

## 2020 Mitigation Working Group Recommendations For Discussion at 10/27 Commission Meeting

*The Mitigation Working Group has approved the following recommendations for consideration by the Climate Commission at its October 27 meeting. The MWG is reconvening on November 4 to consider additional recommendations relating to the power sector, buildings, short-lived climate pollutants and natural and working lands.*

### Recommendations for Greenhouse Gas Mitigation

#### **GHG Reduction goals and other GGRA Provisions**

In recognition of the escalating urgency of climate change and findings from recent scientific reports, Maryland should adopt more ambitious greenhouse gas reduction goals by amending the relevant provisions of the Greenhouse Gas Reduction Act:

- 2-1204 (1) The State shall reduce statewide greenhouse gas emissions by ~~40~~ 50% from 2006 levels by 2030.
- 2-1205 (c)(3) The plans shall be developed in recognition of the finding by the Intergovernmental Panel on Climate Change that developed countries will need to reduce greenhouse gas emissions ~~by between 80% and 95% from 1990 levels by 2050 to net zero as early as 2045.~~

Other provisions of the GGRA, including requirements to achieve positive economic and employment impacts and for MDE to provide regular progress reports, should remain. Building upon the *2019 GGRA Draft Plan* and the forthcoming *2020 GGRA Final Plan*, Maryland should set in place a firm timeline for developing mitigation policies to meet these targets.

*See additional information on final page of this document.*

#### **Transportation**

Maryland should lead in the interstate Transportation and Climate Initiative (TCI) discussions to develop, finalize, adopt, and implement an ambitious, equitable, and sustainable regional transportation cap-and-invest program that creates a new source of funding for clean transportation solutions that reduce greenhouse gas emissions; enhance public health protections, particularly for fence-line and frontline environmental justice communities; and rebuild our economy by creating new clean energy and clean transportation jobs. The TCI program should begin as soon as possible, ideally by 2022.

Maryland and the Zero Emission Electric Vehicle Council (ZEEVIC) should continue to support zero emissions private vehicles by supporting the strongest legally possible vehicle emission standards and opposing Federal rollbacks, promote and/or require charging infrastructure in multi-family dwellings, and support continued and expanded incentives for purchase of zero emissions vehicles, designed to benefit low-income, underserved, and over-burdened communities.

To improve transit service and reduce emissions from buses, and building upon MDOT/MTA's early zero emissions bus deployments, MDOT/MTA should:

- a. reduce the backlog of deferred maintenance projects in the MTA Capital Needs Inventory over the next six years in order to adequately serve the public and reduce vehicles on the road; and
- b. continue to accelerate zero emission bus purchases, such that all new bus purchases are zero emissions starting in 2025.

MDOT/MTA should continue taking action to ensure that the Purple Line Light Rail project is completed without further delay.

To the extent federal relief (or recovery or stimulus) monies become available for transportation, worker protections (e.g. hazard pay, sick leave, personal protective equipment, enhanced sanitation) should be included as part of spending priorities in order to keep workers and riders / users safe and service as predictable, and reliable as possible.

## **Electricity**

Maryland should develop a three-pronged incentive approach to battery storage consisting of: up-front rebates; performance incentives; and access to low-cost financing.

Maryland should continue to increase storage capacity and deploy other grid improvements to facilitate the use and dependability of renewably sourced generation.

MDE and the Public Service Commission should work with the other Regional Greenhouse Gas Initiative (RGGI) states to ensure that RGGI's third regional program review begins as soon as possible in 2021. Maryland should also champion additional program improvements, including a more ambitious cap, as part of this next program review to further reduce greenhouse gas emissions; enhance public health protections, particularly for fence-line and frontline environmental justice communities; and rebuild our economy by creating new clean energy jobs.

## **Buildings**

*Maryland should enable fuel-switching to let Marylanders choose lowest cost energy systems.*

The General Assembly should amend the Public Utilities Article (PUA) section §7-211 to allow electrification of existing fossil fuel systems through EmPOWER and direct the Public Service Commission to require the electric utilities to proactively encourage customers with propane or oil heating systems to replace those systems with electric heat pumps, especially for homes with central air conditioning, especially for low income households and consumers. State agencies should also modify programs they manage to facilitate fuel-switching if not already allowed.

*Maryland should let EmPOWER facilitate beneficial electrification.*

The General Assembly should amend the PUA section §7-211 to change the core objective of EmPOWER from electricity reduction to a portfolio of mutually reinforcing goals, including greenhouse gas emissions reduction, energy savings, net customer benefits, and reaching underserved customers. In so doing, the PUA should allow for beneficial electrification. Beneficial electrification strategies are those that provide three forms of societal benefits: reduced energy consumption (total source BTUs), lower consumer costs, and reduced greenhouse gas emissions. Beneficial electrification programs should be prioritized first for low-income households and consumers and should be aligned with other health and safety upgrades to consider a whole-home or whole-building retrofit approach to ensure cost effectiveness and a focus on benefitting underserved homes and businesses first.

