CLIMATE JUSTICE WORKING GROUP MEMORANDUM

TO: Global Warming Solutions Act Implementation Advisory Committee

FROM: Climate Justice Working Group

RE: Recommendations to Improve the Master Policy List to Address Climate Justice

DATE: August 7, 2020

The Massachusetts Global Warming Solutions Act (GWSA) Implementation Advisory Committee (IAC) voted to approve the development of an Equity Working Group in November 2019, which the co-chairs renamed to the Climate Justice Working Group (CJWG). The CJWG circulated its first memorandum in February 2020. In the past five months, the ill effects of the COVID-19 pandemic and illumination of generations of racial oppression have changed our collective consciousness. The COVID-19 pandemic has exposed the dangers of allowing pollution to concentrate in environmental justice populations. Rates of infection are much higher in these communities than wealthy and white communities, and all of the top ten municipalities in the Commonwealth with the highest number of COVID-19 cases are environmental justice populations. COVID-19 is not the only threat facing these communities. At a time when we must take to the streets in defense of Black and Brown lives, we know that institutional racism has been a core pillar that has contributed to environmental, climate, and public health inequities.

I. Climate Justice Requires a People-Centered Approach to Achieve Net Zero Emissions by 2050.

All people have a right to be protected from pollution. It's guaranteed not just by our values, but by Article XCVII (97) of our state's Constitution and by decades of federal policy. Those rights exist regardless of one's race, English language ability, income, or immigration status. All people should benefit from the just transition to a carbon-free economy. Climate justice focuses on the root causes of climate change – human-made carbon pollution – and making systemic changes that are required to address unequal burdens to our communities and realign our economy with our natural systems. As a form of environmental justice, climate justice means that all humans (some would say species, too) have the right to access and obtain the resources needed to have an equal chance of survival and freedom from discrimination. As a movement, climate justice advocates are leading from the grassroots up to create solutions to our climate and energy problems that ensure the right of all people to live, learn, work, play and pray in safe, healthy and clean environments.

Climate justice will only be achieved if EEA enacts policies that bring about concrete improvements in the health and lives of communities in the Commonwealth that continue to be disproportionately impacted by pollution and experience the worst impacts of climate change and COVID-19. The policies must be holistic and be developed and implemented with community

participation. Unless climate justice is a central component of the Commonwealth's path to net zero emissions, the inequities of the Commonwealth's past energy policies will be replicated.

II. EEA Has an Opportunity to Meet Its Obligations Under Multiple Laws and Policies to Achieve Climate Justice.

In finalizing the Decarbonization Roadmap Study, Clean Energy and Climate Plan for 2030, and 2030 Emissions Target, EEA has a responsibility and opportunity to concurrently meet its obligations under the GWSA, Green Communities Act (GCA), Green Jobs Act (GJA), Executive Order on Environmental Justice Number 552, and the EEA Environmental Justice Policy.

- GWSA: The GWSA requires the EEA secretary to determine "whether activities undertaken to comply with state regulations and efforts disproportionately impact low-income communities."[1]
- GCA: In 2008, Massachusetts passed the GCA "to help municipalities become more sustainable, control rising energy costs, and incubate clean energy technologies and practices."[2] The GCA also laid out several provisions to ensure that low-income communities have access to the benefits of energy efficiency resources. Section 141 states that "[i]n all decisions or actions regarding rate designs, the department [of energy resources] shall consider the impacts of such actions" and "[w]here the scale of on-site generation would have an impact on affordability for low-income customers, a fully compensating adjustment shall be made to the low-income rate discount."[3] Additionally, the GCA requires the Secretary of EEA to prepare "a 5-year plan for meeting the renewable and alternative energy and energy efficiency goals of the commonwealth" that addresses the "equitable distribution of program benefits to all customers and particularly low income customers to address the affordability and adverse impacts on low-income households of energy costs and demand mitigation strategies, and mitigation of such adverse impacts, such as by compensating adjustments to the low-income rate discount."[4]
- GJA: Also in 2008, the GJA founded the Massachusetts Clean Energy Center (MassCEC) to "institute and administer the Massachusetts Alternative and Clean Energy Investment Trust Fund for the purposes of making appropriations, allocations, grants or loans to leverage development and investments in clean energy research, workforce training and job creation."[5] Like the GCA, the GJA mandates that the MassCEC promote equitable outcomes. MassCEC has the obligation "to promote programs and investments that lead

[1] M.G.L. c. 21N, § 5.
[2] Secretary of Energy and Environmental Affairs (EEA), 2015 Update: Massachusetts Clean Energy and Climate Plan for 2020, appx. 111 (December 31, 2015), https://www.mass.gov/files/documents/2017/12/06/Clean%20Energy%20and%20Climate%20Plan%20for%202020.pdf.
[3] St. 2008, c. 169, § 141.
[4] St. 2008, c. 169, § 116(b)(3).
[5] St. 2008, c. 307, § 3(a)(26).

to pathways towards economic self-sufficiency for low and moderate-income individuals and communities in the clean energy industry."[6] To achieve this goal, the GJA allocated $1 million from the Trust for a "pathways out of poverty initiative," consisting of five grants to entities helping low-income individuals access job training programs in the clean energy industry, with a preference for gateway cities.[7] The Pathways out of Poverty initiative was active through 2014,[8] but efforts to ensure equitable access to the clean energy industry should continue and expand.

