



Applies to: University offices, faculty, staff, students, visitors, and vendors.

Responsible Office

Office of Administration and Planning

POLICY

Issued: 12/2008
Revised: 08/22/2012
Revised: 01/15/2019 (minor revision)

The university is committed to improving energy efficiency, reducing energy consumption, and investigating cost effective options for use of renewable energy sources.

Purpose of the Policy

This policy is created in support of the Climate Action Plan for the Columbus campus and to comply with the Ohio Revised Code (ORC) and all other state and municipal requirements affecting energy efficiency in building design and construction at the university.

Definitions

Table with 2 columns: Term, Definition. Rows include Building Construction Project, Sustainability, and Environmentally Preferable Products.

Policy Details

- I. Overview
A. The Ohio State University is committed to addressing sustainability in the design of both new construction and substantial renovation of existing buildings and structures.
B. The principles, practices, and standards governing the design of new campus buildings and structures, and renovation of the same, promote sustainability and support the University Master Plan with the additional objectives of:
1. inspiring teaching, learning and research;
2. providing accessibility to a broad cross-section of the population;
3. conserving resources;
4. incorporating green design principles; and
5. balancing initial and long-term operating costs.
II. Green Build and Energy Policy Principles, Practices, and Standards
A. These principles and practices are applicable to building construction projects for which the construction budget is equal to or greater than \$200,000 and for which programming and design commenced after July 1, 2008.
B. The university is a signatory to the American College and University Presidents' Climate Commitment (ACUPCC) and has a Climate Action Plan for the Columbus Campus. Since building energy efficiency and energy use, as well as the associated greenhouse gas emissions, are considered in relationship to campus energy generation and supply, the green build principles extend beyond buildings and include the following:
1. employing a mix of renewable and non-renewable energy sources,
2. increasing the efficiency of generating and delivering energy to campus buildings, and
3. reducing energy consumption within buildings.

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- C. The principles and practices of this policy are incorporated into existing university construction procurement, design policies, and practices and must be employed in the design of all qualifying building construction projects.

### PROCEDURE

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- I. Green Build and University Design Standards
  - A. For each qualifying building construction project, as prescribed by the University's Building Design Standards (BDS), a life-cycle cost analysis must be undertaken by a qualified engineer or architect and in accordance with the standards established by the ORC and the BDS. This must include an energy systems analysis with the results utilized as primary consideration in developing the project design.
  - B. The BDS establishes minimum energy efficiency standards that must be applied to design and construction of qualifying building construction projects.
  - C. The standards apply to building construction projects to improve, renovate or otherwise alter an existing building or structure which has been deemed to have inferior systems, and for which the life cycle analysis identifies that building systems perform negatively.
  - D. In addition to the above requirements, each qualifying building construction project, as prescribed by the BDS, with a budget at or above the Board of Trustees Authorization threshold as outlined in the [Board of Trustees Review and Approval of Facilities Improvement Projects and Real Estate Transactions policy](#), must be certified to meet the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design ([LEED](#)) certification of "Silver" or higher. Furthermore, each project has mandatory LEED points outlined within the BDS.
    - 1. Requests to waive any of the university mandated points must be submitted to the university engineer along with compelling documentation as to why mandated points should not be pursued. Such waiver requests will be considered by the university engineer, in collaboration with the university architect and university landscape architect, according to the Building Design Standards Variance/Waiver Adjudication Process.
      - a. Requests for waiver of the requirements of this policy for a specific project will follow the same procedure as outlined above. Escalation to the Office of Administration and Planning may occur as an outcome of the adjudicated hearing process outlined above.
      - b. All policy waiver requests are expected to be presented for consideration prior to the beginning of the schematic design phase of the project. Failure to present the waiver request in a timely fashion may cause project delays and could become grounds for denial of the waiver request.
  - E. Monitoring the impact of this policy is critical to informing its contribution to achieving sustainability for the university and for complying with related state law(s). The university should strive to develop regular reports on the impact of this policy, including those stipulated in ORC, and make them available to the public through internet postings, present their findings at relevant university forums, and use their findings to inform other university-led sustainability initiatives. Contributing to this, a project impact assessment may be conducted for all applicable building projects with a construction budget over \$200,000. This report will describe the fiscal effects of energy efficiency and conservation measures pursued within the project.
  - F. The mix of renewable and non-renewable energy sources employed and the increase in the efficiency of generating and delivering energy to university buildings must be considered on the basis of their relative value in reducing greenhouse gas emissions, lifecycle cost effectiveness, ability to incorporate the findings of university driven research, and ability to advance the university toward its greenhouse gas emission and other energy goals. Such improvements must be implemented as part of the university's commitments to reduce greenhouse gas emissions, diversify fuel sources, improve the efficiency of energy delivery and comply with all relevant state laws.
- II. Energy and Sustainability

