



**PRESIDENT'S
COMMISSION ON
CARBON NEUTRALITY**
UNIVERSITY OF MICHIGAN

EXECUTIVE SUMMARY

Final Report & Recommendations
March 2021

INTRODUCTION

Climate change is an existential threat that demands an urgent, inclusive, and just response. The United Nations Intergovernmental Panel on Climate Change warns that society must achieve “rapid and far-reaching transitions in land, energy, industry, buildings, transport, and cities” to effectively address the climate crisis. The University of Michigan (U-M) reaches into all of these areas—convening a large residential community, providing medical care, spurring groundbreaking research across disciplines, educating the next generation of leaders, and serving the broader public. As a training ground for new approaches, U-M has a unique opportunity to lead in confronting the most pressing issues facing society, and climate change is the ultimate test.

PRESIDENT’S CHARGE

U-M President Mark Schlissel launched the President’s Commission on Carbon Neutrality with the goal of contributing to a more sustainable and just world. Its purpose was to outline a timeline, pathways and approaches for U-M (inclusive of the Ann Arbor, Dearborn, and Flint campuses) to achieve carbon neutrality that: are environmentally sustainable; involve the regional community; create scalable and transferable models; include the participation and accountability of all members of the university community; and are financially responsible in the context of U-M’s mission of education, research, health care and service. Refer to the Office of the President’s website to view the full [charge](#).

COMMISSION STRUCTURE

Over a period of two years, [17 commissioners](#) collectively developed recommendations, which were shaped by guidance from internal and external teams that conducted formal analyses on a wide range of critical [topics](#). Additional input came from formal and informal advisors consisting of students, faculty, administrators, and external experts, as well as broader engagement efforts with the university community and the public.

PHASES OF WORK

The initial phase (Feb ’19 – Oct ’19) focused on defining the challenge, developing a workplan, and securing the expertise needed to carry out substantive analyses. The second phase (Nov ’19 – Jun ’20) focused on completing the analyses and ensuring that all commissioners had a common baseline of knowledge on the key issues. During the final phase (Jul ’20 – Mar ’21), commissioners reviewed the analyses, deliberated, developed preliminary recommendations, and wrote a draft report. Following a public comment period, the Commission reviewed, addressed and reflected on the feedback received, engaged in further deliberations, and made significant revisions before finalizing its report.

COMMUNITY ENGAGEMENT

Throughout the process, more than 1,000 people contributed in various ways. Prior to COVID-19, the Commission hosted five in-person meetings on the Ann Arbor, Dearborn, and Flint campuses, and analysis teams hosted another seven in-person public engagement events. During the pandemic, the Commission hosted multiple online forums for various audiences, internal and external to the university. Students staffed the analysis teams, provided feedback and ideas throughout the process, helped organize and host public forums, and mobilized their peers to review and comment on draft recommendations.

ORGANIZATION AND CULTURE RECOMMENDATIONS

This table provides generalized comparisons of the recommendations in terms of the necessary financial investment and culture shift required at institutional, unit, and/or individual levels throughout the university community. These are subjective judgments based on the best available information, and are for illustrative purposes only.

STRATEGY RECOMMENDATION	FINANCIAL INVESTMENT (\$ – \$\$\$\$)	CULTURE SHIFT (L–M–H)
LEADERSHIP STRUCTURES		
Commit to using environmental justice guiding principles and expertise, including community input, within all future deliberations, decision making, and implementation efforts around U-M carbon neutrality.	\$	High
Create an executive leadership (EL) position reporting directly to, and advising the President, whose office and staff have responsibility for: planning and coordinating university-wide carbon neutrality efforts; working across all of the three campuses to integrate implementation and accountability mechanisms at the unit level; engaging with stakeholders (particularly those most affected); receiving and incorporating feedback from the community; facilitating partnerships and otherwise promoting the scaling and transfer of U-M carbon neutrality solutions; and reporting on goal progress and shortfalls.	\$\$	High
Establish an institutional advisory committee to support the EL’s office in developing, implementing, and communicating effective strategies for actuating U-M’s carbon neutrality priorities, with a focus on leveraging and aligning university structures and resources to support U-M’s carbon neutrality goals.	\$	High
Establish a community advisory committee to support the EL’s office in developing, implementing and communicating effective strategies for actuating carbon neutrality priorities, with a focus on understanding external stakeholder perspectives, learning from their experiences, and partnering whenever possible for mutual benefit.	\$	High
CAMPUS PLANNING		
Create and update campus and district-level master plans to reflect that greenhouse gas emissions mitigation is one of the university’s top priorities, and update such plans at regular intervals with campus community input.	\$	Med
Prioritize central locations for construction projects, and expand affordable campus housing for students, faculty, and staff based on an evaluation of needs and demand, and considering issues of equity and climate change resilience.	\$	High
RESEARCH AND EDUCATION		
Make significant investments in research and its deployment on routes to achieving carbon neutrality.	\$\$	Med
Expand and prioritize carbon neutrality curriculum, training and literacy programs to all members of the U-M community across all three campuses.	\$	High
Invest in institutional structures to expand and support carbon neutrality focused “living-learning labs” across all three U-M campuses.	\$\$	High
EXTERNAL COLLABORATION		
Conduct targeted network mapping related to all carbon neutrality strategies and pursue intentional engagement with key stakeholders to inform implementation.	\$	Med
Tailor carbon neutrality communication and education, and expand opportunities for stakeholder input.	\$	Med

