President's Energy and Climate Action Initiatives

Implementation Guidelines

BACKGROUND

In May 2013, the University Sustainability Council recommended the university implement several new initiatives to keep the campus on track for meeting the energy and emissions-reduction goals of its Climate Action Plan. After consulting with the Administrative Council, Vice President for Administration and Finance, Facilities Management, Office of Sustainability, and Student Government Association, President Loh approved in January 2014 four new initiatives:

1. **President's Energy Conservation Initiative** – Sets a goal of reducing electricity use on campus by 20% by 2020.
2. **President's Carbon Neutral New Development Initiative** – Sets a goal of negating new greenhouse gas emissions from new construction and major renovations through energy efficient design and by utilizing renewable power.
3. **President's Initiative on Purchased Power** – Sets a goal of eliminating carbon emissions from purchased electricity by 2020 through the purchase of electricity from renewable energy sources.
4. **Purchase of Verified Carbon Offsets** – Approves the purchase of verified carbon offsets to meet the Climate Action Plan 2015 and 2020 reduction goals after seeking to maximize carbon reductions through other means.

While these initiatives establish general goals for the energy performance of campus development, the following Implementation Guidelines provide further guidance to facilities designers and managers who are on the frontline of energy conservation and related work on campus. The Implementation Guidelines are meant to be flexible and can be revised as needed to promote the most efficient methods for achieving the university's goals as established by these initiatives and the Climate Action Plan.

The President's Energy Conservation Initiative

I. PURPOSE

The University of Maryland strives to meet its Climate Action Plan goal of reducing campus-wide greenhouse gas emissions 50% by 2020 (from a 2005 baseline). To help meet this goal, the Office of the President announced the President's Energy Conservation Initiative, which aims to reduce campus-wide energy consumption at least 20% by the end of 2020.

II. APPLICABILITY

This initiative covers every facility at the University of Maryland, College Park and therefore applies to the occupants and operators of every facility on campus including colleges/schools, auxiliary services, and state-support entities ("units".)

III. IMPLEMENTATION

The university will implement the following strategies to accomplish this goal:

A. Facilities Management (FM) will implement energy conservation projects in select buildings, starting with buildings that currently use the most energy per square foot. FM will rely on several funding sources and financing mechanisms to perform this work, including:

   i. Loans from the Maryland Energy Administration and Maryland Clean Energy Center to execute performance contracts with energy service companies (ESCOs). Loans are re-paid through energy savings.

   ii. Grants from the Energy Reserve Fund to perform additional conservation work such as re-commissioning efforts, upgrading of building automation controls, and lighting projects.

B. Campus units will include energy conservation goals when planning and implementing renovations to facilities. Renovations greater than 25% of gross building space or $1,000,000 will include at least a 20% energy reduction over existing conditions for the whole facility while also meeting the President's Carbon Neutral New Development Initiative. Units may work with FM to identify appropriate energy conservation measures and take advantage of loans and grants from the Energy Reserve Fund and/or the University Sustainability Fund to implement projects.

C. Campus units will consider the energy impact of all new equipment purchases. In accordance with the Policies and Procedures for Environmentally Preferable Procurement, campus units "will procure all supplies, services, maintenance, construction and architect-engineer services in a manner consistent with the promotion of sound environmental stewardship and, in particular, promoting the reduction of carbon emissions as envisioned by the University's Climate Action Plan. Consideration of the environmental impact of products and services must be an integral part of the procurement process and should be weighed along with price and other factors when making procurement decisions."

D. Campus units will further assist the campus in accomplishing its goals by centralizing data centers. In accordance with the Information Technology Strategic Plan, units are expected to utilize centralized data centers operated by the Division of Information Technology in lieu of creating decentralized data centers in their own facilities where feasible.

President's Carbon Neutral New Development Initiative

I. PURPOSE

The University of Maryland President and Senate approved the Climate Action Plan (CAP) in 2009, which set goals of cutting the university's carbon footprint in half by 2020 and reaching carbon neutrality by 2050. The physical growth of campus facilities poses the greatest challenge to meeting these goals. This initiative creates a cap on carbon (greenhouse gas) emissions associated with new campus development so that the university can focus on decreasing emissions associated with existing infrastructure and operations. The initiative corresponds to chapter 3, section B, strategy 2.0 (Carbon Neutral New Construction) in CAP.