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- A. The [University Master Plan](#) contains several principles that encourage sustainability and energy conservation. Energy management is a responsibility shared by building designers, departments that produce and provide the utilities for the university, departments that maintain buildings and systems that use energy, and the university community that consumes the energy.
- B. The university adopted a 15 year Strategic Energy Plan addressing the following building operation and maintenance practices:
  1. Building Energy Management
    - a. Energy audits and/or re-commissioning of existing building systems are to be performed at regular intervals to ensure that systems are operating at maximum efficiency.
    - b. Energy Audits and resulting recommendations for Energy Conservation Measure projects shall be presented to the Energy Advisory Committee (EAC) and authorized by the University.
    - c. Building system controls must be added, modified, and integrated into the existing building automation system (BAS) as they are funded. This allows for greater control over operating schedules, permitting implementation of demand management strategies to reduce energy consumption and related costs.
    - d. The university community (faculty, students, staff, visitors, and vendors) is responsible for practices and behaviors which effect energy demand. In conditioned spaces, windows and doors must be kept closed. Energy consuming devices, such as personal computers, other office equipment, lights and window air conditioners must be turned off when not in use. Information technology support teams will ensure, at set up, and during maintenance periods, that all personal computers, monitors, printers, and copiers have their energy management features enabled.
  2. Heating and Cooling
    - a. Office and academic space should maintain temperatures during the heating and air conditioning seasons at 70°F and 76°F respectively when occupied. Whenever it is economically and technically feasible, night setback and building scheduling features of the BAS system must be used to allow temperatures to reset to 60°F and 80°F during heating/cooling unoccupied periods.
      - i. Temperature control requirements for patient care and medical procedures areas of the Medical Center must be established by the appropriate medical care provider in consultation with Medical Center Operations.
      - ii. Student Life and Athletics must develop and maintain temperature control requirements for their facilities that do not fall under the above policy 2-a, including housing and recreation facilities.
      - iii. Temperature control requirements for research, animal care, laboratory areas, and university animal housing areas must be established by University Laboratory Animal Resources, Office of Research, or the appropriate college as mandated by the associated requirements.
      - iv. All areas noted above must participate in the development of an annual report detailing their established conservation measures, control requirements, and associated outcomes in conjunction with the University Energy Committee.
    - b. Building temperature control schedules must be established through a Building Energy Management Agreement for each building. The agreement will identify any special care, human needs, or research requirements to maintain the building outside the normal schedule and temperature range. Absent special needs, the University Energy Committee must evaluate exemption requests on an individual basis and must use the most energy efficient means of supplying heat or cooling for approved exemption requests. Installation of window air conditioners in university buildings must be authorized in advance to ensure proper installation and safety measures by the university architect and university engineer. Use of electric space heaters in university buildings must be authorized in advance to ensure proper installation and safety measures by the district leader or facilities manager of the area. All units must meet equipment and installation standards of the university. Areas that are too hot or too cold should be reported to [Service2Facilities](#) by calling (614) 292-HELP (Medical Center call 293-8645).
  3. Utility Metering and Cost Allocation
    - a. Quality utility metering is essential to provide the data and information required by the Strategic Energy Plan and to allocate costs effectively for billable customers.

