



To: The Massachusetts Energy Efficiency Advisory Council

From: A Better City and the Boston Green Ribbon Commission's Commercial Real Estate and Health Care Working Groups

Re: Opportunities and Recommendations for Consideration in the 2022-2024 Three-Year Plan

The Boston Green Ribbon Commission (GRC) is a group of business, institutional, and civic leaders in Boston working to develop shared strategies for fighting climate change in coordination with the City's Climate Action Plan. The GRC's membership constitutes many of the large commercial and industrial (C&I) utility accounts within Eversource and National Grid's territories. These comments are submitted on behalf of the Commercial Real Estate and Health Care Working Groups of the Boston Green Ribbon Commission, led respectively by A Better City and Health Care Without Harm. Our comments represent the Working Groups' feedback for the three-year planning process and build on our comments submitted in November 2020 based on the Consultant Team's recommendations, and the public engagement and workshop process that commenced in Q4 of 2020. We expect to submit additional detailed comments upon release of the draft Three-Year Plans in 2021.

We would like to thank the EEAC for the opportunity to submit written comments in the public listening sessions and workshops held throughout the past few months. We acknowledge the challenges that Program Administrators and Councilors have encountered throughout the past year to maintain program momentum and roll out new initiatives in accordance with the 2019-2021 Three-Year Plan. There are several areas of focus we would like to see included within Three-Year Planning considerations for the C&I sector, particularly as the City of Boston and Commonwealth are in the process of developing more ambitious policies for achieving deeper energy and emissions reductions in existing buildings that will have significant impacts on this sector:

1. **Enhance communication and coordination across and within key C&I segments.** With progress towards achieving C&I savings targets lagging behind the necessary pace to meet the 2019-2021 Three-Year Plan goals, we consider establishing stronger channels for engagement with key C&I market actors to be critical to future efforts. Reflecting comments submitted to the EEAC in July and October of 2019:
 - a. We strongly recommend establishing C&I working group(s) to increase access and engagement between Program Administrators (PAs) and key C&I market segments. This could include establishing a formal or informal C&I Working Group as well as establishing channel partner programs by market segment (e.g., healthcare, higher education, commercial real estate) and/or C&I customer size. We recommend, in particular, that the process of establishing the former be managed by DOER.
 - b. These working groups would facilitate more frequent engagement between the PAs and key stakeholders and institutional organizations, enabling more targeted and effective outreach; facilitating the refinement of strategies for market engagement; and providing deeper understanding of and opportunities to engage with key Mass Save program offerings, particularly for small- and mid-sized organizations.
 - c. Additionally, we acknowledge the greatly increased efforts from the PAs to provide ongoing reporting across programs and key performance indicators in 2019 and 2020 but think that delivering

biannual progress reports for program participation and progress by segment to these working groups will increase PA accountability and transparency. It will also provide greater visibility to opportunities and needs of working groups and will be valuable for facilitating ongoing dialogue between the PAs and market actors, particularly if these biannual reports can also identify barriers and bottlenecks to program participation and opportunities to improve workflow in project execution.

