

University of Chicago Graduate Council
General Meeting Minutes
February 28, 2024

Guest Speaker: Sara Popenhagen, Office of Sustainability

- Introductions to the team primarily working on these issues: Sara Popenhagen, Maureen McMahon, Brian Bozell, Henock Kidanu, and Kevin Keating.
- Energy services responsibilities include central utility plants, building automation, energy procurement, utilities and metering, commissioning.
- Sustainability timeline at UChicago: first council launched in 2004, first Greenhouse Gas Reduction Plan released in 2018.
- Energy management utility system with comprehensive database of information.
- President Zimmer set a goal for us to reduce emissions by 50% by 2030, though this is not relative to our size – so campus expansions have to take this goal into account.
- New Greenhouse Gas Emissions Reduction plan was released in 2022 to reflect this goal.
- LEED buildings are best tool we have right now – e.g. Rubenstein Forum, Keller Center.
- Heating and cooling of buildings contribute to 70% of greenhouse gas emissions.
 - Various programs already implemented to make changes, including incentivizing labs to compete to save energy by shutting hoods.
- *Click on the blue boxes in the slides that are shared for a more detailed view the graphs.*
- UChicago Concur Travel also gives us data – strongly recommended by the university for university-sponsored travel, both for safety and for emissions tracking reasons.
- Many opportunities on the UChicago Sustainability website to get involved.
 - Green Fund providing grants to student proposals to increase sustainability.
 - Partnerships with RSOs such as PSI and the UChicago Environmental Alliance.
 - UChicago Women in STEM resource group, recently created by Popenhagen.

Update & Clarification on Funding

- Graduate Council has been receiving lots of messages from students concerned about funds running out this year.
- The structure being new this year meant there would be an adjustment period, and with the structure being largely the same next year (namely, individual and group divisions), we expect improvements in the fund distribution process next year and moving forward.
- Next meeting, on March 20, we will host Jo Nixon as our guest speaker, so we will learn more about the specifics of the funding distribution then, when she presents the data.
 - *All students interested in the distribution of funds should attend this meeting.*

Spring Quarter General Meeting Dates

- March 20 – Jo Nixon.
- April 24 – President Paul Alivisatos.
- May 15 – Co-President Elections.

Office of Sustainability and Energy Services

Introduction and Overview

Agenda

- 1. Introductions**
- 2. Energy Services Overview**
- 3. Office of Sustainability Overview**
 - a. Sustainability Plan**
 - b. Greenhouse Gas Emissions Reduction Plan**
- 4. Collaborations**
- 5. Discussion**

1. Introductions



**Sara Popenhagen,
MEng, LEED® AP BD+C**

**Maureen McMahon,
AM'07 Humanities**

**Brian Bozell,
PE, LEED® AP**

**Henock Kidanu,
B.S. Civil Eng**

**Kevin Keating,
PE, LEED® AP
O+M, WELL AP**

Sustainability Manager

*Communications and Engagement
Specialist*

*Senior Director,
Energy Programs*

*Campus Energy
Manager*

*Energy and Utilities
Manager*

Office of Sustainability

Office of Sustainability

Energy Services

Energy Services

Energy Services

Facilities Services,
Campus Planning + Sustainability

Facilities Services,
Campus Planning + Sustainability

Facilities Services,
Operations

Facilities Services,
Operations

Facilities Services,
Operations

2. Energy Services Overview

Other Energy Services Responsibilities

- **Central Utility Plants (CUP)**
 - Utility plants operate year-round 24/7
 - WCCUP - West Campus Combined Utility Plant
 - SCCP - South Campus Chiller Plant
 - SSP - South Steam Plant
- **Building Automation (BAS)**
 - Two primary systems on campus
 - Johnson Controls (JCI)
 - Siemens
 - Currently updating BAS sections of (FS)² standards
- **Energy Procurement**
 - Purchase natural gas and electricity for the University and Medical Center
- **Utilities and Metering**
 - University utility meter data is collected in Energy Management Information System (EnergyCAP)
 - > 500 electric and natural gas utility meters
 - > 200 steam/condensate and chilled water submeters
- **Commissioning**
 - In-house commissioning engineer oversees small projects and works with commissioning agents on larger projects

CURRENT UChicago PEAK CHILLED WATER LOAD:

SUMMER PEAK CHILLED WATER LOAD

12,500 TONS

WINTER AVG CHILLED WATER LOAD

1,400 TONS

EXISTING CHILLERS - UCHICAGO

Plant	Electric Driven Chillers/Sizes (ea.)	Year Installed
WCCUP	2 @ 2,500 TONS	2011
SCCP	3 @ 2,100 TONS	2011
REGENSTEIN	2 @ 1,500 TONS	1999
	1 @ 1,000 TONS	1999

Gray text indicates chillers beyond useful life

CURRENT PEAK HEATING LOAD:

WINTER PEAK STEAM LOAD

440,000 PPH

SUMMER AVG STEAM LOAD

114,700 PPH

Plant	Natural gas boiler size (ea.)	Year installed	Year of last overhaul
WCCUP	1 @ 225,000 PPH	2007	---
	1 @ 225,000 PPH	2008	---
SSP	1 @ 140,000 PPH	1970	2018
	1 @ 130,000 PPH	1971	2018
	1 @ 140,000 PPH	1969	2018
	1 @ 140,000 PPH	1972	2018

CURRENT ELECTRICAL PRODUCTION:

TOTAL IMPORTED ELECTRICAL LOAD
Summer Peak

69,420 kW

PLANT ELECTRICAL LOAD

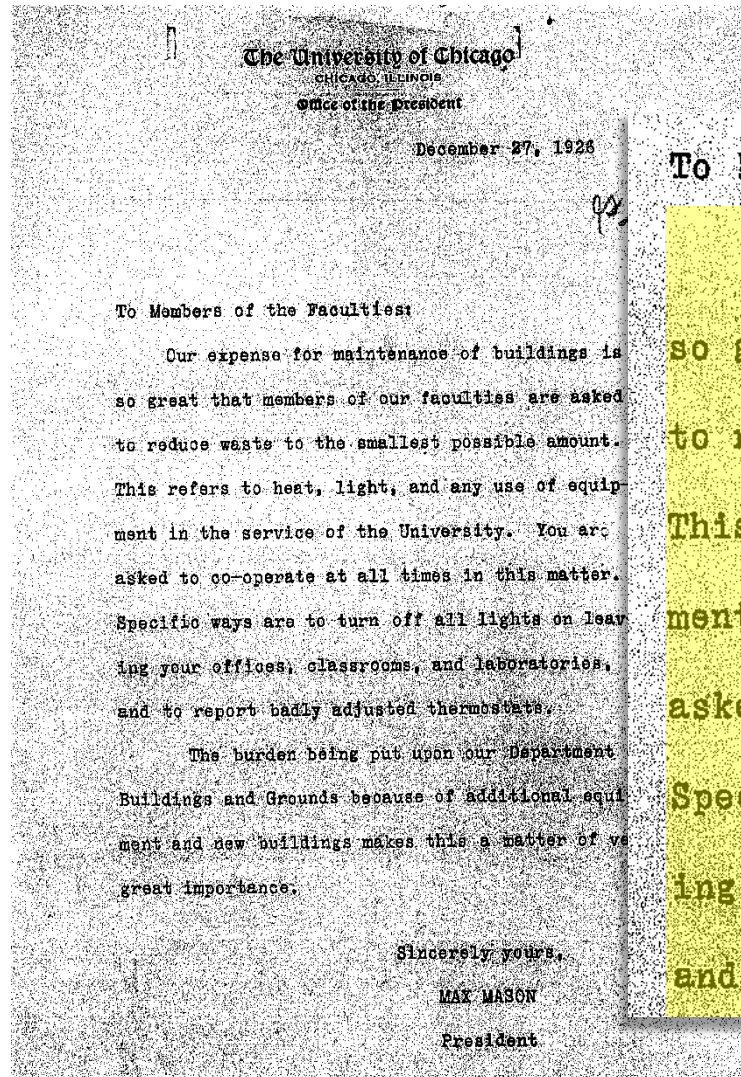
19,620 kW

CAMPUS ELECTRICAL LOAD

49,800 kW

3. Office of Sustainability Overview

UChicago Sustainability in 1926

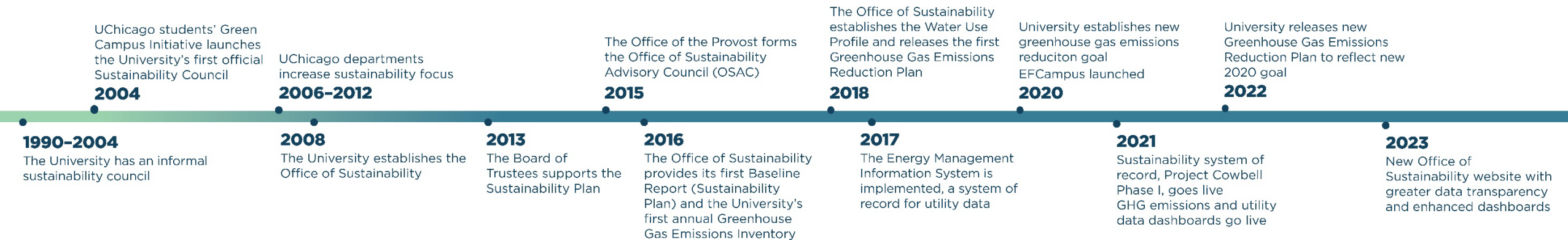


To Members of the Faculties:





Our expense for maintenance of buildings is so great that members of our faculties are asked to reduce waste to the smallest possible amount. This refers to heat, light, and any use of equipment in the service of the University. You are asked to co-operate at all times in this matter. Specific ways are to turn off all lights on leaving your offices, classrooms, and laboratories, and to report badly adjusted thermostats.



UChicago Sustainability Timeline



UChicago Sustainability Plan Update