*Maryland should target 50% of space heater sales to be electric heat pumps (air source or ground source) by 2025.*

The General Assembly should direct the Public Service Commission to ensure that EmPOWER programs,



incentives, and implementation plans are sufficient to meet a target of 50% of space heater sales being electric heat pumps (air source or ground source) by 2025.

*Maryland should incentivize Net-Zero energy all-electric new buildings*

The Maryland Building Codes Administration should develop optional codes and standards for all electric net-zero energy buildings, including allowance of near-site renewable energy systems such as community solar projects, and determine how to incentivize builders to design to those standards. This work should be coordinated with the Maryland Department of Housing and Community Development (DHCD) in shaping incentive offerings since DHCD already has a Net Zero Loan Program in place and could provide useful insights on program design and existing market gaps to increase the reach of other incentive efforts.

*Maryland should prioritize an equitable level of benefits for all Marylanders*

The Governor, State Agencies, Commissions, and General Assembly should ensure that all policy decisions to reduce greenhouse gas emissions from the building sector in Maryland, including those within these recommendations, prioritize an equitable level of benefits to limited income households, the state's affordable and multi-family housing stock, and low income ratepayers, and concurrently with the benefits provided to others.

*Maryland should improve interagency coordination for wholistic building retrofits*

The Governor, via Executive Order, or General Assembly, via legislation, should revive an Interagency Task Force with the goal of increased and consistent coordination across programs, policies, and funding streams to retrofit the state's existing building stock to achieve healthier, safer, more efficient, and climate-friendly homes and businesses. This Green and Healthy Task Force would identify opportunities to align lead, mold, asbestos, and indoor air quality remediation intervention schedules and programs with energy efficiency upgrades and electrification retrofit programs to ensure a more cost-effective, whole-building retrofit program that meets the state's various health, safety, affordability, and climate action goals. Progress should be tracked and measured through a public state dashboard.

State agencies should take into account carbon intensity when purchasing structural materials for public infrastructure projects.

## **Natural and Working Lands**

Maryland should provide incentives to Maryland's farmers and forest landowners to realize the full potential of climate friendly soil and forest management practices.

Maryland should identify permanent, dedicated sources of funding for land-based sequestration to recognize Maryland's farmers for their leadership role in advancing climate solutions, provide supplemental income to the agricultural community, and promote rural economic development.



## Workplan Recommendations

### **GHG Reduction Goals and other GGRA Provisions**

MDE should compare its processes against the World Resources Institute (WRI) accounting and reporting standard for greenhouse gas reduction goals and identify any inconsistencies. The MWG will evaluate formal adoption of the WRI protocol.

MDE should create an open source online access point for the E3 Maryland PATHWAYS emissions model, like the Chesapeake Assessment Scenario Tool (CAST) that provides model inputs and allows the public to do scenario planning.

### **Environmental and Climate Justice and Just Transition**

MDE should work with the public, other agencies, the General Assembly, and the Commission on Environmental Justice and Sustainable Communities to identify environmental and climate justice communities and the threats and effects those individual communities are facing.

To supplement that practice, MDE should complete a thorough community environmental equity analysis regarding the impact of its suite of climate action policies, programs and proposals on communities of color, low-income communities, communities historically overburdened by pollution, and communities underserved by our historic energy and transportation systems. Community representatives should be included in the design of the study. The plan should be designed to identify specific goals and objectives (and evaluation/reporting thereof) to ensure equitable distribution of economic benefits produced by climate action strategies, policies and programs. MDE should commit to prioritizing benefits to communities who have been disproportionately burdened by GHG emissions and other pollutants, and are underserved or under-resourced.

The MWG should study policy solutions like California's Buy Clean California Act (AB262) and Washington State's Buy Clean and Buy Fair Washington Act to determine whether such policies would be beneficial to Maryland jobs and GHG goals.

As part of the manufacturing study required by the GGRA in 2022, the Commission, working with other State agencies should analyze (1) how to promote manufacturing in-state in a way that creates sustainable, high-quality jobs related to renewable energy (including transportation, building retrofits, etc); (2) benefits of including provisions in procurement and other policies like prevailing wages, project labor agreements, labor harmony agreements, and buy Maryland/buy USA/hire Maryland policies.

The MWG should study and report on long-term job impacts on industries and communities as energy transition policies are implemented. This includes both job loss and job creation opportunities. The goal is to ensure the generation of sustainable economic benefits from climate action strategies, policies, and programs and address economic dislocations. Design efforts to ensure a just transition for workers and communities. Just transition policies must address wage replacement, guarantees of health care and retirement security, job training and job placement. Efforts for communities must address loss of tax base and strains on community programs. The study should also include programs to minimize negative impacts, including creating jobs in remediation and clean up.