- Executive Order on Environmental Justice: In November 2014, former Governor Deval Patrick issued Executive Order (EO) 552 "to encourage sustained and continued efforts now and into the future to ensure that environmental justice (EJ) remains a priority for the Executive branch." Each Secretariat is required to develop a strategy to incorporate EJ considerations into its programs, including through permitting processes, economic development opportunities, and public participation and outreach.[9] EO 552 directed the Secretary of EEA to update the Environmental Justice Policy originally issued in 2002.[10] The 2017 EJ Policy requires that "EEA agencies shall consider the current and future impacts that climate change will have on EJ populations" and "shall take appropriate measures towards ensuring that EJ populations are equally protected from hazards and health risks imposed by future climate changes and properly informed of appropriate measures taken to increase their adaptive capacity."[11]

III. The IAC Priority Policies Must Prioritize and Center Equity and Justice.

The CJWG urges EEA to think broadly and holistically about the opportunity for the Decarbonization Roadmap and 2030 CECP to reflect various requirements that EEA consider EJ and climate justice. Below, the CJWG lists the IAC-approved policies from August 2019 and adds components that are necessary to work toward achieving climate justice. The black text is duplicative of the summary text from the IAC Priority Policies approved in August 2019. The blue text includes the CJWG recommendations.

IAC Priority Policies

[6] St. 2008, c. 307 § 3(a)(27).
[7] St. 2008, c. 307 § 13.
[8] MassCEC, MassCEC Launches Clean Energy Job Training Initiative for Women (December 8, 2014), https://www.masscec.com/about-masscec/news/masscec-launches-clean-energy-job-training-initiative-women.
[9] Governor Deval L. Patrick, Executive Order No. 552: Executive Order on Environmental Justice, at 6.
[10] *Id.* at 5.
[11] Massachusetts Executive Office of Energy and Environmental Affairs, *Environmental Justice Policy*, 13 (2017).

Buildings:

- **Policy #1: Set Mandatory Emissions Reduction Limits on Building Sector Statewide by 2020**

The Commonwealth should begin the stakeholder process of setting mandatory emissions reduction limits no later than about 2020 for 2030 and beyond. These potential regulations may include (but are not limited to): incentivizing early retirement of inefficient HVAC to convert to clean heating and cooling, aligning the energy efficiency goals with the GWSA, maximizing the Alternative Portfolio Standard (APS), maximizing energy efficiency, phasing out fuel oil and natural gas, and more.

Criteria highlights: This policy builds off existing work, so is feasible and has political viability. There are large GHG reductions. There will be social benefits, particularly around fossil fuel reduction and associated public health. There are also workforce opportunities.

- **CJWG - Energy efficiency targets for nonparticipants:** Mass Save should set mandatory annual targets for enrollment of low- and moderate-income ratepayers, renters, and schools predominantly serving Black and Brown schools. To meet emissions reduction targets, it is essential to enroll low- and moderate-income homeowners and renters who currently do not participate in energy efficiency programs by making the program economically feasible for all participants. The Commonwealth should align incentives between landlords and renters, such as by developing "green leases" that share the costs and benefits of efficiency upgrades. The Commonwealth should target outreach to EJ populations where there is low uptake of energy efficiency benefits to inform residents about the economic benefits of weatherization and the availability of income-adjusted programs.
    - Progress should be evaluated yearly and modifications to incentive levels or preweatherization funds.
    - Impacts to housing affordability and displacement rates should be analyzed and inform program modifications.
    - Moderate-income households, renters, and households whose primary language is other than English are underserved by the existing Energy Efficiency Statewide Plan.[12] Upper-income municipalities benefit more from the Mass Save energy savings program than those with a median income below $45,000.[13] Municipalities with a higher percentage of limited English proficient residents, renters, people of color, and immigrant households also have lesser access to

[12] DPU 18-110 through DPU 18-119, Initial Brief of Conservation Law Foundation, 18 (December 31, 2018) (citing Testimony of Elizabeth A. Stanton, Ex. CLF-EAS-1, 35-36 (November 16, 2018)).
[13] DPU 18-110 at 19 (citing CLF-EAS-1 at 42).

energy savings.[14] EEA must ensure that energy savings are equitably distributed under the GCA and in any new decarbonization plans.

- **CJWG - Revise energy efficiency guidelines to account for improved air quality, public health, and worker rights:** The Department of Public Health, Department of Labor Standards, and Department of Public Utilities should work together to release updated energy efficiency guidelines that account for indoor air quality, workforce policies, and require energy efficiency Program Administrators to meet indoor air quality improvements and job safety standards.
- **CJWG - Implement clean heating and cooling in EJ populations:** The Commonwealth must address emissions from buildings that have aging and outdated HVAC systems. Schools, prisons, public and affordable housing complexes, and other congregate spaces in EJ populations and low income neighborhoods across the Commonwealth are desperately in need of retrofits or updates to accommodate the impacts of living in an era of rising temperatures and extended heat waves. Providing near-term incentives to equalize the up-front costs of heat pumps compared to replacing oil, propane, and gas furnaces and boilers with new gas furnaces and boilers will facilitate this transition and avoid investments in obsolete fuels and technologies. It is particularly important to provide equitable incentives for low-to-moderate income, renters, and non-English speaking customers to avoid having to pay more than their fair share of the increasing costs of the gas distribution systems. This can be accomplished with an incentive structure akin to the Mass Save program, with targeted incentives for low-to-moderate income residents and funding to address pre-weatherization barriers.

