CPRG Implementation Grant Proposal Workplan Narrative
Massachusetts Comprehensive Fleet Electrification Initiative

1. OVERALL PROJECT SUMMARY AND APPROACH

a. Description of GHG Reduction Measures

The Commonwealth of Massachusetts' Department of Energy Resources respectfully submits this application in response to the U.S. Environmental Protection Agency's ("EPA") Climate Pollution Reduction Grant ("CPRG") Funding Opportunity No. EPA-R-OAR-CPRGI-23-07. The application proposes a comprehensive program aimed at reducing emissions in the portion of the transportation sector most lagging in transformative electrification: medium- and heavy-duty vehicles (primarily battery electric trucks, vans, and buses) among Massachusetts fleets. The proposal for this effort, herein referred to as the **Massachusetts Comprehensive Fleet Electrification Initiative** (CFEI), narrows financial gaps through enhanced incentives and bolsters technical support, outreach, and training to accelerate the transition to zero emission fleets. Additionally, CFEI will provide focused assistance to fleets directly affecting Low-Income and Disadvantaged Communities (LIDACs) as well as small businesses, mitigating their emissions of greenhouse gases and criteria pollutants. This will pave the way for continued adoption of medium- and heavy-duty (MHD) zero emission vehicles (ZEVs)[1] well beyond the grant period.

Massachusetts is a national leader in setting mandatory greenhouse emissions reduction targets and in implementing regulatory and incentive programs to achieve them. In 2021, the Commonwealth committed to achieving net-zero emissions economy-wide by 2050, with an interim goal of a 50% reduction by 2030 from a 1990 baseline. Analyses identified both current sector emissions contributions and priority policies and programs necessary to achieve the state's emissions goals. In 2019, emissions from the transportation sector comprised 43% of total emissions in the Commonwealth. Given that emissions from the transportation sector are the largest contributor to total emissions, reducing these emissions is one of the highest priorities of Massachusetts climate programs.

In recent years, Massachusetts has seen a dramatic increase in the number of light-duty EVs on the road due to a combination of rebates, support for charging infrastructure, and standards. Massachusetts' success with light-duty ZEV incentives is yet to translate into MHD fleet transformation, but the experience has identified the funding and technical support gaps and laid the groundwork for rapid implementation of a MHD fleet-specific program. Notably, Massachusetts finds that achieving emissions reductions from MHD fleets requires a suite of solutions including technical assistance for fleet owners, reducing upfront costs, charging infrastructure assistance and funding, concentrated LIDAC outreach, and training of mechanical technicians to maintain fleet vehicles.

To realize the Commonwealth's aggressive goals of increasing the number of MHD ZEVs on the road almost ten-fold and ensuring that up to 250 additional, distinct fleets electrify one or more MHD vehicles (resulting in significant GHG emission and criteria pollutant reductions), CFEI has five key components:

1. **Fleet advisory services.** A "one-stop-shop" experience for fleets that need technical assistance and guidance on vehicles, charging infrastructure, incentives, vehicle operation, etc.

[1] In line with the Massachusetts Offers Rebates for Electric Vehicle (MOR-EV) rebate program regulation, 225 CRM 26.00, this proposal defines ZEVs as motor vehicles that produce no engine exhaust or carbon emissions, including battery electric vehicles (BEVs) and hydrogen fuel cell electric vehicles.

2. **Enhanced vehicle rebates.** To equitably address upfront costs, implement increased rebates for Class 3-8 ZEVs, including adders for fleets impacting federally designated LIDACs, small businesses, community-based fleets, and scrappage of diesel vehicles.
3. **Charging infrastructure deployment.** Financial support for electric vehicle charging equipment (EVSE) not covered by existing utility make-ready programs or other funding opportunities.
4. **LIDAC-specific community outreach and engagement.** Community-based outreach program will partner directly with LIDAC-connected community-based organizations (CBOs) and the fleets within them and leverage marketing by dealership and trade associations for additional outreach.
5. **Technical training and workforce development.** Investment in electric vehicle technician training programs as an alternative to traditional diesel technician training so that multiple automotive programs in the Commonwealth have the equipment and training necessary to support an ongoing pipeline of technicians that can maintain and repair electric trucks far into the future.