CARBON NEUTRALITY GOAL RECOMMENDATIONS FOR SCOPES 1 AND 2

SCOPE 1 EMISSIONS

Commit to carbon neutrality (inclusive of offsets) for Scope 1 emissions across all three campuses by 2025.

Prioritize direct emissions reductions for Scope 1 by setting a goal of eliminating them across all three campuses by 2040, and exceeding global science-based targets via direct emissions reductions (i.e., without offsets) along the way.

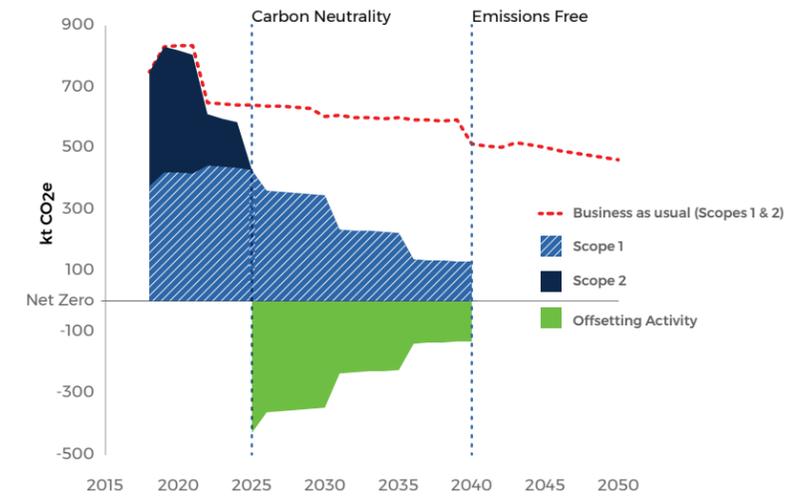
SCOPE 2 EMISSIONS

Commit to carbon neutrality for Scope 2 emissions across all three campuses (i.e., Ann Arbor, Dearborn, and Flint) by 2025 or earlier.

STRATEGY RECOMMENDATIONS FOR SCOPES 1 AND 2

STRATEGY RECOMMENDATION	FINANCIAL INVESTMENT (\$ - \$\$\$\$\$)	GHG LEVELS (↓-↑↑↑↑)	CULTURE SHIFT (L-M-H)
HEAT & POWER INFRASTRUCTURE			
Embark upon a phased, district-level approach to converting U-M's heating and cooling infrastructure to be fossil fuel-free, beginning with electrified systems centered on geo-exchange with heat recovery chiller technology, and with the flexibility to pivot to other proven technological solutions as they emerge.	\$\$\$\$\$	↓↓↓↓↓	Low
FLEET VEHICLES AND EQUIPMENT			
Fully decarbonize U-M's transit system, vehicle fleet (buses, trucks, and automobiles), and maintenance equipment.	\$	↓↓	Low
PURCHASED ELECTRICITY			
Issue a Request for Proposals (RFP) to procure all purchased electricity for U-M's three campuses in a manner that generates Renewable Energy Certificates that are retired by U-M or on its behalf, aligns with the principles outlined by the Commission, and seeks the desired co-benefits outlined for carbon offsets.	\$\$	↓↓↓↓	Low
Engage with the cities of Ann Arbor, Dearborn, Detroit, and Flint, and other entities that are, or could be partners in advocating for renewable electricity policy changes in the State of Michigan to better understand their perspectives, conduct necessary due diligence, and potentially partner in advocacy efforts that reflect mutually-shared objectives, as well as actively explore ways to partner directly in pursuit of carbon neutrality goals.	\$	n/a	Med
REVOLVING ENERGY FUND			
Create a Revolving Energy Fund on each of U-M's three campuses.	\$	↓↓↓	Med
CARBON PRICING			
Establish a carbon pricing system at the organizational unit level across U-M where revenue flows to the REF for new energy conservation measures.	\$	↓	High
BUILDING STANDARDS			
Establish best-in-class CO ₂ emissions targets across 9 building types for all new construction and major renovations.	\$\$\$	↓↓↓	Med