<p>1 CLIMATE CHANGE AND ENERGY</p> <p>10%</p> <p>Decrease in scopes 1 and 2 absolute greenhouse gas emissions from the target base year to fiscal year 2021</p>	<p>2 HIGH PERFORMANCE BUILDINGS</p> <p>1 LBC Living Building Challenge</p> <p>2 PLATINUM 16 GOLD 4 SILVER</p> <p>LEED Certified Buildings</p>	<p>3 MULTI-MODAL TRANSPORTATION</p>  <p>Providing 1 annual 10-ride Metra pass for all students</p>
<p>4 WASTE REDUCTION</p> <p>43%</p> <p>FY2022 diversion rate</p>	<p>5 FOOD SYSTEMS</p> <p>30-35%</p> <p>Total spend procured with hyper-local, minority, and women business enterprises</p>	<p>6 GREEN SPACE</p>  <p>Earned the Tree Campus Higher Education Recognition from the Arbor Day Foundation for promoting healthy trees and engaging students and staff in the spirit of conservation</p>
<p>7 WATER CONSERVATION</p>  <p>At Gordon Center for Integrative Science, reduced potable water use by nearly 3.3 million gallons per year through a condensate recovery project</p>	<p>8 ENVIRONMENTALLY PREFERABLE PROCUREMENT</p>  <p>In collaboration with IT Services, replaced aging fleet of stand alone multi-functional devices with an interconnected network of new energy-saving devices</p>	<p>9 BUILDING AWARENESS AND PARTNERSHIPS</p> <p>Launched EFCampus, a student-faculty research and education partnership with University staff to advance campus sustainability</p> <p>25+ EFCAMPUS STUDENT RESEARCH ASSISTANTS</p> <p>10+ UNIVERSITY UNITS</p>

See also [The University of Chicago Sustainability Plan](#)

LEED Buildings



David Rubenstein Forum
Achieved LEED Gold for BD+C: New Construction (v2009)



