



# UW Seattle Campus Energy Management Plan

UW Facilities

Initial Submittal to Dept of Commerce

Version 1.0

June 1, 2026

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UNIVERSITY *of* WASHINGTON

# Table of Contents

Table of Contents.....	1
List of Exhibits .....	2
1 Introduction.....	1
2 Facility Summary.....	1
3 Energy Manager .....	3
4 Energy Usage.....	4
4.1 Compliance Requirements (EUI Target).....	4
4.2 Measured Site EUI.....	5
4.3 Building Level Monitoring.....	5
5 Facility Parameters .....	6
6 Energy Audits.....	9
7 Implemented and Planned EEMs .....	10
8 Occupant Training and Communication.....	13
9 O&M Staff Training .....	13
10 Capital Management Plan.....	14
11 Contact List.....	15
12 Lighting .....	16
13 Signatures.....	18
14 Operations & Maintenance Program.....	19

## List of Exhibits

Exhibit No	Energy Management Plan Reference Name	Attached Exhibit file name	Notes
1.0	UW Seattle Campus Decarbonization Plan	UW Seattle Campus Decarbonization Plan_Ver.1.0_2025-06-30.pdf	Uploaded to the portal 6/26/25
2.0	UW Seattle Building List	UW Seattle Campus Building List 6_1_2026.xlsx	Uploaded to the portal 6/26/25, Updated with hours on 6/1/2026
3.0	UW Energy Management Data Collection and Usage Plan	EMP Exhibit 3.0 UW Energy Management Data Collection and Usage Plan_2025.pdf	
4.0	UW Building Audits	UW Building Audits.pdf	
5.0	RCP Completed Projects	RCP Completed Projects.xlsx	
6.0	LED Retrofits	LED_Retrofits.csv	
7.0	UWMC - Montlake EMP	UW Montlake Final Signed 3.9.2026.pdf	
8.0	UWMC - Montlake O&M Program	UW Montlake Final O&M 2.26.26	
9.0	Third Party Managed Properties: EMP/O&M Program Reports	TBD in future submittal	Not yet available as of June 1, 2026

# 1 Introduction

The UW Seattle Campus Energy Management Plan (the Plan) is developed in accordance with the Washington State Administrative Code (WAC) Chapter 194-50-170 and the associated Department of Commerce, administrative rule referred to as the Clean Performance Standard (CBPS), Annex W.

The University of Washington, Seattle Campus is a wholly owned property of the State of Washington. The campus has been served by a UW-owned District Energy System (DES) for more than 120 years. Consistent with the Clean Building Performance Standard definition of a state-owned campus district energy system; This Plan submittal for approval to the Washington State Department of Commerce intends to fulfil the mandatory Energy Management Plan compliance requirements for the Seattle Campus. The publication history of the Plan is recorded in Table 1.

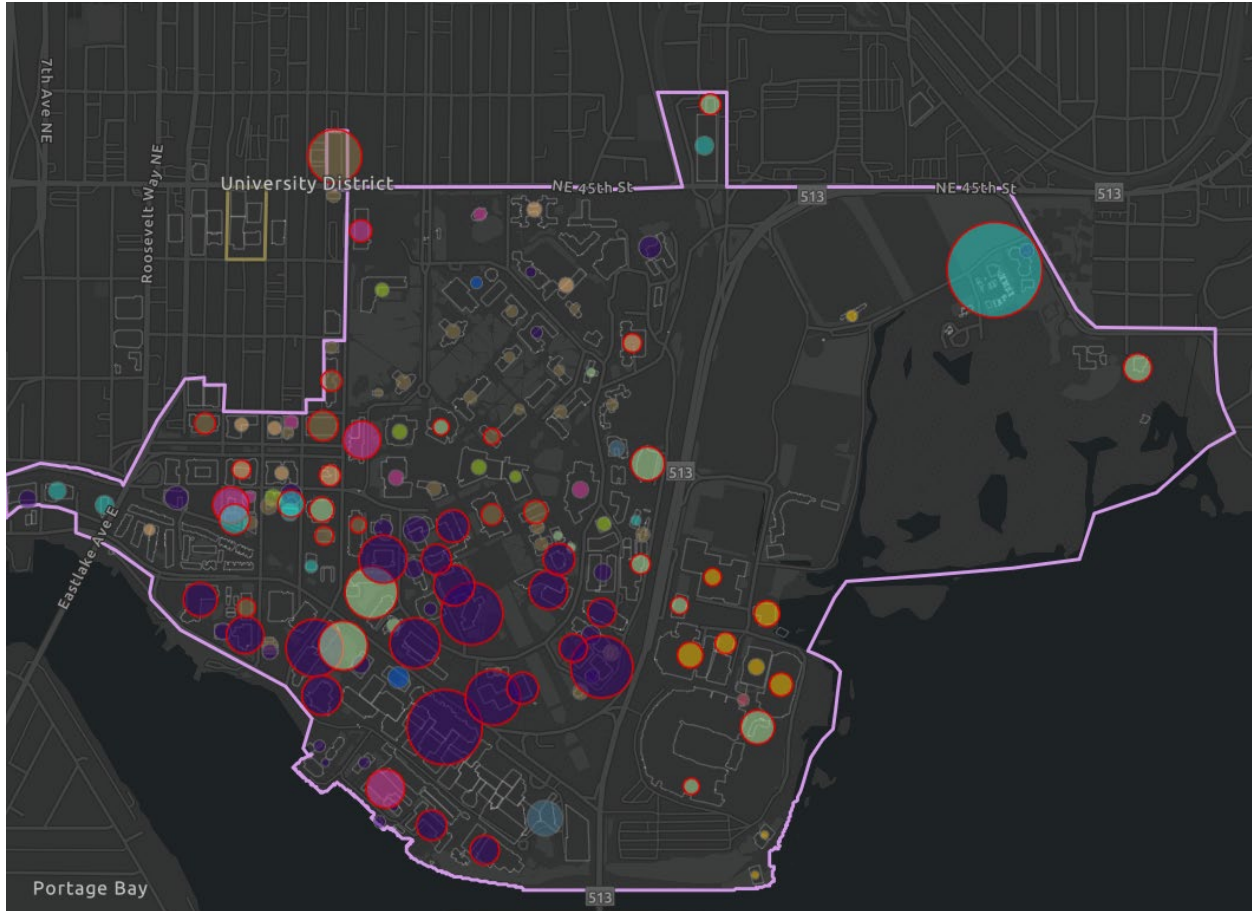
*Table 1: UW Energy Management Plan Submittal History*

