

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Climate Solutions: A Discussion of Climate and the Great Lakes

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Michigan Council on Climate Solutions

- Governor Whitmer's Executive Order 20-182, Executive Directive 2020-10
- Acts in an advisory capacity to the governor and EGLE in formulating and overseeing the implementation of the MI Healthy Climate Plan, specifically:
 - Identifying and recommending opportunities for the development and effective implementation of emissions-reduction strategies
 - Identifying solutions to resolve impact disparities across Michigan and recommending targeted solutions for communities disproportionately impacted by the changing climate



EGLE ENTERIAN DETAILITIEST COUNCIL ON CLIMATE SOLUTIONS

ORGANIZATIONAL CHART



Topical Workgroups



Topical Workgroups Purpose:

Recommend strategies in each of 5 topical areas that have high potential to serve Michigan's GHS emission reduction goals in an equitable manner.

• Objectives:

- Develop a baseline understanding of current carbon emission levels, opportunities and barriers to reducing emissions, and equity considerations.
- Discuss decarbonization strategies in consideration of the opportunities and barriers.
- Develop a bulleted list of recommendations for what needs to happen in the next 9 years – by 2030 – to achieve Michigan's 2050 climate goal.



What needs to happen in the next 9 years – by 2030 – to get us to the 2050 goal?

In seeking to answer this key question, the workgroups are being asked to consider the following sub-questions:

- 1. In what timeframe is each recommendation achievable?
- 2. What is the relative magnitude of each recommendation, in terms of GHG emissions reductions?
- 3. Who is bearing the benefits and burdens of the recommendation?
- 4. What are the relative costs of each recommendation?
- 5. To whom is the recommendation targeted?
- 6. Is there consensus among the subgroup for the recommendation, or are there differing perspectives? If differing perspectives, what are they?
- 7. What are the most important considerations for achievability and feasibility?



Michigan - Sources of Emissions by Sector



U.S. EIA 2018



Climate-related impacts to the Great Lakes

Include:

- Increase in large precipitation events
- Introduction or increase in certain insects, viruses, disease etc.
- Increase in extreme heat events



Increase in large precipitation events

- The amount of precipitation falling in the most intense 1% of precipitation events increased by 42% in the Midwest from 1958 through 2016. Projected 20-30% increase in winter and spring events.
 - Overwhelming water infrastructure, leading to flooding and CSOs
 - Increasing nutrient pollution from agriculture fields contributing to the formation of algae blooms



Increase in Extreme Heat Events

- Importance of building and housing energy efficiency
 - Challenges to forestry
 - Challenges to agriculture
 - Ecosystem health



Water and Energy Nexus

- For many municipal governments, drinking water and wastewater plants typically are the largest energy consumers (up to 30 to 40 percent of total energy consumed).
- Overall, drinking water and wastewater systems account for approximately 2 percent of energy use in the United States.



Sample Workgroup Recommendations



Energy Production, Transmission, Distribution, and Storage

- Implement holistic and integrated energy system planning
- Enable behind-the-meter resources
- Explore innovative rate designs
- Facilitate siting of necessary energy infrastructure
- Evaluate gas system regulatory and policy options

Transportation and Mobility

- Establish a coordinated and comprehensive transportation electrification plan
- Establish a consumer and fleet electric vehicle (EV) incentive program,
- Adopt a clean fuels standard
- Develop plans for implementing GHG budgets into transportation planning
- Develop comprehensive plans to expand access to convenient, zero emission public transit



Buildings and Housing

- Increase energy efficiency (EE, energy waste reduction, or EWR) for residential, commercial, and industrial
- Study and consider the electrification of building appliances as a pathway to reducing GHG emissions
- Make more options for funding and financing available to energy customers
- Increase workforce development programs for technologically advanced green energy jobs and careers
- Update building codes to reduce energy use in a cost-effective manner





LEADING BY EXAMPLE ACTIONS UNDERWAY

State of Michigan agencies are leading on efforts to reduce our emission profiles. A few examples include:

- State employee education campaign,
- Renewable energy at state facilities (hatcheries and state parks).
- MI Power Grid,
- Energy Transition Impact Project,
- Facilities management best practices,
- And more...

Timeline

- Review workgroup recommendations through late November/early December
- Review outline of draft plan with council mid-December
- Release draft plan for public comment mid-January
- Discuss public comment received in early March
- Submit final plan to governor mid-March

Justice and Equity in energy are important priorities for planning, because:

- Energy issues and the detrimental effects associated with energy generation have been studied historically and broadly as environmental injustices.
- Low-income communities and neighborhoods bear economic and environmental impact disparities in energy consumption.
- Research on energy usage and community advocacy have been instrumental in exposing energy inequities



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