



Applying LEED to museum projects

December 2024

What are the advantages of using LEED for museum facilities?

Museums have a significant opportunity to reduce negative environmental impacts associated with exhibit space, event rooms, and general facility use through measures such as energy and water efficiency, waste reduction and management, sustainable and local purchasing, and use of alternative transportation. Museums can contribute to human health by providing healthy, comfortable, and productive indoor environments with improved indoor air quality, access to daylight and views, and occupant control of the lighting and thermal environment.

USGBC works to promote cost-efficient and resource-saving green building design, construction, and operations with the goal of protecting the global environment and human health. The LEED green building certification program provides the framework for building and operating museums sustainably. Green buildings use on average 26% less energy, emit 33% less carbon dioxide, use 30% less indoor water, and send 50%-75% less solid waste to landfills and incinerators. LEED is helping the museum industry achieve lofty sustainability goals while also helping building-level projects generate significant savings on operating costs.

LEED-certified museums provide an excellent opportunity to educate the public on how to incorporate sustainability into the built environment. Museum facilities across the world are using LEED standards as a benchmark to ensure a more efficient, equitable, and sustainable future.

What issues are unique to museum projects?

Museums require stringent controls over their interior climate, ventilation, and lighting which can run counter to standards of performance that were originally conceived for typical commercial buildings. These projects have different energy and water needs, higher visitor footfalls, unique ventilation and humidity control requirements, high equipment loads, and programmatic relationships with other buildings that make pursuing strong efficiency measures challenging. Recognizing the unique challenges that often exist for these museum projects, USGBC and GBCI regularly work to support project teams. [Contact us](#) if you have questions about how to apply LEED to your museum project.

How do museum facilities earn LEED certification?

Museums can be certified under different LEED rating systems at different stages of the building's lifecycle.

- LEED for Building Design and Construction (BD+C): New Construction and Major Renovation is the most appropriate rating type for buildings that are new construction or major renovation. At least 60% of the project's gross floor area must be [complete](#) by the time of certification and the project must include the entire building's gross floor area. For museums, this may include areas dedicated to both administrative and support-related functions.
- The LEED for Existing Buildings: Operations and Maintenance rating system can be applied to existing buildings that are fully operational and occupied for at least one year. The project may be undergoing improvement work or little to no construction and must also include the entire

Applying LEED to museum projects

building's gross floor area in the project. Unless otherwise noted in the credit-specific requirements, this includes process-related operations and performance metrics.

How does the latest version of LEED address the unique challenges of museum projects?

In developing LEED v4 and LEED v4.1, requirements were adapted to support the unique needs of museum and other high-energy utilization projects that incorporated feedback from our industry stakeholders.

The following may be of interest to museum projects. Many of them are designed to help projects with high process loads or high occupancy to meet the intent of the credits.

- [LEED Addenda 100002553](#) addresses how to treat museum exhibits and other collection space for the BD+C Credits for Interior Lighting, Daylight, and Quality Views
- [LEED v4 BD+C EApc107: Energy Performance Metering Path](#) this option allows project teams to work with the first 12 months of energy performance data to earn credit for Optimize Energy Performance credit and prerequisite.
- [LEED Interpretation 10493](#) allows LEED v4 projects using whole building energy simulation and documenting more than 50% unregulated process load, may use the Core & Shell energy performance improvement thresholds in lieu of the New Construction thresholds. How to document the input assumptions for receptacle and process loads when conducting an energy model is now included in the LEED v4 BD+C Reference Guide.
- [Energy Jumpstart Pilot Credit](#) is available for O+M projects with process loads of at least 60% and unable to meet the Minimum Energy Performance in LEED v4 O+M rating system.
- [Whole Project Water Use Reduction Pilot Credit](#) allows LEED v4 BD+C projects to quantify water use with whole-building water balance modeling, like the compliance path for whole-building energy modeling. It also allows projects to include potentially significant water savings that previously went unrecognized, such as process water.

Additional LEED Interpretations for museums can be found in the [LEED Addenda database](#) by entering the term "museum" in the main search bar.

How can multiple buildings and structures in a campus setting earn LEED certification?

Museums often operate on a large scale with multiple buildings spread across a single site. All these buildings, people, and processes are interconnected with each other. To address this, the [LEED Campus Guidance](#) was introduced for projects that are on a shared site under the control of a single entity. Its application to LEED projects in the museum setting represents the complexity and commonality of buildings and infrastructure on a site.

LEED Campus Guidance is a useful tool for museums with multiple buildings, common utilities, and site-wide management policies. By utilizing LEED Campus Guidance, museum operators and project teams can benefit from an increase in streamlined review process, and reduced certification fees under the Master Site approach, leading to a successful implementation of LEED projects.

How does the Arc platform relate to museums?

The LEED v4.1 O+M rating system offers a unique performance-based pathway to certify your existing buildings and interior spaces that uses [Arc](#), a state-of-the-art platform designed to collect, manage and benchmark your building across five performance categories: energy, water, waste, transportation, and human experience.

Applying LEED to museum projects

And what does this mean for museums? LEED v4.1 can be used to compare museum projects to other similar facilities pursuing high-performance measures from around the world. Facility managers and owners can continuously monitor the data and make informed decisions to optimize the building performance based on real-time data and analytics. This performance pathway can then be used to certify and recertify the project every 3 years. [Learn more](#).

What are the various LEED resources available for museums?

There are various resources available for museums pursuing LEED certification. Here are a few examples:

Industry Articles:

- [Responsibility of Museum to Preserve the Planet](#)
- [UN Climate Week and the Green Museums Community](#)
- [Cultural Heritage and Museums – Mind the Gap](#)
- [International Museum Day showcases 10 U.S. LEED museums](#)
- [A LEED First Approaching It's First Decade: Grand Rapids Art Museum](#)
- [MoMA museum in New York leverages LEED certification](#)
- [How Much Energy Does It Take to Run a Museum?](#)
- [Museum Awarded LEED Gold® in Prestigious Green Building Certification Program](#)
- [What Makes Us a Green Museum? LEED Certified, Highline Heritage Museum](#)
- [Green Trends in Museum Retail](#)
- [Elevating Sustainability Efforts in Museum Dining Operations](#)

Where can I find more profiles and case studies on museums?

- [Cleveland Museum Natural History, LEED Platinum](#)
- [Changsha, China | LEED Platinum | HBS Art Museum](#)
- [San Francisco Museum of Modern Art leverages LEED certification](#)
- [Denver Art Museum Campus, Martin Building, LEED Silver](#)
- [UC Davis Manetti Shrem Museum of ART, LEED Platinum](#)
- [St. Louis Art Museum Expansion, LEED Gold](#)
- [North Andover Historical Society receives Net Zero Energy Certificate – Arc Performance Certificate](#)

View non-confidential LEED registered and certified projects in the [USGBC Project Directory](#) by entering key terms like 'museum' in the search bar. This will show projects with such terms in their project title. You can also filter by region and rating system type to get more specific results.

Does USGBC offer any education for project teams wanting to learn more about museum facilities pursuing green building measures?

Yes! Check out the following session in the USGBC online course catalog:

- [LEED EBOM Plays Nice with WELL Health-Safety at the Children's Museum of Cleveland](#)
- [Case Study: National Museum of African American History & Culture](#)
- [2020 Latin America Leadership Awards](#)

Who can I contact for more information about applying LEED at a museum?

For more information, [contact us](#).