Scopes 1 and 2 emissions trajectories



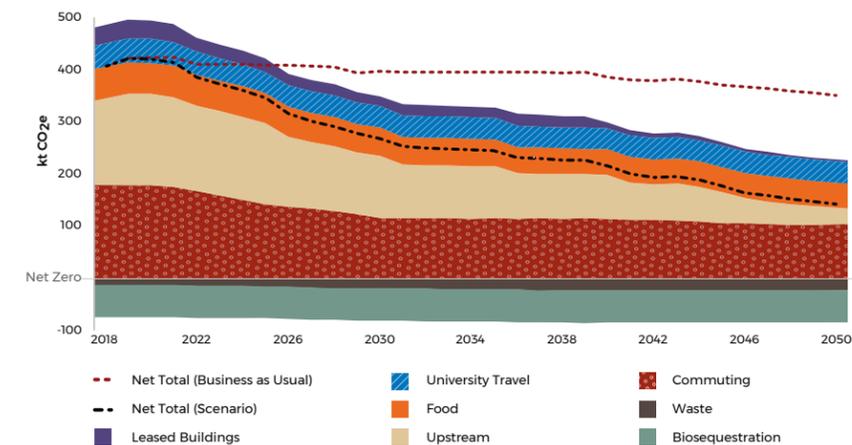
CARBON NEUTRALITY GOAL RECOMMENDATIONS FOR SCOPE 3

SCOPE 3 EMISSIONS

By no later than 2025, set carbon neutrality goal dates for each of the Scope 3 categories recommended for inclusion by the Commission, recognizing that goal dates may vary by category based on U-M's ability to measure and influence the associated emissions categories. The Commission also recommends that, in yearly intervals up until 2025 and beyond, U-M actively consider including additional Scope 3 categories in its goals.

In setting carbon neutrality goal dates for Scope 3 emission categories, establish targets (inclusive of offsets as needed) that are more aggressive than science-based targets and reach neutrality no later than 2040.

Scope 3 emissions trajectories



Please refer to the full report for recommendations on how U-M can improve its ability to account for Scope 3 emissions.