2. **Develop enhanced retrofit offerings for pursuing deeper energy reductions and electrification.** In order to set the C&I sector on the path to achieving long-term decarbonization goals, it is imperative that the 2022-2024 Three Year Plan offerings support building owners in achieving the deeper energy and emissions reductions that will be necessary to meet state climate mandates, including: the decarbonization strategies detailed in EEA’s Draft Interim Clean Energy & Climate Plan for 2030; updates to the state building code and stretch code scheduled for the end of 2022 under the 10th building code edition; a potential specialized opt-in stretch energy code as detailed in the latest version of S.9., the “Climate Bill”; and the City of Boston’s proposed update to the Building Energy Reporting and Disclosure Ordinance (BERDO) that includes a building emissions performance standard, and a Zero Net Carbon Standard for new construction.
 - a. Programs should be structured to ensure that short-term energy efficiency measures contribute to—and do not undermine—the pursuit of deeper energy retrofits that have the potential to provide greater long-term energy, emissions, and resiliency benefits to C&I buildings.
 - b. While we welcome the increased emphasis on achieving HVAC savings in the 2019-2021 Three-Year Plan, stronger measures are necessary to capture the limited opportunities between now and 2050 for building owners to replace HVAC systems. Additionally, custom HVAC replacement projects have historically faced significant bottlenecks due to engineering review, which can take several months, hinder project progress, and dissuade participation. We recommend that consistent, transparent parameters for engineering review—and potentially options for third-party engineering review—be established to ensure greater consistency and success in achieving increased HVAC savings targets.
 - c. We support the Consultant Team’s recommendation to increase promotion of electrification projects in C&I buildings (e.g., combination of VRF systems with dedicated outdoor air systems and energy recovery ventilation) in the upcoming Three-Year Plan. We also recommend that separate targets for electrification of C&I HVAC systems be established in the upcoming Plan, in parallel with targets for smaller-scale heat pump systems for residential and light commercial applications (as implemented in the 2019-2021 Three-Year Plan), to ensure that robust programs targeting electrification of large C&I buildings are available.
 - d. We also support the Consultant Team’s recommendation to undertake a Deep Energy Retrofit Pilot to pursue cost-effective deep energy retrofits with investments across building envelope, HVAC, and other efficiency improvements. We agree with the proposal to incorporate envelope improvements and whole-building approaches that have seen more limited uptake in C&I buildings to date, and emphasize the importance of ensuring that electrification of HVAC is considered in the retrofit package for all buildings participating in the Pilot. Effective documentation and promotion of the results of this Pilot, as well as measures undertaken across different building typologies and market segments, will be critical to supporting building owners in evaluating options for deeper energy retrofits and compliance with Boston’s Building Energy Reporting and Disclosure Ordinance amendments that include a building emissions performance standard.
 - e. The Consultant Team’s recommendation for the Pilot program also suggests engaging with

customers with significant real estate portfolios to identify potential candidates for participation in the Pilot program. We support this approach to identify diverse sites for inclusion in the Pilot (e.g., across the 15 building typologies identified by the City of Boston) and are open to working with the PAs to identify potential partners if a Pilot program is implemented.

- f. We acknowledge the progress made to date through new technical assistance program offerings such as Continuous Energy Improvement (CEI) and Equipment and Systems Performance Optimization (ESPO) to enable building owners and operators to better understand opportunities for managing energy consumption. However, many buildings across the Commonwealth lack the metering infrastructure needed to enable building owners to make strategic decisions on energy efficiency and to allow tenants to better understand loads—as well as to address the potential for future local and state standards that will require more granular metering of tenant spaces. We recommend that the PAs explore whether there are opportunities for implementing incentives for submetering as part of participation in CEI or ESPO pathways or other technical assistance offerings. Introducing such incentives will support building owners who are interested in achieving energy savings through these technical assistance offerings but may not be able to participate or realize the full benefit of these programs in the absence of more granular data from submetering.

3. **Continue to expand equitable training and workforce development efforts through Mass Save and streamline the application processes.** We acknowledge the efforts made by the PAs in 2019 and 2020 to greatly increase the number of trainings provided to building operators. We broadly support the recommendations from the Consultant Team to greatly increase the amount of investment in workforce development to account for a greater proportion of total Mass Save spending (e.g. from <0.2% to 1-2% of total spending) and acknowledge the contributions provided by the Equity Working Group for Workforce Development to ensure that increased spending drives *equitable* workforce development and investment in underserved and environmental justice communities. Equitable workforce development opportunities will not only serve to meet future building energy service needs but also to support equitable growth in the context of economic recovery from the COVID-19 pandemic.

