Maryland
Department of the Environment

Buildings Ad Hoc Group Introduction

Maryland Climate Change Commission
Mitigation Work Group (MWG)
Buildings Ad Hoc Group
March 18, 2021

Goals of the 2021 Work Group

- Present expert views on different approaches as well as case studies
- Provide feedback, direction, and data for technical support
- Provide input and options for the Mitigation Work Group's annual recommendations and the Building Energy Transition Plan

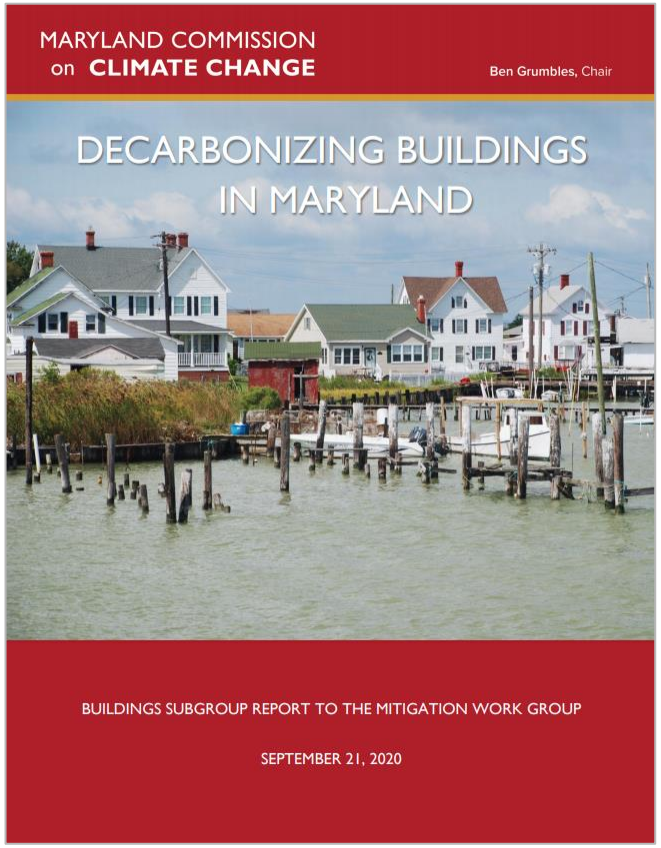
Ad-Hoc group has open membership; all are welcome to participate and invite others.

Introductions from Participants

Introduction & Summary of the 2020 Buildings Ad Hoc Group

- The 2020 Mitigation Work Group Work Plan called for analyzing targets, timelines, and mechanisms for decreasing emissions from residential and commercial buildings.

- The Ad Hoc group met monthly between June - September and was made up of Mitigation Workgroup members and volunteers, and was facilitated by Mark Stewart, Sustainability Manager at the University of Maryland and Mitigation Working Group member.

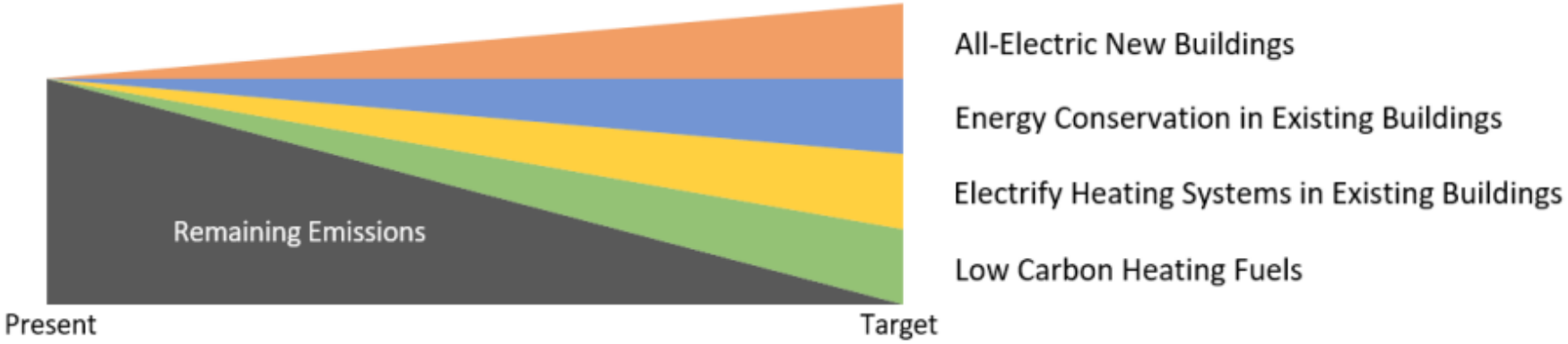


Decarbonizing Buildings in Maryland, Buildings Subgroup Report to the Mitigation Work Group, September 21, 2020

The 2020 Buildings Ad Hoc Group

- The 2020 Ad Hoc Group represented a diverse set of perspectives, including from businesses, nonprofits, academia, and state agencies.
- The Ad Hoc Group based its work on existing technical studies, plans, and policies for decarbonizing buildings, with a summary of potential approaches below.

