



SMART GROWTH AND REGIONAL COLLABORATION

March 22, 2021

Honorable Kathleen Theoharides, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Secretary Theoharides, Undersecretary Chang, and the 2030 Clean Energy and Climate Plan Team:

The Metropolitan Area Planning Council (MAPC) appreciates the opportunity to submit the following comments on the draft Interim Clean Energy and Climate Plan for 2030 (CECP) released by the Administration for public comment on December 30, 2020. MAPC would like to thank the Administration for the opportunity to provide input at this critical juncture in the planning process.

As you know, MAPC is the regional planning agency serving the people who live and work in the 101 cities and towns of Greater Boston, which comprises roughly half of the state's population and two-thirds of the state's jobs. We are committed to smart growth, sustainability, regional collaboration, and advancing equity. MAPC has long recognized that making our Commonwealth more resilient to climate change for residents of all income levels will lead to healthier and stronger communities, and we have focused much of our work toward climate preparedness, adaptation, and mitigation.

Through our membership on the Global Warming Solutions Act Implementation Advisory Committee (GWSA IAC) since its inception and involvement on each of the sector-based GWSA IAC work groups (energy, buildings, transportation, and land use), MAPC is deeply involved in the implementation of the Global Warming Solutions Act and in forming the policy recommendations made to EEA for consideration in the Clean Energy and Climate Plan (CECP) update for 2030.

MAPC would like to first commend the Administration for making many of the necessary commitments to decarbonize our homes and businesses, connect our communities to renewable and clean sources of energy, and accelerate the adoption of carbon-free modes of transportation across the Commonwealth. MAPC would like to underscore our particularly strong support for the Administration's inclusion of the following strategies:

- Implementing the Transportation and Climate Initiative Program (Strategy T1).
- Requiring 100% Zero Emission Vehicle sales for light duty vehicles by 2035 (Strategy T2).
- Establishing a GWSA-compliant base building code by 2028 (Strategy B1).
- Imposing a statewide heating fuel emissions cap for buildings by 2023 (Strategy B3).
- Raising the Clean Energy Standard requirements for 2030 (Strategy E3).

The state's leadership on establishing a robust policy system of incentives and requirements to work toward net zero is essential to support both the state in attaining our 2030 and 2050 commitments and our cities and towns in achieving their local climate goals. In these comments, we wish to highlight the gaps and areas that merit strengthening within the draft CECP to ensure we can accelerate the Commonwealth's path to

an equitable and inclusive net zero future. In the final version of the CECP, MAPC strongly urges the Administration to:

- **Make equity and environmental justice central in each of the proposed strategies.** The effects of climate change systemically impact Environmental Justice communities and communities of color inequitably. While the CECP's overview articulates a commitment to apply an equity and justice lens to programs and policies, the draft CECP lacks rigorous and measurable tactics and strategies to ensure an equitable and just transition to a net zero future. The Administration took a critical first step in this regard by including "climate change" within the state's definition of environmental burden for Environmental Justice populations in Governor Baker's proposed amendments to S.9, which have been retained in the final bill. This holistic consideration of the benefits and impacts on Environmental Justice communities should underpin all that is put forth in the CECP.
- **Enhance the role of public transportation and land use planning in achieving net zero.** Increases in vehicle miles traveled (VMT) across the state will increase greenhouse gas (GHG) emissions, and as those miles are electrified, increase demand for electricity. As such, improvements to public transportation and strategic land use planning decisions will play an important role in mitigating substantial increases to VMT and supporting the Commonwealth in achieving its net zero target. As with environmental justice, the plan should therefore include rigorous and measurable tactics and strategies to improve public transit infrastructure, increase the use of transit, bicycles, and walking, and encourage land use that is transit-oriented and lessens the demand for personal vehicular trips.
- **Include a comprehensive approach to build a green and equitable workforce.** Explicit policy actions that ensure a rapid and equitable expansion of the green workforce in Massachusetts are even more essential in the coming years as our state and national economies recover from the devastating impacts of the COVID-19 pandemic. The Commonwealth is poised to reshape the clean energy and climate industries, where women and people of color are currently underrepresented, through targeted measures to support economic advancement and access.
- **Advance policy to account for the social cost of carbon economy-wide.** Cost-effectiveness and least-cost solutions are underscored throughout the strategies proposed by the Administration. We instead need to shift our economic framework to appropriately account for the true cost of GHG emissions and assess the co-benefits of climate mitigation across all state decision-making processes.
- **Create a dedicated funding source to support climate mitigation efforts across the state.** Aside from the Transportation Climate Initiative Program, the draft CECP makes no mention of new funding sources or mechanisms to support agencies in moving forward with the policies and programs specified. Successful and just implementation of the CECP requires the identification of additional new sources of funding sufficient to meet the need.
- **Incorporate contingency plans to address the inherent uncertainties around the potential GHG impacts of each strategy.** There is consensus on the urgency of achieving the state's targets for 2030. The sooner we act to dramatically reduce emissions, the more able we will be to avoid the worst impacts of climate change and provide the benefits of better air quality, better buildings, and less traffic congestion to all, and particularly those most vulnerable. Accordingly, the final CECP should reckon with how the Administration intends to be nimble and overcome unanticipated changes in the next ten years that may diminish the scale of emissions reductions.

The following comments specify MAPC's recommendations within each chapter of the CECP and highlight areas that connect with these six overarching areas for improvement. We provide recommendations in the final section on potential funding sources for greater consideration.

Transforming Our Transportation Systems

Role of Land Use and Transit

Both the draft CECP and Decarbonization Roadmap (“Roadmap”) contain bold strategies for achieving ambitious goals for mitigating climate change through emissions reductions. Centerpieces of the plans include rapid electrification of the vehicle fleet, massive increases in renewable energy production, electric grid improvements, stronger energy efficiency standards, and deep building retrofits. With the emphasis on equity, robust scenario analysis, and stronger targets, there is much to admire about the Roadmap and CECP documents. However, MAPC strongly urges the Administrative to take a more comprehensive approach to transportation sector emissions reductions that appropriately addresses the role of land use and transit in mitigating climate change.

MAPC recently released a research brief entitled *The Impacts of Land Use and Pricing in Reducing Vehicle Miles Traveled and Transport Emissions in Massachusetts*.¹ The report describes our analysis of forecasted household VMT in the MAPC region out to the year 2030 under a baseline scenario, two alternative land use scenarios (sprawl and smart growth), and multiple roadway pricing scenarios. To conduct the analysis, we used our detailed land use allocation model, UrbanSim, to prepare census block-level household and employment forecasts, and another Vision Eval modeling tool called RSPM, which operates at a much more detailed level than the EERPAT model used by the EEA consultants.

