

MARCH 1, 2023

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# UC Davis Uses AVEVA Solutions to Reach their Sustainability Goals

*AVEVA PI SYSTEM, AVEVA SYSTEM PLATFORM*

Presented by: Sharona Saltzman

# UC DAVIS

UNIVERSITY OF CALIFORNIA



# UC Davis Looking to the Future



## Goals

- Reduce Energy, Gas, & Water Usage
- Achieve Carbon Neutrality by 2025
- Optimize chilled water system
- Improve HVAC scheduling
- Retrofit district steam heating



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# AVEVA Solutions Chosen to Achieve UC Davis Goals

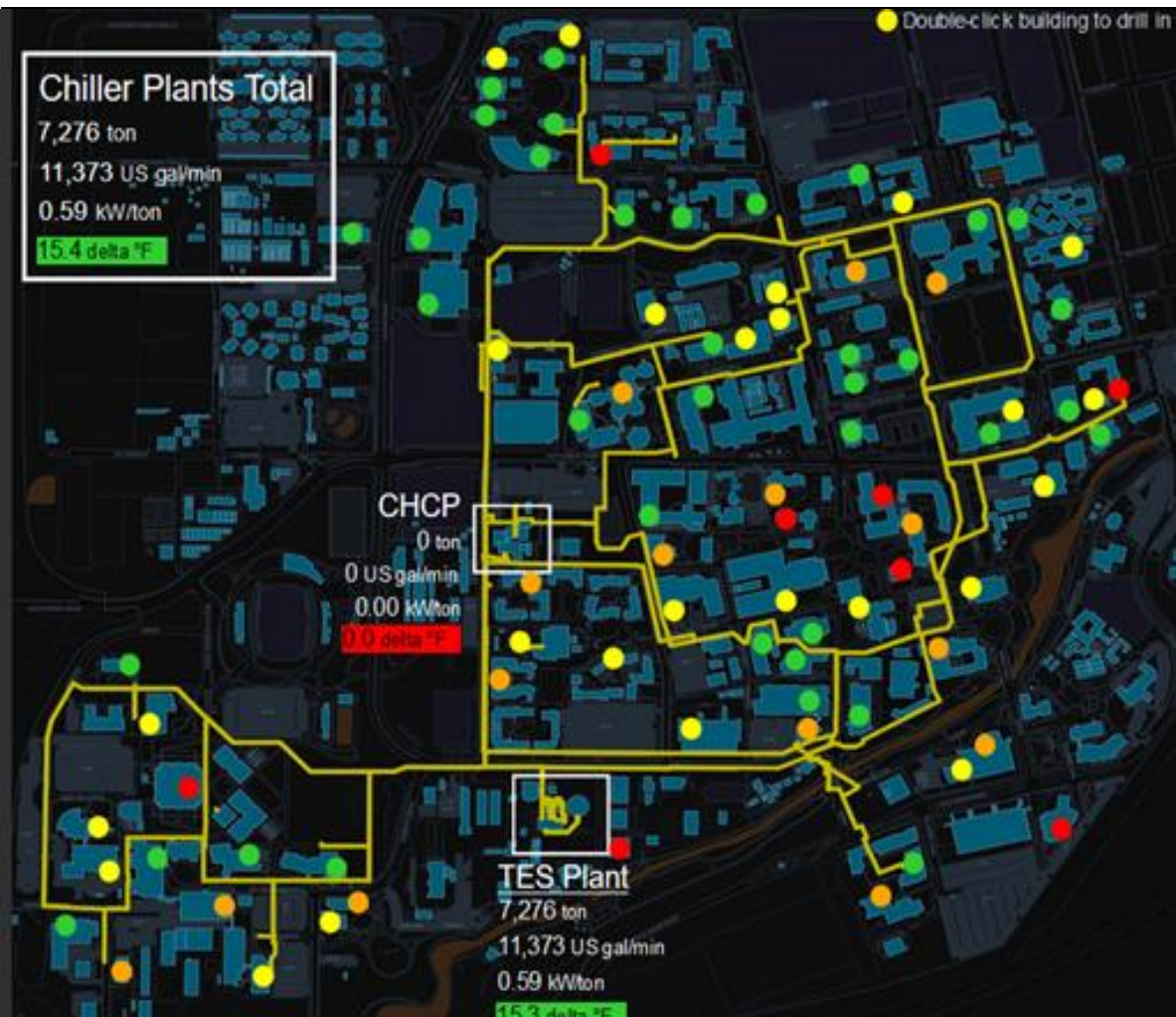
AVEVA System  
Platform™

AVEVA PI  
System™

# UC Davis CHCP Control Room



# Building Chilled Water (CHW) Utilization



$\Delta T < 5^\circ\text{F}$	10	0 %	420	4 %
$\Delta T = 5 - 10^\circ\text{F}$	815	11 %	2,548	22 %
$\Delta T = 10 - 15^\circ\text{F}$	1,318	18 %	2,520	22 %
$\Delta T > 15^\circ\text{F}$	2,752	38 %	2,911	26 %
$\Delta T$ unknown	2,287	29 %	2,809	22 %

