Global Warming Solutions Act Implementation Advisory Committee
Guiding Principles, Cross-Cutting Policy Priorities, and Sector-Specific Policy Priorities
for the Clean Energy and Climate Plan for 2030

I. INTRODUCTION

Since 2012, the Implementation Advisory Committee (IAC), which includes leaders from business, energy, environment, building, transportation, local government, and academic communities, has been convened by the Secretary of the Executive Office of Energy and Environmental Affairs (EEA) to advise the Administration's implementation of the Global Warming Solutions Act (GWSA).

In 2019, EEA initiated a decarbonization study (Decarbonization Roadmap to 2050), the goal of which was as follows[1]:

> To identify the strategies, policies, and implementation pathways for Massachusetts to achieve at least 80% greenhouse gas (GHG) reductions by 2050, and to develop a portfolio of actions that inform, support, and achieve a 2030 emissions limit. The study will dive deeply into five sectors (buildings, transportation, electricity, land use, and non-energy) and characterize impacts of policy implementation, including:
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> - Economic costs and benefits;
> - Public health impacts;
> - Changes to climate change resilience and the landscape; and
> - Socioeconomic equity, including explicit consideration of environmental justice (EJ) communities.

In April 2020, the Administration issued a letter of determination updating the legal GHG emissions limit for 2050 to net zero, with emissions reductions of at least 85% below 1990 levels.

For over a year, the GWSA IAC and sector work groups have been the primary public body engaged in this process.[2] In that time, the IAC has met roughly quarterly, assisting in developing and refining policy considerations and recommending content for both the Decarbonization Roadmap to 2050 and the 2030 Clean Energy and Climate Plan (2030 CECP).

The convergence in 2020 of the COVID-19 pandemic, climate change, and racial injustice has made more pronounced the connections between racial justice and public and environmental health. COVID-19 has complicated the response to climate disasters and conversely has underscored the dangers of allowing pollution from fossil fuels to concentrate in environmental justice populations. This pollution has exacerbated the effects of the virus.

[1] From slide 4 of GWSA IAC meeting presentation, 8-22-19.
[2] A Technical Steering Committee of local academic experts has also been convened to advise the project.

The impacts of these crises are not distributed or experienced equally. People of color, the elderly, the chronically ill, and low-income communities are disproportionately impacted by the virus. These same populations have the fewest resources to respond to crises. They suffer economic and health inequities, are more likely to live in communities with polluted air, and are the most vulnerable to extreme weather events and the effects of climate change. In acknowledging these interconnections and the need to prioritize equity and justice within the state's climate discussions, policy development, and implementation, the IAC added in November 2019 a climate justice work group to support this process.

As an advisory body, the IAC has worked to inform the Administration's efforts to develop both a roadmap to achieving net zero carbon emissions by 2050 and a policy framework that will guide GWSA implementation for the next five years to a decade. We know this is challenging work, especially given the disruptions to process and planning caused by COVID-19. At the same time, however, it is imperative that we seize this moment to design a pathway to climate compliance that is **equitable, redresses past environmental and public health inequities,** *and* that sets the Commonwealth on a **trajectory to achieve the 2030 and 2050 mandate**.

Therefore, in addition to the comprehensive list of cross-cutting and sector-specific recommendations [voted on] by this body and intended to inform the state's development of the 2030 CECP, we have developed [and voted on] a set of key principles intended to guide "how" the state should implement the policy recommendations put forth by the IAC, as well as programs, across sectors. We anticipate that these key principles will be incorporated in full into the 2030 CECP, along with the cross-cutting policy priorities and top six priorities for each of the five work groups.

II. GUIDING PRINCIPLES

- **Prioritize and Anchor Equity and Justice** to avoid further harm to populations most vulnerable to and most at risk from climate impacts, pollution, displacement, energy burden and cost while prioritizing climate, environmental, energy, and health benefits to such populations. Establish enforceable protections against disparate impacts. Prioritize analysis of cumulative impacts, while reducing burdens and increasing benefits to environmental justice populations.