CFEI includes three coalition partners for implementation: the Massachusetts Department of Energy Resources (MA DOER) as the lead applicant and the agency responsible for directly managing the project; the Massachusetts Clean Energy Center (MassCEC) as a recipient of funding and responsible for managing an expanded and enhanced fleet advisory services component of the proposal through its Mass Fleet Advisor (MFA) Program; and the Massachusetts Department of Environmental Protection (MassDEP) as a recipient of funding for the management of all additional incentives targeting the deployment of electric vehicle charging infrastructure and electric vehicle supply equipment (EVSE). There will also be at least two sub-awardees, including training programming through the Massachusetts Department of Elementary and Secondary Education (MA DESE) and Massasoit Community College (MCC).

This proposal offers a strategic vision of technical assistance, financial support and close engagement with communities that will seed small numbers of electrified MHD vehicles across a large number of fleets. The proposal's theory of transformation is to lower the financial, technical, and social barriers to electrification at once, setting each fleet manager on a journey toward broader electrification of their fleet with enormous transformational potential. Based on Massachusetts' singular experience in working closely with fleet managers through its fleet advisory program, this proposed program will allow broad implementation of the many lessons learned from two years of close engagement with communities and private owners. If successful, the Massachusetts program could serve as a model for other states to seed a national movement of MHD vehicle fleet electrification.

Emissions from fleet vehicles are choking the state's most vulnerable communities.

MHD vehicles have a disproportionate impact on emissions. They comprise 5% of vehicles in Massachusetts while contributing 20% of on-road transportation GHG emissions and almost all on-road diesel particulate matter emissions. Like other states, heavier duty vehicles in Massachusetts, particularly those powered by diesel engines, are often traveling into and through urban areas and are significant contributors to emissions of criteria pollutants, especially particulate matter (PM) and nitrogen oxides (NOx). On-road diesel vehicles are the third largest NOx emissions source in the Northeast and Mid-Atlantic and contribute the majority of on-road tailpipe-related PM2.5 emissions; they also emit air toxics such as formaldehyde and acetaldehyde. Although emission control devices including particulate filters and selective catalytic reduction can be used to reduce emissions, these technologies cannot eliminate emissions. Efforts to reduce NOx and direct PM2.5 may inadvertently lead to other emissions such as ammonia, additional GHGs, or the creation of additional particulates through secondary processes (source).

These pollutants are known to have substantial impacts on public health, particularly on asthma rates, and are especially concentrated in urban, environmental justice communities, designated as such due to lower income, non-English speaking, and/or minority population criteria. In a 2017 Massachusetts Department of Public Health study, the vast majority of the 15 communities with the highest asthma rates in Massachusetts were in environmental justice (EJ) communities based on demographic data and defined at the state level. The Commonwealth is actively engaging with medical and public health experts to better understand and mitigate the effects of harmful air pollutants and incorporate public health benefits into its decarbonization strategies.

Massachusetts is uniquely qualified to address fleet emissions through an innovative medium and heavy-duty incentive model because its existing programs serve as a launching pad.

To address GHG emissions from on-road vehicles, Massachusetts established the MOR-EV (Massachusetts Offers Rebates for EVs) program in 2014, offering rebates for battery electric (BEV) and plug-in hybrid (PHEV) light-duty vehicles. To date, 40% of the total of 104,810 light-duty BEVs and PHEVs on the road in Massachusetts received MOR-EV rebates, demonstrating the impact of the MOR-EV program on the growing adoption of this technology. The MOR-EV program's reach has only grown in recent months, with the program now limited to new and used ZEVs, a higher incentive of $3,500 per vehicle, and an extra $1,500 for income-qualified residents. MOR-EV rebates for light-duty vehicles soared in 2023 to a total of 12,147, almost 30% of the cumulative rebates issued over the past nine years.