II. APPLICABILITY

This initiative applies to all new construction, major renovations, and major program changes (e.g. converting classrooms/offices into laboratories, adding data centers to existing facilities, etc.) that begin construction in 2015 or later.

III. IMPLEMENTATION

The university will implement the following strategies to accomplish this goal:

A. Energy Efficient Design – All new construction and major renovation projects (renovation greater than 25% of gross building space or $1,000,000) will achieve at least a 30% improvement over ASHRAE 90.1 for new buildings, and 26% for existing buildings through the combination of design, equipment selection, and/or on-site renewable energy. This flexibility will allow each project to best design for its unique requirements or site location. Submittal of an as-built Energy Model to the FM Director of Engineering and Energy will be used to validate that this requirement is met for each project.

B. Energy Use Intensity Tracking – All new construction and major renovation projects (renovation greater than 25% of gross building space or $1,000,000) will achieve site Energy Use Intensity (kBTU/GSF) goals that are in the top tier of higher education facilities design based on building type (e.g. laboratories, residence halls, classroom buildings, dining halls, etc.) as found in the Energy Star Portfolio Manager's Target Finder. All projects should strive for at least 30% above median of similar buildings in the database. Facilities Management will confirm the design EUI during the commissioning process and continuously monitor and take corrective action as needed to ensure that buildings continue to operate as designed.

C. Renewable Energy – The FM Director of Engineering and Energy will purchase off-site renewable energy for a minimum of 20 years for the remaining energy demand of any building or program change that resulted in an energy increase.

President's Initiative on Purchased Power

I. PURPOSE

Purchased electricity (electricity produced off-site but consumed by university facilities) represents a large portion of the university's carbon footprint. Eliminating greenhouse gas emissions from purchased electricity is an important part of the strategy for meeting Climate Action Plan goals. This initiative sets a goal of eliminating carbon emissions from purchased electricity by 2020 through the purchase of electricity from renewable energy sources.

II. APPLICABILITY

This initiative applies to all electricity that is generated off-site and consumed by facilities owned and operated by the University of Maryland, College Park.

III. IMPLEMENTATION

The university will implement the following strategies to accomplish this goal:

A. The FM Director of Engineering and Energy will increase the percentage of the university's purchased electricity that is produced by renewable energy sources by purchasing and retiring bundled and/or unbundled Green-e Certified Renewable Energy Credits (RECs). By the end of 2020, 100% of the university's purchased electricity must be produced by renewable energy sources.

B. The FM Director of Engineering and Energy, in consultation with the Office of Sustainability, will choose how quickly to increase the percentage of purchased electricity that is produced by renewable energy sources. By retiring more RECs year after year, from 2014 to 2020 the campus could show annual progress toward this goal if funds allow.

Purchase of Verified Carbon Offsets

I. PURPOSE

The President's energy and climate action initiatives – Energy Conservation Initiative, Carbon Neutral New Development Initiative, and Initiative on Purchased Power – will help the university achieve its Climate Action Plan goal of cutting our carbon footprint in half by 2020. However, these actions, though significant, will not reduce emissions enough to meet that goal. The campus community would also need to achieve significant emissions reductions associated with commuting and air travel to meet future CAP goals. In order to ensure that the university continues to meet its goals, President Loh approved the purchase of verified carbon offsets after seeking to maximize carbon reductions through other means.

II. APPLICABILITY

This initiative applies to all sources of greenhouse gas emissions tracked by the Office of Sustainability and reported annually in the University of Maryland Sustainability Progress Report.

III. IMPLEMENTATION

The university will implement the following strategies to accomplish this goal:

A. Campus units will continue to make progress toward the goals and strategies identified in the Climate Action Plan.

B. The Office of Sustainability will continue to work with campus partners to promote opportunities for students, faculty, and staff to reduce personal environmental impacts.

C. The University Sustainability Council will establish an Air Travel Work Group to investigate opportunities to reduce emissions associated with business, study abroad, athletic, and other types of university air travel.

D. After all reasonable efforts have been made to reduce the university's greenhouse gas emissions, the Office of Sustainability is authorized to organize the procurement of verified carbon offsets.

REVISING THE IMPLEMENTATION GUIDELINES

Facilities Management and the Office of Sustainability will update this document annually as needed to incorporate changes in applicable codes and standards, State requirements, technology advancements, and other developments affecting the current guidelines. The University Sustainability Council as well as campus units will have the opportunity to review and suggest changes prior to the annual updates.