- **Support a People-Centered Approach to Policy Making, Program Design, and Implementation**, providing for and ensuring broad-based stakeholder participation, input, and oversight. The interests of and people from populations most vulnerable to effects of climate change and most at risk of pollution, displacement, energy burden, and cost must be represented and influential in this process.

- **Take a Holistic Approach to Achieving Climate Goals/Net Zero by 2050/GWSA Compliance.** Recognize that EEA has an obligation to meet and/or achieve compliance with multiple laws, policies, and Executive Orders 552 and 569. Account for and accurately value co-benefits and health impacts of action, but also costs and risks associated with delay and inaction.

- **Utilize Best Available Science, Technology, and Data** with timely analysis and transparent and clear public reporting.

- **Support Partnerships and Collaboration in every way possible at scale for impact.** Ensure that national, regional, municipal, private, and NGO programs and contributions are used to increase support and likelihood of success.

- **Ensure consistent and supportive approaches across climate change policies and strategies --** avoiding the unmanageable (mitigation) and managing the unavoidable (adaptation) -- to provide consistency and avoid conflicts when evaluating the value of and co-benefit to each economic sector and natural resources.

III. CROSS-CUTTING POLICY PRIORITIES

In addition to sector-specific and climate justice policy priorities, the IAC strongly supports a number of cross-sector policy priorities that should be implemented. These cross-sector priorities are recommended here to advance and accelerate the comprehensive economy-wide transformation required to chart our decarbonization path to 2030, 2040, and 2050 with the least harm and most benefit.

It should be noted that several members of the Climate Justice Work Group raised concerns about the carbon pricing reference stated below. A general consensus was captured herein, and the recommendation of the IAC is to implement this full list of priorities in the 2030 CECP. The IAC also recommends that all of these priorities - and carbon pricing in particular - be centered in equity and justice, and that they be respectfully developed and deployed with the input, feedback, leadership, and engagement of the communities most vulnerable to the effects of climate change and most at risk from pollution, displacement, energy burden, health impacts, and other systemic inequities.

- **Enhance and modernize our energy system to support electrification** and efficiency of, and connectivity among, the transportation, building, and industrial sectors to put us on a path to achieve 2030 and 2050 emissions targets, minimizing the impacts on natural resources while maximizing net benefits for environmental justice populations.

- **Make polluters pay for their emissions and public health harm** by establishing a price on carbon (CO2e) in accordance with the social cost of carbon and invest both resources and revenue in the communities most

vulnerable to the effects of climate change and most at risk from pollution, displacement, energy burden, health impacts, and other systemic inequities.

- **Establish greenhouse gas emissions limits by sector for every five years** from 2025 to 2050; implement compliance and enforcement systems to ensure GWSA achievement, and consider expanding the use of lifecycle analysis in policy-making decisions.

- **Establish a large-scale statewide funding and financing program or climate bank** for decarbonization across all sectors that includes ample funding support for, but is not limited to, clean transit, deep energy retrofits, equitable workforce development, local and district-scale projects, renewable energy generation, and projects that advance both GHG reductions and co-benefits, such as climate adaptation or resilience and human and ecosystem health.

- **Prioritize the achievement of Massachusetts' climate commitments in all state programs and funds**, including those supporting municipal or private projects; expand, integrate, and harmonize all climate and clean energy state programs and funds; ensure executive-branch-wide collaboration and accountability, regular public stakeholder meetings, and consideration of innovative solutions.

- **Define and codify land use as a separate sector** and set numeric goals for reducing greenhouse gas emissions and for increasing carbon sequestration measured against the 1990 baseline and business as usual projections, as in other sectors; optimize natural and working lands and smart growth development.

IV. SECTOR-SPECIFIC POLICY RECOMMENDATIONS

Climate Justice

We offer the following six policy priorities as essential to ensuring the goals identified by the CJWG and overwhelmingly supported by the IAC are met.

Climate Justice 1: Set annual air pollution reduction targets for pollution hotspots.

a. To fully account for health impacts/co-benefits of proposed policies, agencies need to expand the air monitoring network, actively analyze air monitoring data, and consistently review environmental and energy policies to assess what is working and what needs to be tweaked to achieve air quality improvement.