- **Policy #2: Make the Building Code 2050-Compliant**

Because each building placed in service today is expected to be in service in 2050, and because building system costs are best minimized (and capitalized) at construction, the Commonwealth should, by about 2020 and no later than the adoption of the 2021 International Codes, comprehensively revise and update the Massachusetts State Building Code to require all new construction and major renovations to meet 2050-compliant building envelope standards in addition to supporting greater adoption of distributed energy resources and energy resiliency, including: storage; renewables for electricity and thermal energy; zero-emission vehicle (ZEV) charging; resilience/adaptation; and district heating and cooling.

Criteria highlights: While not addressing legacy buildings, codes level the playing field regarding social equity; healthier buildings are less expensive to operate and resilient.

- **CJWG - Add equity standards to the State Building Code:** This could require project proponents to take into account the impact of new construction on affordability, traffic,

[14] DPU 18-110 at 19 (citing CLF-EAS-1 at 43).

and existing pollution in the surrounding community; to require ethical sourcing of building materials; to provide a living wage and safe job conditions for construction workers; to ensure that buildings comply with accessibility best practices; and to maximize the health benefits of efficiency upgrades.

- **Policy #3: Require Expanded, Detailed Building Performance and Emissions Reporting, Benchmarking, and Improvements**

The Commonwealth should work quickly to address the systemic lack of accurate information regarding building system performance and related building service emissions in Massachusetts. This can be achieved through actions that include, but are not limited to, setting mandatory building energy performance reporting requirements, requiring building energy efficiency scorecards at point of listing for sale, lease, or rental, funding building operator training and workforce opportunities on maintaining building performance, and incentivizing green leases and other financing options.

Criteria highlights: GHG reductions could be significant. Boston and other cities are already pursuing this, and there are job creation/retraining opportunities.

- **CJWG - Compare building performance by geography and renter status and ensure high performing buildings in EJ populations:** The Commonwealth should work to collect granular data to analyze building performance by sector and geography and to compare performance between renter and owner-occupied buildings.
- **CJWG - Include code enforcement and education:** Add resources to ensure building code enforcement and resident education particularly in environmental justice populations. Data collection should be coupled with strict code enforcement, particularly in low-income rental units whose tenants may not be able to effectively seek enforcement of health and safety requirements. The Department of Public Health, Department of Labor Standards, and the Department of Public Utilities should also establish workforce safety and fair pay standards for construction workers and ensure data collection on compliance.

- **Policy #4: Require a Cross-Sectional Focus**

Livable 2050-compliant buildings are connected to, and dependent on, a design ecosystem that includes local zoning; local, regional, and state transportation planning; our energy supply systems; public health considerations; resilience, and more. As we work to decarbonize our building sector as required by the GWSA, the Commonwealth should actively maintain a dynamic, cross-sector, “integrative design” approach that looks for and leverages win-win

options that achieve or advance multiple goals simultaneously wherever possible, including maintaining connections to: an interconnected regulatory landscape, local levers, resiliency, mobility and smart growth, waste, and equity.

Criteria highlights: This strategy allows for better integration across programs and laws (including the GWSA and GCA), which should increase the effectiveness and uptake of other efforts and should make the other policies more achievable and likely less costly.

- **CJWG - For each cross-sector strategy, prioritize analysis of cumulative impacts, while reducing burdens and increasing benefits to environmental justice populations:** Climate justice requires a cross-sector and multidisciplinary approach to achieving net zero emissions. The CECP should include a requirement to assess how a building sector policy could affect a different sector and analyze the associated burdens and benefits for EJ populations. The goal of a cross-sector strategy must be to assess cumulative impacts, reduce historic inequities, and maximize benefits to EJ populations.
    - There should be a routine review of policies and discussion of how to implement those policies to maximize the benefits to EJ populations. The CJWG should be consulted on an ongoing basis about cross-sector strategies.
    - Energy efficiency upgrades present an ideal opportunity to simultaneously reduce emissions and energy costs and reduce harmful indoor chemicals from homes and workplaces. To realize the public health and economic benefits of retrofits, the Commonwealth should set strict standards for both energy efficiency and indoor air quality and work to enforce these standards, particularly in low-income communities and communities of color living in aging housing stock, in public housing facilities, attending public schools located in EJ populations, and in prisons.
    - Building retrofit programs should include anti-displacement measures to ensure that low-income renters can access the savings of energy efficiency upgrades without being priced out of their apartments. The Commonwealth, and in particular the Division of Capital Asset Management and Maintenance, should ensure that procurement processes prioritize hiring from EJ population for construction, management, and maintenance of public buildings.

