

Wesleyan University Building Sustainability Policy

The Green Building subcommittee falls under the auspices of the Facilities Planning Committee and Sustainability Advisory Group for Environmental Stewardship (SAGES). The committee is responsible for developing guidelines and operating procedures necessary for the implementation of the Green Building Policy.

Purpose

To demonstrate Wesleyan University's commitment to environmental, economic, and social sustainability, to reduce Wesleyan's carbon footprint, to yield cost savings through reduced operating costs, to provide healthy work environments for students, employees, and visitors, and to assess life cycle costs. Wesleyan seeks to provide leadership by setting a community standard of sustainable building. This policy is adopted in concert with the Purchasing Sustainability Guidelines and Energy Conservation Policy and is in support of university wide sustainability goals, including the University's Strategic Plan and the Sustainability Action Plan (SAP).

Policy

I. All projects

All projects, regardless of cost, should meet the following standards. Any exceptions must be approved in writing by the Vice President for Finance and Administration. All buildings should meet site requirements established in the Grounds Sustainability Policy. This plan will be amended to align with other sustainability policies as they are adopted.

Refer to the topic areas in Section V for a ranked list of project priorities.

Energy Use and Performance

- a. Purchase only appliances that are Energy Star qualified. Purchase other equipment with Energy Star certification and/or industry standard efficiency labeling where applicable, including laboratory and food service equipment.
- b. When adding or replacing lighting, use light emitting diode (LED) bulbs.
- c. When adding or replacing HVAC equipment:
 - i. Right-size all mechanical equipment.
 - ii. Heating equipment shall have a minimum 90% efficiency rating.
 - iii. Water heaters shall be indirect water heaters.
 - iv. Cooling equipment shall have a minimum 14 SEER (Seasonal Energy Efficiency Ratio) rating.
- d. For Facilities projects, when adding or replacing equipment with high energy consumption, conduct a life cycle cost assessment (LCCA) analyzing the 20+ year impacts of the project on greenhouse gases, energy costs, and maintenance costs. The LCCA shall include a shadow carbon price (to indicate the full carbon impact of the associated project).
- e. All upgraded envelope materials shall meet the following criteria:
 - i. Ceiling insulation meeting minimum R38 standard.
 - ii. Wall insulation meeting minimum R21 standard.
 - iii. Duct wrap insulation meeting minimum R8 standard.
 - iv. Double-pane, low-e (0.2), and ½" space air or argon filled.
- f. For all new construction or when replacing any building roof, evaluate the technical and economic feasibility of solar PV to offset as much building energy use as possible.
- g. Follow lighting design practices to meet programmatic needs while reducing lighting energy use.

Water Use

- a. When adding or replacing water fixtures, use only low-flow toilets (1.28 gpf or dual-flush), low-flow faucets, and low-flow showerhead aerators.

Materials and Furnishings

- a. Materials and furnishings shall meet the most current version of the Proprietary Specifications and Standards.
- b. Purchase durable products.
- c. Purchase products such as paint, carpeting, adhesives, furniture and casework with low or no VOCs and no formaldehyde content.
- d. New HVAC, refrigeration, insulation, and fire suppression purchases shall not contain chlorofluorocarbon- or halon-containing refrigerants, solvents, or other products.
- e. Products and equipment shall not contain lead or mercury, unless an alternative is not available.
- f. Wood and wood contained in products shall meet Forest Stewardship Council (FSC) certification.
- g. Purchase trash and recycling bins with restrictive openings (“Saturn” shape for recycling, square shape for trash, and triangle shape for compost) and proper signage. When possible, make these built-in or connected to each other.
- h. Contract with contractors, sub-contractors, and outsourced services who are committed to sustainable building practices.

II. All new construction

Design and construct referencing minimum criteria outlined in Sections I and II. Green purchasing and grounds concepts should be integrated into architectural designs, final construction documents, and the final construction of University buildings and renovation of facilities. Refer to the topic areas in Section V for a ranked list of project priorities.

All new construction shall be designed consistent with or exceeding the appropriate Leadership in Energy and Environmental Design (LEED) version 4 or higher Gold certification, as established by the United States Green Building Council. LEED rating systems include Building Design and Construction (BD+C), Interior Design and Construction (ID+C), Building Operations and Maintenance (O+M), and Homes. All new residential houses shall achieve Energy Star Certification. When possible, pursue one or more of the following advanced certifications:

- a. Leadership in Energy and Environmental Design (LEED) Platinum Certification
- b. Net Zero Energy Building (NZEB)
- c. Passive House (PHIUS+ 2015) Certification
- d. Living Building Challenge 3.1 Certification

Energy Use and Performance

- a. Orient buildings for maximum energy efficiency, passive solar gain, and natural lighting.
- a. Utilize energy modeling during the schematic design, design development, and construction phases to estimate energy demand and consumption impacts, as well as GHG emissions, from proposed design options and demonstrate, via energy modeling, a minimum 30% reduction below ASHRAE 90.1-2010.
- b. Submeter buildings for electricity, steam, and chilled water.
- c. Install solar, geothermal, or other renewable energies to offset as much building energy use as feasible to achieve carbon neutrality goals.

Water Use

- a. Meter building water use.