In recognition of the success of the MOR-EV program and to address the outsized emissions impact of larger vehicles in Massachusetts, MA DOER established the MOR-EV Trucks rebate program in 2021. The program offers incentives commensurate with vehicle size, with rebates ranging from $7,500 to $90,000 depending on vehicle class. After two and a half years of the MOR-EV Trucks program, progress has been limited. A total of only 8 rebates were issued for delivered Class 3-8 vehicles, with an additional 17 rebate reservation vouchers issued for fleet operators demonstrating a clear intent to purchase or lease an eligible vehicle. In all of Massachusetts, there are only 82 on-road BEVs in the Class 3-8 segments out of a total of 184,770 vehicles in those categories, or just 0.04% BEV. Based on recent adoption rates and projected market trends, the current and future rate of adoption of electric MHD vehicles is an area that needs far more attention and focus to be successful.

With respect to EV charging infrastructure, CFEI will rely first on already existing funding, staffing resources, and expertise that exists throughout the Commonwealth. Utility make-ready programs received regulatory approval of $33M for fleet EVSE make-ready, installation, and equipment costs for 2023-2026. The MassDEP's Massachusetts Electric Vehicle Infrastructure Program (MassEVIP) provides EV charging infrastructure, totaling over $13.2M since 2013, of which almost $1.4M went to a variety of public and private fleet EV owners and operators (for mostly light duty fleets). Additionally, MA DOER and the Division of Capital Asset Management and Maintenance plan to award $11M toward the installation of fleet charging infrastructure at state owned and operated facilities, specifically targeting fleet charging needs. Likewise, MA DOER offers EVSE deployment grants for municipal fleets.

In addition to the focus on depot charging, the CFEI governing team will be working with the Massachusetts Department of Transportation to monitor other MHD charging efforts to ensure that any additional EVSE deployments can be leveraged for fleets utilizing the CFEI program. These efforts include: The *National Zero-Emission Freight Corridor Strategy* developed by the Joint Office of Energy and Transportation, and The Northeast States for Coordinated Air Use Management (NESCAUM) *Multi-State Medium- And Heavy-Duty Zero-Emission Vehicle Action Plan* and Multi-State ZEV Task Force.

Launched in 2022, MassCEC's Mass Fleet Advisor (MFA) program provides fleets with a detailed plan for electrification to serve as the first step toward transitioning to electric vehicles. MFA supports electrification planning by pairing fleet operators and nonprofits with a technical consultant to analyze fleets and prepares an electrification plan tailored to an individual business. Plans include virtual site assessments to help fleets understand their infrastructure needs, electric service upgrades, and other technical and physical requirements at a given location. MassCEC has an established website presence, allocated staffing resources, and is working with a consultant to conduct outreach to fleets with Class 3-8 vehicles with an initial goal of completing customized fleet electrification reports and virtual site assessments for 200 fleets (plus some openings for a smaller number of fleets to advance to procurement support) as part of the existing program.

Under MassDEP's Advanced Clean Trucks (ACT) regulation, manufacturers must sell increasing percentages of zero-emission Class 2b-8 vehicles beginning in model year (MY) 2025. The ZEV requirements ramp up over time, reaching 20% of Class 4-8 trucks sold in MY 2027, and increasing to 50% in MY 2030. Similarly, Class 2b-3 and Class 7-8 tractor trucks reach 15% of vehicles sold in MY 2027, doubling to 30% in MY 2030. The CFEI program is designed to create momentum within this sector and provide critical resources to large numbers of fleets, ensuring that there will be sufficient early adopters of these vehicles. CFEI's support of this transition in the early years of ACT will be critical to its long-term success while also prioritizing small businesses for whom electrification would be most difficult and LIDAC areas that have been historically over-burdened by pollution.