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- b. New buildings or renovations of more than 50% of replacement value or building area must have full utility metering in line with the BDS.
- c. Metering systems for existing buildings are upgraded and maintained by Ohio State Energy Partners and the University annually. Metering maintenance and upgrades for existing buildings are funded through the annual budget.
- d. Utility billing rates must be developed annually. The cost recovery method for Utility system costs must be collaboratively developed by the Offices of Administration and Planning, Business and Finance, and Energy and Environment.

### III. Sustainability

#### A. Renewable Energy

1. In an effort to meet the climate neutrality goal of the ACUPCC, the university must investigate cost effective renewable energy options and recommend implementation when viable options are identified and funded.
2. Projects requested by students, staff or faculty that connect to the utility infrastructure or to building systems must be reviewed and recommended jointly with Facilities Operations and Development (FOD) and the Office of Energy and Environment for a determination whether the project will be presented to the EAC.

#### B. Waste Management – Recycling and Composting

1. Disposal of materials in the solid waste stream represents an increasing cost to the environment and for the university. As a result, the university has adopted a goal of 90 percent waste diversion by 2025.
2. The university will continue to improve existing recycling programs and outdoor area recycling programs.
3. Composting programs must be developed and expanded for biomass from food operations and landscaping activities.
4. Design of facilities must incorporate the facilities necessary to make recycling convenient for university users.

#### C. Water Usage

1. Landscape design should use plants that are in balance with the local climate and require minimal resource inputs for landscape care and maintenance.
2. Irrigation water use should be minimized through rainfall monitoring. Major construction or renovation projects should also investigate collecting storm water for non-potable uses on campus as part of sustainable design practice.
3. Low water use flush valves and flow restrictors on faucets and showers must be used in all applicable areas.
4. No single-pass cooling water may be used on mechanical equipment in new construction or retrofits, except in the case of an emergency.
5. Water that does not go to the sanitary sewer system (such as lawn irrigation, cooling towers, and fountains) must have deduction meters installed to obtain a sewer credit from our water supplier.
6. Water leaks, dripping faucets, and fixtures that do not shut off should be reported to Service2Facilities by calling (614) 292-HELP (Medical Center call 293-8645).
7. Domestic hot water heating systems must be well insulated and mixing valves, hot water return pumps, and controls should be designed for maximum efficiency and performance.

#### D. Studies and Technology Evaluation

1. Implementing new technology to support sustainability initiatives is most effective when coupled with ongoing research. The university will conduct studies and investigate new technologies to explore feasibility for campus application and do so in collaboration with both academic and research units.

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E. Education and Academic Collaboration

- Under the guidance of the Office of Energy and the Environment and the President’s and Provost’s Council on Sustainability, university faculty, staff, and students support an educational program and collaboration on various sustainability topics to allow the campus community to better understand how they can positively impact our campus environment. This work should build off the existing campus sustainability programs, including the [University Sustainability Plan](#), the [Climate Action Plan](#), and the [Energy and Infrastructure Plan](#) and provide support in the classroom through instruction, mentoring of student research projects, and partnering on grant proposals.

F. Transportation

- Use of the Campus Area Bus Service ([CABS](#)), a car sharing program and car/van pooling will continue to be an integral part of our transportation and parking strategy.
- The university needs to provide focused communications targeting the benefits of walking, biking and use of public transportation.
- Student fees include a bus pass for unlimited access to the local transit system. Amenities to encourage methods of transportation that are non-fuel supported such as use of public transit, walking and biking must be strong considerations in all physical planning decisions.
- The [Vehicle Idling policy](#) has been adopted by the university for all state vehicles and must continue to be endorsed and supported.
- The university onsite fueling station dispenses only soy biodiesel fuel which is used for all diesel-powered vehicles, including the campus bus system.
- The university fleet currently includes alternative fuel vehicles. All requests for vehicle acquisitions are reviewed and alternative fuel vehicles are strongly encouraged.