Based on the results of our analysis and our other research on VMT reduction policies, we find the treatment of VMT in the Roadmap and CECP to be inadequate. The following sections detail MAPC’s primary concerns with the analysis and recommendations for comprehensively addressing VMT in the final CECP. EEA should revisit its analysis in the Roadmap and develop more robust VMT reduction strategies for the CECP.

Dismissal of the Role of VMT in Reducing Emissions: The Commonwealth’s plans are predicated on rapid electrification of the vehicle fleet, which will reduce the per-mile energy demand due to the greater efficiency of electric vehicles, and production of sufficient renewable energy to power those vehicles with no net carbon emissions. This rapid fleet turnover will not be easy, or cheap – billions of dollars in subsidies may be needed. Notably, the CECP and Roadmap assume that this reduction in energy demand and GHG emissions can be achieved while still experiencing substantial growth in VMT from light-duty vehicles, 22.6% statewide and 25% in the MAPC region between 2015 and 2050.²

The Roadmap expressly dismisses efforts that seek to reduce transportation energy demand by reducing growth in VMT, choosing to rely solely on electrification of the fleet. Using the modeling tool EERPAT, EEA and its consultants evaluated the effects of density, improved transit, and roadway pricing. The results suggest that land use policies promoting greater density could reduce the growth in VMT by only 0.5 percentage points over 2015 VMT, and that a 10-cent VMT fee would reduce VMT growth by 7.6 percentage points over 2015. Ultimately, the Roadmap report concluded that VMT reduction was “limited in opportunity;” that land use policies would have only a “modest potential impact;” and that pricing

¹ *The Impacts of Land Use and Pricing in Reducing Vehicle Miles Traveled and Transport Emissions in Massachusetts*, MAPC, January 2021, <https://www.mapc.org/resource-library/vehicle-miles-traveled-emissions/>

² “Transportation Sector Report: A Technical Report of the Massachusetts 2050 Decarbonization Roadmap Study,” December 2020, page 41, <https://www.mass.gov/doc/transportation-sector-technical-report/download>

policies or transit improvements “would have to be substantial” in order to have an impact.³ The Roadmap report concludes these strategies do not merit inclusion, even as complementary strategies.

The draft 2030 CECP takes a somewhat less dismissive approach regarding land use, retaining the “Smart Growth Policy Package” which has been a part of each CECP since 2010, and assuming a 25% reduction in single-occupancy vehicle commuting. The Smart Growth Policy Package (SGPP) consists of a range of activities, including technical assistance, infrastructure programs, and other unspecified “new, complementary policies.” To achieve a 25% reduction in commuter VMT, the CECP proposes “broadening the scope of [existing] regulation[s] or utilizing a complementary policy approach,” without further detail. Together, these policies are posited to “stabilize” light-duty VMT at about 56 billion miles per year, approximately 3% higher than the annualized figure for 2015 VMT reported in table 14 of the Roadmap Report. The CECP posits that implementation of the SGPP will reduce GHG emissions by 0.1 MMTCO₂e by the year 2030, or 0.5% of the total light-duty vehicle GHG emissions in 2015. A reduction in single-occupancy commuting is projected to reduce light-duty emissions by 0.6 MMCO₂e over the same period, or 3.5% of 2015 emissions. In other words, these two policies are together asserted to reduce VMT growth by 4 percentage points. The precise rationale or technical justification for the reduction attributed to the SGPP and commuter VMT reduction is not explained.

Underestimation of Future Growth in VMT: While VMT growth is uncertain, it is almost certainly underestimated by the EEA analysis. EEA’s consultants estimated 25% growth in the Boston MPO region over the 35-year period from 2015 and 2050. MAPC’s analysis using more detailed land use forecasts and a more detailed version of the VisionEval modeling tool suggests much more rapid rates of VMT increase: a 21% increase in Boston MPO-region VMT over a 20-year period. This would roughly equate to a 42% in VMT for that same 35-year period. Our projections are much more consistent with historical trends, which show a roughly 25% increase in on-road VMT since 2000 (Transportation Sector Report, Figure 10.)

There are also many reasons to believe that future availability of autonomous vehicles will further accelerate VMT growth as they reduce the “time cost” associated with driving. While the COVID-19 pandemic has dramatically suppressed commuting for those who can work from home, and may have ushered in a new age of remote work, continued teleworking is by no means a foregone conclusion, and it is highly likely that the changes in commute VMT will be marginal or negligible, especially if flexible work schedules encourage workers to live in outlying areas with longer commutes. Furthermore, the CECP provides no clear policy mechanisms to achieve the targeted reduction in commuter VMT.

If VMT does increase more rapidly than forecasted by EEA, then the proposed rate of EV adoption and grid decarbonization will be insufficient to meet the transportation sector emissions reduction targets without additional, and costly, investments in EV subsidies and renewable production. While the number of additional EVs needed to close the gap may be relatively small, as the adoption rate target climbs, the marginal cost of each additional EV increases, reaching \$12,000 per EV.⁴

Underestimation of the Effects and Benefits of Compact Land Use Patterns: EEA’s consultants estimated that compact land use patterns could reduce VMT growth between 2015 and 2050 by only 0.5 percentage points. MAPC’s analysis, conducted using more detailed land use forecasts and EERPAT analysis, indicates

³ Ibid, page 5.

⁴ “Transportation Sector Report: A Technical Report of the Massachusetts 2050 Decarbonization Roadmap Study,” December 2020, Table 9, <https://www.mass.gov/doc/transportation-sector-technical-report/download>

this is a substantial underestimate, especially when compared to a potential ‘sprawl’ scenario in which land uses become substantially more dispersed.

In the Metro Boston region, MAPC found that the VMT growth in a Sprawl scenario, in which suburbs see the majority of new growth, is over five percentage points higher than in a Smart Growth scenario, in which growth is more focused in the region’s Inner Core: 24.2% versus 19% growth over a 20-year period. Moreover, our modeling should be considered a conservative estimate of the effects of smart growth, since it does not target growth to specific transit-rich municipalities or transportation-efficient locations.