Climate Justice 2: Require diverse hiring and workforce development practices across all sectors to achieve quality jobs.

a. The Commonwealth should allocate agency staff to work with an independent advisory council to oversee job creation. The jobs created through procurement, infrastructure projects, and implementation of climate policies should create a pathway out of poverty, with family-sustaining wages and benefits. The contract opportunities should advance women-, people of color-, and veteran–owned businesses and incentivize domestic and local quality job creation. Funding should be allocated for programs that directly recruit, train, and retain those underrepresented in the workforce, including women, people of color, veterans, formerly incarcerated people, and people living with disabilities. Training should also be provided for workers who need to learn new skills to support the just transition away from fossil fuels to clean energy.

Climate Justice 3: Ensure that community engagement influences state decision-making.

a. All state advisory committees should include representation from EJ populations.
b. The Environmental Justice Advisory Council should be routinely convened and invited to participate in decisions about transportation, electricity, buildings, nature-based solutions, development, and housing.
c. Agencies should routinely engage in robust stakeholder processes to seek public input in advance of decisions.

Climate Justice 4: Prioritize climate investments in EJ populations.

a. When dollars are being directed to support development, a concerted effort should be made to a) prioritize investment in EJ populations that will enable climate-smart building and b) convene input from an advisory body that includes community and worker representation to guide how funding is allocated.
b. Provide enhanced incentives and innovative financing for income-eligible customers, regardless of credit-worthiness, to make new, clean technologies more accessible and affordable (e.g., EVs, air source heat pumps, solar panels, rides on regional electric rail).

Climate Justice 5: Redress harm of long-standing environmental, energy, and development policies that have burdened EJ populations and other vulnerable residents.

a. Projects receiving state funds must increase housing affordability.
b. Any new incentives for solar projects must prioritize opportunities for ownership of renewable energy assets in historically disadvantaged communities

Climate Justice 6: The burdens of existing and future energy infrastructure must be reduced for nearby residents and workers. Additionally, ensure that increased clean energy investments do not increase the energy burden in LMI and EJ communities.

a. The state should establish target deadlines to close polluting facilities, such as aging landfills, incinerators, fossil-fuel power plants, and other facilities that create a public health burden, especially for environmental justice populations and other vulnerable communities.
b. Utility rate design must incorporate analysis of environmental burdens.
c. Utility bill impacts must be monitored to ensure bills decrease or are stabilized for LMI communities during the transition.
d. Future electric and gas distribution system infrastructure should not be sited in EJ populations, except after cumulative impact reviews for projects proposed in EJ populations that include consideration of potential public health impacts and long-term harms, as well as meaningful community engagement processes wherein community concerns and ideas inform and influence decision-making.

Full Climate Justice Work Group Memo on Policy Priorities: https://www.mass.gov/doc/iac-climate-justice-work-group-policy-priorities/download

Electricity

Electricity 1: EEA will support EJ populations in accessing the benefits of renewable energy generation by developing customer-facing programs (in addition to bolstering existing programs like the MA Solar Loan and Heat Smart) to remove financial barriers to access for environmental justice communities and low and moderate income electric customers, by mandating a minimum percentage of participants in customer-facing clean energy programs from environmental justice communities and low and moderate income electric customer categories, and by creating and enhancing incentives and regulatory carve-outs to encourage development of community shared distributed energy resources and microgrids in environmental justice communities.

Electricity 2: EEA will adopt a definition of the Social Cost of Carbon accounting for the impact of GHG pollution on agriculture and other land uses, public health, and property, and use it to conduct benefit cost analysis for electric sector regulations and new proposed electric generation facilities.

Electricity 3: EEA will push ISO-NE and the other 5 states to commit to region-wide decarbonization planning, building upon the MA Pathways study.

Electricity 4: EEA will conduct a comprehensive assessment of the resilience of the EDC transmission and distribution system in extreme heating demand conditions, assuming high electrification and advanced utilization of active demand management, and will then sequence the upgrades and enabling technology needed to meet those assumptions and begin implementation of those changes. As part of implementation, the DPU should ensure that low- and moderate-income customers are able to benefit from grid modernization and do not see their energy costs rise as a result of any necessary capital investments.

