



Carbon Neutrality Overview & Progress Update

Drew Horning, Special Advisor to the President for Carbon Neutrality Strategy

Associate Deans Group Meeting

January 7, 2022



Defining Carbon Neutrality

- At a global level, carbon neutrality means having a balance between emitting carbon and absorbing carbon from the atmosphere in carbon sinks.
- For U-M, it means that all quantifiable greenhouse gas emissions (GHGs) attributable to its activities are eliminated or offset by investments in carbon credits or sequestration projects.

Greenhouse Gas Emission Scopes

- Scope 1:** includes GHG emissions from sources that are owned or controlled by U-M (e.g., power plant, boilers, buses).
- Scope 2:** includes GHG emissions created through offsite energy production where the product (e.g., purchased electricity) is used by U-M.
- Scope 3:** includes all other external GHG emissions (upstream and downstream) associated with U-M's activities (e.g., commuting, university travel, purchased goods).

Emission Categories Included in U-M Goals

U-M's Ability to Directly Influence Emission Levels

U-M's Ability to Confidently Estimate Emission Levels

	Higher	Medium	Lower
Higher	<ul style="list-style-type: none"> • Central Power Plant • Boilers & Other Stationary • UM Vehicle Fleet • Maintenance Equipment 	<ul style="list-style-type: none"> • Purchased Electricity • Waste Disposal 	
Medium		<ul style="list-style-type: none"> • Commuting • UM-sponsored Travel • Leased Space 	<ul style="list-style-type: none"> • Upstream (Electricity and Fuels)
Lower			<ul style="list-style-type: none"> • Food Purchasing • General Purchasing

Color Key: *Scope 1* *Scope 2* *Scope 3*

U-M History on Climate Action Commitments

2011: Established a goal to reduce Scopes 1 and 2 GHGs by 25% by 2025 below a 2006 baseline on the Ann Arbor campus.

2015: President Schlissel reviewed and recommitted to the 2025 sustainability goals.

2019: President Schlissel launched the President's Commission on Carbon Neutrality to develop recommendations for achieving carbon neutrality.

2021: President Schlissel committed U-M (Ann Arbor, Dearborn and Flint campuses) to the goal of carbon neutrality across Scopes 1, 2 and 3.

Carbon Neutrality Commitments *(made in May 2021)*

Scope 1 *(direct emissions from on-campus sources)*

– Eliminate by 2040

Scope 2 *(indirect emissions from purchased electricity)*

– Achieve carbon neutrality by 2025

Scope 3 emissions *(indirect emissions from commuting, university travel, procurement, etc.)*

– Develop credible tracking systems and set carbon neutrality goals by 2025.

FY22 Focus Areas (for Drew and Lydia)

- Ensure that U-M is making progress on implementing the initiatives identified as *immediate priorities* by the President
- Develop *implementation roadmaps* to shape the pursuit of PCCN recommendations
- *Engage the university community* and key external stakeholders to begin shaping the cultural change required to be successful in this transformative journey

Engagement

We are engaging with U-M leaders, key stakeholders & subject-matter experts.

- Executive officers
- U-M deans
- Staff leaders
- Sustainability Communicators
- Student Sustainability Coalition
- Community advocacy groups
- City of Ann Arbor
- Environmental justice experts
- Renewable energy purchasing experts

Leadership Structures and Campus Planning

Area	Commitment	Status
Leadership Structures	Create a new <u>executive-level leadership position</u> reporting to the president	<ul style="list-style-type: none"> Office of the President plans to launch the search this month.
	Incorporate <u>environmental justice (EJ)</u> principles into its future decision-making	<ul style="list-style-type: none"> Consulting with experts on EJ to begin informing an overarching EJ strategy.
	Appoint an <u>internal advisory committee</u> , with leadership from units across the university, to help shape implementation toward carbon neutrality.	<ul style="list-style-type: none"> Met with all U-M executive officers and all deans to gather feedback and identify opportunities for collaboration. Established a leadership council, with representation from major U-M units across all campuses <ul style="list-style-type: none"> Advising and facilitating the implementation of carbon neutrality efforts across all university units.
Campus Planning	Initiate an integrated <u>campus master planning</u> process, in collaboration with faculty experts, that includes carbon neutrality as a central component.	<ul style="list-style-type: none"> The Planner's Office is engaging with unit leaders and topical experts to refine draft master planning principles. Broad U-M community engagement during Winter 2022.