Compact growth can reduce VMT and emissions and can “eliminate the need for a trip altogether or by shifting the mode of travel from a personal vehicle to a shared vehicle or non-motorized mode such as walking or biking.”⁵ Yet, other pathways through which compact growth can reduce emissions are not modeled or addressed in the Roadmap. Even if people do drive on occasion, compact growth can make trip lengths shorter. Amenity- and transit-rich locations can also enable more residents to live without owning and leasing a car, thereby averting all the energy and carbon embedded in a vehicle, especially one with a massive battery. As noted in the Roadmap report, septic systems are more emissions-intensive than modern wastewater treatment facilities are, and so locating more growth in sewered areas also reduces emissions. Sprawling land use has permanent impacts on the carbon sequestration potential of the affected land, impacts that last well beyond the 2050 horizon. Compact growth can also reduce building energy demand, a topic not addressed in the Roadmap or CECP. Multifamily housing has a more efficient building envelope and shared systems, enabling more cost-effective implementation of high-efficiency technologies during construction.

It is clear that the Administration understands the benefits of compact growth. Only two weeks after the Roadmap was released, Governor Baker signed the Economic Development Bond Bill into law, which included the Housing Choices legislation and a provision that requires all MBTA-served communities to provide zoning for multifamily housing by-right near transit. MAPC urges the Administration to include in the CECP not only the likely impacts of this newly enacted legislation, but also additional land use and transit-oriented development (TOD) policies that will reduce auto-ownership, boost transit ridership, and slow growth in VMT while also opening up new housing opportunities.

Plan for Complementary and Multi-Benefit Pathways to Net Zero: While the Roadmap and CECP define pathways to meet the state’s emissions reduction targets, those pathways are dependent on many assumptions about technology and consumer behavior. Any deviation from the target EV adoption rates or availability of zero carbon electricity could cause the state to fall short. The analysis makes rather optimistic assumptions about when EVs will reach cost parity with internal combustion engine (ICE) vehicles. For example, battery electric vehicles are assumed to reach cost parity with ICE vehicles in 2023, fully 12 years before anticipated by the MA3T model. Failure of the auto industry to meet these vehicle costs may either suppress adoption or require even more subsidies to achieve target adoption rates. Only a small decline in ZEV adoption would likely cause Massachusetts to exceed its population-weighted share of imported bioenergy fuels.⁶

Given this uncertainty, the importance of VMT reduction is even more important. VMT reduction strategies can be effective at reducing emissions even when EV shares are still low.⁷ VMT reduction also

⁵ Ibid, Page 39.

⁶ Ibid, Page 13.

⁷ Ibid, Page 46.

lowers the demand for clean electricity, helping to moderate prices and reduce the amount of generation needed. As noted in the Transportation Sector report, “reducing VMT supports ambitious decarbonization targets by easing some requirements in the electricity sector and by reducing emissions in interim years.” The CECP cites “Guiding Principles for policy development and implementation;” robust VMT reduction strategies fulfill all of these principles. **No matter the strategy, VMT reduction yields less congestion, fewer crashes and injuries, less polluted roadway runoff, less land for parking, and less demand for energy.** Strategies to achieve those reductions can have other co-benefits.

For instance, compact growth, especially near transit, not only reduces VMT, but also it enables more affordable housing and reduced transportation costs, improves efficiency of delivery services, and fosters active transportation. Roadway pricing reduces congestion and associated wasted hours, improves worker efficiency, and improves quality of life. Improved transit yields greater ridership, resulting in a virtuous cycle in which higher ridership prompts improved service benefitting transit-dependent populations. These are no-regrets strategies. Notably, they also can be implemented with public expenditures that are a fraction of the proposed investment in EV subsidies. They can also be designed equitably so that low-income and Environmental Justice residents are benefitted and not harmed by changes in land use, pricing, and transit.

Invest in the State’s Public Transit System: Using pricing signals and developing more housing and job centers near transit will only be an effective pathway forward if we also have long-term investments in a robust, reliable, and affordable public transportation system. There is only one mention in the CECP of “maintenance and expansion of the Commonwealth’s public transit system.” **We strongly urge EEA to elevate the importance of investing in a robust, reliable, and affordable public transportation system in the final CECP.** In addition to electrifying the system, we must also increase frequency, ensure fares are affordable, and expand routes of our trains, buses, and ferries. The Governor’s own Commission on the Future of Transportation, in which MAPC was pleased to participate, noted that the “transportation system needs to move more people in fewer vehicles.”⁸ The primary way to achieve this is to move more trips from single-occupant vehicles to public transit. By eliminating the need to take certain trips by car, investments in transit would not only reduce emissions, but also alleviate some of the pressure to rapidly electrify personal vehicles and lessen the strain on our grid.

Smart Growth Incentives and Policies

The draft CECP’s goal of a 15% reduction in commuter VMT is an important first step. However, commute trips only represent about 25% of all trips taken in our region.⁹ While we are eager to work with the Administration on a range of strategies to exceed this goal, we also urge EEA to think beyond telecommuting to achieve this reduction. The rapid and prolonged shift in our commuting patterns will likely have some level of permanent impact—some percentage of employees will almost certainly continue to work from home on a regular basis once we enter a new normal. Instead of focusing mainly on policy interventions that support more white-collar employees continuing to telecommute, efforts to achieve a reduction in VMT must also focus on employees who do not have the option to work from home.

Adjustments to the way we work are not the only economy-wide shifts impacting VMT and GHG emissions across the state. A report recently released by MAPC, *Hidden and In Plain Sight: Impacts of E-commerce in Massachusetts*, found that the rapid rise of e-commerce is having an impact on both VMT and vehicle GHG

⁸ <https://www.mass.gov/doc/choices-for-stewardship-recommendations-to-meet-the-transportation-future-volume-1/download>.

⁹ https://www.ctps.org/data/pdf/studies/other/Exploring_2011_Travel_Survey.pdf.

emissions. As of 2018, approximately five percent of e-commerce was same-day delivery. Same-day delivery is forecast to increase to 15 percent within five years. A study by the World Economic Forum concluded that without policy intervention, the number of delivery vehicles will increase 36 percent from 2019 to 2030, along with a 32 percent increase in carbon dioxide emissions.^{10,11}

In addition to impacting GHG emissions and transportation networks with increased vehicle traffic, the dramatic increase of e-commerce is also having major effects on land use. The pressure to maintain dependable and quicker delivery times has resulted in e-commerce companies adding smaller warehouse and distribution centers closer to consumers as part of their regional networks, a trend that shows no signs of changing.¹² The following sections identify a range of policy solutions the Administration can pursue to incentivize smart growth development and reduce VMT.