Electricity

- **Policy #1: Promote consistent GHG accounting methods within MA and among New England states**

Consistent, principled, and transparent emissions accounting is critical to achieving the GWSA's goals, particularly regarding the electricity sector. The issue is important both within the Commonwealth (for cities and towns with their own climate goals, for municipal aggregation,

for municipal light plants) and regionally (in the context of large state clean energy procurements and as other states increase their focus on detailed emissions accounting in order to meet their own goals), and in each area we expect that importance to grow dramatically over the 2020s. As a result, the state should work to establish – in the early 2020s – consistent GHG accounting methods within MA and among New England states.

Criteria highlights: This is a feasible recommendation and has the potential to increase consistency and accountability while lowering costs associated with GHG accounting.

- **CJWG - Compare emissions accounting in EJ populations and non-EJ populations:** It is important to assess emissions relative to geographic locations. Consistent and routine review of impacts in EJ populations relative to non-EJ populations are important to inform policy implementation.

- **Policy 2: Conduct a strategic review and alignment of the RPS, APS, CES, and CPS regarding the participation in each of biomass, landfill gas, and MSW "waste-to-energy" electricity generators**

Initial analysis indicates that in order to achieve GWSA-required levels of 2050 statewide emissions, ultralow per megawatt-hour emissions will be required for the Commonwealth's entire electricity sector. Based on either potentially out-of-date life-cycle emissions estimates, or for other reasons altogether (e.g., to facilitate in-state waste disposal), however, several state energy programs currently include and incentivize electricity generation with substantial smokestack emissions that are likely not 2050- compliant. In order to ensure scarce ratepayer funds are spent wisely in pursuit of cost-effective GWSA implementation, the state should review and revise, as necessary to ensure they are consistent with the Commonwealth's 2050 goals, the qualification and participation of biomass, landfill gas, and MSW "waste-to-energy" electricity generators in the RPS, APS, CES, and CPS and other clean energy incentive programs.

Criteria highlights: This will improve long term GHG gains; should be beneficial to social equity and public health by addressing particulate emitters, esp. in EJ Communities

- **CJWG - Quantify and assess externalities of generation:** The Commonwealth should adopt a definition of the Social Cost of Carbon that accounts for the impact that adding or removing carbon has on agriculture, public health, and property damage. This metric should be used to conduct benefit-cost analyses on new regulations and generation facilities. Fully accounting for the negative externalities associated with energy generation should ensure that new and expanded generation facilities are not disproportionately sited in EJ communities and that new facilities result in cost-savings and health benefits for EJ communities.

- **CJWG - Fossil fuels and other carbon emitting generation should not be considered renewable:** EEA should reform the Renewable Portfolio Standard to ensure that the required renewable load is aligned with the GWSA GHG emissions reduction target, and natural gas infrastructure and biomass should be excluded from permissible RPS sources.
- **CJWG - Support expansion of microgrids and renewable energy cooperatives:** The Commonwealth should support EJ populations in accessing the benefits of renewable energy generation, including through microgrids and solar co-operatives.

- **Policy #3: Conduct a strategic assessment of the role of Municipal Light Plants (MLPs) in meeting the state's GWSA obligations**

The state's municipal utilities are generally exempt from major clean energy programs designed to ensure the state achieves its 2050 GWSA goals, and some municipal utilities have asserted that the state may not regulate them at all pursuant to the GWSA. Given that MLPs deliver about 12% of the electricity consumed in Massachusetts, the state should assess whether it can meet its GWSA mandate without the participation of MLPs.

Criteria highlights: This strategy is likely to be beneficial towards emissions reductions and it should be technically feasible to achieve.

- **CJWG - Encourage MLPs to consider climate justice:** The Commonwealth should recommend legislation or promulgate regulations, as appropriate, to support MLPs in considering how to further climate justice through their operation.

- **Policy 4: Ensure the state's Electric Distribution Company (EDC)-maintained and operated electricity distribution system is transformed as needed to actively support and further statewide deep decarbonization efforts**

A thriving two-way electric distribution system that supports a wide variety of low-cost distributed energy resources and actively responsive demand is likely critical to the state's deep decarbonization efforts which will rely on ultra-low emissions electricity to allow widespread fuel-switching. While the Commonwealth's distribution system and distribution utilities are already successfully supporting the state's initial emissions reduction efforts (e.g., interconnecting and operating over 2,500MW of solar PV), substantial changes in that system are likely needed in order to support deep decarbonization and to do so at least-cost while ensuring reliability. The state must take active steps to ensure that the Commonwealth's electricity distribution system and its operators are designed and incentivized to actively support and further statewide deep decarbonization efforts, particularly around supporting distributed energy resources, load shifting and flexible demand, and EDC business models to be 2050-compliant.

Criteria highlights: This strategy should improve GHG reductions, social equity, and public health, as well as build a more resilient and adaptive grid (likely with job creations)

- **CJWG - Implement programs to ensure that distributed energy resources benefit EJ populations:** Require DPU to assess how electric distribution company rates and tariffs impact low- and moderate-income customers and reject rates and tariffs that disproportionately burden such customers.
- **CJWG - Require that grid modernization benefits low- and moderate-income customers:** DPU should ensure that low- and moderate-income customers benefit from grid modernization and do not see their energy costs rise from capital investments.
- **CJWG - Require electric distribution companies to solicit input from community-based organizations about programs and rate design:** DPU should require electric distribution companies to seek input from community-based organizations in advance of filing a petition to fund a new program that has the potential to burden low- and moderate-income customers or to benefit such customers.