Materials and Furnishings

- a. Maximize post-consumer recycled content in purchased products.
- b. Recycle or salvage at least 75% of non-hazardous construction and demolition material.

III. Major Renovations

Major renovations are defined as projects requiring 50% replacement of mechanical, electrical, and plumbing systems and/or replacement of over 50% of non-shell areas (interior walls, doors, floor coverings, and ceiling systems). Design and construct referencing minimum criteria outlined in Sections I and III. Green purchasing and grounds concepts should be integrated into architectural designs, final construction documents, and the final construction of University buildings and renovation of facilities. Refer to the topic areas in Section V for a ranked list of project priorities.

Renovations meeting the above thresholds shall be designed consistent with or exceeding the appropriate Leadership in Energy and Environmental Design (LEED) version 4 or higher Gold certification, as established by the United States Green Building Council. LEED rating systems include Building Design and Construction (BD+C), Interior Design and Construction (ID+C), Building Operations and Maintenance (O+M), and Homes. When possible, pursue one or more of the following advanced certifications:

- a. Leadership in Energy and Environmental Design (LEED) Platinum Certification
- b. Net Zero Energy Building (NZEB)
- c. Passive House (PHIUS+ 2015) Certification
- d. Living Building Challenge 3.1 Certification

Energy Use and Performance

- a. Utilize energy modeling during the schematic design, design development, and construction phases to estimate energy demand and consumption impacts, as well as GHG emissions, from proposed design options and demonstrate, via energy modeling, a minimum 30% reduction below ASHRAE 90.1-2010.
- b. Submeter buildings for electricity, steam, and chilled water.

Materials and Furnishings

- a. Maximize post-consumer recycled content in purchased products.
- b. Recycle or salvage at least 75% of non-hazardous construction and demolition material.

Water Use

- a. Meter building water use.

IV. Minor Renovations and Existing Buildings

Minor renovations are defined as projects requiring less than 50% replacement of mechanical, electrical, and plumbing systems and/or replacement of less than 50% of non-shell areas (interior walls, doors, floor coverings, and ceiling systems). Design, renovate, and construct referencing minimum criteria outlined in section I. Refer to the topic areas in Section V for a ranked list of project priorities.

V. Topic Areas

When funding permits, refer to the following topic areas for project prioritization. The topic areas are listed in order of priority, with energy performance taking the highest priority.

Energy Use and Performance

1. Establish HVAC zoning and controls.
2. Audit and/or retrocommission buildings every ten years to determine the optimum cost-effective energy efficiencies over the life of each building. This may include, but is not limited to, ASHRAE 90.1 Level 2 Audits and Home Energy Solutions.
3. Cooling equipment with a SEER (Seasonal Energy Efficiency Ratio) rating > 14.
4. Install programmable thermostats.
5. Include daylighting controls and occupancy sensors for kitchens, hallways, and bathrooms.

6. Envelope
 - a. Triple-pane windows.
 - b. Ceiling insulation above R38 standard.
 - c. Wall insulation above R21 standard.
 - d. Duct wrap insulation above R8 standard.
7. In laboratories:
 - a. Achieve Department of Energy’s Smart Labs Accelerator Smart Lab Key Elements.
 - b. Include a heat recovery ventilation system near high heat generating equipment (ex: -80 freezers).
 - c. Recommission each lab one year after occupancy.
8. In data centers:
 - a. Refer to best practices in the EU Code of Conduct on Data Centers – 2014 Best Practices v5.1.1.
 - b. Calculate anticipated energy use in reference to ASHRAE 90.4.

Water Use

1. Meter building water use.
2. Reduce indoor potable water use by at least 35%.
3. Sub-meter irrigation separately from potable water use.
4. Reduce exterior water use by at least 50% using EPA’s WaterSense Water Budget tool and/or provide no irrigation from potable sources.
5. Install a dual plumbing system to reuse water and/or collect greywater for irrigation.

Materials and Furnishings

1. If competitively priced products are available locally (within 500 miles of campus), purchase these products to reduce transportation emissions.
2. Maximize post-consumer recycled content in purchased products.
3. Avoid the purchase of tropical hardwoods and the Sustainable Forestry Initiative (SFI) certification unless Forest Stewardship Council (FSC) certification is also present.
4. Use reused or reclaimed stone, brick, and other construction materials.
5. Seek purchased products with reusable, recyclable, or compostable packaging and dispose of properly. Prioritize minimum packaging when seeking vendors.
6. Utilize roofing materials that are light-colored to reduce the heat island effect.

Applicability

All Wesleyan University departments, as well as contractors, subcontractors, and in-house trades shall adhere to the Building Sustainability Policy. All requests for projects must use the most recent version of the [Project Request Form](#) and be consistent with the University’s Strategic Plan, which outlines priorities for academics, campus and student life, administrative, rental properties, and physical infrastructure. Requests must be submitted to the Facilities Planning Committee for review and approval.

Responsibility for Keeping Policy Current

Chair, Green Building Subcommittee

Distribution and Subsequent Revisions

Wesleyan University Employee WesPortal, Wesleyan Sustainability Website, Facilities Website

Record of Revisions

Date	Summary of Changes	Prepared by:	Reviewed by:	Approved by:
5/2/2017	Initial Draft	J. Kleindienst	Facilities Staff	N. Peters