Strengthen Existing State Programs to Increase Smart Growth Development: The Commonwealth already has programs in place to foster smart growth development, most significantly the Chapter 40R Smart Growth Overlay District program. Over the life of the program more than 50 districts have been created and approximately 3,800 residential units permitted/built. The Commonwealth should build upon this success by improving the program to increase its utilization and the quality of development. Some possible changes to 40R include:

- Simplify the program's requirements and application process, reducing the cost and bureaucracy of establishing these districts.
- Clarify that the mission of 40R districts is not just housing production, but also to facilitate a broader range of smart growth principles, such as increased walkability and a sense of place.
- Enact a series of incentives to encourage the designation of larger 40R districts covering multiple parcels and the fuller build-out of these districts once designated. Many 40R districts are presently "one-offs," created to facilitate only a single development.
- Increase funding for the program as well as 40S, the companion program, to account for increased costs associated with growth in the school-age population.

Provide Municipal Resources to Prioritize Walkability and Affordability: Land use decisions largely fall to local governments. Through programs like the Housing Choice Initiative, the Administration has already created important incentives to encourage housing production aligned with smart growth principles. The Administration should build upon this effort by providing additional resources and incentives for municipalities to advance further improvements, including:

- **Reduce or eliminate minimum parking requirements for multifamily housing:** MAPC's Perfect Fit Parking research found that the more off-street parking provided at multifamily developments, the greater likelihood the site will attract car-owning households.¹³ Excessive off-street parking provisions undermine the goals of equitable transit-oriented development, spurring more driving and less transit use. They also drive up the cost of housing, create excess impervious surfaces, and

¹⁰ Miguel Jaller, Anmol Pahwa, Seth Karten, "Keeping e-Commerce Environmentally Friendly—What Consumers Can Do," Blog post on U.C. Davis Institute of Transportation Studies, December 1, 2020.

¹¹ World Economic Forum, "The Future of the Last-Mile Ecosystem," January 2020.

¹² Deloitte Real Estate, "The Shed of the Future. E-commerce: Its Impact on Warehouses," 2014.

¹³ <https://perfectfitparking.mapc.org/>.

reduce space available for other amenities like open space. The Commonwealth should take a more active role in helping cities and towns to reduce parking requirements within zoning.

- **Require that local zoning allow for mixed-used development in transit centers:** Equitable TOD is about creating complete communities near transit that allow for a mix of residential and commercial uses near transit, with an emphasis on creation and preservation of affordable housing. Local zoning should be updated to allow mixed-use development, including vertical mixed-use development (a mix of uses in the same building) and horizontal mixed-use development (a mix of uses across multiple buildings in a parcel). Site plan approval should incorporate principles that allow for walkability and foster a sense of place, such as sidewalks, safe pedestrian crossings, and roadway design that discourages high-speed vehicle travel.

Expand the Role of Employers in Reducing Commuter VMT: MAPC was pleased to see the reference to broadening the scope of DEP's Rideshare Regulations in the draft CECP. The Administration could employ a number of strategies to strengthen this program, expand its reach, and help ensure measurable reductions in commuter VMT. Potential changes include:

- Reduce threshold to 500 applicable employees/students.
- Locate facilities within one mile of transit and pay for transit passes up to a certain dollar amount for employees, rather than just offering passes for purchase on-site. At a minimum, offer pre-tax transit benefits.
- Require membership in a Transportation Management Association (TMA) if in a TMA service area.
- Require employers to measure VMT, not just number of drive-alone commute trips.
- Replace the goal of reducing drive-alone trips with either a mode-shift or a VMT reduction goal.
- Require DEP to post reporting information online, with at least a summary of data gathered

Allow Municipalities to Create Regional Mitigation Funds: A regional mitigation fund (RMF) is a mechanism used to levy and pool mitigation payments from multiple developments over time and sometimes across municipal boundaries. In Massachusetts, RMFs could serve as a mitigation requirement triggered by MEPA review or through local permitting processes. Funds should be prioritized for projects that will expand walking, biking, and public transit infrastructure in the Commonwealth. Mitigation payments from new development could then be used in high-priority development areas to ensure expanded bus service and other transit modernization without placing the financial burden of providing increased transit service on the MBTA or Regional Transit Authorities (RTAs). Similarly, RMFs could improve pedestrian and cyclist mobility by expanding trail networks.

Require New Development Sites to Measure VMT Impacts and Use Local Data: MAPC recommends that the Administration require new development sites that trigger MEPA to measure transportation impacts based on VMT rather than level of service (LOS). Current development review practices characterize transportation impacts using inherently auto-centric LOS metrics, which describe vehicular flow and driver delay. Replacing LOS with a metric that measures the impact of driving will better align transportation impact analysis and mitigation outcomes with goals to reduce GHG emissions, encourage infill development, and improve public health through more active transportation.

MAPC also recommends requiring developers use local data to more accurately estimate trip generation and avoid overestimating impacts. To forecast trip generation as part of local and state permitting,

developers most frequently cite models established through the Institute of Transportation Engineers (ITE), which provides vehicular trip estimations based on a development's size and land use. However, the bulk of ITE's data is from suburban auto-oriented locations across the country with relatively unconstrained parking availability and primarily single land uses. As a result, ITE routinely overestimates trips generated by new development in Greater Boston by 25% to 35% or more. MassDOT should develop a database composed of local post-development trip counts to better forecast future trip generation rates and more accurately account for walking, biking, and public transit.

Transportation and Climate Initiative

MAPC is deeply appreciative of the leadership that the Administration has demonstrated to advance the Transportation and Climate Initiative (TCI) among participating jurisdictions. We remain committed to continuing to partner with the Administration and to work with both fellow regional councils across the TCI region and our cities and towns to support robust and equitable implementation. TCI is one of several transportation revenue-raising efforts that the Commonwealth needs to pursue in order to build a robust, reliable, and resilient transportation system.