This proposal builds on Massachusetts' proven track record in delivering a host of applicable incentives, technical assistance, and outreach programs. As a result, much of the upfront work necessary to launch CFEI's expanded program offerings is done. Websites, application portals, program guidance, rules and regulations are in place for many of the programs proposed here. Massachusetts can move quickly while focusing CFEI funding on bolstering the core elements of this proposal: providing critically needed vehicle and infrastructure rebates with clear prioritization toward fleets serving small businesses and LIDACs; offering robust, direct assistance to fleets; granting compensation for targeted community outreach efforts; and establishing BEV technician training programs. The proposed CFEI budget supports rapid program setup given that much of the required program infrastructure is already in place. Additionally, by leveraging existing funding from many of these programs, Massachusetts is ensuring that CFEI funding supports new and expanded efforts that go beyond current programming. CFEI funding will not be used to replace any existing funding resources, but rather to ensure that only new program elements are funded. See the Budget Narrative (file name: Budget_MA-DOER.pdf) for more details.

<u>CFEI is a novel approach to fleet electrification that is based on stakeholder feedback and that seeds the fleet transition by allowing more owners to participate, which will create a multiplier effect.</u>

Informed by rigorous stakeholder engagement, CFEI builds on Massachusetts' experience with vehicle rebates and fleet advising to deliver a novel approach that addresses fleet challenges and community needs. To understand why recent adoption rates of electric MHD vehicles remains low and to identify the barriers fleets face when electrifying, MA DOER and other partner agencies conducted a survey of commercial fleets with more than 100 responses and met with various stakeholders involved in the commercial fleet industry to try and better understand some of the key challenges facing these fleets to better understand why more Class 3-8 ZEVs have not been acquired. Fleet operators and fleet associations highlighted the value in placing even just one EV within fleets as a way of demonstrating their performance and ability to meet the needs of fleet operations and encouraging fleets to accelerate future adoption. The results of these investigations clearly pointed to the following challenges:

- High upfront cost of ZEV alternatives;
- Difficulty navigating the charging infrastructure needs, options, and financing opportunities;
- Lack of information and knowledge about ZEV options and performance; and
- Concerns about ongoing access to vehicle maintenance and repair services.

MA DOER and its coalition partners also held two focus groups with community-based organizations and hosted a meeting for municipalities with LIDAC census tracts to discuss community needs. The team incorporated all these data, analyses, and recommendations into the CFEI proposal by focusing on the key challenges and establishing a rebate structure that clearly prioritizes fleets impacting LIDACs as well as targeting smaller businesses and fleets. Among the key features of the application that address these issues are:

- Increased rebate amounts that will help most fleets overcome the incremental costs of ZEVs after considering the value of the commercial vehicle tax credit.
- New adders for fleets impacting LIDACs and small businesses/small fleets to ensure incentives target electrification among a larger number of fleets in need of assistance the most and benefit communities disproportionately harmed by MHD vehicle emissions.
- Limits on the number of vehicle rebates any single fleet can receive and a new rebate subtractor for large fleets that will help to preserve more incentives for priority fleets.
- An expanded, comprehensive concierge approach to fleet advisory services that provides fleets with one-on-one support, guidance, and technical assistance for each step of the vehicle acquisition and charging infrastructure deployment processes.
- A robust partnership with CBOs to ensure that adequate and appropriate outreach is being conducted to the fleets that are part of their communities, with a high priority focus on those operating in LIDACs.
- A multi-year workforce development program that will train hundreds of auto technicians on battery electric vehicles and offer direct, high-quality employment opportunities while supplying desperately needed workers for fleet operators and ZEV dealers.

The program being proposed is much more than just a simple rebate program to electrify MHD fleet vehicles, which already exists in several states, including Massachusetts. By including strategic rebate adders for LIDACs, small businesses, community-based fleets, and diesel vehicle scrappage along with rebate subtractors for large corporate fleet operators, CFEI will effectively target small, community-based fleets that have direct health impacts on residents where many of these fleets are based and operate.

This proposed program will transform the broad market for MHD vehicles through a strategic approach to fleet electrification. By targeting electrification of a small number of vehicles across many fleets, this program will seed the conditions necessary for future electrification. Based on input from fleets, the CFEI team identified the successful initial transition to ZEVs as a key opportunity to jumpstart more expansive fleet electrification. By providing the necessary financial and technical support to persuade fleets to acquire even a small number of ZEVs, CFEI will lay the foundation for these fleets to develop experience, knowledge, and comfort with vehicle electrification, thereby facilitating their transition to ZEVs.