Electricity 5: EEA will remove biomass and municipal solid waste combustion ("waste-to-energy") from eligibility under all clean energy incentive programs administered by EEA, including the RPS, APS, CES, and CPS, by 2022, and will conduct a strategic review of the impact of said clean energy incentive programs on the Commonwealth's ability to meet the 2050

net zero requirement of clean energy incentive programs by 2028 to guide further adjustments to program eligibility.

Electricity 6: EEA will address the localized public health impacts of other air pollutants (PM2.5, ozone, NOx, etc.) that co-occur with GHG emissions from combustion by conducting consistent and routine reviews of the geographic location of GHG emissions tracked under MA's carbon accounting system for the electric sector, and using said reviews to compare impacts in EJ communities relative to non-EJ communities to inform policy implementation.

Full Electricity Work Group Memo on Policy Priorities: https://www.mass.gov/doc/iac-electricity-work-group-policy-priorities/download

Buildings

Buildings 1: Set mandatory GHG emissions reduction limits on the building sector statewide by 2025 (enforcement starting by 2030), starting with larger C&I and residential buildings and including smaller C&I and residential buildings, via either a CO2e intensity per square foot building performance standard (i.e. calculating a building's cap by multiplying its square footage by the emissions intensity limit for its building type) or a carbon fee on utility bills, with alternative compliance payments or fines for non-compliance and a portion of the revenue returned (via utility bills if collected in that manner) to low-and-moderate income households and small businesses proportionate with their ability to pay.

Buildings 2: Realign three-year energy efficiency programs and Mass Save cost-effectiveness fully with Global Warming Solutions Act (GWSA) mandates, prioritizing GHG reductions and equity outcomes such as improved air quality and public health within the cost-benefit analyses, including per-measure and per-sector calculations, performance incentives, and goals, by mid-2023 to be fully integrated into the 2025-2027 energy efficiency plan.

Buildings 3: Set a mandatory threshold for the percentage of space heating and cooling and water heating statewide from renewable and highly-efficient clean electric sources, particularly heat pumps (air-, ground-, or water-source), providing sufficient incentives for early retirement and fuel switching solely to technologies utilizing non-fossil fuel sources.

Buildings 4: Establish a large-scale statewide financing program or climate bank for building sector decarbonization (non-fossil fuel) by 2025 that includes ample funding support for, but is not limited to, deep energy retrofits (building on models of Energiesprong and RetrofitNY), equitable workforce development, local and district-scale projects, renewable energy generation, and projects that advance both GHG reductions and climate adaptation or resilience, while also requiring that barriers to building decarbonization be removed in other state funding/financing programs, such as the Community Preservation Act and Massachusetts School Building Authority.

Buildings 5: Adopt a net zero stretch code pathway by 2022, consolidating into a single stretch code no later than 2030 for new construction and major renovations that is net zero and disallows combustion for primary heating and fossil fuels for all applications.

Buildings 6: Set rigorous annually-increasing targets for serving populations traditionally underserved by Mass Save, including moderate-income ratepayers, renters, those with limited English proficiency, small businesses, and Environmental Justice communities.

Full Buildings Work Group Memo on Policy Priorities: https://www.mass.gov/doc/iac-buildings-work-group-policy-priorities/download

Transportation

Transportation 1: Prioritize the decarbonization of transit and other diesel fleets now.

The Commonwealth must invest now to decarbonize public transit diesel fleets in urban, suburban, and rural communities. Financing options, policies, and/or incentives must be put in place to enable the MBTA and RTAs to procure zero-emission buses and vans, with steady progress toward new sales and retrofit targets over the next decade. Starting now, the MBTA and RTAs must design maintenance facilities and train staff to support ZEV vehicles, prioritizing bus fleets. The Commonwealth must also determine schedules for accommodating paratransit riders and their mobility equipment. Additionally, commercial freight, passenger transport companies, and public fleet owners, including school bus operators, should be required to transition to ZEVs, and financing options, policies, and/or incentives must similarly enable progress in these sectors.

Transportation 2: Strengthen light-duty ZEV adoption by phasing out new gasoline and diesel-powered vehicles, enhancing and expanding ZEV incentive programs and building out a robust and accessible charging and fueling network.