Now that Massachusetts has signed onto the final Memorandum of Understanding (MOU), there are several steps we can take to ensure TCI investments maximize carbon reduction benefits while serving residents who have historically been most burdened by transportation inequities. These include:

- **Increase the investment in underserved and overburdened communities:** The TCI MOU indicates that not less than 35% of TCI investments must benefit underserved and overburdened communities. We strongly urge the Commonwealth far exceed this threshold, with a majority of investments benefiting underserved and overburdened communities. Furthermore, we urge clarity about what it means for an investment to benefit these communities. We encourage the Administration to work with the Equity Advisory Boards to guide this distinction.
- **Empower Equity Advisory Boards (EABs) to guide program implementation and make investment decisions:** MAPC supports the creation of the EABs and endowing them with sufficient power to bring in voices from communities most impacted by TCI. The Administration should give the EABs decision-making authority regarding how the dollars are invested, whether investments benefit underserved and overburdened communities, and what interventions are needed should the program fall short of its equitable investment goals. EAB membership should represent all regions of the Commonwealth, and members should be residents of underserved and overburdened communities.
- **Program results and progress toward goals must be transparent:** MAPC strongly encourages the participating jurisdictions to publicly post the annual report and all metrics and goals devised in concert with the Equity Advisory Boards. Should the goals not be achieved, the annual reports should lay out steps that will be taken the following year to get back on track.

Finally, we encourage the Administration to continue its strong partnership with regional councils to guide successful implementation of the program. Regional councils conduct long-term transportation modeling that can help guide future investment decisions. We also serve as conveners and facilitators for our cities and towns, helping municipal officials work through challenges together. MAPC and our fellow RPAs are committed to work with you to advance robust and equitable implementation of the program.

Transportation Electrification

MAPC strongly supports the Administration's commitment to adopting the Advanced Clean Cars (ACC) II regulations upon finalization by California that would commit the Commonwealth to ramp up Zero Emission Vehicle (ZEV) sales to 100% of new light duty vehicle sales by 2035. As we transition to electrify light-, medium-, and heavy-duty vehicles, it is vital that the Commonwealth's strategies simultaneously make this transition accessible to low- and moderate-income residents across the Commonwealth and a viable alternative for residents across all community types, whether urban, suburban, or rural.

Equitable Access to Transportation Electrification: MAPC would like to see the Administration strengthen the commitment to a low- and moderate-income (LMI) consumer program for ZEVs to surpass investigation and commit to program development. This program should be designed in consultation with community partners by the end of 2022 (Strategy T3). At the request of EEA, MAPC has been convening a Ride for Hire Electrification Working Group to develop recommendations on how to support ride for hire drivers in electrifying their vehicles. The importance of developing complementary incentives to make electric vehicles an accessible option for LMI consumers has surfaced during the working group conversations with industry and advocacy stakeholders.

Recommendations to reach this goal include establishing a dedicated funding source for LMI consumer programs, creating a statewide program for low- or zero-interest vehicle loans, developing a program with auto dealerships to issue rebates at point of sale, and incorporating an option to purchase used ZEVs. Until robust incentives are implemented along with community outreach and education, the transition to electrify the light duty vehicle fleet in Massachusetts will continue to remain available only to those with means. There is overlap between LMI residents in the Commonwealth and drivers participating in the ride for hire industry (e.g., Uber, Lyft, and taxi and livery companies). As trips taken by transportation network company (TNC) drivers represent a growing segment of VMT in Massachusetts, it is increasingly important that we electrify these miles to achieve the state's net zero commitment. As such, MAPC recommends that the Administration consider an incentive structure that provides additional incentives for the replacement of high-mileage ICE vehicles with ZEVs.

Accelerate Mechanisms to Deploy Charging Broadly: MAPC would like to underscore the Administration's acknowledgement of the need for revisions to our utility rate structures; these revisions are crucial to support the full-scale deployment of direct current fast-charging (DCFC) infrastructure and accelerate electrification of vehicles across the state. MAPC strongly urges the state to enact policy that would require the Commonwealth's Electric Distribution Companies to develop and put in place a rate structure for DCFC infrastructure by the end of 2022 that includes both time-varying rates and removal of punitive demand charges (Strategy T4).

MAPC supports the Administration's commitment to explore a utility-based residential charging incentive program. A particular challenge for more densely urban communities is the lack of access to off-street parking. MAPC recommends that any residential charging incentive program include mechanisms to support the deployment of on-street charging in partnership with municipal governments.

Strategic and Equitable Consumer Awareness: Ongoing efforts of MassEVolves and Drive Green highlighted in the CECF have been foundational in promoting greater consumer awareness of EVs. MAPC would like to encourage the Administration to target consumer awareness toward dealership education and outreach and to education initiatives tied to the LMI program proposed in the CECF.

Transportation Network Companies

Trips taken in rideshare companies, such as Uber and Lyft, are steadily increasing and significantly impacting our transportation system. In 2019, rideshare companies provided 91.1 million rides in

Massachusetts, approximately 12% more than in 2018 and 40.6% more than in 2017.¹⁴ This increase has taken place statewide and in towns and cities of all sizes and types. A Fehr & Peers study¹⁵ commissioned by Uber and Lyft estimated that additional miles driven while a driver waits for a ride request or is driving to pick up a passenger account for an estimated 40% of TNC vehicle miles in the Boston metro region.

However, TNCs are well positioned to help state and local governments meet pollution and emission reduction goals and increase use of ZEVs. Since ride-hailing vehicles travel more miles than personal vehicles do, a study by the University of California – Davis determined that replacing a gas-powered ride-hailing vehicle with an electric vehicle can deliver three times the carbon benefits of a personally owned electric vehicle.¹⁶ MAPC encourages the Administration to implement regulations that discourage inefficient mileage, encourage EV usage, and require TNCs to establish climate-smart goals and targets. Such regulations are in effect in other cities and states. In San Francisco, for example, TNCs are required to pay a 3.25 percent tax on an individual ride, and the tax drops to 1.5 percent for a shared ride or a ride in a ZEV.¹⁷ In California, with the enactment of the Clean Miles Standard and Incentive Program in 2018 (SB1014), GHG emissions-per-passenger-mile reduction targets for TNC providers will be set. Targets will include increasing passenger miles traveled using ZEVs, and TNCs must create plans on how they will meet these goals. Similarly, a proposed bill in Washington State would mandate reduction targets for TNCs.¹⁸

Transforming Our Buildings

As the CECP notes, decarbonizing buildings is essential to complying with the Commonwealth's emissions limits for 2030 and 2050. The transition to better buildings presents tremendous opportunities beyond GHG emissions reductions alone, from improving public health, strengthening local economies, and increasing resilience to extreme weather to redressing environmental injustices. Thousands of well-paying jobs and expanded workforce opportunities, lives saved through reduced pollution, and better housing developments will result from constructing and retrofitting our buildings to be green, healthy, efficient, and affordable. MAPC's experience working to expand access both to clean energy and affordable housing across the Greater Boston region has shown us that the goals of mitigating climate change and addressing the housing crisis are not mutually exclusive. The Commonwealth must move quickly to facilitate this transition by massively scaling up its investments in the policies, programs, and incentives necessary in the near term to decarbonize the Massachusetts buildings sector by 2050.

