convenience store + gas	Category 2
12	Grocery/food market	Category 1
13	Other food sales	Category 1
14	Fire/police station	Category 1
15	Other public order/safety	Category 1
16	Medical office (diagnostic)	Category 1
17	Clinic/other outpatient health	Category 2
18	Refrigerated warehouse	Category 2
19	Religious worship	Category 1
20	Entertainment/culture	Category 2
21	Library	Category 1
22	Recreation	Category 1
23	Social/meeting	Category 1
24	Other public assembly	Category 1
25	College/university	Category 1

No.	Building Activity	Building Category
26	Elementary/middle school	Category 1
27	High school	Category 1
28	Preschool/daycare	Category 1
29	Other classroom education	Category 1
30	Fast food	Category 1
31	Restaurant/cafeteria	Category 1
32	Other food service	Category 1
33	Hospital/inpatient health	Category 2
34	Nursing home/assisted living	Category 2
35	Dormitory/fraternity/sorority	Category 2
36	Hotel	Category 2
37	Motel or inn	Category 2
38	Other lodging	Category 2
39	Vehicle dealership	Category 1
40	Retail store	Category 1
41	Other retail	Category 1
42	Post office/postal center	Category 1
43	Repair shop	Category 1
44	Vehicle service/repair shop	Category 1
45	Vehicle storage/maintenance	Category 1
46	Other service	Category 1
47	Strip shopping mall	Category 1
48	Enclosed mall	Category 1
49	Bar/pub/lounge	Category 1
50	Courthouse/probation office	Category 1
51	Mobile home	Category 1
52	Single-family (detached)	Category 2
53	Single-family (attached)	Category 2
54	Apartment building (2 to 4 units)	Category 2
55	Apartment building (5+ units)	Category 2

APPENDIX III: SURVEY RESPONSE REQUIREMENTS

Required response rate for survey

Equation 1
Response rate for projects with 500 or fewer occupants = 15%
Response rate for projects with more than 500 occupants = 100 * (0.15 / square root [occupancy / 500])

Examples:
For a project with 200 occupants, the required response rate = 15% of 200. At least 30 survey responses are required.

*For a project with 800 occupants, the required response rate = 100 * (0.15 / square root [800 / 500]) = 11% of 800. At least 88 survey responses are required.*