- a. We support the Consultant Team’s recommendation to deliver additional targeted trainings for emerging and critical technologies. In addition to technology trainings focused on building automation systems, heat pumps, and HVAC controls, we recommend expanding Building Operator Certification trainings to ensure facilities managers and building operators can meet and exceed energy performance in buildings. We also recommend that other emerging technologies (e.g. heat recovery chillers) and renewable energy system integration be considered for inclusion in Mass Save supported trainings.
- b. Additionally, we recommend broadening program-oriented trainings to enable customers to understand how to fully leverage and participate in the diversity of Mass Save offerings (especially new offerings like the Equipment & Systems Performance Optimization and Active Demand Management programs) and the Technical Resource Manual. These trainings, combined with a more streamlined application processes for these programs, will also encourage key individuals to participate, particularly for small- and mid-sized customers.
- c. As programs are expanded for training and workforce development, we also support the emphasis on equitable workforce development in underserved and environmental justice communities. In particular, we support the recommendations outlined by the EEAC Equity Working Group for Workforce Development around attracting and training young and diverse participants in the energy

efficiency workforce through increased outreach and collaboration with vocational and technical schools and increased funding for internships, apprenticeships, and other job placements. Broadening the clean energy workforce will be critical to ensure that a pipeline of trained facilities staff, building operators, contractors, and vendors will be available to continue supporting building owners in achieving efficiency and emissions targets. These programs are particularly important as a large number of experienced workers retire, and will be vital to ensuring that the workforce is adaptable to new technology solutions that emerge over the coming years.

4. Study the incorporation of resilience considerations and additional non-energy benefits into efficiency programs. Across the state, enhancing the resiliency of buildings in conjunction with energy efficiency and other relevant programs has become a key topic of interest for City leaders and building owners.

- a. Enhanced building resiliency can reduce the need for some of the most expensive utility repairs, support passive survivability and business continuity during and after disruptive events, and can be integrated with other energy efficiency efforts. No commitment was made to integrating discussions of resiliency and efficiency in the 2019-2021 Three-Year Plan. As in the previous planning process, we urge the Council to direct the 2022-2024 Three-Year Plan to include a study of the potential benefits of integrating energy efficiency with improved resiliency in building retrofits, with the goal of establishing potential programs to implement in the second and third years of the 2022-2024 plan. Where possible, we also recommend that resiliency considerations and improvements (e.g., elevation of mechanical systems) be integrated into the deep energy retrofit Pilot recommended by the Consultant Team, or that a separate pilot program be established to explore co-benefits between energy efficiency improvements and enhanced building resiliency.
- b. We support the proposed expansion of behind-the-meter storage targets outlined in recommendations for the Active Demand Reduction (ADR) program. The Consultant Team notes that participation from C&I customers has been limited to date, with unclear data on whether and how many new storage installations were supported through the ADR program. We recommend that an enhanced program in 2022-2024 consider actively promoting and incentivizing the resiliency benefits of battery storage deployment to C&I customers to broaden appeal to building owners and enhance the resiliency of both the grid and Massachusetts C&I buildings.
- c. To support deeper energy efficiency for both C&I and residential energy efficiency programs, we recommend finding ways to better integrate updated valuations of avoided health impacts and healthcare cost containment benefits from energy efficiency, in line with US EPA's updates to [AVERT](#), their 2019 study [Estimating the Health Benefits per-Kilowatt Hour of Energy Efficiency and Renewable Energy](#), the [Regulatory Assistance Project's "Layer cake of Benefits,"](#) and the [Energy Health Impact Calculator](#). Without adjusting for inequity in impacts, newer health valuations of energy efficiency for the Northeast range from 1.65-5.07 cents/kWh, at 3% discount rate. As such, we are leaving kWh and BTUs on the table to the detriment of meeting three-year plan goals, the state budget's Mass Health program burden, and reimbursement rate shortfalls for health care providers.
- d. We also urge the updated health benefits and avoided health care costs addressed above be further developed to quantify energy efficiency and peak shaving's disproportionate positive impacts on priority populations and geographies. The 2022-24 plan should include studies and implementation pathways to quantify, monetize, and integrate energy efficiency savings for key populations and geographies.