## Building Performance Double-click building name to drill in

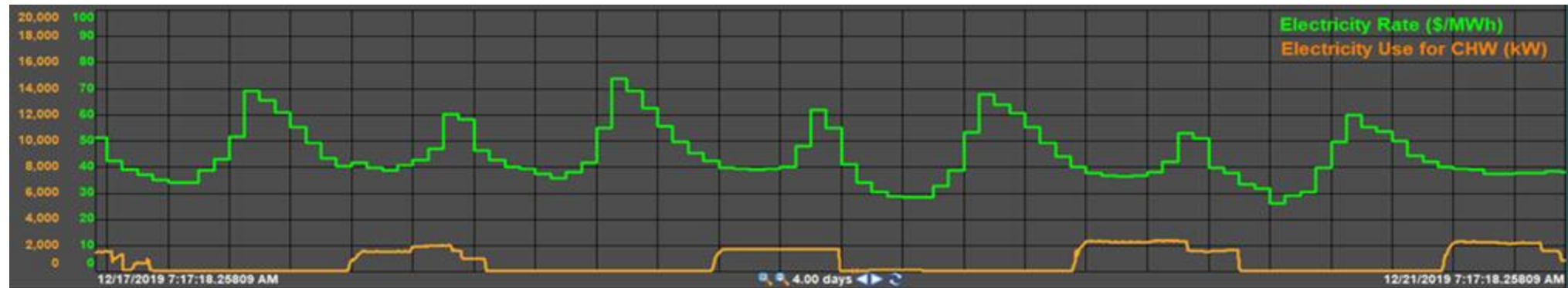
Academic_Surge_Building	24.4 delta °F	97 ton	93 US gal/min
Activities_and_Recreation_Center	23.7 delta °F	232 ton	234 US gal/min
Ann_E_Pitzer_Center	16.7 delta °F	8 ton	12 US gal/min
Art_Music_&_Wright	10.4 delta °F	2 ton	4 US gal/min
Asmundson_Hall	14.3 delta °F	32 ton	53 US gal/min
Balmer_Hall	12.9 delta °F	16 ton	30 US gal/min
Briggs_Hall	9.8 delta °F	88 ton	217 US gal/min
California_Hall	11.1 delta °F	3 ton	7 US gal/min
Center_for_Companion_Animal_Health	11.7 delta °F	88 ton	180 US gal/min
Central_Cage_Wash	17.0 delta °F	22 ton	30 US gal/min
CFA_Administration_Building	10.1 delta °F	11 ton	27 US gal/min
CFA_Mondavi	7.7 delta °F	131 ton	403 US gal/min
Chemistry	3.2 delta °F	0 ton	0 US gal/min
Chemistry_Annex	5.4 delta °F	36 ton	161 US gal/min
Cole_B	2.9 delta °F	0 ton	0 US gal/min
Cruess_Hall	22.0 delta °F	20 ton	22 US gal/min
Dutton_Hall	33.1 delta °F	41 ton	25 US gal/min
Earth_and_Physical_Sciences_Building	17.7 delta °F	131 ton	180 US gal/min

