

## President’s Commission on Carbon Neutrality

### Work Plan Overview

May 1, 2019

#### Purpose

University of Michigan (UM) President Mark Schlissel recently stated that “human influenced global climate change is the defining scientific and social problem of our age” and he has since established the President’s Commission on Carbon Neutrality (PCCN) to recommend a plan for UM (Ann Arbor, Dearborn, & Flint campuses) to achieve carbon neutrality. The PCCN’s ultimate goal is to contribute to a more sustainable and just world by creating approaches and solutions regarding UM carbon emissions that are sustainable (environmentally, socially, and economically), involve the regional community, and can be scaled and replicated beyond the university.

#### Scope of Work

While UM’s current greenhouse gas reduction goal is concerned only with scope 1 emissions (those generated on campus) and scope 2 emissions (those associated with purchased electricity), the work of the PCCN will be broader. Scope 3 emissions will be considered, with some likely being proposed for inclusion in future goals. In addition, the PCCN’s work will likely address a variety of relevant cross-cutting considerations. The graphic below illustrates the breadth of the PCCN’s work<sup>1</sup>:

<u>Scope 1 Emissions (286K MTCO<sub>2e</sub>)</u>	<u>Scope 2 Emissions (345K MTCO<sub>2e</sub>)</u>	<u>Potential Scope 3 Emissions (? MTCO<sub>2e</sub>)</u>
<ul style="list-style-type: none"> <li>- Central Power Plant (180K)</li> <li>- Boilers and Other Stationary (99K)</li> <li>- Transportation Fleet (7K)</li> <li>- On-campus Fugitive Emissions (?k)</li> </ul>	<ul style="list-style-type: none"> <li>- Purchased Electricity (345K)</li> </ul>	<ul style="list-style-type: none"> <li>- Commuting</li> <li>- UM-Sponsored Travel</li> <li>- Energy Supply Chain losses</li> <li>- Solid Waste Disposal</li> <li>- Purchased Goods (e.g., food, etc.)</li> <li>- Other?</li> </ul>

<u>Cross-cutting Considerations</u>			
- Building Standards	- Energy Use	- Emissions Accounting	- Biosequestration & Offsets
- Organizational Structures	- Institutional Policies	- Campus Culture & Communication	- External Collaboration
- Integrated Planning	- Equity and Inclusion	- Scalability/Transferability	- Campus Growth

With many considerations embedded within each topic area, the PCCN’s charge is vast, multi-faceted, and complex. This necessitates a structure comprising many groups, including the core Commission, four Advisory Panels (respectively representing students, faculty, university units, and external advisors), the campus community and broader public, and several internal and external analysis teams to take deeper dives in specific topic areas. These roles are described in more detail below.

<sup>1</sup> MTCO<sub>2e</sub> levels reflect 2018 data for Ann Arbor Campus only

### Commission

Comprising 17 members from both within and outside UM, the Commission's purpose is to recommend to the President a plan for UM to achieve carbon neutrality that defines parameters, establishes a goal and associated timeline, and outlines approaches for achieving that goal.

In developing this plan, the Commission will consider a wide range of issues, with some being sufficiently "high-level" that the Commission can evaluate their merits (in consultation with Advisory Panels and other experts as needed) and make recommendations without delegating analyses to specialized working groups. Examples of such higher-level issues, many of which the Commission can begin working on immediately, include:

- Defining carbon neutrality for the University of Michigan, including associated boundaries
- Defining the parameters of a technical external analysis (or analyses) focused on campus infrastructure considerations to assess viable options, estimated costs, and feasible timelines for transitioning to carbon neutral campus infrastructure
- Determining an appropriate timeline and strategies for purchasing all externally supplied electricity (i.e., electricity from DTE, Consumers, etc.) from carbon-free sources
- Signing onto various university commitment platforms (e.g., University Climate Change Coalition, Presidents' Climate Leadership Commitments, etc.)
- Suggesting particular areas of climate-related research (e.g., carbon capture, utilization, and storage; zero carbon energy technology; social science, etc.) where UM should consider making significant internal investments based on priorities identified in the course of the Commission's work
- Identifying potential opportunities for highly visible symbols of the university's commitment to carbon neutrality that could help foster culture change across the university
- Synthesizing the overall vision, goals and strategies to help integrate and prioritize strategies, and helping construct a carbon neutrality framework that is comprehensive, sustainable, equitable, inclusive, transparent, and scalable.
- Setting an aspirational date for carbon neutrality, with clear stretch goals and milestones along the way