Publication Date	Publication Name	Notes
6/1/2026	Initial Submittal to Dept. of Commerce, Version 1.0	Uploaded to CBPS Compliance Portal 6/1/26

# 2 Facility Summary

The UW Seattle Campus and the UW Tower complex cover 700 urban acres on the shores of Lake Washington's Union Bay and connected to Portage Bay in Seattle, Washington. The two sites contain more than 19 million Gross Floor Area of conditioned space within 277 diverse structures. The entire contiguous land area of the campus is owned by the University of Washington except for a limited number of City of Seattle streets, alleyways, and right-of-way. The structures contain both owned and leased facilities with a variety of internal and external service providers responsible for facility management functions. The geographic extents of UW Seattle Campus and UW Tower complex are illustrated in Figure 1, below.

Figure 1: Energy Management Plan Boundary



The UW energy management plan involves a comprehensive modernization of the existing Seattle campus district energy systems. Existing natural gas fired steam generation assets and distribution systems will be decommissioned or relegated to back-up status to support a transition to carbon-free, electrified heating and cooling. Refer to Exhibit 1.0, UW Seattle Campus Decarbonization Plan for a detailed description of the planned upgrades to the campus utilities.

Pursuant to CBPS normative annex W, section 6.8-2a, Table 2 below provides a summary of existing facilities within the boundaries of the two sites that contribute to the UW Seattle Campus Energy management plan and are served or planned to

be served in the future by a campus DES. A complete detailed list of buildings is provided in Exhibit 2.0, UW Seattle Building List.

*Table 2: Facilities Included in the Energy Management Plan*

UW Seattle Campus, Decarbonization compliance pathway	Count of Facility #	Count of EUI Group	Total Area (GFA)
Education: University	175	126	12,403,652
Healthcare: Hospital	16	4	1,414,278
Mixed (Research Lab Bldg. w/ Classrm. Labs)	12	12	1,626,457
Technology/Science: Lab	32	22	3,121,652
Grand Total	235	164	18,566,039
UW Tower Campus, Decarbonization compliance pathway	Count of Facility #	Count of EUI Group	Total Area (GFA)
Education: University	4	1	553,974

### 3 Energy Manager

The Energy Manager for the UW Seattle Campus is Norm Menter, Assistant Director, Energy and Resource Conservation. The Energy and Resource conservation manager oversees a team of five energy engineers. The Resource Conservation team ensures that the energy usage on campus is minimized without compromising the indoor environmental quality. The team is responsible for the following tasks.

1. Developing cost and savings calculations for energy efficiency calculations
2. Scoping energy efficiency projects
3. Ensuring persistence of savings from completed energy efficiency projects
4. Review savings and scopes from projects developed by ESCO contractors.

## 4 Energy Usage

### 4.1 Compliance Requirements (EUI Target)

The contiguous UW Seattle “Campus-level” Energy Use Intensity target (EUI<sub>t</sub>) is 145 kBTU/GFA/yr. The target is a blended average of the three (University, Technology/Science Laboratory and Hospital) building activity type targets found on campus, normalized by GFA. The calculation methodology can be reviewed in Exhibit 2.0, UW Seattle Building List. The following variables in calculation criteria were used in this submission:

- The campus is wholly located in climate zone 4C.
- The constituent portion of campus EUI<sub>t</sub> derived from buildings permitted after July 1, 2016 are assigned the CBPS prescribed reduced (lower) target for the effected GFA.
- The *CBPS, Table 7-3 Building Operating Shifts Normalization Factor* of 1.1 was applied to all campus buildings with the University building activity type target. All campus buildings operate at greater than 51 hours per week.
- A small minority of campus buildings (9%) are Technology/Science Laboratory buildings used for both research and teaching. Pursuant to *CBPS Table 7-1 Building Activity Types*, in these “mixed” buildings a blended target was developed based on the ratio of teaching to research GFA. In facilities where the % of research space is less than 75%, a blended average of the EUI<sub>t</sub> is used. The results of these calculations can be found in Table 3, Summary of mixed-use facility EUI calculation.

*Table 3: EUI Targets for mixed use buildings of College/University and Laboratory*

Facility	Classroom (with classroom laboratories) GFA	Research Laboratory GFA	Percent Research	Weighted EUI Target
1008 - ECE - Elec & Comp Eng Bldg	22,182	38,389	63%	191
1104 - FTR - Fish Teach & Rsch	6,370	9,426	60%	187
1109 - MUE - Mueller Hall	4,401	4,765	52%	177

Facility	Classroom (with classroom laboratories) GFA	Research Laboratory GFA	Percent Research	Weighted EUI Target
1168 - HST - Mag H.S.C./T	68,837	33,131	32%	153
1171 - MOR - More Hall	12,083	22,932	65%	194
1182 - EGA - Engineering Anx	4,439	10,234	70%	199
1200 - JHN - Johnson Hall	20,863	31,630	60%	187
1206 - BAG - Bagley Hall	34,559	68,473	66%	195
1242 - PAB - Physics/Astron Bldg	15,630	34,141	69%	198
1324 - HCK - Hitchcock Hall	24,526	29,850	55%	181
1332 - SIG - Sieg Building	9,132	7,190	44%	167
1347 - MEB - Mechanical Engr Bldg	14,731	29,567	67%	195
1352 - OCE - Oceanography Bldg	2,359	6,424	73%	203

## 4.2 Measured Site EUI

In the calendar year 2024, the actual EUI (not weather normalized) of the Contiguous Seattle Campus was 138 kBtu/sqft/yr. The weather normalized value for this same period was 132.7 kBtu/sqft/yr as calculated by Energy Star Portfolio Manager. These numbers are based on 18,566,039 square feet in the Energy Star Portfolio Manager. All electricity is provided by Seattle City Light (SCL) and natural gas is provided by Puget Sound Energy (PSE).