Building Code

MAPC applauds EEA for committing to a new high-performance stretch code with passive-house level efficiency for Green Communities by 2022 (Strategy B1). Yet, this does not reflect the full need from cities and towns. Massachusetts communities seek both a higher-performance stretch code for the existing stretch code, which over 80% of municipalities have adopted, and a code that they can opt into now, if they choose, that enables new construction to be built to net zero. In this, the net zero definition should be inclusive of high-performance buildings, which are constructed to meet robust energy efficiency requirements likely on par with Passive House standards, while also including the needed shift to electrification and renewable energy. Since many of the 288 cities and towns on the current stretch code

¹⁴ Department of Public Utilities, 2018 Data Report – Rideshare in Massachusetts. <https://tnc.sites.digital.mass.gov/>

¹⁵ Estimated TNC Share of VMT in Six US Metropolitan Regions (Revision 1), Fehr and Peers, August 6, 2019.

¹⁶ Ride-Hailing Electric Vehicles Offer Triple the Emissions Benefits, University of California – Davis, June 2020

¹⁷ Traffic Congestion Mitigation Tax (San Francisco Business Tax and Regulations Code - Article 32) https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_business/0-0-0-48642

¹⁸ Uber, Lyft would Need to Cut Emissions under WA State Plan, Crosscut.com, February 1, 2021.

may not opt into the new net zero code for several years, the new opt-in net zero stretch code pathway for all new construction should be available in addition to an updated existing stretch code in 2022.

MAPC further commends EEA for proposing to consolidate the higher-performance opt-in code into the base building energy code by January 1, 2028 (Strategy B1). We are supportive of integrating the opt-in high-performance net zero code pathway into the base code by this date. As noted, MAPC contends that the existing stretch code should also improve between 2022 and 2028. This progress would send the needed market signals and enable a smoother transition to the base code update by 2028. Moreover, it would address the demand by stretch code cities and towns for the stretch energy code to be updated at the same rate that the base building code as well as the International Energy Conservation Code are. MAPC therefore recommends that, by 2025, the updated stretch code should be consolidated with the new net zero opt-in code pathway into one net zero stretch code that replaces the basic stretch code and does not require an existing stretch code or net zero code municipality to re-adopt it. By 2028, we recommend that this - or an updated version - become the base building code, thereby aligning with the timing put forward in the draft CECP. Such code pathways and accelerated timelines are both feasible and necessary in order to reach high levels of energy efficiency, electrify buildings, and maximize renewable energy, either onsite as practical or offsite.

Benchmarking and Building Performance Standard

As the majority of the 2.5 million buildings in Massachusetts will still be standing in 2050, the need to decarbonize existing buildings is critical (Strategy B2). The Building Sector technical report asserts that heat pumps must be adopted in at least one million households and 300 to 400 million square feet of commercial buildings by 2030.¹⁹ Current incentives and program structures are not sufficient to achieve the deep energy savings called for in the CECP, and existing buildings are by far the greatest challenge in decarbonizing the sector that we will confront. MAPC recommends establishing a strong building energy and emissions benchmarking requirement and building performance standard statewide. This action will enable buildings to meet a declining heating fuel cap while accelerating the shift from fossil fuels to energy efficiency, electrification, and renewables. Rather than exempting certain building types, uses, or populations, the state should provide ample funding, financing, resources, and technical assistance to support all community members, especially low-and-moderate income and Environmental Justice communities, to reap the benefits of better, more resilient, healthier buildings as soon as possible, looking to the models of Energiesprong and RetrofitNY as starting points.

Energy Efficiency Programs

Reducing building emissions by at least 45% by 2030 and to net zero by 2050 will require a major transformation of markets (Strategies B1 and B2). Reaching our climate goals and avoiding the worst of climate change necessitates a paradigm shift from our fossil fuel-driven present to a clean energy future. The Mass Save program is one of the most important tools available to reduce emissions from buildings, new or existing, and it is cited throughout past and current CECPs. However, the current statutory and regulatory frameworks in which the Mass Save program is administered create barriers to alignment with GWSA goals. We know this firsthand from our appointment on the Energy Efficiency Advisory Council representing Commonwealth cities and towns. We were pleased to see and fully support the strategy to limit fossil fuel incentives in the 2022-2024 Three-Year Energy Efficiency Plan and eliminating them completely in the

¹⁹ "Building Sector Report: A Technical Report of the Massachusetts 2050 Decarbonization Roadmap Study," December 2020, <https://www.mass.gov/doc/building-sector-technical-report/download>

2025-2027 plan (Strategy B1). This will require not just DOER, but also leadership, support, and guidance from EEA and cooperation from DPU.

To reach this objective, the CECP wisely relies heavily on heat pumps to achieve its goals, referencing the need to install at least 100,000 per year on average in residential dwellings plus a large number in commercial spaces. The current Three-Year Energy Efficiency Plan for 2019-2021 aims for roughly 15,000 heat pump installations per year. The gap is notable. We recommend that the final CECP and subsequent policies demonstrate how the state will achieve the annual level of heat pump installations needed. The plan put forth should be clear, begin early, and transparently chart out progress with benchmarks and milestones for success, and alternate pathways if installation levels lag. Additionally, we urge EEA to institute sufficient training, education, and incentives to enable whole-home conversions that do not retain back-up systems.

To support clean heating and cooling, and many other benefits, our buildings must have robust and deeply energy efficient envelopes and enclosures. During the pandemic, the Mass Save Program Administrators initially offered no-cost weatherization, an offer that continues for moderate-income customers and renters. In addition to preserving this offer in future plans, we recommend that Mass Save additionally offer the 100% incentive for weatherization to buildings that agree also to electrify their space heating or water heating equipment. Moreover, we urge full funding for pre-weatherization and pre-electrification barrier mitigation for low-and-moderate income customers and Environmental Justice communities.