- **Policy #5: Ensure the New England electricity system's markets and planning processes are transformed as needed to actively support and further statewide deep decarbonization efforts.**

Massachusetts participates in, and depends on, a regionally-managed electricity system (transmission grid, capacity markets, and market-based system dispatch) for the generation and delivery of its bulk electricity supply. Status quo market operations, however, are not supportive of MA's deep decarbonization efforts and without a change – likely involving substantial market re-design – many stakeholders are concerned that the regional energy markets may collapse in the next decade as state-procured clean and renewable resources are brought online. Massachusetts can and should lead the region to ensure that the regional electricity system is stable, cost-effective, and 2050 compliant.

Criteria highlights: This should have benefits across the board, but for this policy, without leadership pushing the regional markets in this direction, it is possible that benefits from other policies may be stunted.

- **CJWG - Ensure that the markets and planning processes at ISO New England consider benefits and burdens on EJ populations.**

Land Use and Nature-Based Solutions

- **Policy #1: Avoid conversion of forests – especially resilient, interior forests – to other land uses**

We have clear, spatially explicit data in Massachusetts that identifies forests that are carbon storage and sequestration powerhouses, as well as those that are most likely to survive climate change and remain carbon-rich in the future; prevention is always better than after-the-fact restoration or mitigation. Harvard Forest predicts a ~ 20% loss of carbon storage over the next 50 years if we continue current trends of forest land conversion and management. Through protecting forest blocks, helping communities and private landowners preserve their lands, streamlining protection funding, providing incentives and tax credits, and technical assistance offerings, MA can help preserve this carbon storage.

Criteria highlights: In addition to the carbon benefits, there are public health and resiliency benefits

- **CJWG - Allocate a minimum percent of conservation funds and technical assistance resources for forests that are located in close proximity to EJ populations or around water supplies for those populations:** Develop criteria that centers climate justice and environmental justice principles to determine the minimum percent.

- **Policy #2: Invest in the restoration, maintenance, migration, and protection of blue carbon systems (salt marshes and eelgrass beds) through funding, strengthening coastal wetland protection, and enabling salt marsh migration with land conservation and/or limited development/land use in the coastal zone**

Salt Marsh degradation and eelgrass meadow loss has been occurring, notably since the 1980s in some of Massachusetts greatest systems like Plum Island and Cape Cod National Seashore. These systems provide fish nurseries, wave attenuation, and high rates of carbon sequestration--even more efficiently than forests—but degradation, nutrient pollution, and loss creates mud flats releasing centuries worth of stored carbon into the atmosphere, further exasperating our greenhouse gas emissions, global warming and climate change. Protecting, restoring, and maintaining our blue carbon systems is critical for not only shoreline protection from sea level rise and storm surge but also preventing a mass emission of greenhouse gases stored in these systems for centuries.

Criteria highlights: Inaction could lead to significant release of stored CO2; there are coastal resilience benefits and potential benefit to commercial fish industry.

- **CJWG - Add criteria for climate adaptation projects that create public health benefits in EJ populations:** Massachusetts's criteria for implementing adaptation projects should emphasize potential public health benefits, flood risk, and heat burden. Using these criteria, the Commonwealth should prioritize blue carbon systems in EJ populations. These criteria should be integrated into the Healthy Soils Plan and Resilient Lands Initiative.

    - Improve public health by providing readily accessible close-to-home natural areas for outdoor recreation and preparing communities for increasing heat waves, flooding, storms, and other climate change impacts.
    - Designate climate risk zones where land restoration, conservation and stewardship projects are critical to reduce heat islands and flooding.
- **CJWG - See target deadlines to close polluting facilities and sewage discharges operating in blue carbon systems and restore such systems:** To ensure that the health of both human populations and these critical ecosystems are protected, the Commonwealth should set a deadline for shutting down polluting sites that operate in wetlands, such as the Saugus Wheelabrator facility. Pair with zero waste policies and work with neighboring states to reduce waste export across borders.
- **CJWG - Allocate a portion of state funds to increase wetlands in EJ populations:** Use state funds such as the Massachusetts Environmental Trust to increase wetlands in urban communities with disproportionately high heat island effect.
- **CJWG - Ensure that blue carbon creation and maintenance jobs go to residents of EJ populations:** Create and maintain job training opportunities for residents of EJ populations.

- **Policy #3: Continue, and greatly expand, urban tree planting and stewardship programs, such as Greening the Gateway Cities, ReGreen Springfield, and tree planting efforts within metro Boston**

To set ourselves up to meet future Global Warming Solutions Act targets (2030, 2040, 2050, etc.), we need to plant trees now in places where they will significantly reduce energy usage and store carbon in future decades. Investing in tree-planting in urban communities benefits some of the most vulnerable residents of the Commonwealth who currently lack tree canopy, and in small ways, begins to correct a history of environmental injustice. Community benefits include shade (and reduced cooling costs), windbreaks (and reduced heating costs), reduced stormwater runoff and flood risk, job opportunities for local residents, better respiratory health, and better quality of life from having access to green space.