# Preliminary Chiller Dispatch

## Prior to Training



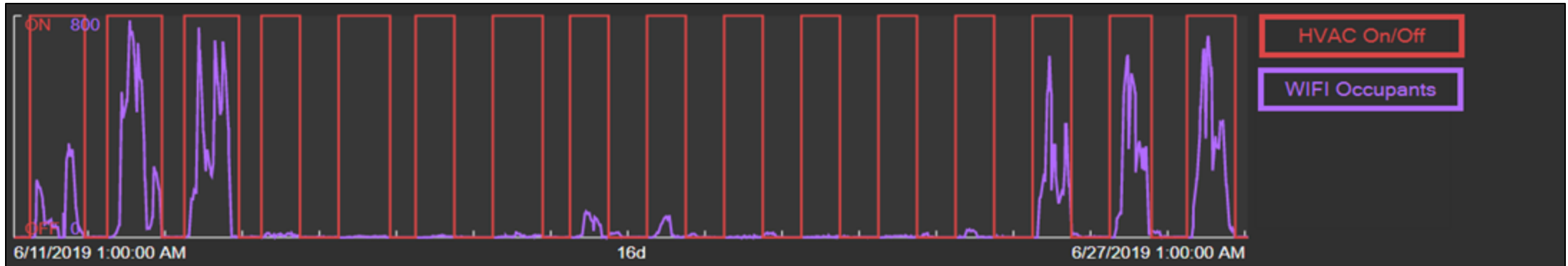
## Post Training



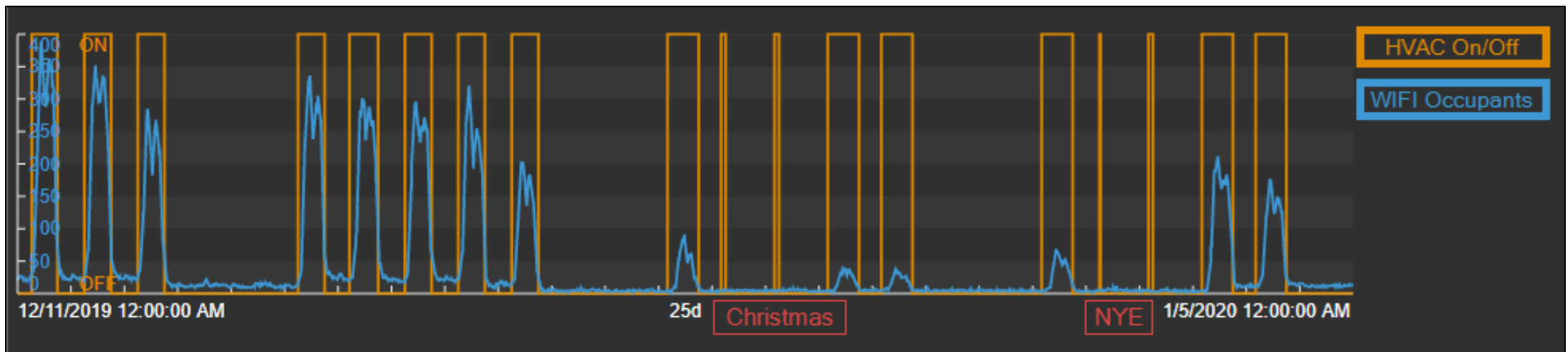


# WiFi/Schedule Alerting

## Before Optimizing HVAC

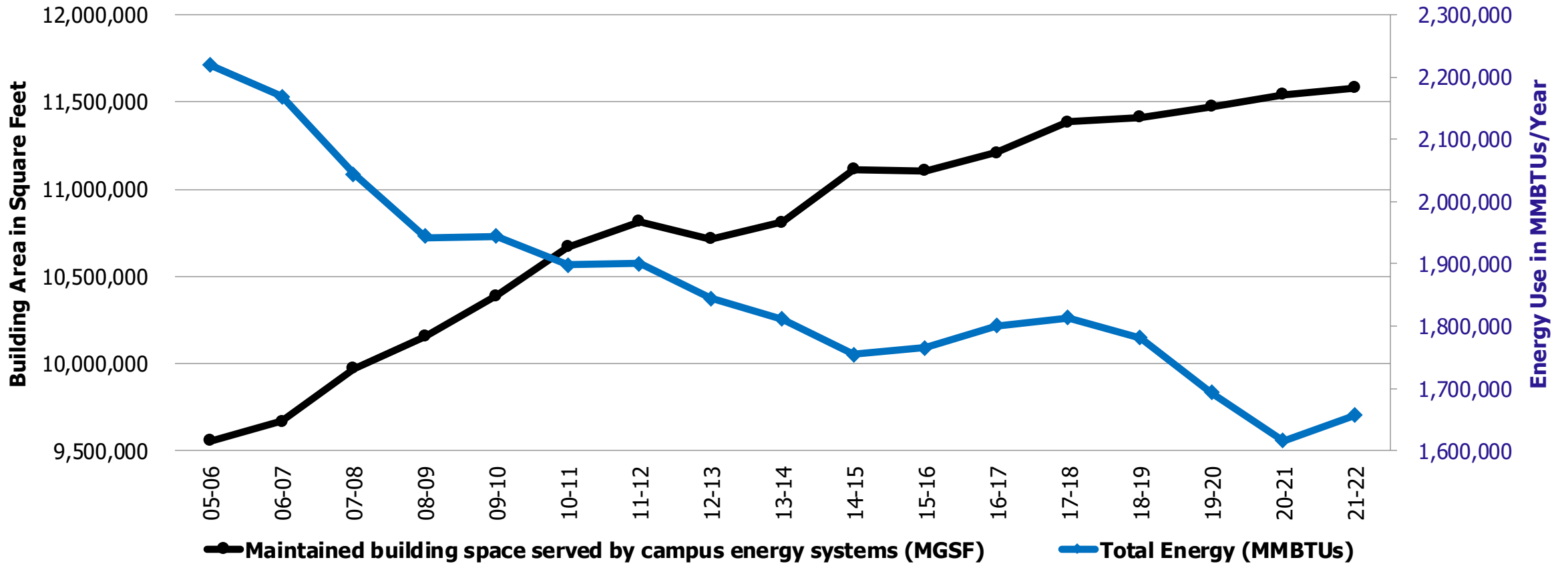