In the course of its work, the Commission will constitute various sub-groups to drive progress more efficiently than would be possible meeting only in plenary. Potential Commission sub-group topics may include the following and others may be formed during the process in response to identified needs:

- Identifying "early wins" that U-M could potentially implement before the Commission's work is completed (e.g., commitments, policies, criteria, etc.)
- Ensuring appropriate emissions accounting methods are used based on current scientific knowledge of global warming potential, potential supply chain losses, and 20- vs. 100-year impact analysis
- Identifying financial strategies and management structures necessary to accelerate the carbon neutrality transformation of the campus (e.g., funding/budget models, leadership structure, unit-level incentives)
- Reviewing reports submitted by the internal and external analysis teams and organizing the recommendations in a streamlined and consistent format for presentation to the full Commission

### Advisory Panels

Four Advisory Panels, one each for students, faculty, university units, and external experts, will play an important role throughout the life of the PCCN. Each of these Advisory Panels represents a key stakeholder group and brings a unique voice to inform the overall work. Each Advisory Panel will have modest but diverse membership to represent the broad-ranging views of its constituent group. Throughout the process, the Commission will consult with these Advisory Panels to get their advice on various issues that are under consideration by the Commission. This will include check-ins at key milestones and at times when the Commission may be “stuck” on a particular issue. Advisory Panels may also bring issues to the Commission for consideration, and will have opportunities to review Commission-level reports before they are made public. Advisory Panels may also be involved in workshops focused on cross-cutting issues at key points in the Commission’s work, and provide topically-focused advice to internal analysis teams to inform their work. To help ensure effective communication throughout the process, Advisory Panels will also serve as critical two-way conduits of information between the constituents they represent and the Commission.

### Campus Community and Broader Public

Various forms of public engagement will take place throughout the process to ensure the broader public has opportunities to contribute views and perspectives to the Commission’s work, and understands the process and inputs informing that work. These include an online mechanism for general comments, ideas and feedback; a variety of public forums for targeted and broader audiences hosted in the local and regional community; and an online mechanism for specific comments on the Commission’s draft final report. The Commission will brief key decision makers (e.g., President, Board of Regents) on progress at key reporting points (see Commission Timeline). It is also anticipated that Commission members and Advisory Panels will host informal engagements with their respective constituents throughout the process.

### Analysis Teams (*External and Internal*)

A significant number of topics require in-depth research and analysis, which will be conducted either by highly specialized external firms, or by small internal analysis teams comprising faculty, students, and staff, in consultation with external advisors. All analyses conducted by external and internal teams will be submitted to the Commission for consideration and potential inclusion in Commission recommendations.

Campus infrastructure will likely be the focus of an **externally-commissioned analysis** (or analyses) and may include the following dimensions and/or others:

- Campus Infrastructure Master Planning
- Campus Heating and Cooling Infrastructure
- Carbon Neutral Building Design
- Building Energy Control Systems
- On-campus Renewable Energy Potential
- Transportation Fleet and Infrastructure
- Carbon Capture Utilization and Storage Technology

In addition to the externally-commissioned work, **internal analysis teams** will be formed to address a variety of issues, including the following topics, and other ad hoc teams may need to be formed throughout the process:

Internal Team Topics	Scope of work
Building Standards	Evaluate potential criteria for new construction and all renovations and recommend a standard for UM to adopt. The analysis would likely consider dimensions such as energy efficiency, water efficiency, materials and resource use, operations and maintenance, renovation vs. new construction, etc.
Energy Consumption Policies	Evaluate potential budgetary/financial mechanisms to decrease energy usage across the university. The analysis would likely consider dimensions such as an internal carbon tax, revolving loan fund, project payback criteria, etc.
Commuting	Firm up approaches for estimating and tracking the GHG footprint associated with UM commuting activity, and evaluate and recommend approaches to decrease that footprint over time. Issues might include individual incentives, regional transit partnerships, carpooling, etc.
University Travel	Develop approaches for estimating and tracking the GHG footprint associated with UM-sponsored travel, and evaluate and recommend approaches to decrease that footprint over time (e.g., volume reduction, incentives, etc.)
Food	Evaluate and recommend approaches to decrease the GHG footprint associated with food consumption at UM. Considerations may include sourcing, certifications, volume reduction, disposal, offsets, etc.
General Purchasing	Evaluate and recommend approaches to decrease the GHG footprint associated with general purchasing at UM. Considerations may include sourcing, certifications, volume reduction, disposal, offsets, etc.
Biosequestration & Offsets	Evaluate and recommend optimal approaches for potential biological sequestration projects on and off campus, and evaluate and recommend criteria for any potential carbon offset purchases.
Campus Culture and Communication	Evaluate and recommend strategies to drive climate change awareness, interest and investment among all UM community members. Examples may include community education and engagement strategies, behavioral incentives, communications strategy and transparency, the arts, etc.
External Collaboration	Evaluate opportunities for collaborations focused on scaling and replicating high-impact solutions. Examples may include local and regional partnerships, collaborative education initiatives, mitigation and resilience policy, etc.

While the exact composition will vary by topic, most internal analysis teams would likely:

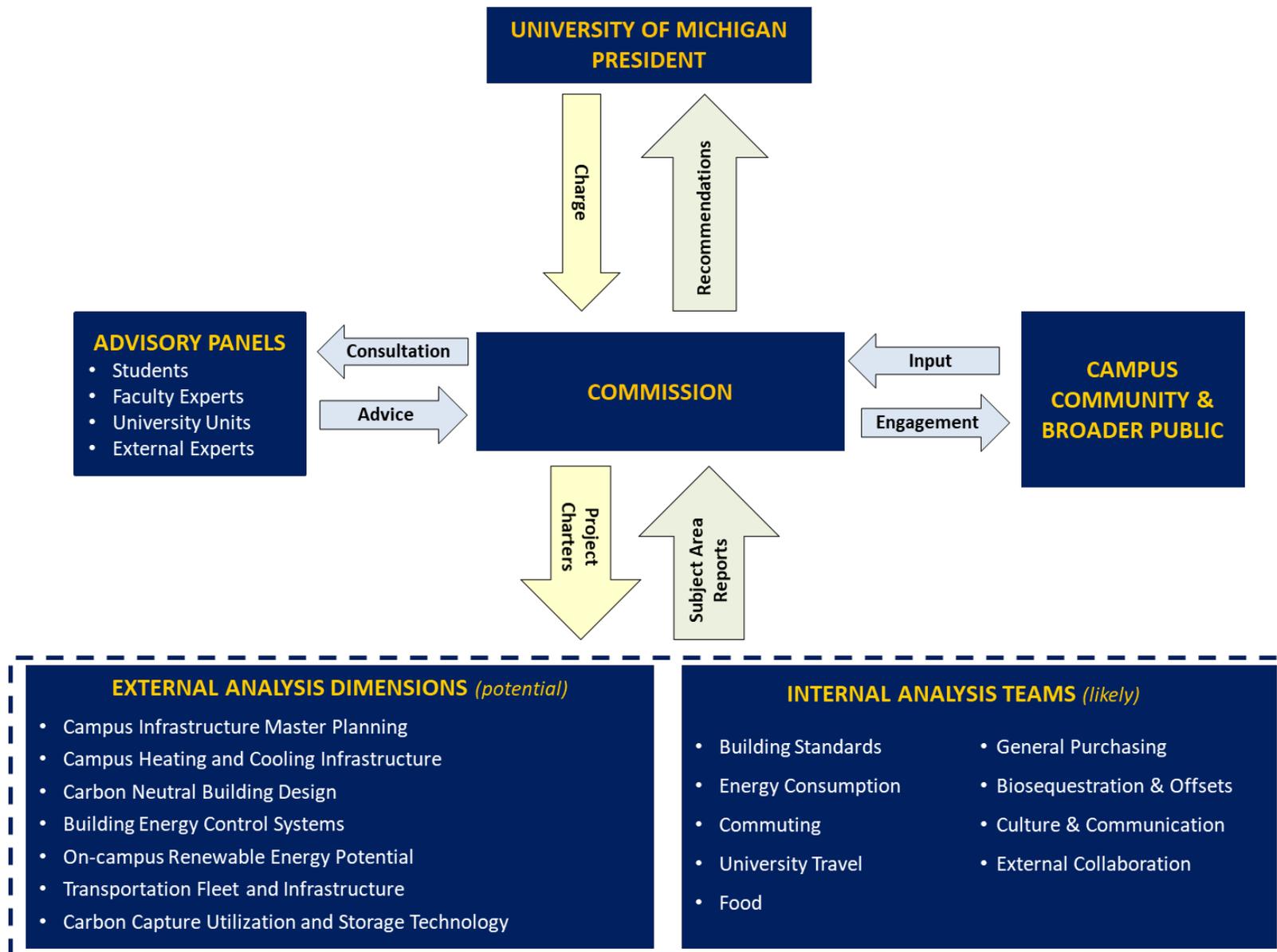
- Be relatively small (fewer than 10 people) and comprise faculty, staff, and students.
- Be led by a UM faculty member with directly relevant expertise in close partnership with a senior UM staff member with directly relevant responsibilities and expertise
- Be staffed by UM students with relevant knowledge and training across multiple levels and fields of study
- Include a small number of UM staff with directly relevant knowledge and responsibilities
- Include a PCCN commissioner and/or staffer as a formal liaison to the Commission