Criteria highlights: There are energy reductions from trees near homes, job creation opportunities in EJ communities, and public health benefits.

- **CJWG - Set annual targets for planting new trees in urban communities:** It is critical to increase sequestration in the built environment. Identify priority locations to convert concrete / asphalt to green spaces in EJ populations and ensure that trees will survive and not violate accessibility laws and regulations. Tie this recommendation to the work to repair gas leaks and make sure that new trees are not planted in places that will be killed

by gas leaks. Priority locations for tree planting should include public transit bus stops and school bus stops.
    - Create a network of shady green spaces in high-density neighborhoods across the state using vacant lots, tax title parcels and other areas.
- **CJWG - Agencies should reject any proposal to remove healthy, mature trees for any transportation, development, or energy infrastructure project:** All state transportation capital projects should evaluate impacts of tree removal and ability to retain existing tree cover and add additional trees and other carbon sequestration features.
- **CJWG - Allocate a set amount of funds for climate adaptation projects that create public health benefits in EJ populations:** Allocate state funds and plan to complete the conversion of lands that result in public health benefits. The cost benefit formula of adaptation measures should consider public health benefits, reduced heat island impacts, reduced flooding damage, and first prioritization to EJ populations. Current formulas and pending legislation are based on property value instead of minimizing harm from extreme weather events, climate change, air and water quality, etc.
- **CJWG - Require developers to quantify the heating and cooling implications of their projects:** To ensure that transportation, housing, and commercial development do not exacerbate heat and air quality, developers should be required to quantify the effects of new construction and tree and forest removal on urban heat levels and air pollution when applying for MEPA approval. The impact of gas leaks on tree health should also be considered when deciding whether to install or repair natural gas pipes or to replace them with renewable energy sources. The Commonwealth should ensure that tree planting jobs are marketed towards and accessible to EJ populations, and should quantify annual forestry jobs filled by members of EJ populations.
- **CJWG - Ensure that tree planting and maintenance jobs go to residents of EJ populations:** Create and maintain job training opportunities for residents of EJ populations.

- **Policy #4: Make the value of forest carbon visible and quantifiable in state policies**

As we recognize the cost of carbon in more and more sectors (e.g. electricity, heat, transportation), we should recognize that carbon stored by nature also has value. Every ton of carbon emitted from land use conversion is a ton of carbon Massachusetts must remove from the atmosphere. We need to set a precedent that forest carbon has value, and then increase that value until it matches the societal cost of carbon, achieve through actions such as revising MEPA land use conversion policies, “no net loss of forest” policies, local by-laws for tree retention and planting, creating a mitigation fund/”carbon banking”, requiring “ecologically equivalent” compensation for forest disruption, and requiring GHG impact reporting for MEPA projects.

Criteria highlights: In addition to the general GHG and public health benefits associated with forest preservation, there would likely be a revenue generation as part of it.

- **CJWG - Quantify the public health impacts associated with forest cover and forest removal, with data disaggregated to measure trends in environmental justice populations:** The Commonwealth should lower the carbon offset allowance to ensure that carbon reductions result primarily from direct decreases in emissions. The emissions inventory should account for the loss of carbon sinks due to deforestation.

- **Policy #5: Improve Forest Management Strategies that help improve the health and carbon sequestration abilities of forests should be pursued to ensure that MA helps actively improve the management of forests.**

These strategies include pursuing compensation for landowners and developers for restoration efforts, promoting sustainable use of wood, requiring use of local wood, the smart growth tree retention law, considering adaptive management and other approaches to sequester carbon, assist forest managers relating to the Forest Cutting Practices Art, invest in landscape carbon measures to track the impact of improved forest management over time.

Criteria highlights: This would have significant GHG benefits, as well as potential job creation and resilience benefits.

- **CJWG - Funds from developers for restoration efforts should be targeted for technical assistance to communities concerned about existing or proposed biomass facilities.**

- **Policy #6: Increase the carbon sequestration potential of soils**

Both above and below-ground uses of land can aid in the sequestration of carbon; soil carbon and appropriate soil management techniques can significantly increase the carbon capture of land. MA has recently released a Healthy Soils Action Plan which outlines several key strategies to achieve health, carbon-capturing soils. The Commonwealth should pursue those strategies with an eye towards carbon sequestration potential, including providing incentives for best practices and finding other mechanisms to achieve compliance.

Criteria highlights: This has carbon capture potential as well as adaptation and resilience benefits.

- **CJWG - Ensure coordination with the Healthy Soils Plan to add healthy soil for carbon sequestration and urban farming in EJ populations**.
    - **CJWG - Target cleanup of brownfield sites in EJ populations and add healthy soils:** Two prime methods for brownfield remediation include adding a

concrete or other impermeable barrier on top of contaminated soil or add several feet of healthy soil. There should be a targeted effort to tie brownfield remediation to carbon sequestration.