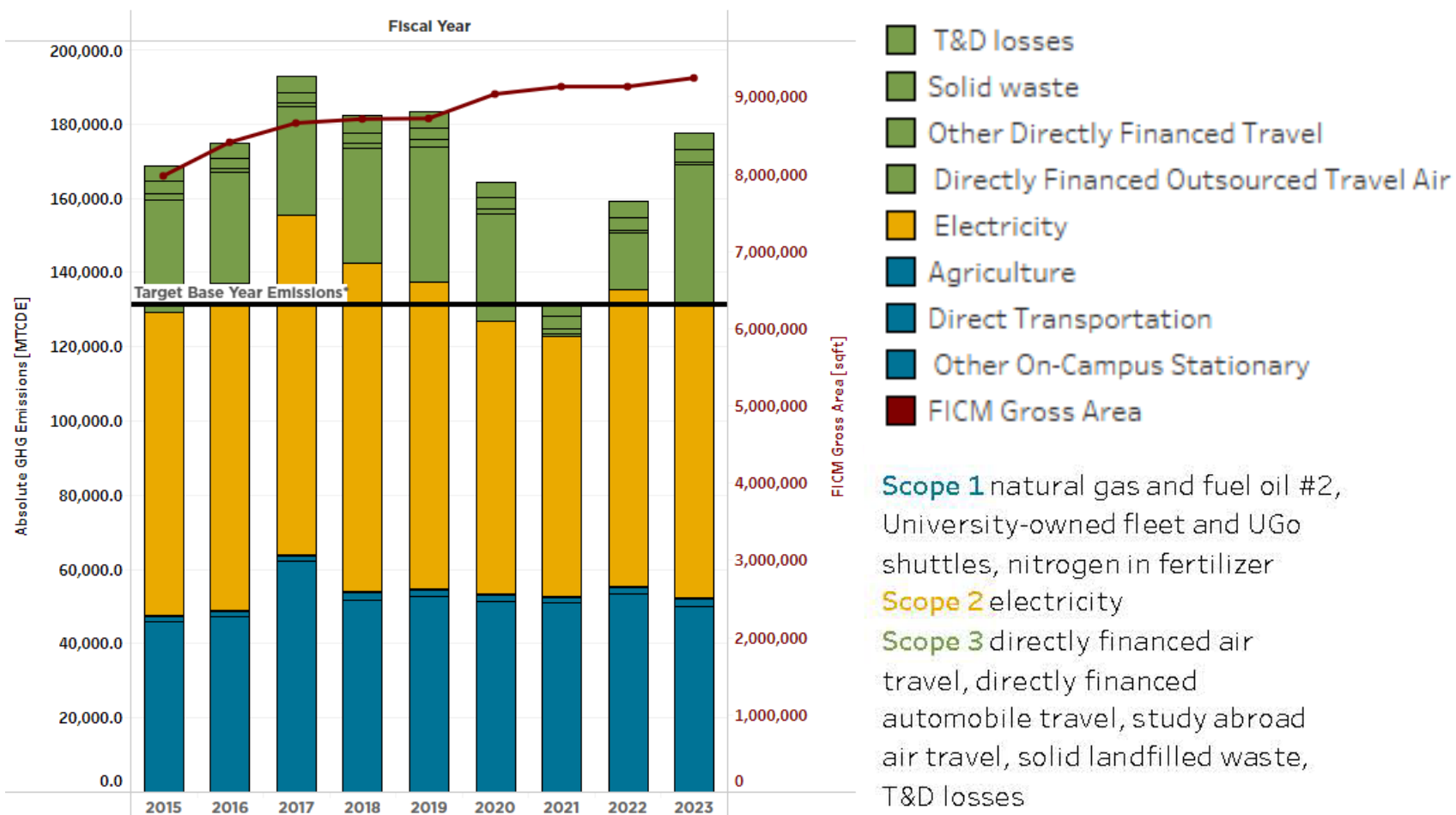
Keller Center
Achieved LEED Platinum for BD+C: New Construction (v2009)
Achieved Living Building Challenge Petal Certification for materials

facilities.uchicago.edu/services/space-data/leed_buildings_on_campus

GHG Emissions Inventory

Absolute Greenhouse Gas Emissions by Source, Scope, and Fiscal Year [MT eCO₂]

Location Based
RP8 FY2012-FY2023



Data Transparency GHG and Energy Dashboards

THE UNIVERSITY OF CHICAGO

THE UNIVERSITY OF CHICAGO OFFICE OF SUSTAINABILITY

ABOUT US ▾ REPORTING ▾ ENERGY ▾ NEWS GET INVOLVED ▾ 🔍

Goals
Dashboards
Formal Reporting

Dashboards

Goals
Dashboards
Formal Reporting

Dashboards

As part of the University's commitment to sustainability reporting and data transparency, the Office of Sustainability provides dashboards for several areas of the Sustainability Plan.

Related Links

- [The University of Chicago Greenhouse Gas Emissions Inventory Supplemental Information](#)
- [The University of Chicago Greenhouse Gas Emissions Inventory Report \(2012-2022\)](#)