## 4.3 Building Level Monitoring

In addition to the utility meters, UW owns and maintains energy meters for the buildings served by the UW owned utility system. These include electrical, steam condensate, and campus chilled water meters. Data from these meters allows the University to track the EUI of buildings on campus and support the resource

conservation program described in sections 6 and 7. The details of these data can be found in Exhibit 3.0, UW Energy Management Data Collection and Usage Plan.

## 5 Facility Parameters

Each building’s operating hours can be found in Exhibit 2.0, UW Seattle Building List. A summary is provided in Table 4.

Table 4: Summary of Building Operation

<b>Continuous 24/7 Operation</b>	<b>Count of Facility #</b>	<b>Count of EUI Group</b>	<b>Total Area (GFA)</b>
Education: University (Housing)	26	18	3,159,900
Education: University (Health Science Center, Critical Facilities)	12	6	1,104,349
Healthcare: Hospital	12	1	1,402,030
Mixed (Research Lab Bldg. w/ Classroom Labs)	1	1	479,989
Technology/Science: Lab	10	4	1,493,395
<b>Total</b>	<b>61</b>	<b>30</b>	<b>7,639,663</b>
<b>Weekday Daytime Operating Buildings</b>	<b>Count of Facility #</b>	<b>Count of EUI Group</b>	<b>Total Area (GFA)</b>
Education: University	46	44	4,297,224
Mixed (Research Lab Bldg. w/ Classroom Labs)	9	9	1,003,942
Technology/Science: Lab	17	17	1,279,495
<b>Total</b>	<b>69</b>	<b>67</b>	<b>6,555,595</b>
<b>Weekday and Weekend Daytime Operating Buildings</b>	<b>Count of Facility #</b>	<b>Count of EUI Group</b>	<b>Total Area (GFA)</b>
Education: University	16	15	1,932,716
Mixed (Research Lab Bldg. w/ Classroom Labs)	1	1	125,839
Technology/Science: Lab	2	2	328,583
<b>Total</b>	<b>19</b>	<b>18</b>	<b>2,387,138</b>
<b>Ad Hoc Event Buildings</b>	<b>Count of Facility #</b>	<b>Count of EUI Group</b>	<b>Total Area (GFA)</b>
Education: University (Athletics)	9	8	1,437,520
<b>Total</b>	<b>9</b>	<b>8</b>	<b>1,437,520</b>
<b>Grand Total</b>			<b>18,044,982</b>

The UW Tower Campus operates on weekdays from 6:00AM to 6:00PM and is closed on weekends.

General HVAC operating hours and space temperature setpoints by usage type are listed in Table 5.

Table 5: HVAC Operation and Target Setpoints

Space Type	HVAC Occupancy Start	HVAC Occupancy Stop	Break/Holidays HVAC	Target Heating Temp (°F)	Target Passive Cooling Temp (°F)	Target Mechanical Cooling Temp (°F)
Auditoriums & Theaters	15 minutes before business or event hours	15 minutes after building or event hours	For Events Only. Work order required.	68	72-74	75
Classrooms	15 minutes before business or event hours	15 minutes after final class or building hours	None	68	72-74	75
Commons, Cafeterias	15 minutes before business or event hours	At end of posted hours	None	68	72-74	78
Corridors & Stairways	15 minutes before business or event hours	At end of posted hours	During posted hours only	65-67	75	N/A
Front Offices & Reception	15 minutes before business or event hours	15 minutes after building hours	Yes	68-70	72-74	78
Storage	15 minutes before business or event hours	15 minutes after building hours	Yes	65	78	N/A
Libraries	15 minutes before business or event hours	15 minutes after building hours	No	68-70	72	78
Staff Offices	15 minutes before business or event hours	15 minutes after building hours	Yes	68-70	72	78

Space Type	HVAC Occupancy Start	HVAC Occupancy Stop	Break/Holidays HVAC	Target Heating Temp (°F)	Target Passive Cooling Temp (°F)	Target Mechanical Cooling Temp (°F)
Restrooms	15 minutes before business or event hours	15 minutes after building hours	Yes	65	72	N/A
Conference Rooms	15 minutes before business or event hours	0 minutes after building hours	Yes	68	72-74	78
Computer Labs	15 minutes before business or event hours	At end of posted hours	No	68	72	78
Large & Catering Kitchens	15 minutes before staff occupancy	15 minutes after final staff occupancy	No	68	72	78
Small Kitchens & Staff Lounges	15 minutes before staff occupancy	15 minutes after final staff occupancy	Yes	68	72	78
Small Conference Rooms (<200 SF)	15 minutes before business hours	At end of building hours	Yes	68	72	78
Large Conference Rooms	15 minutes before business hours	At end of building hours	Yes	68	72	75
Study Rooms	Start of building hours	At end of building hours	No	68	72	75
Laboratory	24/7	24/7	No	68	72	75
Art Studios	15 minutes before staff occupancy	15 minutes after building hours			72	75
Recreation Halls	15 minutes prior to and after business or event hours	15 minutes after building hours		68	72-74	76

Space Type	HVAC Occupancy Start	HVAC Occupancy Stop	Break/Holidays HVAC	Target Heating Temp (°F)	Target Passive Cooling Temp (°F)	Target Mechanical Cooling Temp (°F)
Electrical Room	24/7	24/7	Yes	N/A	85	85
Mechanical Room	24/7	24/7	Yes	65	74	80
Elevator Mechanical	24/7	24/7	Yes	N/A	85	85
MDF, IDF	24/7	24/7	Yes	N/A	75	75

## 6 Energy Audits

The Resource Conservation Program, created in 2014, has audited 11 million campus GFA, in 112 major campus buildings. The audits were conducted from 2014 to 2016. These audits have been used to identify and implement (Energy Efficiency Measures) EEMs on various buildings. In total these audits identified 394 measures, which will result in 23 million kWh of electricity and 3.5 million therms of gas savings per year. The total investment cost to achieve these savings was estimated at \$18 million and an annual utility cost savings of \$4.4 million.

