



LEED IMPLEMENTATION GUIDE

FOR DESIGN PRACTITIONERS

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LEED DEVELOPMENT PROCESS

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LEARNING OBJECTIVES



- LEED Objectives
- LEED Framework Development
- LEED Prerequisites and Credits
- Scoring Sheets and LEED Rating Mechanism
- LEED Calculators
- LEED Resource Center



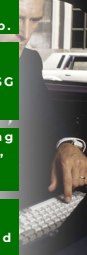
INTRODUCTION

LEED provides a framework for healthy, efficient, carbon and cost-saving green buildings. LEED certification is a globally recognized symbol of sustainability achievement and leadership.

LEED certified buildings save money, improve efficiency, lower carbon emissions and create healthier places for people. They are a critical part of addressing climate change and meeting ESG goals, enhancing resilience, and supporting more equitable communities.

To achieve LEED certification, a project earns points by adhering to prerequisites and credits that address carbon, energy, water, waste, transportation, materials, health and indoor environmental quality.

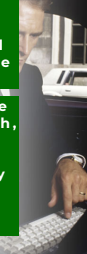
Projects go through a verification and review process by GBCI and are awarded points that correspond to a level of LEED certification: Certified (40-49 points), Silver (50-59 points), Gold (60-79 points) and Platinum (80+ points).



LEED RATING SYSTEM GOALS

LEED is a holistic system that doesn't simply focus on one element of a building such as energy, water or health, rather it looks at the big picture factoring in all of the critical elements that work together to create the best building possible.

In fact, 35% of the credits in LEED are related to climate change, 20% of the credits directly impact human health, 15% of the credits impact water resources, 10% of the credits affect biodiversity, 10% of the credits relate to the green economy, 5% of the credits impact community and 5% of the credits impact natural resources. In LEED v4.1, a majority of the LEED credits are related to operational and embodied carbon.



LEED RATING SYSTEM GOALS +

Reduce contribution to global climate change

Enhance individual human health

Protect and restore water resources

Protect and enhance biodiversity and ecosystem

Promote sustainable and regenerative material cycles

Enhance community quality of life



LEED CERTIFICATION FOR NEW BUILDINGS

LEED for Building Design and Construction (LEED BD+C) provides a framework for building a holistic green building, giving you the chance to nail down every sustainability feature, maximizing the benefits.

A LEED for every project

LEED works for all project types from hospitals to manufacturing plants, showrooms and office buildings. LEED BD+C has options to fit every project. Use a specialty option for unique needs or use New Construction and Major Renovations for everything else.

New Construction and Major Renovation : Addresses design and construction activities for both new buildings and major renovations of existing buildings that do not primarily serve the uses below.



LEED CERTIFICATION FOR NEW BUILDINGS +

Core and Shell Development. For projects where the developer controls the design and construction of the entire mechanical, electrical, plumbing and fire protection system but not the design and construction of the tenant fit-out.

Data Centers. Specifically designed and equipped to meet the needs of high-density computing equipment, such as server racks, used for data storage and processing.

Healthcare. For hospitals that operate twenty-four hours a day, seven days a week and provide patient medical treatment, including acute and long-term care.

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LEED CERTIFICATION FOR NEW BUILDINGS +

Retail. Addresses the unique needs of retailers—from banks, restaurants, apparel, electronics, big box and everything in between.

Schools. For buildings made up of core and ancillary learning spaces on K-12 school grounds. Can also be used for higher education and non-academic buildings on school campuses.

Warehouses and Distribution Centers. For buildings used to store goods, manufactured products, merchandise, raw materials or personal belongings, like self-storage.

LEED also works for existing buildings and interior spaces, homes, communities and cities.



HOW CERTIFICATIONS WORKS

There are a number of tools and resources available to support you when working on your LEED project including:

LEED credit library

LEED v4.1 BD+C guide

Education

LEED Tools



FOR NEW PROJECTS

Choose your rating system

For the new construction of whole buildings, start by finding the option that best fits your project by exploring the BD+C offerings.

Check the requirements and options

Minimum Program Requirements (MPRs) are the basic requirements that let you know if your project can pursue LEED.

Deadlines



FOR NEW PROJECTS +

Fees

View the fees table to find the LEED registration and certification costs.

Build your team

Goals and roles are key elements to consider when starting any project and it's no different in LEED. There could be several people who are members of the project team.