## After Optimizing HVAC

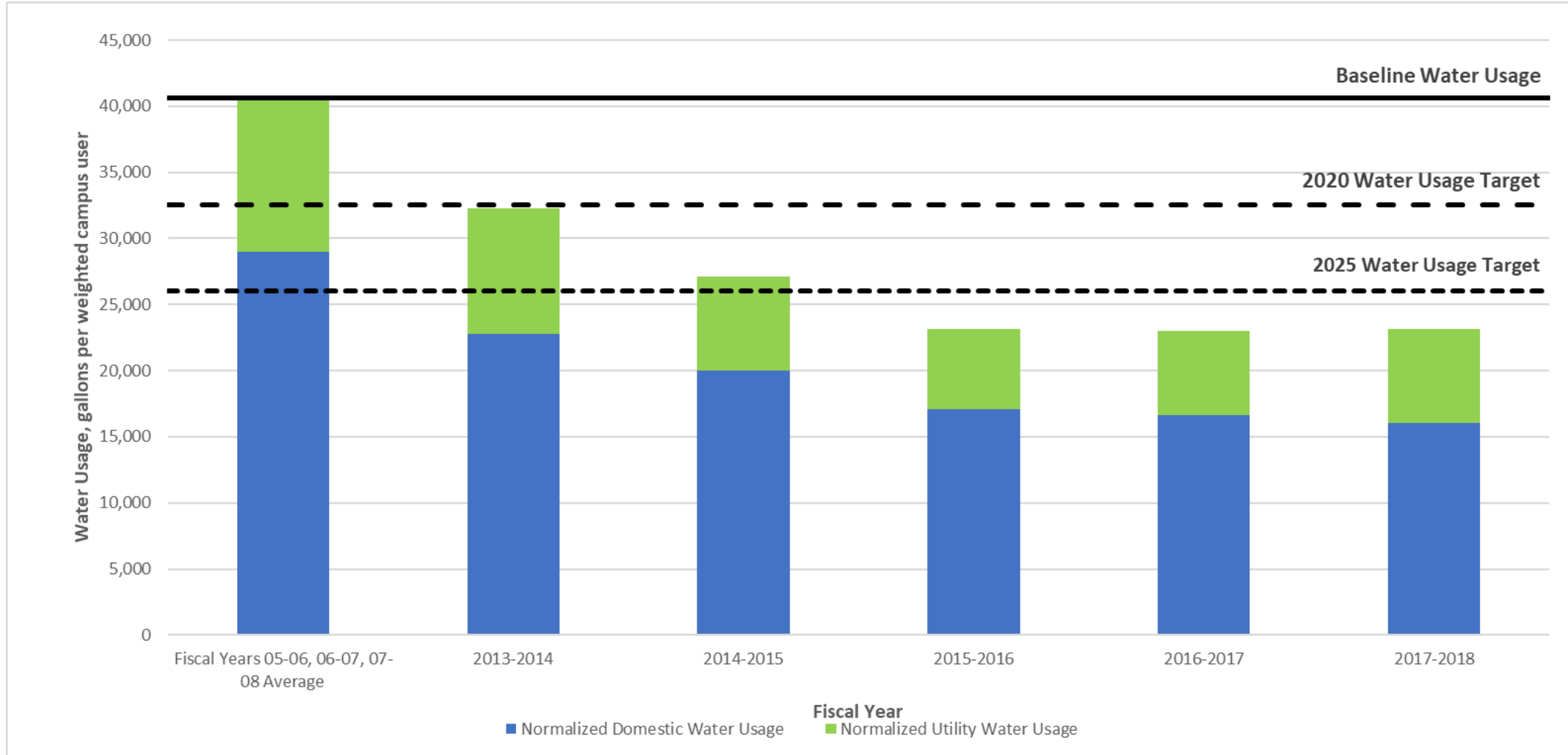


# Energy Savings

## Recent on-Campus Energy Use & Building Space



# Water Savings Results





# GROWING GREEN

## RESULTS:

- **46% REDUCTION IN ENERGY USE, A SAVINGS OF \$15 MILLION**
- **62% REDUCTION IN GAS USAGE, FROM HEATING SYSTEM RETROFIT**
- *EXPECTED ANNUAL SAVINGS OF \$150,000, FROM CHILLED WATER OPTIMIZATION*
- **PROJECTED SAVINGS OF \$197 MILLION, OVER 60 YEARS FROM SHIFT TO LOW-TEMPERATURE HOT WATER HEATING**