- **Policy #7: Reward municipalities that use Smart Growth and other climate-friendly actions**

The Commonwealth has several programs already in place, including the Municipal Vulnerability Program (MVP), the Green Communities program, and the Housing Choice Initiative, that could better integrate nature-based solutions and GHG mitigation strategies into their activities. Proposed legislation would Establish the Communities for a Sustainable Climate Program for municipalities (like the Green Communities Program), which provides technical assistance and funding to communities that opt in and adopt carbon-friendly local policies and practices. Through funding, technical assistance, creation of a Green Infrastructure Fund, and better certifications and oversight into what constitutes a "nature-based" solution, the state can ensure existing efforts are magnifying their opportunities for impact

Criteria highlights: These programs work with communities throughout the state, allowing for distribution of benefits across the commonwealth. By bringing GHG mitigation to a program focused on resilience, both objectives are achieved.

- **CJWG - Reward municipalities that implement climate-friendly actions based on the leadership and participation of residents from EJ populations:** It is critical to shift the decision-making power to residents of EJ populations.
- **CJWG - No state funds should be used for smart growth or transit-oriented development that gentrifies and displaces low-wage families, immigrants, or other long-term residents of EJ populations:** Funding for smart growth must prevent investments that will reduce housing affordability.
- **CJWG - Launch a grant program for Environmental Justice (EJ) organizations and municipalities:** The program should facilitate municipalities leading outreach, design, and implementation of initiatives to use restoration, conservation, and stewardship projects to improve community health as climate change impacts worsen.
    - There are trade-offs where certain policy actions may have harmful consequences for EJ populations. More than half of the EJ populations live in urban communities. Policies that focus on land conservation in rural communities will disproportionately benefit white and wealthier communities and cease to benefit EJ populations.
- **CJWG - EEA should work with municipal governments with large environmental justice populations to ensure that these communities receive preference for smart**

growth grants and prevent displacement: Municipalities should be required to adopt mitigation strategies to prevent displacement and discourage private car use.
    - Ensure that the Municipal Vulnerability Program, Green Communities Program, Housing Choice Initiative, and other programs result in resiliency measures that will benefit people and engage local residents in planning processes.

Transportation

- **Policy #1: Reduce GHGs from vehicles**

This policy aims to dramatically reduce emissions across vehicle types, and includes: protecting and expanding vehicle efficiency standards; expanding incentives and programs for low-carbon vehicles , including rail, bus, and heavy duty vehicles); expanding grid-smart EV charging infrastructure; incentivizing the retirement of inefficient vehicles; exploring new hydrogen and fuel-cell technology; and assessing the adoption of a Clean Fuel Standard.

Criteria highlights: EVs have air pollution and public health benefits, particularly for heavy-duty. In general, these strategies are building on existing efforts and should be politically and technically feasible.

- **CJWG - Set targets to electrify public transit and school buses by 2025, 2030, and 2035:** EVs are almost non-existent in low-income neighborhoods and EJ populations. Many households cannot afford any kind of car, or residents prefer or need to walk, bike, or take public transportation. Those who own a car often lack a place to park where they could plug in an EV. Although over time the operating savings can make the cost of an EV lower than a traditional car, the initial up-front cost for a new EV remains beyond the reach of consumers with limited incomes. Electrifying our public transit systems and school buses will result in improved air quality and will reduce the burdens of air pollution hotspots.
    - Implement the MBTA Bus Transportation approved by the Fiscal and Management Control Board recommendations by prioritizing new bus procurements on routes serving EJ populations.
    - Provide incentives to Regional Transit Authorities to electrify their fleets.
    - Implement the MBTA Rail Vision approved by the Fiscal and Management Control Board with priority electrification for the Fairmount Line, Newburyport/Rockport Line through Lynn, and Providence/Stoughton Line by 2024. Plan to electrify the remainder of the commuter rail system by 2030.
- **CJWG - Set targets to electrify state and municipal fleets by 2035:** Fleets owned, leased, or operated by the Commonwealth or municipalities should transition to zero-emission vehicles with priority in locations that are air pollution hotspots in EJ populations.

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    - EEA should set emissions standards for public procurement processes, and the Commonwealth should provide greater financial support to help municipalities transition to zero-emissions fleets.
- **CJWG - Make EV rebates available for low- and moderate-income residents through sliding scale prebates and support to purchase or lease pre-owned EVs:** EV ownership should be made accessible to low- and moderate-income drivers—who are more likely to buy pre-owned and older-model vehicles compared to new vehicles—via income-adjusted rebate programs. Further, make sliding scale funds available as a prebate or at the point of sale, not a rebate. Low- and moderate-income residents are unlikely to have the upfront capital to cover the capital cost of an EV and may be unable to wait several weeks or months to receive a rebate.
- **CJWG - EEA, DOER, DPU to work with electric distribution companies to implement EV charging infrastructure in EJ populations:** Charging infrastructure must be built in lower-income communities to support electric transit, school buses, and vehicles. Utilities must construct EV charging stations in multi-use dwellings and in locations that support electric buses and electric fleets in EJ populations.
- **CJWG - Utility rates must work for low- and moderate-income ratepayers:** Distribution companies should be required to propose time-of-use rates for EVs for review before the DPU in 2021. Ensure that low- and moderate-income customers do not bear an inequitable share of costs for time-of-use rates and ensure that they have access to and benefit from such rates.
- **CJWG - MassDEP should install air monitors (stationary or mobile) in air pollution hotspots adjacent to transportation infrastructure:** Air pollution hotspots should be determined based on existing and future research. Air monitoring data collected should be analyzed and inform policy implementation.