Climate Change and Energy

Quantifying greenhouse gas

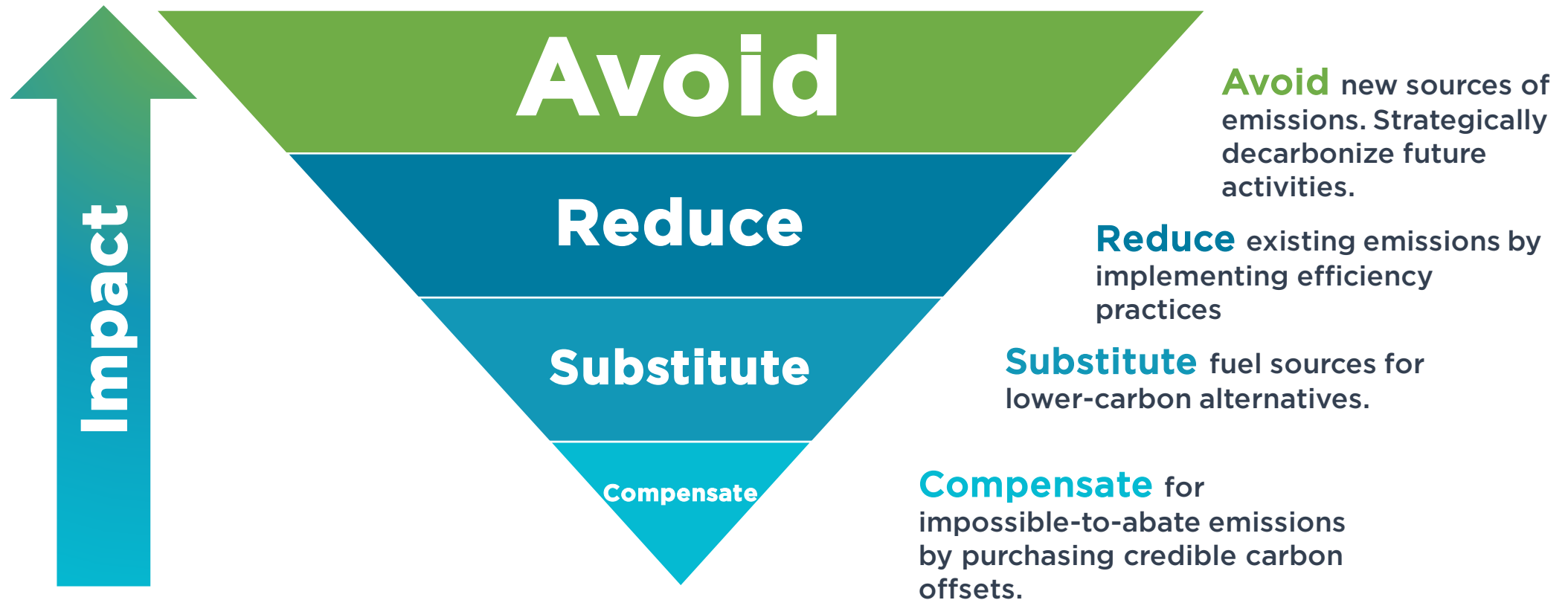
High Performance Buildings

Electricity, natural gas, chilled

Waste Reduction

Campus landfilled waste, recycling and compost

GHG Emissions Reduction Plan Strategy



Energy Recommendations

TABLE 1. RECOMMENDED INITIATIVES FOR ACHIEVING THE 50% BY 2030 GOAL

Opportunity	Description	GHG Emissions Reduction Contributions
Energy Conservation Measures (ECMs)	Energy conservation measures such as retro-commissioning, lab optimization, LED lighting and HVAC	49%
Distributed Energy Resources (DER)	Onsite renewable and electrification opportunities like solar photovoltaic (PV) panels and heat recovery chillers	4%
Fleet Electrification	60% conversion of University vehicles to electric or hybrid vehicles	<1%
Off-site Renewable Energy	Virtual power purchase agreement (VPPA) to purchase electricity from off-site wind or solar power	47%
	Total	100%

4. Collaborations

Get Involved

- Carbon Footprint Calculator
- Green Fund
- Registered Student Organizations, SG, UCEA
- EFCampus
- UChicago Women in STEM

sustainability.uchicago.edu/get-involved

The screenshot shows the 'Get Involved' page of the University of Chicago Office of Sustainability. At the top, the university's logo and 'OFFICE OF SUSTAINABILITY' are displayed. A navigation menu includes 'ABOUT US', 'REPORTING', 'ENERGY', 'NEWS', and 'GET INVOLVED'. Below the navigation is a large image of a young man with the text 'Get Involved' overlaid. The main content area features a list of links on the left and two text blocks on the right. The links include: Carbon Footprint Calculator, Green Fund, Environmental Frontiers, UChicago Sustainability Map, Biking, Green Data Program, Waste and Recycling Resources, City and State Resources, Sustainability Ambassadors, Sustainable Travel Guide, Student Organizations, 2022 Battle of the Buildings Residence Hall Energy Competition, UChicago ECo, West Campus Combined Utility Plant (WCCUP), and Walking Tour. The text blocks provide information on how to get involved, such as making sustainable actions a daily routine and subscribing to the 'UChicago Sustainability and Energy News' newsletter.