Conceptual Overview of Emissions Mitigation Mechanisms for Decarbonizing Buildings*



* Not meant to accurately show proportional impact of each mechanism.

2020 Ad Hoc Group Meetings

June 4, 2020 - Introduction

July 9, 2020 - Building Decarbonization Strategies in Other States

August 6, 2020 - New Buildings

August 20, 2020 - Heating System Economics and EmPOWER Maryland

September 3, 2020 - Draft Recommendations for MWG

Building Recommendations from the 2020 MCCC Report

- Maryland should enable fuel-switching within EmPOWER to let Marylanders choose lowest cost energy systems.
- Maryland should let EmPOWER facilitate beneficial electrification.
- Maryland should offer incentives for efficient electric heating systems.
- Maryland should offer incentives for Net-Zero energy all-electric new buildings.
- Maryland should lead by example through the electrification and decarbonization of state buildings.
- Maryland should set a goal of 50 percent of space heater sales to be electric heat pumps (air source or ground source) by 2025.
- Maryland should prioritize an equitable level of benefits for all Marylanders.
- Maryland should improve interagency coordination for holistic building retrofits.

~AND~

- **Maryland should produce a Building Energy Transition Plan in 2021.**

Buildings Energy Transition Plan: 2020 MCCC Recommendation

Maryland should produce an Energy Transition Plan by the end of 2021.

The State should develop an Energy Transition Plan to coordinate long-term activities and ensure that the overall buildings sector strategy achieves equitable benefits for disadvantaged communities, anticipates and prevents escalating distribution system costs for shrinking pools of natural gas customers, and takes advantage of opportunities for economic growth, including for the agricultural community from renewable fuel development and EmPOWER market optimization. In 2021, the MWG should coordinate the necessary research and planning process.

As part of the Energy Transition Plan, MDE should commission a study of the market potential and consumer economics of renewable thermal / beneficial electrification examining incremental first costs, payback periods, appropriate incentive levels and source GHG savings associated with oil, propane, electric and natural gas options.

The MWG should consult with the Public Service Commission (PSC) on methodology or a series of alternative methods to evaluate source emissions and electric loads associated with building electrification.

Priority Questions

As we develop the *Building Energy Transition Plan*:

1. What is the cost and performance of building heating systems in Maryland?
2. What is the best approach to new buildings?
    a. How does it vary for different types of residential and commercial buildings?
3. What is the best approach to existing buildings?
    a. How does it vary for different types of residential and commercial buildings?
4. What is our long-term goal for the buildings sector?
5. What is the best mix of efficiency, electrification, and renewable gas to meet that goal? What are resulting challenges and opportunities from:
    a. Managing heating electricity demand;
    b. Producing renewable fuels; and
    c. Managing natural gas distribution assets?

2021 Work Plan

The *Draft* work plan is included in today's meeting materials. Feedback is welcome. Three phases:

1. March-July: Scoping, General Discussion, Research
   - E3 performs research and analysis
   - Presentation to MWG on July 20
2. July-September: Develop Recommendations for MWG
   - Recs informed by analysis results
   - Presentation to MWG on September 21
3. September-December: Finalize Recommendations
   - Plan developed with feedback from September MWG meeting
   - Plan presented to MWG on December 14

Technical Assistance

The U.S. Climate Alliance is providing technical assistance. E3 will perform the analysis.

USCA Points of Contact:

- Katie Thomas, Program Manager
- Erin Beddingfield, Senior Associate, Building Efficiency

E3 Points of Contact:

- Charles Li, Senior Consultant
- Dan Aas, Director
- Tory Clark, Director

Technical Assistance

Two primary research items:

1. Cost and Performance of Heating Systems in Maryland; and
2. Optimization study to find best pathway to mid-century buildings goal established by the MWG.

Technical Assistance Discussion

Tory and Dan from E3 are present today.

Issues of Interest Discussion

Participants are encouraged to propose specific issues of interest to discuss and research this year.

Contacts

Chris Hoagland
Climate Change Program Manager
Maryland Department of the Environment
chris.hoagland@maryland.gov

Cindy Osorto
Legislative and Policy Analyst
Climate Change Program
Maryland Department of the Environment
cindy.osorto1@maryland.gov

Follow us

@ClimateChangeMaryland