These audits were conducted by resource conservation team energy engineers. The audits followed the procedure of a targeted ASHRAE level II audit with a focus on the building’s HVAC systems. Key tasks included the following:

- Reviewing facility design information (drawings, reports)
- Interviewing staff including campus engineers, controls technicians and building coordinators
- Conducting site inspections
- Gathering building submeter information
- Testing and Monitoring building systems

Some of the measures identified require additional development due to their complexity or are more capital intensive than the other measures. To support these

measures, UW has procured the services of three ESCO contractors to better scope these measures.

In 2025, the ESCO contractors performed audits on 3 buildings. These buildings include the UW Tower, Suzzallo Library and the IMA building. The results of these audits are included in Exhibit 4.0, UW Building Audits. The three projects are currently in the design phase. The UW Tower and Suzzallo Library will be implemented by the ESCO contractors. The IMA project will be implemented by UW Shops.

In 2025, five senior mechanical engineering students conducted an Energy Audit of the Social Work and Speech Hearing Building as part of their capstone design project. The audit was consistent with an ASHRAE level I audit and utilized the ASHRAE Building Energy Quotient to benchmark the building. Cost effective measures from this audit have been reviewed by the resource conservation team and are currently under consideration.

## 7 Implemented and Planned EEMs

While no campus EEMs are required to meet the campus EUI benchmarking target; UW is committed to a robust energy efficiency program. The Resource Conservation Program has completed 55 projects worth nearly \$6 million dollars, resulting in more than \$1.3 million in annual energy savings. The program has cut campus utility spending by 4% annually, shaving 5.5 points off of the campus EUI over the last 10 years. Table 6 shows the resource conservation projects completed from 2015 to 2025. A detailed list of projects completed can be found in Exhibit 5.0, RCP Completed Projects.

*Table 6: Summary of Completed Resource Conservation Projects*

Resource Conservation Projects	Totals
Annual Electric Cost Savings	\$600,285
Annual Electricity saving (kWh)	8,076,455
Annual Gas Cost Savings	\$527,243
Annual Gas saving (therms)	1,222,314

Resource Conservation Projects	Totals
Total Cost Savings	\$1,127,529
Resource Conservation Investment	\$5,937,281
Incentives Received	\$3,256,306
Simple Payback (Years - After Incentives)	2.37
Savings to Investment (15-year Life)	6.3

Figure 2: Utility Cost Savings by Year

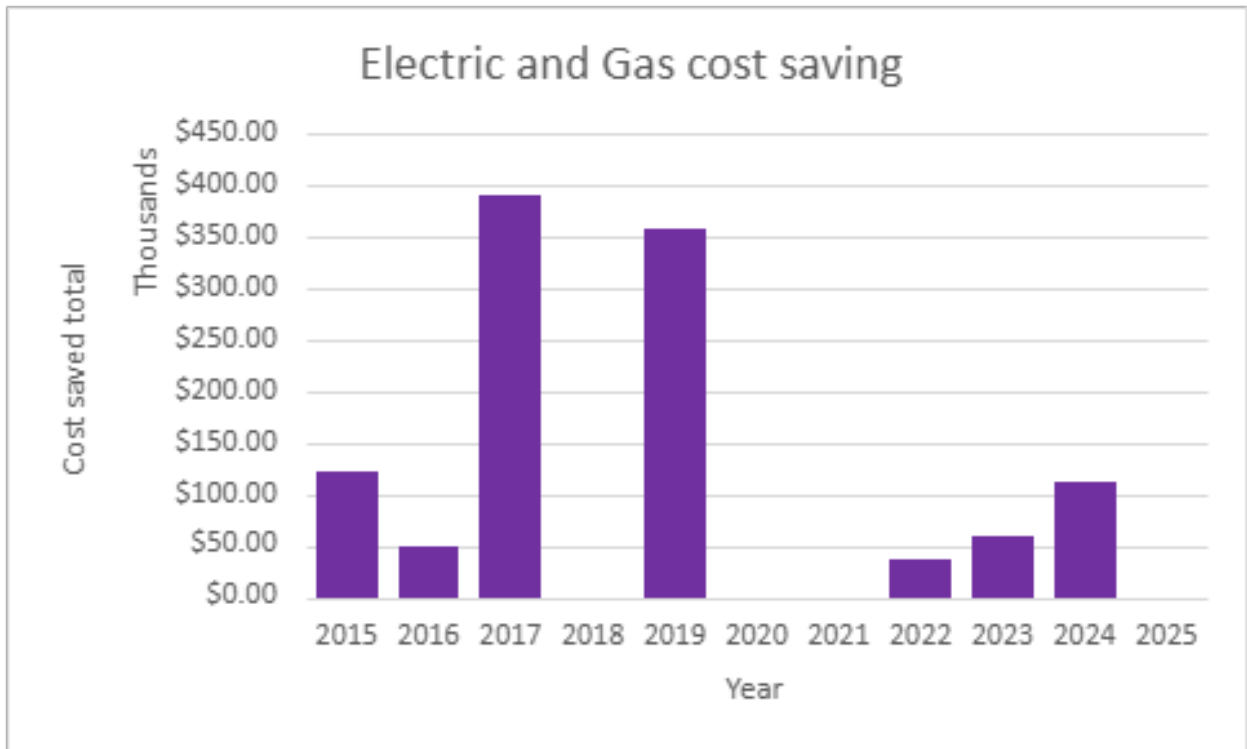
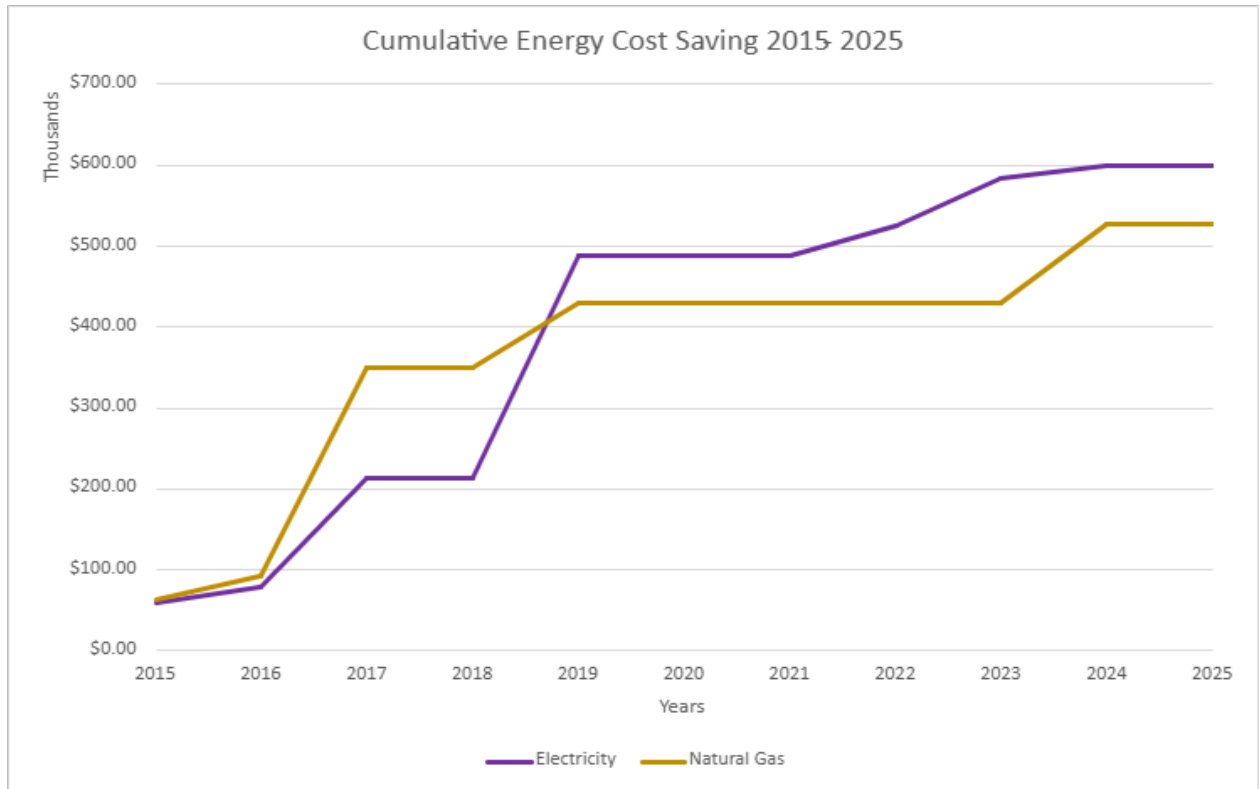