# UC DAVIS

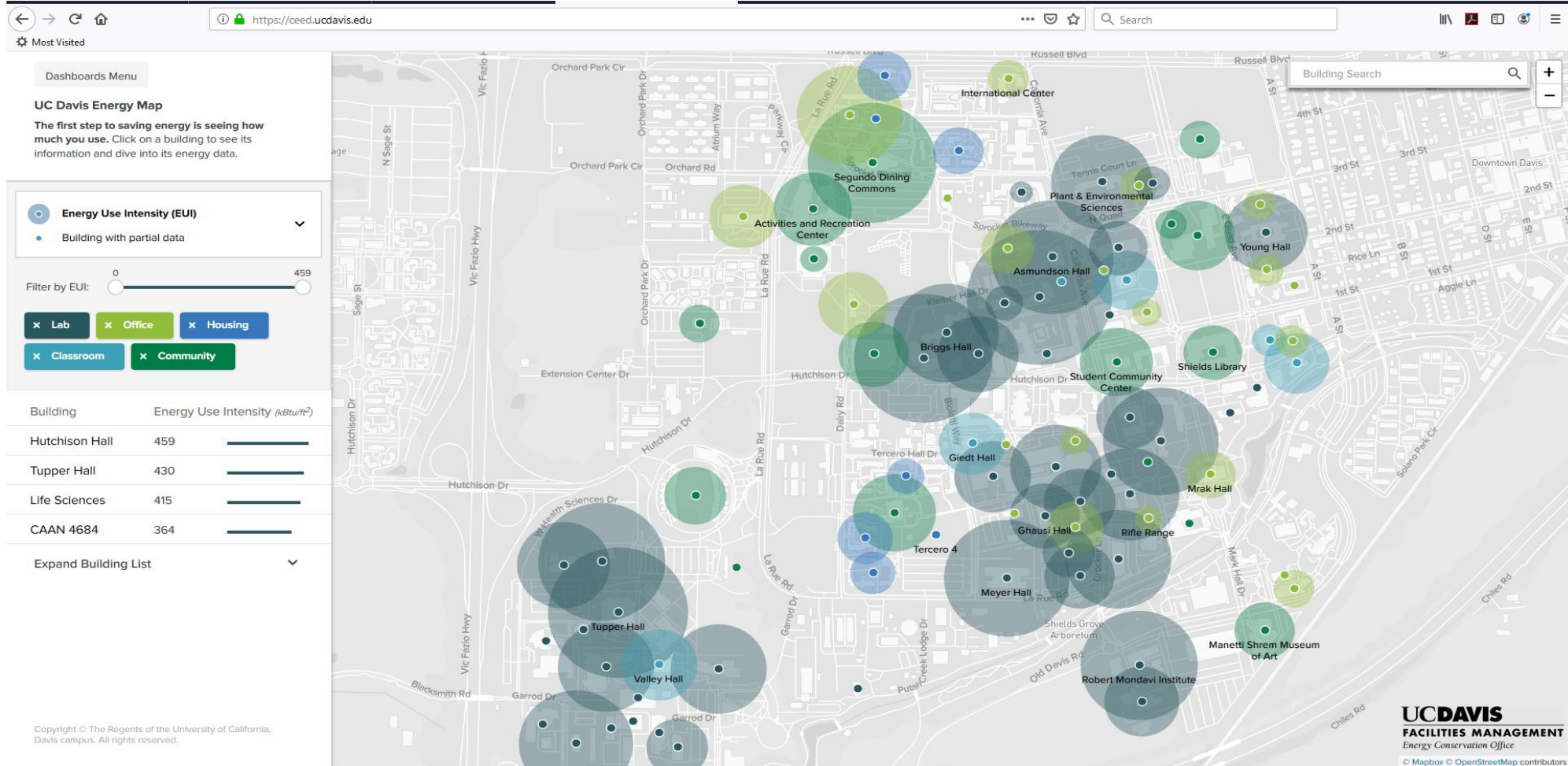
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## Watch this exciting UC Davis Success Story

-Hear directly from their Team-



# Energy Feedback: [ceed.ucdavis.edu](https://ceed.ucdavis.edu)





An Independent  
AVEVA Select partner

Sharona Saltzman

[Sharona.saltzman@california.avevaselect.com](mailto:Sharona.saltzman@california.avevaselect.com)

818.441.1383