Mentorship

Environmental Science / Studies



Emily Padston
Executive Director
RDCEP



Liz Moyer
Associate Professor
RDCEP



Sabina Shaikh
Senior Instructional Professor
CEGU

Facilities Services



Sara Popenhagen
Sustainability Manager
Office of Sustainability



Maureen McMahon
Communications & Engagement Specialist
Office of Sustainability



Brian Bozell
Senior Director Energy Programs
Facilities Services



Henock Kidanu
Campus Energy Manager
Facilities Services

Support

Mansueto Institute for Urban Innovation



Brian Wilson
Executive Director
Mansueto Institute

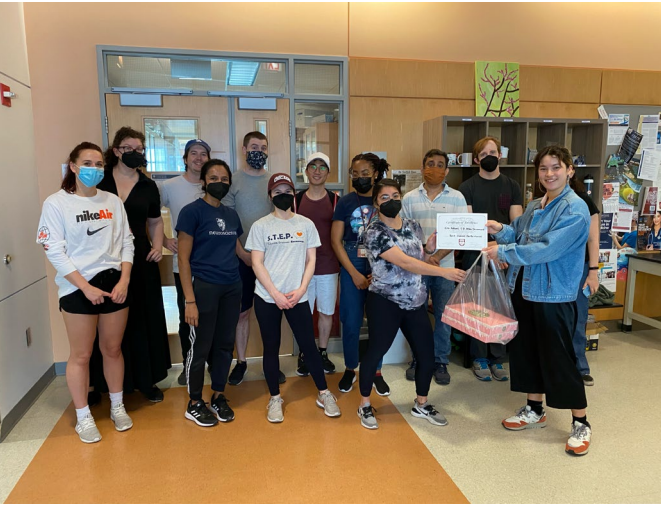
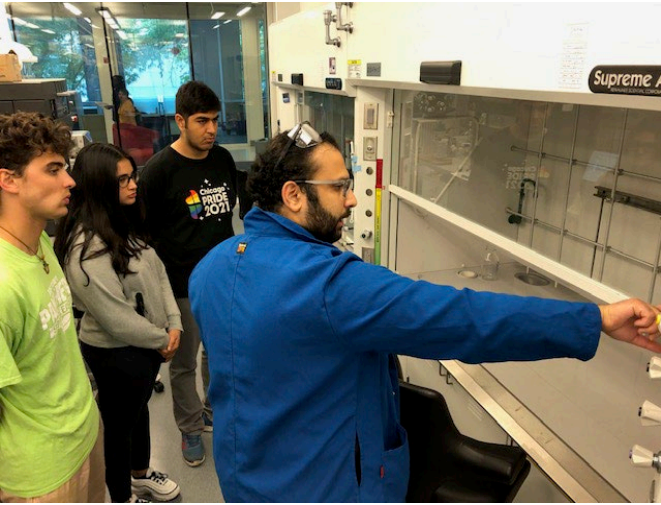


Aimee Giles
Associate Director
Mansueto Institute



Elaine Meyer
Communications Manager
Mansueto Institute

Environmental Frontiers Campus (EFCampus)



EF Campus Projects Winter Quarter 2024

Graduate Student Lead



LOUISE WANG

Laboratory Building Energy Analysis and Design



ELLEN MA



RAGHAV PARDASANI



VINCENT ZHENG

Air Travel Pilot Program



KRITI ARUNKUNDRUM



JULIE PICHONNAT



UChicago Women in STEM

The purpose of UChicago Women in STEM is to act as a formal resource group at the University of Chicago to connect, network, engage, and support female members of the University of Chicago STEM community including faculty, staff, post-doctoral researchers, residents, and students in STEM. It is up to the individual if they identify with this group—all are welcome!

If you have any questions regarding UChicago Women in STEM, please contact Sara Popenhagen at popenhagen@uchicago.edu.

To join the UChicago Women in STEM, please visit the UChicago Women in STEM listserv website at: <https://lists.uchicago.edu/web/subscribe/uchicagowomeninstem>





UChicago Women in STEM

Invitation

Join us for the first-ever in-person meet and greet of
UChicago Women In STEM
as we celebrate Women's History Month

- Coffee and treats
 - Swag
 - Information
- Membership sign-up
- Networking and socializing
- Help us build our mission
 - Sustainable event

William Eckhardt Research Center Lobby, 5640 South Ellis
Tuesday, March 26, 2024
8 a.m. to 10 a.m.

No RSVP needed

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Discussion

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