STRATEGY RECOMMENDATIONS FOR SCOPE 3

STRATEGY RECOMMENDATION	FINANCIAL INVESTMENT (\$ - \$\$\$\$\$)	GHG LEVELS ↓ - ↓↓↓↓↑	CULTURE SHIFT (L-M-H)
COMMUTING			
Proceed with the design and development of the Ann Arbor campus connector and integrate it with local/regional transit systems.	\$\$\$\$	↓↓	Med
Reform the parking policy on each of U-M's three campuses by shifting to a daily fee system and establishing an equitable, income-based fee structure, while eliminating parking subsidies on the Ann Arbor campus.	\$\$	↓↓	High
Expand the availability of electric vehicle charging stations across all three U-M campuses.	\$\$	↓	Med
Invest in affordable and accessible alternatives to the personal vehicle commute, including rideshare, cycling, and free bus access on the Flint and Dearborn campuses.	\$\$	↓↓	Med
Embrace and incentivize flexible telecommuting options for employees whose job roles can be performed remotely.	\$	↓↓	Med
UNIVERSITY TRAVEL			
Provide and incentivize low-carbon ground transport options (e.g., trains, hybrid/electric buses and passenger vehicles) for university-sponsored travel.	\$\$	↓↓	Med
Promote video conferencing as an alternative to in-person meetings and travel.	\$	↓↓	High
Implement a carbon price for faculty, staff and students who travel on university business, with the revenue being used to support the reduction or offsetting of U-M emissions.	\$	↓	High
FOOD			
Pursue plant-forward food procurement and consumer diets across all three U-M campuses.	\$	↓↓	High
SOLID WASTE AND WASTEWATER			
Scale up food waste diversions and reductions, increase capacity for composting on U-M's campuses, and launch a campus-wide composting program at UM-Dearborn and UM-Flint	\$\$	↓	High
Explore improved water efficiency and site design standards for all new construction to reduce both upstream and downstream emissions from water treatment.	\$	↓	Low
LEASED BUILDINGS			
Strive to meet additional space needs through better utilization of permanent space (including co-working spaces) and leased space that is intentionally designed as flexible co-working facilities for staff across multiple units who, for example, telecommute three or more days per week.	\$	↓↓	High
Prioritize leasing arrangements that allow the university to pay electric and gas utility bills directly.	\$	↓	Low
Develop and implement language in all leasing policy documents that requires high energy efficiency and a low GHG footprint, ideally in alignment with U-M building standards, and require property owners/managers to provide detailed information on their efforts to implement energy efficiency and emissions reductions, and how this ethic is woven into their overarching operating principles.	\$	↓	Med

STRATEGY RECOMMENDATIONS FOR CARBON OFFSETTING

CRITERIA

As a minimum threshold of consideration, all carbon-offset investments made by U-M should be real, measurable, additional, permanent, leakage avoidant, verified, enforceable, and compliant with social and environmental safeguards.

CO-BENEFITS

Clearly define and prioritize desired co-benefits criteria associated with carbon offsetting, and prioritize offset investment opportunities accordingly.

U-M PROJECTS

Identify opportunities for biosequestration projects on U-M lands that have significant carbon sequestration potential and meaningful achievements across prioritized co-benefit categories.

ADVISORY COMMITTEE

Establish a standing committee with diverse expertise and perspectives, to review the offset guidance recommended by the Commission; ensure environmental justice expertise is represented; routinely solicit input and validation from reputable external experts and stakeholders to establish minimum requirements for offsetting Scope 1 and Scope 3 emissions; develop clear guidance on desired co-benefits criteria; ensure engagement with impacted communities when U-M is involved in project development; and periodically issue broad calls for proposals that meet all threshold requirements and address desired co-benefits criteria. This committee will advise U-M leadership annually on its ability to use offsets to meet or surpass existing carbon neutrality goals. It will also monitor developments in this rapidly-evolving field and advise of emerging opportunities for U-M to lead regionally and nationally in this area.

NEXT STEPS

Encompassing two years of work, the Commission's report provides President Schlissel and the Regents with a proposed roadmap to carbon neutrality. It describes, in great detail, how certain cultural or institutional practices could spur a more sustainable university community, and how various technical approaches across emissions categories could move U-M toward a carbon-free future. Now that the Commission's report is in their hands, President Schlissel and the U-M Regents will need to review it and begin the process of determining which recommendations are put into practice and the associated timelines for their implementation. The ultimate U-M climate plan adopted by the President will have to address these key facets related to implementation: a) which actions U-M will take; b) the scopes and timelines for its actions; and c) how U-M will implement the various technological, institutional, and cultural steps. Urgency, accountability, inclusivity, and justice will be paramount.



Please refer to the [full report](#) from the President's Commission on Carbon Neutrality for significantly greater detail regarding the contents of this Executive Summary.



sustainability.umich.edu/carbonneutrality

ABOUT THE UNIVERSITY OF MICHIGAN

The mission of the University of Michigan is to serve the people of Michigan and the world through preeminence in creating, communicating, preserving, and applying knowledge, art, and academic values, and in developing leaders and citizens who will challenge the present and enrich the future.

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DIVERSITY, EQUITY, AND INCLUSION

At the University of Michigan, our dedication to academic excellence for the public good is inseparable from our commitment to diversity, equity and inclusion. It is central to our mission as an educational institution to ensure that each member of our community has full opportunity to thrive in our environment, for we believe that diversity is key to individual flourishing, educational excellence and the advancement of knowledge.

A Non-discriminatory, Affirmative Action Employer.

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