G. Purchasing

- Environmentally Preferable Products** must be purchased whenever possible (e.g., the U.S. Environmental Protection Agency Energy Star products list). Recyclable and reusable products should also be purchased when feasible to reduce disposal costs.
- The university's [Stores](#) Department offers products and services for green purchasing.
- The university has mandated that all copy paper purchased contain the percentage of the percent post-consumer recycled content as outlined in the [Recycled Paper policy](#).

IV. Metrics

- Success of the university's energy and sustainability program must be monitored on a continual basis in a number of ways. Existing metrics must be maintained and others added as the 15-year Strategic Energy Plan continues to be implemented. Metrics include air pollutant, energy, recycling and waste diversion, and the campus carbon footprint for monitoring the performance of the Columbus campus. All metrics must be tracked and updated yearly by ESS. The university must strive to meet reporting requirements for the state and ORC. Annual updates are published to provide the greater community with information on the success of the energy and sustainability programs.

### Responsibilities

| Position or Office                       | Responsibilities  |
|--|---|
| Athletics                                | Develop and maintain temperature control requirements for Athletic facilities.  |
| Design Architect/Engineer                | Provide a life-cycle cost analysis, including an energy systems analysis, to be the primary consideration in developing the project design.   |
| District Leader                          | Authorize and ensure proper installation, according to university and code standards, of electric space heaters.  |
| Facilities Operations & Development      | Implement and provide technical support in conjunction with facilities design, construction, and operations activities.   |
| Medical Center Operations                | Establish temperature control requirements for patient care and medical procedure areas of the Medical Center.  |
| Office of Energy and Environment and the | Support an education program and collaboration on various sustainability topics to allow the campus community to better understand how they can positively impact our campus environment. |

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| Position or Office  | Responsibilities  |
|---|---|
| President's and Provost's Council on Sustainability   |   |
| Office of Research  | Develop temperature control requirements for associated research and laboratory areas.  |
| Offices of: Administration and Planning, Business and Finance, Energy and Environment, and Energy Services and sustainability | <ol style="list-style-type: none"> <li>1. Collaboratively develop annual utility billing rates and the cost recovery method for utility system costs.</li> <li>2. Annually track and update metrics.</li> </ol>   |
| Ohio State Energy Partners and Facilities Operations and Development  | Jointly review and recommend projects requested by students, staff, or faculty that connect to the utility infrastructure or to building systems prior to any project commitments or initiation.  |
| Ohio State Energy Partners, Energy Advisory Committee, and Facilities Operations and Development                              | <ol style="list-style-type: none"> <li>1. Provide recommendations on resources and building selection for the energy audit program.</li> <li>2. Develop an annual report detailing conservation measures, control requirements, and associated outcomes.</li> <li>3. Manage metering upgrade projects for existing buildings that are funded through the annual budget process.</li> </ol>  |
| Student Life  | Develop and maintain temperature control requirements for Student Life facilities.  |
| University Community  | <p>Responsible for practices and behaviors which effect energy demand.</p> <ol style="list-style-type: none"> <li>1. In conditioned spaces keep windows and doors closed.</li> <li>2. Turn off energy consuming devices, such as personal computers, other office equipment, lights, and window air conditioners when they are not in use.</li> <li>3. Report any areas that are too hot or too cold to Service2Facilities (614) 292-HELP.</li> </ol> |
| University Energy Committee   | Evaluate temperature control requirements and consider exemption requests on an individual basis.   |
| University Engineer, University Architect, University Landscape Architect   | <ol style="list-style-type: none"> <li>1. Consider policy waiver requests.</li> <li>2. Authorize the installation of window air conditioners in university buildings.</li> <li>3. Evaluate leases with an emphasis on the overall financial value of the arrangement and with consideration provided to not allow energy efficiency to impact or impede a desirable and financially sound business arrangement.</li> </ol>                            |
| University Laboratory Animal Resources  | Develop temperature control requirements for associated research, animal care, and animal housing areas   |