Cap on Heating Fuel Emissions

MAPC applauds EEA for proposing the heating fuel emissions cap (HFEC); it is essential to reaching the 9.4 MMTCO₂e reduction in emissions from buildings by 2030 contained in the draft CECP, the largest cut by sector (Strategy B3). In order to ensure that the critical role that the HFEC will play is effective and expedient, DOER should convene the Commission on Clean Heat and Task Force on Clean Heat by June 2021 in order to meet the CECP's timeline of recommendations on the "structure and levels for long-term emissions caps on heating fuels consistent with the findings of the 2050 Roadmap, the 2030 emissions limit, and this plan" by the end of 2021 and the "statutory, regulatory, and financing mechanisms needed" by end of 2022 (CECP, page 33). Moreover, the two bodies must be endowed with a strong mandate that enables them to implement the cap beginning in 2023, with declining cap levels over time.

With these declining caps, we must not miss the opportunity to utilize the likely revenue collected through alternative compliance payments or fees once the caps are in effect to equitably protect low- and -moderate income people and Environmental Justice communities. For both owners and renters, rebates, incentives, and technical assistance must be made available to support them in making their buildings more energy efficient and in converting their heating to non-fossil fuel systems, particularly in rental properties. To this end, the cap must be structured to drive fossil fuel customers toward no- or low-carbon renewables and to phase out fossil fuel combustion in buildings. Fossil fuel use in buildings, even blended fuels, risks extending the life of fuel oil and propane infrastructure and the gas distribution system, leading to billions of dollars of leak and age repair and resulting in stranded assets funded by ratepayers.

The Commission must likewise be empowered to design the complementary policies, incentives, and regulations that are needed to decarbonize existing buildings, including development of a statewide building performance standard, benchmarking and disclosure requirements, and significant funding and technical assistance for low-and-moderate income building owners and Environmental Justice communities. While we have witnessed firsthand the interest in advancing policies such as these at the municipal level, we

strongly encourage the state to leverage the impactful scale and reduced barriers that result from coordinated statewide policy.

Workforce Development and Upskills Training

Transitioning the buildings sector to a decarbonized future requires training workers in deep energy efficiency measures and climate-smart building technologies, especially related to HVAC, onsite solar, building operations, and heat pumps. The expansion of this industry offers tremendous opportunities for the creation of thousands of long-term, sustainable, good paying jobs installing and maintaining new technologies. However, Massachusetts' current workforce is ill-equipped for this challenge, both in terms of numbers and diverse representation.

Key demographics, including people of color and women, are underrepresented in the current workforce, and minority, women, and disadvantaged business enterprises (MWDBEs) are consistently excluded – unintentionally or not – by the structures presently in place. Our transition to a decarbonized building sector will also likely displace workers from fossil fuel-related jobs, and the Commonwealth must plan for retraining these workers to participate in the clean energy economy. MAPC agrees with the Administration's acknowledgement of workforce availability as a potential barrier to adoption of the clean energy solutions necessary to decarbonize our economy, and we encourage the Commonwealth to seize the opportunity to address workforce shortages while also redressing current inequities in workforce representation and access to economic opportunity in the clean energy sector (Strategy B2).

Embodied Carbon

The manufacturing of many construction materials is inherently carbon-intensive, including many foam products used in high-performance buildings. Too many carbon-intensive decisions can create a building with a multi-year carbon debt that delays the project's contribution to our net zero carbon goals. MAPC recommends that considerations for embodied carbon for new buildings be integrated within the net zero code pathway, relevant Mass Save initiatives, and other pertinent utility and state programs, and that appropriate regulations to this effect be promulgated by mid-decade (Strategies B1 and B2).

Transforming Our Energy Supply

MAPC strongly supports the Administration's commitment to increase the Clean Energy Standard (CES) requirements to at least 60 percent by 2030 (Strategy E3). Deep decarbonization of our energy supply is the backbone to achieving near-term emissions reductions across sectors as we seek to electrify our transportation and heating and cooling systems. As such, MAPC would like to recommend that the Administration increase its commitment of 60 percent by 2023, and 100 percent by 2030 under the CES. Additionally, MAPC strongly recommends that the Administration address the IAC Electricity Work Group's recommendation to construct a strategy review and alignment of the RPS, APS, CES, and CPS regarding the participation of biomass, landfill gas, and municipal solid waste "waste-to-energy" generators.

Equity and Clean Energy Workforce Development

As the Commonwealth transitions to a fully decarbonized energy supply, our strategy needs to support both a just transition and equitable access to the benefits of this transition. Across all six strategies included in the draft CECP for the energy sector, MAPC strongly encourages the Administration to incorporate the recommendations from the IAC Climate Justice Working Group regarding accountability, transparency,

and inclusion of EJ populations in the decision-making processes.²⁰ In particular, MAPC recommends that the Administration include tactics within its efforts to deploy solar in Massachusetts in order to expand the deployment of microgrids and renewable energy cooperatives that serve EJ populations.

Ensure Equitable Siting Practices: MAPC encourages the Administration to commit to develop a transparent process with robust community involvement to inform the siting of new transmission or energy-related infrastructure (Strategy E5) and distribution system changes (Strategy E6). This, paired with the incorporation of the social cost of carbon into state decision-making processes, should aid in protecting against disproportionate siting of facilities in EJ communities and ensuring that related cost savings and health benefits result for EJ communities.

Grow an Equitable Clean Energy Workforce: The expansion of the clean energy industry in Massachusetts will continue to offer expanding economic opportunities for a growing green workforce. As the Commonwealth executes large-scale procurements (Strategy E1) and expands the solar and wind markets (Strategies E4 and E5), MAPC sees this as a fundamental opportunity to connect MWDBEs with these growing economic opportunities and increase representation within the clean energy industry. MAPC strongly encourages the Administration to include provisions within the final CECP that commit to developing equitable procurement practices and bolstering workforce and market development resources to greatly expand the participation of MWDBEs in the clean energy economy.

Solar and Wind Development

The draft CECP commits to executing existing solar programs and wind procurements and supporting “on pace” deployment of clean energy. MAPC recommends that the Administration further define what “on pace” means for Massachusetts and make bold commitments to maximize the deployment of solar and accelerate offshore wind development by 2030. While we are deeply supportive of the state’s existing commitments to accelerate the deployment of renewable energy resources, we strongly urge the Administration to exceed these commitments to ensure our best chance of mitigating the worst impacts of climate change and commit to a goal of 10 GW of installed solar capacity by 2030.

Bold commitments to accelerate solar and wind deployment should be paired with appropriate siting practices that minimize the use of greenfields. MAPC recommends the development of a statewide geospatial plan for siting solar, determining what is feasible on specific sites, and eliminating barriers to building on brownfields and other multi-benefit co-uses.