Scopes 1 & 2 Emissions

Area	Commitment	Status
Scope 1 Emissions: Initial Reduction Strategies	Install geothermal systems in conjunction with some new construction projects.	<ul style="list-style-type: none"> • Geothermal planned for Beyster Building addition. • Additional projects are under evaluation. • Initiating a utility master planning process for North Campus.
	Decarbonize U-M's vehicle fleet.	<ul style="list-style-type: none"> • Developing a roadmap to decarbonize the U-M vehicle fleet. • Purchased 4 electric buses to be delivered Fall 2022.
	Make all new building projects compatible with renewable energy -driven heating and cooling systems.	<ul style="list-style-type: none"> • This is now standard university practice
Demand-Side Management	Launch a revolving fund for energy efficiency projects , beginning with \$25 million over five years with energy savings being reinvested to fund future projects on all three campuses and auxiliaries.	<ul style="list-style-type: none"> • Designing REF with input from unit leaders and budget office. • \$5 million in energy conservation projects across U-M's three campuses have been approved for funding in FY22.
	Develop new construction & renovation standards that increase energy efficiency & lower carbon emissions.	<ul style="list-style-type: none"> • New building standards prioritizing low carbon emissions are in development with input from unit leaders.
Scope 2 Emissions: Initial Reduction Strategies	Launch a selection process to secure all purchased electricity from renewable sources , in a manner that considers a wide range of co-benefits	<ul style="list-style-type: none"> • Identified, in consultation with internal and external experts, key considerations in responsibly procuring renewable electricity with an emphasis on co-benefits. • Expect to issue an RFP in the coming months.

Scope 3 Emissions and Carbon Offsets

Area	Commitment	Status
Scope 3 Emissions: Initial Reduction Strategies	<p>Form working groups, consisting of specialists from across the university, to <u>develop implementation roadmaps</u> for a wide range of commission recommendations.</p> <p>Develop <u>credible accounting systems</u> to ensure confidence in our ability to track and report on scope 3 emission categories.</p>	<ul style="list-style-type: none"> • Work in underway to develop roadmaps for mitigating Scope 3 emissions across several categories, including leased space, commuting, university-sponsored travel, food, water, waste and wastewater, purchased goods and services, and upstream emissions from purchased fuel. • In the early stages of developing carbon accounting and reporting systems for the Scope 3 emissions categories identified in the PCCN’s final report.
Carbon Offsets and Sinks	<p><u>Consult with experts</u> to examine the feasibility and credibility of various carbon offsetting options as a means to combat climate change.</p>	<ul style="list-style-type: none"> • Conducting research to identify a wide range of experts on this topic, with plans to learn more from them in the year ahead.

Research, Education and Campus Life Activities

Area	Commitment	Status
Research, Education and Campus Life	Work with U-M deans to identify and support opportunities to integrate <u>sustainability and carbon neutrality into core curricula.</u>	<ul style="list-style-type: none"> Meeting with deans and other academic leaders across the university to explore pathways for embedding carbon neutrality efforts in U-M schools and colleges.
	Make significant investments in <u>carbon neutrality research and deployment,</u> building on multidisciplinary initiatives.	<ul style="list-style-type: none"> Carbon Neutrality Acceleration Program awarded its first \$1.75M to 7 multidisciplinary projects with significant potential to reduce net carbon emissions. Phase 2 to launch in the months ahead.
	Expand the <u>Planet Blue Ambassador (PBA)</u> program to cover the Flint and Dearborn campuses.	<ul style="list-style-type: none"> Student interns conducted interviews to learn about the existing carbon neutrality and sustainability efforts at Flint and Dearborn and created a first draft of the PBA training content.
	Develop a <u>campus-wide strategy</u> to improve and expand opportunities for U-M community members <u>to learn about and get involved in campus carbon neutrality initiatives.</u>	<ul style="list-style-type: none"> Completed a network assessment to catalog existing and potential sustainability touchpoints. Input from units across U-M will inform the campus-wide strategy to advance culture change.
Communication	Develop a <u>dashboard</u> to track progress	<ul style="list-style-type: none"> Conceptual design complete Working with ITS and central Communications to create an initial product to build upon over time

Any questions or comments before
we move to break-out discussions?

Discussion Questions

- What are the unique opportunity areas where the Schools and Colleges can lead the way in moving U-M toward carbon neutrality?
- What policies / norms might the Schools and Colleges consider to mitigate Scope 3 emissions (e.g., business travel, commuting, etc.)
- What curriculum and/or activities are in place or are developing in your school/college to educate to our students in carbon neutrality?
- Based on your experience with other university priorities, what are the best mechanisms to ensure effective communication and engagement with the central administration and peer U-M units?