Figure 3: Cumulative Utility Cost Savings by Year



Resource conservation projections planned to be completed in the 25-27 biennium are shown in Table 7.

Table 7: Planned Resource Conservation Projects

Building	Scope Description	Annual Electrical Savings	Annual Steam Plant Savings	Total Utility Savings
		kWh	klbs steam	\$
(Campus Wide)	Replace leaking valves	0	8,024	\$114,943
(Campus Wide)	Optimize sequences	1,793,650	20,425	\$286,979
(Campus Wide)	Repair economizer dampers	0	9,342	\$75,002
Winkenwerder (1151)	VFD upgrade	62,786	386	\$8,549
More Hall (1171)	VFD upgrade	119,615	0	\$10,403
Art (1298)	VFD upgrade	74,091	0	\$4,488
Marine Studies (1122)	VFD upgrade	186,435	0	\$16,215
Suzzallo (1193)	HVAC controls and VFD Upgrade	624,181	4,030	\$91,122

Building	Scope Description	Annual Electrical Savings	Annual Steam Plant Savings	Total Utility Savings
		kWh	klbs steam	\$
IMA (1137)	VFD upgrade	537,029	3,296	\$105,692
UW Tower (4595)	Install Heat Reclaim Chiller	1,301,875	0	\$131,229
<b>Total</b>		<b>4,699,662</b>	<b>45,503</b>	<b>\$844,621</b>

## 8 Occupant Training and Communication

Each building on campus has an official Building Coordinator. The Building Coordinator coordinates building occupant needs with the UW Facilities, UW Police Department, Environmental Health and Safety, and UW information technology. UW Facilities and the Building Coordinator work together to establish appropriate HVAC operating hours for all buildings.

Information on plans relating to energy consumption is hosted on the UW Sustainability website. The current URL is <https://sustainability.uw.edu/campus/energy>. The Energy Management Plan will be hosted at this site and updates to the plan will be included in an e-mail distributed to the Building Coordinators.

## 9 O&M Staff Training

UW Facilities emphasizes that learning never stops. The UW Facilities Services Training Center was built to encourage and support ongoing training among the UW Facilities staff. The training center is 8,000 sq. ft. and includes a conference room, 3 classrooms, a dry lab, a wet lab, and a computer lab. UW Facilities Services also employs a learning management system to ensure that required training is completed and can simultaneously provide online training. Table 8 provides details of training courses provided to various facilities staff. Safety training is highlighted at the top as it is a prerequisite to optimizing energy efficiency without compromising environmental quality or system functionality.

Table 8: Summary of training provided by audience.

Audience	Training	Description
All Facilities	Safety	Safety training is customized per position, and each course is retaken periodically. Courses can include but are not limited to fall protection, ladder safety, lock-out tag-out, hearing protection, and first aid/CPR.
Facilities Engineers	Engineering Services Lunch and Learn	Each guest speaker provides Facilities staff with learning opportunities on technical systems, design standards, code requirements, and other essential job aids for our teams.
Resource Conservation Staff	Continuing Education	Online webinars from organizations such as ASHRAE, AEE, IDEA, I2SL and the Seattle Lighting Design Lab.
Maintenance and Construction Staff	Building Operation and Maintenance	Contractor provided training for new construction is recorded and stored in the Facility Records system.
Controls Engineers and Technicians	Building Automation Systems and Metering Systems	Controls program and operating training provided on requested by staff. PLC configuration training provided by electrical contractors. Building specific training is provided by in-house staff. The building specific training includes details on the sequence of operations and building equipment configuration.