The Commonwealth must set a goal that 100% of sales of new passenger cars and light-duty trucks in Massachusetts must be zero-emission vehicles by 2035. To reach this goal, MA must continue to follow vehicle standards set by California. Additionally, the Commonwealth must expand public programs, including MOR-EV, to focus on incentives for used ZEVs and other lower cost vehicle purchases, particularly for low- and middle-income residents and environmental justice populations. The Commonwealth must also support or partner with other stakeholders and organizations to encourage group purchasing, small business development in clean transportation, and the deployment of extensive marketing, education, and communications on ZEVs. This work must include innovative programs and incentives to enable the necessary expansion of charging infrastructure or other zero-carbon fueling stations.

The Commonwealth must facilitate coordination across private and public networks to optimize programs and investment in existing infrastructure (such as utilizing the electric grid for managed charging solutions) and enable utility rate designs for efficient EV charging and usage patterns. These efforts must prioritize disadvantaged and underserved communities by offering tailored solutions for environmental justice populations and those with limited access to assigned parking or personal vehicles. Investments and program changes must ensure a net benefit to low-income residents, businesses owned by people of color, and environmental justice populations.

Transportation 3: Increase investment to expand public transit and enhance multi-rider mobility programs throughout the Commonwealth.

The Commonwealth must increase investment in public transit service levels, using fall 2019 as a baseline, despite fiscal constraints. In addition, the Commonwealth must conduct robust community engagement inclusive of environmental justice populations to determine public transit needs, including priority locations for expansion and increased frequency. Low-income fares and portable tickets across modes and boundaries should be developed and promoted with enhanced language access. Near-term priories should include the electrification of regional rail lines that serve environmental justice populations. Additionally, the Commonwealth should incentivize employer-based TDM strategies and partnerships to increase the use of transit, ZEV shuttles, and ZEV carpooling.

Transportation 4: Grow the share of non-car trips by supporting active and innovative mobility options.

The Commonwealth must work with cities and towns to increase the number of trips taken by transit, walking, or biking by building out a network of active transportation infrastructure through Complete Streets and other programs. These investments must be prioritized for environmental justice populations. Investment in these networks must also accommodate new and emerging micro-mobility technologies, such as electric bikes and scooters. A robust active transportation network must also improve and enable innovative models for last mile ZEV mobility and strengthen connections to transit.

Transportation 5: Expand and strengthen incentives to advance equitable Transit Oriented Development.

The Commonwealth must incentivize the production of affordable and middle-income housing near transit so residents can live car-free and still access work, school, grocery stores childcare healthcare, and other services. Such incentives could come through an expansion of the existing Housing Choice program or other efforts designed to incentivize equitable transit-oriented development. Additional benefits should be afforded to municipalities that adopt a higher inclusionary zoning requirement for sites near transit or pursue other similar measures to mitigate against possible residential and small business displacement. Parking must be appropriately priced to encourage other modes of travel, and cities and towns should be encouraged to reduce their parking requirements, particularly near transit, to avoid generating unnecessary car trips.

Transportation 6: Assess and deliver smart roadway pricing strategies.

The Commonwealth should develop and execute a strategy to more accurately price the use of roads and bridges through smarter roadway pricing (e.g. tolling) in order to create a regionally equitable road pricing network, raise new revenue for public transit and zero-emission transportation alternatives, reduce GHG emissions, and improve air quality, especially for environmental justice populations. Pricing strategies must be rooted in robust stakeholder engagement and provide exemptions and/or rebates for low-income families. Revenue investments should prioritize increasingly decarbonized transit enhancements that

provide a net benefit to environmental justice populations and transit-dependent communities.