### Resources

#### Offices

Facilities Operations and Development, 614-292-0257, [fod.osu.edu](http://fod.osu.edu)

Service2Facilities, 614-292-4357 (614-292-HELP), [fml.osu.edu/fs/our-services/service2facilities/](http://fml.osu.edu/fs/our-services/service2facilities/)

Stores, 614-292-2694, [busfin.osu.edu/buy-schedule-travel/purchasing/purchase-products/stores](http://busfin.osu.edu/buy-schedule-travel/purchasing/purchase-products/stores)

#### Governance Documents

Board of Trustees Review and Approval of Facilities Improvement Projects and Real Estate Transactions, [ap.osu.edu/sites/default/files/330\\_bot-review-approval.pdf](http://ap.osu.edu/sites/default/files/330_bot-review-approval.pdf)

Building Design Standards, [fod.osu.edu/bds](http://fod.osu.edu/bds)

Principles and Practices for a Sustainable Ohio State University (Master Plan),

[fod.osu.edu/sites/default/files/sustainable\\_ohio\\_state.pdf](http://fod.osu.edu/sites/default/files/sustainable_ohio_state.pdf)

Recycled Paper policy, [busfin.osu.edu/sites/default/files/201\\_recycledpaper\\_0.pdf](http://busfin.osu.edu/sites/default/files/201_recycledpaper_0.pdf)

Vehicle Idling policy, [ap.osu.edu/sites/default/files/275\\_vehicle-idling.pdf](http://ap.osu.edu/sites/default/files/275_vehicle-idling.pdf)

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### Websites

American College and University Presidents' Climate Commitment (Second Nature), [secondnature.org](http://secondnature.org)  
 Climate Action Plan, [fod.osu.edu/sites/default/files/ohio\\_state\\_climate\\_action\\_plan.pdf](http://fod.osu.edu/sites/default/files/ohio_state_climate_action_plan.pdf)  
 United States Environmental Protection Agency, <https://www.epa.gov/greenerproducts/about-environmentally-preferable-purchasing-program>  
 Ohio State University Campus Area Bus Service (CABS), [ttm.osu.edu/cabs](http://ttm.osu.edu/cabs)  
 United States Green Building Council (USGBC) LEED certification, [www.usgbc.org/resources/leed-v4-green-associate-candidate-handbook](http://www.usgbc.org/resources/leed-v4-green-associate-candidate-handbook)

### Design Framework

Building Design Standards Variance/Waiver Adjudication Process, [fod.osu.edu/bds\\_waiver](http://fod.osu.edu/bds_waiver)  
 Energy and Infrastructure Plan, [www.osu.edu/energymanagement/index.php?id=67](http://www.osu.edu/energymanagement/index.php?id=67)  
 Framework Plan, [pare.osu.edu/framework](http://pare.osu.edu/framework)  
 Sustainability Efforts, [www.osu.edu/initiatives/sustainability/](http://www.osu.edu/initiatives/sustainability/)  
 Sustainability Goals, [osu.edu/SustGoals%20FINAL%20updated%20030817.pdf](http://osu.edu/SustGoals%20FINAL%20updated%20030817.pdf)

### Contacts

| Subject                  | Office                           | Telephone    | E-mail/URL   |
|--------------------------|----------------------------------|--------------|--|
| Facility Design          | Facilities Design & Construction | 614-292-4458 | <a href="mailto:Service2facilities@osu.edu">Service2facilities@osu.edu</a> |
| General policy questions | Administration and Planning      | 614-292-3080 | <a href="http://ap.osu.edu">ap.osu.edu</a>                                 |

### History

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