## 10 Capital Management Plan

The UW will continue to fund about \$500,000 annually in projects based on EEMs from the building audits. Rebates from Seattle City Light and Puget Sound Energy will also be used to fund additional projects.

In the following two biennia, the following major projects shown in Table 9 are under consideration on the UW Campus:

Table 9: List of Major Capital Projects under Consideration

UW Building	Description	Anticipated Cost
Campus Wide	AHU Coil Replacements	\$2,000,000
Campus Wide	Heat Exchanger Replacements	\$1,000,000
Hec Ed	Chiller Replacement	\$1,000,000
G & K-wing	Chiller Replacement	\$1,000,000
PSB 2nd Floor N End	HVAC Unit Replacement	\$3,200,000
Social Work	HVAC Unit Replacement	\$5,000,000
McMahon Hall	Building Replacement	\$280,000,000
Mechanical Engineering Building (MEB II)	New Building	\$200,000,000
Miller hall	Renovation	\$92,000,000

## 11 Contact List

Energy management programs at the UW Seattle Campus requires the collaboration of multiple offices, organizations and trusted industry partners. The list below includes the key contracts and associated roles and titles.

Table 10: Energy Management Contacts List

Role	Company	Name and Title	Phone	Email
UW Campus Owner	UW Facilities	Rodney Worden, Interim Vice President of UW Facilities	206-685-1428	<a href="mailto:rworden@uw.edu">rworden@uw.edu</a>
UW Campus Utilities Owner	UW Facilities	David Woodson, Executive Director, Campus Energy, Utilities, Operations (CEUO)	206-543-5610	<a href="mailto:dwoodson@uw.edu">dwoodson@uw.edu</a>

Role	Company	Name and Title	Phone	Email
Campus Energy Manager	UW Facilities	Norm Menter, Architect Assistant Director CEUO	206-221-4269	<a href="mailto:nmenter@uw.edu">nmenter@uw.edu</a>
EMP Responsible Party	UW Facilities	Robert Gaynor, PE, CEUO Energy Engineer	206-616-2159	<a href="mailto:rmgaynor@uw.edu">rmgaynor@uw.edu</a>
UW HVAC Controls Manager	UW Facilities	Guarrin Sakagawa, PE, CEUO HVAC Shop Manager	206-543-4208	<a href="mailto:sakagawa@uw.edu">sakagawa@uw.edu</a>
UW HVAC Shop Controls Engineer	UW Facilities	Chris Adams, HVAC Controls Engineer	206-396-6467	<a href="mailto:cadams93@uw.edu">cadams93@uw.edu</a>
O&M Plan Responsible Party	UW Facilities	Cody Rawlins, UW Facilities, Maintenance & Construction	206-221-4386	<a href="mailto:crawli@uw.edu">crawli@uw.edu</a>
ESCO Contractor	ATS Automation Inc.	Moe Salem Project Director/ Principle in Charge	206.226.0393	<a href="mailto:moes@atsinc.org">moes@atsinc.org</a>
ESCO Contractor	MacDonald Miller	Logan Ordoña Senior Project Executive	206-290-0094	logan.ordona@macmilller.com
ESCO Contractor	McKinstry	Robert Hail, Regional Director — Energy	206.832.8072	RobertHa@mckinstry.com

## 12 Lighting

A complete lighting survey is not required for this submittal as the campus is under the EUI target as stated in Exception 1 to Section 5.1.2.12.

The campus is undergoing a re-lamping effort using LED and new energy efficiency lighting standards for retrofits. Over 60K lamps have been replaced since 2017 with more being replaced during night shifts, renovations, and downtimes. A full list of

retrofits can be found in Exhibit 6.0, LED Retrofits. A summary of the effort is provided in Table 11.

*Table 11: Lamps Replaced by Year*

<b>Year</b>	<b>Lamps Demoed</b>	<b>Lamps Installed</b>
<2/10/2015	270	245
2015	36	36
2016	162	113
2017	11,052	10,773
2018	12,800	12,581
2019	6,629	9,750
2020	12,677	12,547
2021	11,035	11,008
2022	20	20
2023	2,293	2,291
2024	876	876
2025	386	386
<b>Grand Total</b>	<b>58,236</b>	<b>60,626</b>

## 13 Signatures

The University of Washington, Seattle Campus energy management plan is submitted in compliance with requirements of the Washington State Clean Buildings Performance Standard, Section 5 and Section 6. The undersigned state that the University of Washington campus complies with ASHRAE Standard 100, 2018 as amended by the AHJ and written into rule WAC 194-50:

DocuSigned by:  
Sign: Rod Worden  
40D0E6E206434CF...

Rod Worden, Interim Vice President of UW Facilities (campus owner)

Date: 5/26/2026

Signed by:  
Sign: Robert Gaynor  
470F1349C96C4A9...

Robert Gaynor, PE., Energy Engineer (qualified person)

Date: 5/26/2026

DocuSigned by:  
Sign: Norm Menter  
D48CB148006845C...

Norm Menter, Assistant Director of UW Facilities (energy manager)

Date: 5/26/2026

## **14 Operations & Maintenance Program**

UW has implemented a campus O&M program based on 2020 multi-factored prioritization criteria developed in partnership with preventative and corrective maintenance activities rather than prescriptive reactive and cosmetic activities. The goal of the program is to preserve the operational performance of building energy consuming systems with activities focused on thermal efficiency, process requirements and occupant comfort balanced against limiting economic and human resource constraints. Due to the complexity and quantity of system components and elements, the O&M program prioritizes in a manner that enables the system to provide the intended thermal and visual comfort, energy efficiency, and helps to achieve the intended indoor environmental quality required for the building based on cost effectiveness and common sense rather than a purely prescriptive adherence manufacturers recommendations. The O&M program contains an inventory of equipment, systems, and controls that are inspected and maintained. The program incorporates the maintenance plan describing the goals, objectives, and execution of the systems maintenance program. The behavior fostered in our energy management plan will ensure that our Continuous Energy Improvement program is effective and methodic so that we are equipped to achieve our goals.