Register your project in LEED Online and follow the steps





Card 0/110
0/11
0/15
0/15
0/15
0/30
0/30
0/15
0/8
0/4



Buildings account for nearly 40% of all greenhouse gas emissions (GHGs), according to Architecture 2030—and high-performing green buildings, particularly LEED-certified buildings, provide the means to reduce the climate impacts of buildings and their inhabitant

Green building strategies address a structure's planning, design, construction and operations while considering energy, water, indoor environmental quality, materials selection and location. LEED rewards the implementation of these strategies through credits that support energy- and resource-efficient buildings, and that also protect the health and well-being of those who interact with them.



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LEED SUBMITTALS

The project is required to submit the documentations required for each criterion to demonstrate compliance.

Submittals including drawings, schematics, sketches, design reports, simulation reports and vendor's data are required to be developed in the appropriate format and dimensions.

All submittals are required to highlight the information supporting the input values in LEED calculators and plans.

All submittals are to be saved in clear and legible copies.

Submittals involving calculations are to be developed in appropriate formats.

LEED SCORING SHEETS

LEED scoring sheets are useful sensitivity analysis tools to enable projects to compute the anticipated criteria levels, project score and corresponding certification rating under multiple scenarios.

The tool provides the user with the opportunity to target, adjust and amend the level of each individual criterion to predict the final rating.

LEED scoring sheets are available for all certification types and their different schemes. LEED scoring sheet lists all categories, the criteria under each category, their weight and target level.

Criteria levels are input in LEED scoring sheet, allowing the user to conduct a sensitivity analysis to predict the overall rating of the project.

LEED SCORECARD



LEED stands for Leadership in Energy and Environmental Design



LOCATION AND TRANSPORTATION (0PR/7C/16P)

SUSTAINABLE SITES (1PR/6C/10P)

WATER EFFICIENCY (3PR/4C/11P)

ENERGY AND ATMOSPHERE (4PR/6C/33P)

MATERIALS AND RESOURCES (1PR/5C/13P)

INDOOR ENVIRONMENTAL QUALITY (2PR/9C/16P)

INTEGRATIVE PROCESS(0PR/1C/1P)

INNOVATION (0PR/2C/6P)

REGIONAL PRIORITY (0PR/1C/4P)

TOTAL (11 PRE REQUISITE / 44 CREDIT /110 POINT)

LEED RATING MECHANISM



LEED certification process consists of receiving points for several categories. Each of these categories suggests several opportunities to be used and integrated into the projects. When a certain project meets the required criteria from these categories earn points. The higher the number of points, the more sustainable and energy-efficient is the building.

LEED certification system is widely recognized for environmentally sustainable buildings and homes and is accepted by engineers, architects, developers, and other professionals in the building industry.

LEED SAMPLE FORMS

The screenshot shows the LEED Sample Forms interface. On the left, there is a sidebar with a search bar and a list of sample forms. The main content area displays the details of a selected form, including the form title, description, and a list of sample forms. The form title is "LEED v4.1 BD+C: New Construction Construction Activity Pollution Prevention". The description states: "This form is used to document the construction activity pollution prevention measures implemented on a project. It is used to document the measures implemented on a project that are required by the 2013 LEED Construction Green Book (CG) and the 2013 LEED Construction Green Book (CG) and the 2013 LEED Construction Green Book (CG)."

LEED ENERGY STANDARDS

Comply with ANSI/ASHRAE/IESNA Standard 90.1-2016, with errata or a USGBC-approved equivalent standard. ASHRAE 90.1-2016 Compliance pathways in Section 4.2.1.1 include compliance with all mandatory provisions, and compliance with one of the following:

Prescriptive provisions of Sections 5 through 10 Section 11

Energy Cost Budget Method

Normative Appendix C Performance Rating Method. When using Appendix C, the Performance Cost Index (PCI) shall be less than or equal to the Performance Cost Index Target (PCIT) in accordance with the methodology provided in Section 4.2.1.1. Document the PCI, PCIT, and percentage improvement using metrics of cost or greenhouse gas (GHG) emissions.

LEED RESOURCE CENTER

The U.S. Green Building Council, co-founded by Mike Italiano, David Gottfried and Rick Fedrizzi in 1993, is a private 5013, membership-based non-profit organization that promotes sustainability in building design, construction, and operation.

<https://www.usgbc.org/resources>

Beyond Smart Cities is the world's 1st Green Technology Marketplace, connecting millions of Sustainability Specialists, Green Building Specialists, Energy Specialists, Commissioning Specialists, Environment Specialists, Health & Safety Specialists, Fire Safety Specialists, Climate Change Specialists & Green Products/Technology Manufacturers with independent talent around the globe.

<https://www.beyondsmartcities.in>