## Transportation

MDOT should compile and provide to MWG research from ZEEVIC and others on barriers to ZEV and mechanisms to reduce those barriers, and the impact of ridesharing and connected autonomous vehicles on greenhouse gas emissions.

## Building Energy Use

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

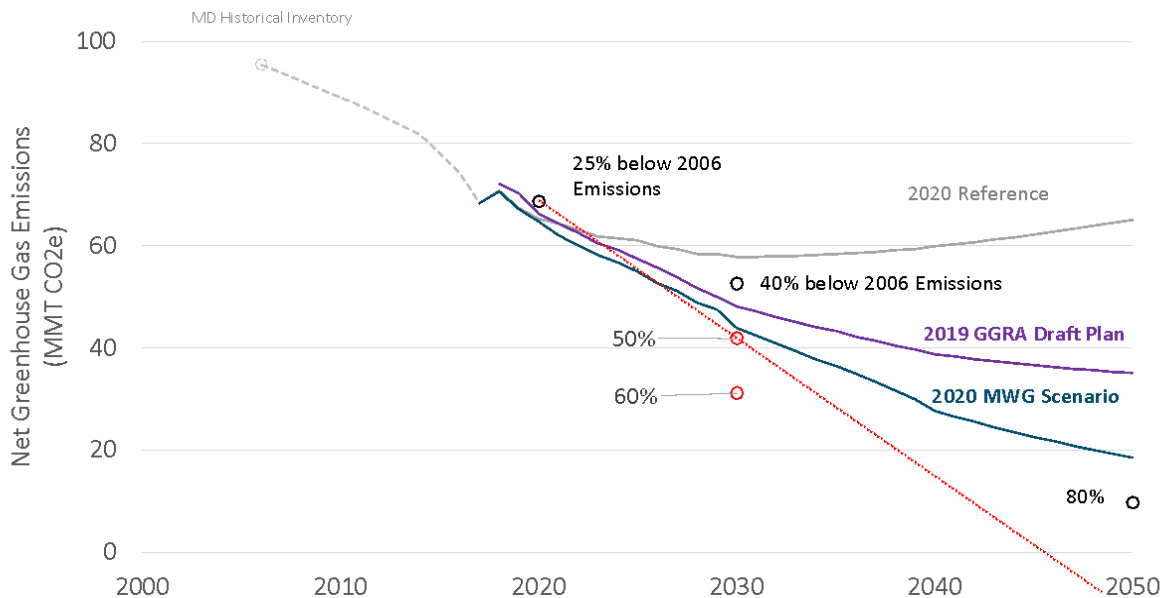
The State should develop an Energy Transition Plan to coordinate long-term activities and ensure that the overall buildings sector strategy achieves equitable benefits for disadvantaged communities, anticipates and prevents escalating distribution system costs for shrinking pools of natural gas customers, 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 PSC on a methodology or series of alternative methods to evaluate source emissions and electric loads associated with building electrification.



# GHG Goals



This graph shows net emissions (gross emissions minus sequestration). GGRA reductions goals are percentages of gross emissions so they won't visually correspond to percentages on the y-axis on this graph.

The IPCC Special Report on 1.5C in 2018<sup>1</sup> evaluated emission reduction pathways that could limit the impacts of global warming to 1.5 degrees Celsius above preindustrial levels. The pathways included some with steep enough declines in emissions to limit warming to 1.5 degrees and others with less steep declines that would cause warming to exceed 1.5 degrees, then come back down later due to future negative emissions.

It does not establish goals for specific countries, but developed nations are expected to follow the steeper reduction pathways. The report offered four illustrative pathways within a range of reduction pathways. The illustrative pathway with the steepest reduction achieves a 50% reduction in net greenhouse gas emissions by 2030, relative to 2010 levels. It achieves an 82% reduction in net greenhouse gas emissions in 2050, and net-zero carbon dioxide emissions between 2045 and 2055. The illustrative pathways are examples of reduction pathways within a broad range, which encompasses steeper reduction pathways than these percentages, including ones that achieve net zero among all greenhouse gases as early as 2044.<sup>2</sup>

The GGRA covers six major greenhouse gases, not just carbon dioxide. Its reduction targets are calculated on gross emissions, not net emissions, and relative to a 2006 baseline, not 2010, so some of the precise percentages in the 2018 IPCC report are not directly comparable to GGRA goals.

On balance, GGRA goals of 50% reduction by 2030 and net zero by 2045 would be consistent with developed nations' responsibilities to follow the steeper end of global reduction pathways evaluated by the IPCC.

<sup>1</sup> [https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15\\_SPM\\_version\\_report\\_LR.pdf](https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf); see p. 14 for pathway reductions.

<sup>2</sup> [https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15\\_Chapter2\\_Low\\_Res.pdf](https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_Chapter2_Low_Res.pdf); see table 2.4