5. **Assess incentives and impacts for combined heat and power.** CHP systems can provide substantial energy efficiency and resiliency benefits to large C&I building owners in key market segments (e.g., healthcare, manufacturing). We acknowledge the analysis completed in the Carbon Free Boston report, which indicates that natural gas-powered CHP systems, while providing energy efficiency and emissions reductions today, may lead to a net increase in emissions over the life of the system if grid emissions are reduced in accordance with the Clean Energy Standard or more ambitious targets. While we support the broader alignment of the Commonwealth's energy efficiency programs with its climate targets and the need to phase out fossil fuel combustion in buildings, we believe that deeper exploration is needed on the impact of phasing out CHP incentives on the limited C&I market segments that can still benefit from CHP's energy and non-energy benefits, as well as the present lack of available alternative technologies and fuels that can meet these specific needs.
 - a. We support the Consultant Team's recommendation to reassess incentives for gas-fueled CHP and in particular recommend that the Consultant Team and PAs closely review the energy-intensive market segments that benefit most from CHP and build in exemptions (e.g., by sector, EUI, etc.) to any incentive rollback where the energy and resiliency benefits of CHP cannot be suitably replaced by other technology options.
 - b. As noted above, we support the analysis and incorporation of increased non-energy and resiliency benefits in efficiency. We recommend that an assessment of CHP for program support also include an assessment of the non-energy and resiliency benefits offered by CHP to building owners in key market segments. Resiliency can be a significant driver in the decision to make a major capital investment in CHP, and the proposed dedicated CHP impact evaluation should consider how best to account for these benefits to provide more insight into customer decision making and cost-benefit analysis.
 - c. We suggest also as part of this CHP assessment that the PAs investigate the potential role of and enhanced incentives for biogas in serving existing and new CHP systems. In particular, many businesses in Massachusetts generate and must properly dispose of significant quantities of food and other organic wastes, which could be harnessed to support increased availability of anaerobic digester gas to reduce the emissions impact of existing and new CHP systems.

6. **Develop an incentive structure for electric vehicles and micro mobility vehicles.** At both city and state levels in Massachusetts, the C&I sector is required to meet increasingly stringent GHG emissions reduction goals. As a result, many are looking to reduce scope 3 emissions, specifically how their employees get to work and move around the city during the day.
 - a. While we support the Consultant Team's recommendation to increase the participation in the deployment of EV chargers as part of the Active Demand Management program offering, we urge the EEAC to develop a program to incentivize electric vehicle (EV) infrastructure in conjunction with or separate from ADM—i.e., charging stations and dedicated EV parking spaces within existing and new construction. Incentives should also be provided for EV-ready infrastructure in situations when immediate implementation is not possible.
 - b. As part of EV charging station participation in the Active Demand Management program, we also recommend that the EEAC consider exploration of vehicle-to-grid technologies, which may provide additional demand management benefits and enhance renewables integration.
 - c. We recommend this incentives program includes the purchase of, and development of infrastructure for, electric bicycles and other micro mobility vehicles.

7. **Support greater alignment between Energy Efficiency Planning and GWSA mandates.** While the State has made great progress towards achieving the interim 2020 GWSA emissions reduction target, substantial work remains to achieve net zero by 2050 in the interim years that are consistent with the 2050 requirement. With the 2050 Decarbonization Roadmap study released in December 2020, it is critical to ensure that priorities outlined in the Commonwealth’s Roadmap are aligned with the priorities of the EEAC for the upcoming and future Three-Year Plans.
 - a. We strongly encourage EEAC to assess the deep decarbonization pathways outlined in the [Decarbonization Roadmap](#), as well as the [draft Clean Energy and Climate Plan recommendations for 2030](#) that relate to buildings. Alignment of CECP buildings recommendations and near-and-long term priorities for Mass Save will be essential in achieving our decarbonization goals.