## **15 UW Campus Buildings Operated by Self-sustaining Units**

University of Washington (UW) policy delegates property management responsibility to five units within the administrative structure of the university.

Table 112: Facility Operational Responsibility List

Building Type	Operational Responsibility	Facility Count	GFA
Educational and General (E&G) Facilities	UW Facilities (UWF)	178	12,790,335
Academic medical center and teaching hospital	UW Medical Center-Montlake (UWMC-Montlake)	15	1,413,433
Student Housing Facilities (Dormitories with dining, recreational and study space)	UW Housing and Food Services (HFS)	32	3,215,847
Athletic Facilities (stadia, arena, gymnasias, field houses, grandstands, athlete training and support facilities)	UW Inter-Collegiate Athletics (ICA)	11	1,438,221
UW owned property and building but operated by 3 <sup>rd</sup> Party	UW – Real Estate Office (REO)	3	262,177

The UWMC - Montlake energy management plan is included as Exhibit 7.0 UWMC - Montlake EMP and Exhibit 8.0 UWMC – Montlake operations and maintenance program.

Summary EMP narratives for our other self-sustaining units are included below.

## 15.1 Housing & Food Service Buildings

### 1. Buildings Overview

The Housing & Food Services (HFS) portfolio comprises 32 residential buildings serving undergraduate and graduate students through a range of unit types: singles, doubles, triples, quads, and apartments. These buildings are geographically dispersed across the Seattle Campus and form the residential core of the University of Washington’s on-campus student experience. HFS supports approximately 9,500 students across its on-campus housing facilities.

Through capital investment and operational strategy, HFS has delivered one of the most energy-efficient and fully electrified student housing portfolios in the Pacific Northwest.

In addition to residential buildings, HFS operates a substantial share of campus food service infrastructure, including large in-residence dining halls integrated into housing complexes and retail food service operations located in mixed-use or academic buildings. These facilities require consistent thermal comfort, high domestic hot water availability, and continuous ventilation to maintain operational efficiency and occupant satisfaction.

The majority of the residential portfolio results from a comprehensive housing redevelopment project undertaken between 2010 and 2018, encompassing both the North Campus and West Campus areas. Through this effort, many aging 1960s-era buildings were demolished and replaced with modern, high-performance facilities that adhere to the then-current Seattle Energy Code and University of Washington sustainability and energy guidelines. These capital investments have contributed to a 48% reduction in utility consumption per square foot and a 31% reduction per bed since 2011, reflecting a broader transition away from fossil fuels and toward fully electric infrastructure. This redevelopment initiative received the Puget Sound Energy Achievement in Energy Efficiency Award and the AIA Sustainability Honor Award, and all newly constructed buildings achieved at least LEED Gold certification. Facilities delivered through this effort incorporated modern envelope assemblies, advanced glazing systems, balanced ventilation, and high-efficiency mechanical systems, yielding substantial reductions in Energy Use Intensity (EUI) and greenhouse gas emissions per square foot.

Haggett Hall, currently under construction, will continue this trajectory. It is being developed to meet or exceed the current Seattle Energy Code and the UW Green Building Standard. The project includes rooftop solar infrastructure and is designed for full electrification, aligning with UW's long-term energy and carbon objectives.

Three legacy structures remain: Hansee Hall (constructed in the 1930s), McMahon Hall (constructed in the 1960s), and Commodore Duchess (constructed in the 1930s and currently managed by a third party). These buildings, all reinforced concrete construction, are retained for their structural integrity, continued use, and

substantial embodied carbon value. Over the next ten years, all three are scheduled for targeted capital reinvestment focused on envelope performance, system modernization, and lifecycle extension.

Operationally, HFS continues to implement proactive maintenance strategies emphasizing high-demand mechanical systems, domestic hot water production, and ventilation optimization. Building Automation System (BAS) upgrades are underway across the portfolio, optimizing energy use through advanced scheduling, load management, and time-of-use control capabilities. Facilities teams have also successfully completed major LED lighting retrofit projects across multiple buildings, systematically replacing standard lighting fixtures to reduce electrical loads and enhance operational efficiency.

HFS remains committed to renewable energy deployment and sustainable equipment procurement. Several West Campus buildings currently feature rooftop solar photovoltaic systems, and the new Haggett Hall will include additional solar array infrastructure. Furthermore, all new appliance purchases must meet ENERGY STAR certification standards, and service vendors are contractually required to supply high-efficiency equipment aligned with UW sustainability goals.

## 2. Buildings Served by District Energy System (DES)

As of 2025, most HFS buildings are not connected to the UW Montlake Campus District Energy System (DES). Hansee Hall has been fully converted from steam and now uses electric hot water systems. McMahon Hall and Commodore Duchess continue to rely on steam for both domestic hot water and space heating. Minor steam disconnections have occurred in McMahon Hall in connection with the dining renovation for 'The 8'.

The newer HFS buildings constructed during the housing redevelopment project are primarily electric, although several incorporate gas boilers as secondary or tertiary systems for domestic hot water or supplemental heating (e.g., LAN, MAP, TER – secondary; WILL, MCC, MAD – tertiary). These buildings are not currently planned for DES reintegration due to their decentralized mechanical designs and absence of hydronic infrastructure. However, a transition from gas to electricity is

mandated by HFS capital standards in all future refreshes or unscheduled system replacements.

Several HFS-adjacent facilities, including the HUB, also remain connected to steam systems for kitchen equipment, heating, and hot water supply.