- Consult with a small number of UM faculty with relevant expertise as key advisors to the work
- Identify and consult with a small number of external people, including subject matter experts, representatives of affected groups, and other key stakeholders who bring important perspectives to the work
- Consult with a central UM budget and finance expert as a key advisor to the work

Regarding process, each internal analysis team would:

- Submit any requests for data/information from UM units to the PCCN's Administrative Director (except in cases where the unit is represented on the Analysis Team).
- Submit any requests for specialized external studies to the Commission co-chairs and Admin Director.
- Provide regular progress updates to the Commission and meet with them as needed
- Produce for the Commission a report covering its specific area of study that directly answers:
  - What universities or comparable institutions are leading on this topic, what strategies are they employing, and what progress have they made?
  - In prioritized order, what are the most compelling/impactful approaches UM should pursue and why?
  - How would the proposed approaches be implemented? How quickly could they be implemented and what all would be involved?
  - What metrics should be used to evaluate progress?
  - What are the associated financial costs and/or savings (one-time and ongoing) to implement?
  - Beyond financials, what are the organizational and cultural challenges associated with implementation, and how might we overcome them?
  - What new or modified institutional structures would be needed, if any?
  - For each of the proposed approaches, what strategies should be employed to ensure the participation and accountability of the full university community?
  - What are the most promising opportunities to scale and transfer these approaches? What types of organizations or communities will be more or less able to replicate them? What external partners need to be engaged to facilitate scalability and transferability in an effective and equitable manner?
  - What equity considerations need to be addressed and managed, what strategies should be employed to do so, and who needs to be involved in developing and implementing those strategies?
  - What are the unknowns/gaps that require more analysis?
  - What are the most critical near-term action items UM should take to catalyze progress in this area?

The schematic below illustrates the PCCN's overall structure and process flow:



**PCCN Timeline**

	Fall 2018	Winter 2019	Spring 2019	Summer 2019	Fall 2019	Winter 2020	Spring 2020	Summer 2020	Fall 2020
Commission announced	█								
Online comments forum open	█	█	█	█	█	█	█	█	█
Commission launched		█							
Commission meetings		█	█	█	█	█	█	█	█
Community engagement sessions		█	█	█	█	█	█	█	█
Advisory Panel consultation			█	█	█	█	█	█	█
Analysis Team work				█	█	█	█	█	
Interim Progress Reports					█		█		
Draft final report writing								█	
Public comment period and report revision									█