Grid Modernization

Regional coordination on electricity system planning across the ISO New England states and collaboration across Massachusetts agencies and departments on grid modernization is fundamental to achieving a decarbonized and resilient energy supply. However, MAPC is concerned that the draft CECP, and consequently the projected emissions reductions for 2030, may be over-reliant on regional processes, like the New England States Committee on Electricity, to make substantive progress. MAPC encourages the Administration to identify tactics now to ensure grid resiliency and reliability and provide market-based incentives for energy supply decarbonization. In particular, MAPC would like to see a more aggressive

²⁰ The IAC Climate Justice Work Group’s memo providing recommendations to improve the IAC’s 2019 list of recommended policies can be accessed at <https://www.mass.gov/doc/climate-justice-working-group-policy-recommendations/download>.

commitment to incorporating GWSA compliance into distribution-level policy decisions (Strategy E6) in the near term. MAPC recommends requiring substantive implementation of grid modernization efforts by DPU, DOER, and EEA by 2025, and comprehensive electric and gas utility reform ideally by mid-decade and by no later than 2030.

Mitigating Other Sources of Emissions

The CECP acknowledges the importance of reducing emissions from methane leaks from the natural gas distribution network and suggests that existing policies such as MassDEP's Reducing Methane Emissions from Natural Gas Distribution Mains and Services regulation will be sufficient. While DEP and the gas distribution companies deserve credit for the strides that they are making to replace leak-prone pipes, calling for emissions to remain steady misses a critical opportunity to accelerate this progress. The pace of pipe replacement under the utilities' Gas System Enhancement Plans (GSEPs) should be accelerated, and the utilities should be required to prioritize "super-emitting leaks" – the 8% of leaks which make up nearly 50% of total emissions – to improve the safety of the system while significantly reducing emissions from leaks by 2030.

Just as the CECP acknowledges the current DPU investigation of the future of the natural gas industry within the buildings section, so too should the plan reflect the inherent tension between our transition to clean heating fuels and the infrastructure and systems in place that support the current energy economy. Continued investments in natural gas infrastructure, like those called for in the utilities' GSEPs, may reduce emissions in the short-term. However, they may also lead to unnecessary expenditures of ratepayer funds for pipes that become stranded assets in the near future. The CECP should acknowledge the importance of mapping a pathway away from all fossil fuels, including natural gas, as soon as possible and with minimal impact to ratepayers, residents, and businesses.

Protecting Our Natural and Working Lands

Reducing fossil fuel emissions is the number one strategy in our fight to mitigate climate change. Preserving and increasing the capacity of land to sequester and store carbon is therefore critically important. Natural and working lands also provide important climate resilience and other co-benefits, including cooling and shade, clean air and water, flood protection, production of food and fiber, and recreation, scenery and quality of life. The Commonwealth should accurately and effectively leverage natural and working lands as a part of the state's climate change strategy using best management practices aligned with international standards for carbon accounting and GHG inventories.

It is vital that the Commonwealth's climate change strategy include provisions to preserve and increase the presence of healthy and mature street trees and the urban tree canopy overall. MAPC urges the Administration to establish a goal for the planting and preservation of a specific number of urban and suburban trees by a certain date, with a focus on EJ communities, along rivers, streams and meadows (Strategy L1). To aid the expansion of the urban tree canopy, MAPC further encourages the state to identify priority locations in EJ communities to convert impervious surfaces to green spaces. The reduction of gas leaks from leak-prone pipe will further enhance the preservation of street trees, enabling them to support urban GHG reductions and improved air quality.

MAPC also recommends that the Administration allocate a set amount of funds for climate adaptation projects that create public health benefits in EJ populations (Strategy L2). Current formulas and pending legislation are based on property value instead of minimizing harm from extreme weather events, climate

change, and air and water quality. The cost-benefit formula of adaptation measures should consider public health benefits, reduced heat island impacts, reduced flooding damage, and prioritization of EJ populations.

Funding Options to Advance Climate Mitigation and Resiliency

The Commonwealth will need to utilize a suite of funding mechanisms to ensure a swift and equitable transition to net zero emissions. While the draft CECP importantly identifies TCIP as a funding source for some of the investments we will need in the future, a range of other tools must be deployed and at the ready. This includes sector-wide carbon pricing, building off the TCIP framework.

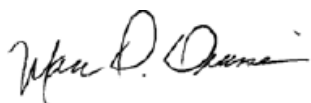
One proposal currently before the Legislature is *An Act providing for climate change adaptation infrastructure and affordable housing investments in the Commonwealth*, filed by Representative Nika Elugardo (HD.1252) and Senator Jamie Eldridge (SD.611). This legislation, also known as the Housing and Environment Revenue Opportunities (HERO) bill, is modeled after the Administration's S.10 proposal. It would increase the real estate excise tax to fund climate and housing needs, and likewise deserves the Administration's support.

An additional mechanism to undertake is the creation of a Climate Bank, which could provide capital for several of the infrastructure investments, upgrades, and systems identified as necessary in the draft CECP. The Climate Bank could be established and initially capitalized by the Commonwealth or through federal recovery funds. This mechanism could include debt financing, where appropriate paybacks exist, for measures related to clean energy, transit, and water infrastructure and technology investments, and institute a revolving loan fund and other financing tools where paybacks can be more challenging. Substantial funding and financing, from the state directly and indirectly, will be required quickly and at scale to advance deep energy retrofits, long-duration battery storage, district heating and cooling, and other large-scale decarbonization and resiliency measures. The Climate Bank should prioritize funding innovative, emerging, and transformative climate and energy technologies and programs as well as regional or multi-municipal resilience infrastructure, both green and grey, especially in Environmental Justice communities.

Regardless of the funding options pursued, we encourage the Administration to structure these mechanisms in a way that minimizes the impact on low-income individuals and maximizes investments that prioritize underserved and overburdened communities.

Thank you for the opportunity to provide comments and for the Administration's consideration of our recommendations. MAPC looks forward to continued collaboration with the Administration on its efforts to achieve net zero emissions by 2050 and to make great progress toward this commitment by 2030. We would be particularly interested and well suited to continue our leadership on building decarbonization and resilience as a member of the Commission on Clean Heat. Please contact Rebecca Davis, Deputy Director (rdavis@mapc.org), or Cammy Peterson, Director of Clean Energy (cpeterson@mapc.org), with any questions or for further discussion regarding MAPC's comments.

Sincerely,



Marc Draisen
Executive Director



Rebecca Davis
Deputy Director