Full Transportation Work Group Memo on Policy Priorities posted to: https://www.mass.gov/event/october-22-2020-meeting-of-the-gwsa-implementation-advisory-committee-iac-2020-10-22t103000, updated 10/22/2020

Land Use and Nature Based Solutions

Land Use and Nature Based Solutions 1: Avoid Forest Conversion

Avoid the loss of forests in all geographies (rural, suburban and urban) by establishing new and increasing and streamlining existing grant and incentive programs for forest protection within the Executive Office of Energy and Environmental Affairs (EEA), and other state agencies, policies and programs. Programs should include priority set-asides for 1) conserving land near Environmental Justice (EJ) communities and water supply lands; 2) maintaining mature urban tree canopy; and 3) conserving large, interconnected forests (which contain the highest carbon). To further protect forests in all geographies, add tree removal as a mandatory threshold under Massachusetts Environmental Policy Act for an Environmental Impact Review, for trees of a size to be determined by geography. Measure the carbon loss from deforestation as well as urban tree loss in greenhouse gas inventories.

Land Use and Nature Based Solutions 2: Restoration and protection of wetland systems' greenhouse gas sequestration and services (Blue Carbon)

Protect, manage, and restore inland and coastal wetland systems and their carbon flux by establishing new and strengthening existing regulations and guidance and compliance and enforcement that maximize ecosystems vitality, carbon capture and other ecosystem services and expanding wetlands and stream restoration programs 1) to reduce climate change impacts by reflecting future climate change projections (sea level rise, shifting temperatures, changing precipitation projections) under the Massachusetts Wetlands Protection Act and regulations; and, 2) to prevent water quality degradation from pollution, especially in nutrient sensitive areas with combined sewer systems, Total Maximum Daily Loads for nutrient pollution, septic systems, and stormwater MS4 permits.

Land Use and Nature Based Solutions 3: City trees and Reforestation

Retain existing city trees and set targets for planting new trees and for survival of planted trees in Environmental Justice communities, all 26 Gateway Cities and other urban centers. Prioritize the siting of trees where they will reduce heat island effects and lower the heating and cooling energy needs of nearby buildings and to absorb stormwater. Collect additional data on urban trees, where losses occur, and the types of development that are associated with loss. In suburban and rural areas, expand programs to reforest riparian and flood-prone areas (for example, by matching USDA Natural Resources Conservation Service cost-share funding).

Land Use and Nature Based Solutions 4: Net Gain of Ecosystem Functions/Services

Enact legislation to achieve a Net Gain of ecosystem functions/services (TBD), and the ability for natural resources to provide clean air and water, carbon sequestration, adaptation benefits, etc. The law should require that EEA 1) set a Net Gain goal; 2) measure and report land use conversion and trends, including trends in Environmental Justice communities that impact urban tree canopy cover; 3) create a spatial decision support tool to calculate net losses and gains, to quantify impacts and benefits, and to guide decision-making at all scales and across land use types; 4) provide incentives for protection and restoration; and, 5) promulgate regulatory requirements to avoid, minimize, and mitigate land use conversion.

Land Use and Nature Based Solutions 5: Increase carbon on working lands

Increase carbon stored on working lands and increase the quality of forest and agricultural products by employing a range of strategies including using grants and state and local incentives to: 1) pay and incentivize forest landowners to practice carbon-beneficial forestry practices (through existing programs, like the Family Forest Carbon Program and by creating new forest resilience programs); and, 2) pay and incentivize farmers to apply silvopasture, cover crops, no till, and the best management practices described in the Healthy Soils Action Plan.

Land Use and Nature Based Solutions 6: Operationalize nature-based solutions for new and redevelopment.

Create incentives for reforming local ordinances, bylaws, and permitting processes to ensure no net loss of ecosystem services through protection and maximization of green infrastructure/nature-based solutions in all new and redevelopment, and combine gray/green infrastructure where needed. Some examples include Open Space Residential Design, Natural Resource Protection Zoning by right, Transfer of Development Rights, green infrastructure and natural climate solutions design requirements in subdivision regulations and site plan review, and tree retention ordinances with unavoidable tree removals requiring payments into a local fund for tree planting. Make adoption of these rules a requirement for continued qualification as a Municipal Vulnerability Preparedness community, Green Community, other existing grant programs, and create new state incentives for communities to adopt these rules and to incorporate these principles into municipal projects.

Full Land Use and Nature Based Solutions Work Group Memo on Policy Priorities**:**
https://www.mass.gov/doc/iac-nature-based-solutions-work-group-policy-priorities/download