Over the next five years, HFS will continue evaluating McMahan Hall, Commodore Duchess, and Hansee Hall for potential future alignment with the electrified DES network. A technical feasibility review is planned to assess connection costs, building modifications, and DES compatibility as the campus continues transitioning away from fossil fuel-based central energy.

### 3. Building Conversion Strategy

The HFS decarbonization strategy is methodically phased, guided by the HFS Capital Needs Assessment (CNA) and fully integrated into broader university infrastructure planning. This approach ensures energy system transitions are synchronized with lifecycle renewals, avoiding redundant capital investments.

- Steam System Retirement and Conversion:

McMahan Hall and Commodore Duchess continue to rely on steam for space heating and domestic hot water, although McMahan has undergone partial disconnection in localized kitchen systems.

- Electrification of New Construction:

All buildings constructed during the housing redevelopment project were designed without steam connections. They primarily operate with electric systems but some utilize gas-fired boilers for backup DHW or supplemental space heating. Future system replacements or refreshes are required to convert fully to electric systems, consistent with the UW Green Building Standard and HFS decarbonization objectives. Haggett Hall, currently under construction, is designed to meet these standards from day one.

- Dining Infrastructure Transition:

Dining kitchens, particularly those constructed before the redevelopment project, retain a mix of gas-fired cooking and hot water systems. HFS is actively transitioning

these facilities toward full electrification through cyclic refresh projects, infrastructure upgrades, and prioritization of ENERGY STAR-rated appliances.

- Controls and Grid Integration Potential:

Building Automation Systems (BAS) are being deployed or upgraded across the portfolio to support advanced energy management functions, including real-time thermal zoning adjustments, demand response participation, and time-of-use optimization.

These strategies will continue over the next five years and beyond, positioning HFS facilities to meet operational, energy, and carbon reduction goals while minimizing occupant disruption during capital transitions.

## 4. Other Considerations

The three legacy buildings—Hanseer Hall, McMahon Hall, and Commodore Duchess—represent some of the most significant opportunities for future decarbonization within the HFS portfolio through envelope repairs and updates as part of the HFS cyclic refresh plan. While Hanseer Hall has already transitioned off steam for domestic hot water, future reconnection with DES could be explored following the campus central plant transition.

In parallel with these transition strategies, HFS is actively benchmarking building energy performance, executing phased LED lighting retrofits, and deploying BAS optimization across HVAC and lighting systems. These continuous reinvestments support enhanced operational resilience, energy performance, and carbon emissions reductions aligned with the University's overall sustainability goals. Together, these capital and operational investments position HFS as a success case in campus-scale decarbonization, demonstrating the viability of system-level transitions across a large and diverse building portfolio.

## 15.2 Inter Collegiate Athletics Buildings

### 1. Buildings Overview

A. UW Intercollegiate Athletics is comprised of 14 stand-alone, high intensity use facilities that serve 21 men's and women's varsity teams. The oldest facility is

Alaska Airlines Arena at Hec Edmundson Pavilion (1927) and the newest is a men's and women's Basketball Training Facility, opening in the Fall of 2025.

Athletics facilities are a combination of indoor and outdoor venues and serve to host student-athlete training, spectator attended competitions and community events. The centerpiece of the Athletics campus is Husky Stadium, a 71,000-seat venue, the largest in the Northwest region of the country. Husky Stadium, situated on the shore of Lake Washington, is often referred to as "the greatest setting in college football."

## 2. Buildings Served by District Energy System (DES)

A. All Athletics buildings are serviced through power from campus via the City of Seattle electrical grid. Two office buildings are heated via steam from the UW Power Plant. Steam is also the source that serves a self-contained laundry operation. Husky Stadium has augmented service through natural gas for two kitchen commissaries and concession stands.

## 3. Building Conversion Strategy

All new facilities operate via electricity, and a LEED Gold or higher standard is pursued during the construction development phase. Two prominent facilities with high energy use-Husky Stadium and the Arena – underwent construction to convert its sport lighting to LED technology in the summer of 2023. University electricians have been progressively moving through indoor facilities, converting lighting to LED. The Harshman Court facility was converted to LED in 2024. Currently four outdoor venues are undergoing planning, funding effort for conversion of sports lighting to LED. Photovoltaics (PV) units are included in the impending Basketball project. The Athletic Department participated in and achieved compliance with the City of Seattle Energy Tune Up Program in 2019 with a focus on Husky Stadium.

## 4. Other Considerations

Athletics is a financially self-sustaining program. Energy initiatives have been most successful when integrated into a capital improvement project. Up-front capital funding for stand-alone sustainability projects with future net positive payback or savings has not been feasible as a strategy. Creative funding incentives would be attractive to help achieve campus decarbonization.

## 15.3 UW Owned Buildings, Managed by Third Party Property Managers

### 1. Buildings Overview

UW Real Estate Office oversees an extensive portfolio of UW owned buildings across Washington state where facility management responsibilities are provided by contract to third party property managers. Typically, these buildings are not part of the contiguous Seattle Campus. However, three facilities are within the boundaries of the contiguous campus.

*Table 113: Contiguous Campus, Third Party Managed Facility List*

<b>Compliance Pathway</b>	<b>EUI Group</b>	<b>Facility Name</b>	<b>Address</b>	<b>Maintenance Provider</b>	<b>Area (Gross Square Feet)</b>
Seattle contiguous: Decarbonization Plan	1080-1-EUIGrp	4545 Bldg	4545 15th NE Ave, Seattle WA	Third Party	84,696
Seattle contiguous: Decarbonization Plan	1152-1-EUIGrp	Commodore-Duchess	4009 15th NE Ave, Seattle WA	Third Party	97,849
Seattle contiguous: Decarbonization Plan	4353-1-EUIGrp	Ben Hall Interdisciplinary Research	3920 Pasadena NE Pl, Seattle WA	Third Party	159,881

UW Real Estate has assigned EMP and O&M Program reporting to the appropriate property manager. As UW receives compliant reports from the managers, UW will upload the documents to the portal as Exhibit 9.0 Third Party Managed Properties: EMP/O&M Program Reports.