- **Policy #2: Invest in mass transit and promote alternatives to driving**

This policy aims to increase the number of Massachusetts residents who routinely use alternatives to driving, including public transit, and includes: increasing funding for the MBTA and RTAs; this policy promotes building more Complete Streets; incentivizing active transportation options such as biking or scooters, working with employers to reduce commuting emissions e.g. telecommuting, or van/carpools, and promoting more non-work related shared rides. Larger investments to improve public transit and high-speed rail, including access to it, will be necessary.

Criteria highlights: Several strategies increase access to viable transportation options, improving social equity. Most of these are very viable, building off existing efforts.

- **CJWG - Investments in public transit and active transportation should be made first in EJ populations:** EJ populations are most susceptible to air and noise pollution from driving and most isolated from economic centers. Prioritizing improved reliability, frequency, safety, and resiliency are needed most in EJ populations and other neighborhoods underserved by public transit.
- **CJWG - The MBTA and Regional Transit Authorities should implement low-income fare programs:** Public transit serves as a lifeline for riders to access economic opportunity, educational facilities, healthcare, and other necessities. Before COVID-19, many people were struggling to pay their MBTA fares. Now, faced with a state of emergency, record unemployment, and a coming wave of evictions, ensuring all people have access to affordable public transit is essential. As we recover from the COVID-19 crisis, high levels of unemployment and economic struggles mean more people than ever will rely on public transit—and will find it harder to afford. A low-income fare or fare-free public transit would guarantee affordable mobility to people struggling to find or maintain employment or forced to work multiple jobs to make ends meet. Paratransit services for people with disabilities must be easily accessible and affordable, even for people living outside of urban centers. Transit authorities should also consider a fare-free bus program for routes that predominantly serve EJ populations. A low-income fare program must also provide enhanced language access options to ensure riders with limited English proficiency can participate in the program.
- **CJWG - Project Review under MEPA should require investments in public transit and non-driving transportation alternatives for all projects that impact EJ populations.**
- **CJWG - Ensure pedestrian and cycling infrastructure is expanded in EJ populations.**

Policy #3: Price Transportation Externalities

Our transportation system is burdened by market distortions, including the unpriced emission of pollution, the underpriced use of public infrastructure, particularly during periods of high traffic, and the subsidized use of public land for parking. Policies that more accurately price the use of valuable roads and bridges can incentivize lower GHG choices and use proceeds to invest in lower GHG choices and equity efforts to achieve lower GHG transportation across socioeconomic classes. Strategies to help achieve this include the Transportation Climate Initiative (TCI) and) Regional/State/Federal and economy-wide carbon pricing, as well as; roadway pricing changes; pay-by-the-mile auto insurance; reduced or eliminated parking subsidies; and TNC (i.e. Uber, Lyft) regulations.

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Criteria highlights: These options raise money which can be re-invested to promote social equity and expansion of low-carbon alternatives and are effective means of achieving the behavior change necessary for substantial mode shift.

- **CJWG - Actively seek input from a broad range of stakeholders on market-based emissions reductions mechanisms:** Assess the potential harm and benefits for EJ populations in existing and future market-based compliance mechanisms.
- **CJWG - For any market-based compliance mechanism, allocate a significant proportion of investments in EJ populations that is at least as high as the percent of people living in EJ populations throughout the Commonwealth:** Implement a community advisory committee to oversee state emissions reductions programs who would be tasked with holding the state accountable to achieve equitable program implementation.
- **GJWG - For any market-based compliance mechanism, require air quality improvements in EJ populations.**
- **CJWG - Ensure that congestion pricing is paired with public transit options for people that would be burdened by paying costs associated with congestion pricing.**

- **Policy #4: Integrate transportation and land use planning**

The root of transportation emissions is moving people from point A to point B. Integrated, long term planning offers a suite of opportunities to decrease the distance between key locations and to increase convenient access to transit. Strategies include: expanding the housing choice initiative to prioritize; housing near public transit, making master plans for transit oriented development enforceable, reevaluating and eliminating parking requirements; and instituting transportation demand management policy to increase mobility needs as population and density grow. Criteria highlights: These strategies would increase access to improve social equity, and build long-term GHG reductions scenarios that would be less likely to back-slide.

- **CJWG - EEA, MassDOT, and other secretariats should work to ensure that transit oriented development and other transportation improvements prevent displacement:** Efforts to reduce emissions from vehicles must take into account the history of highway development in reinforcing socioeconomic segregation and the necessity of reliable and affordable transportation in accessing economic opportunities and facilitating economic mobility. EEA should encourage transit-oriented development (TOD) that disincentivizes private vehicle use while providing greater access to public transit. TOD projects must also build and preserve affordable and family-oriented housing to ensure that those who would most benefit from improved access to transit can afford to live closest to it.

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- Annual reports should document air quality improvements and any associated public health benefits, progress towards increasing access to transit, and the number of quality jobs created by transportation projects.

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