Creating demand for MHD ZEVs is also critical for manufacturers to ramp up production and increase supply so fleets can acquire vehicles they need in a timely manner. In an analysis conducted for MA DOER in March 2024 by Arup, the consultant firm noted that, “most MHD vehicle manufacturers do not have the available cash flow to produce vehicles without equivalent purchase orders to verify future income. There is a clear signal in the market that increased demand is needed to spur manufacturing for these

important climate targets in the transportation sector." More MHD ZEVs on the road also increases demand for the technicians needed to service vehicles. To address this, MA DOER will partner with Massasoit Community College (MCC), the only public community college with an existing diesel automotive training program. Leveraging the existing diesel automotive facilities, curriculum, and training expertise, CFEI will quickly expand their offerings to include battery electric MHD vehicles. MCC aims to connect almost 200 newly trained technicians over four years, including current automotive technicians, to high-quality job opportunities as the first of a long pipeline of trained personnel that will continue well beyond the grant period.

Equity is embedded in Massachusetts' climate efforts, and this program is no exception as it focuses on emissions reductions and improved public health in LIDACs.

The Healey-Driscoll Administration expressed their commitment to addressing systemic environmental injustices through a structure grounded in public participation and equitable distribution of resources with the creation of the Massachusetts Office of Environmental Justice & Equity (MA OEJE) within the Executive Office of Energy and Environmental Affairs (EEA). MA OEJE is responsible for planning and implementing the goals and directives outlined in an Environmental Justice (EJ) Policy adopted in 2021. To further accelerate environmental justice and equity within EEA and across its agencies, MA OEJE recently completed in February 2024 a first in the state Environmental Justice Strategy (EJ Strategy) in support of meaningful engagement with environmental Justice populations[2]. Since September 2023, MA OEJE convenes a monthly Justice40 and Equitable Investment Working Group comprised of over seventy EJ CBOs from across the state. This leadership group of stakeholders and experts engaged on CFEI design, and OEJE will continue to play an organizing role in communicating and collaborating with these organizations on program implementation. Additionally, and as noted above, as part of the Commonwealth's research on the impacts and opportunities associated with electrifying fleet MHD vehicles, MA DOER and its partners effectively engaged with various CBOs and municipal staff, particularly those working with, and situated in, environmental justice and Justice40 communities. The results of these conversations confirmed that these communities are very aware of and especially concerned with the emissions coming from these heavier vehicles, including the associated impacts on public health. These discussions also illustrated the importance of targeting fleets that truly impact the air quality in these communities and of prioritizing incentives toward smaller, community-embedded fleets, as opposed to large corporate fleets which may not need the same level of assistance nor travel in the community as consistently as more local fleets.

By integrating widespread and robust partnerships with CBOs serving LIDACs, as well as establishing new training programs that will live on well past the grant period, CFEI will effectively address the gaps identified throughout the proposal development process. These efforts recognize that money alone is not always the answer to identified challenges but rather that building trust, especially within communities that have been historically marginalized, is critical to the program's success.

CFEI Component 1: Fleet Advisory Services

In 2022, MassCEC launched MFA, which assists MHD fleet operators with planning for and procuring electric MHD fleet vehicles. MFA aims to catalyze the utilization of the MOR-EV Trucks incentives, promote market interest in fleet electrification, prioritize emissions reductions in LIDACs, and

[2] Massachusetts EJ populations are neighborhoods that meet one or more criteria related to state median income, minority populations, and/or English language fluency. While there is overlap, and many of these EJ communities are in and around census blocks that have been designated as federal LIDACs, the CFEI is focused on LIDACs.

demonstrate ratepayer benefits associated with advising fleets before and during ZEV conversion. MassCEC plans to leverage MFA's existing technical consultants that will be under contract until CPRG funds are available, meaning there will be no lapse in the program for interested fleets. There are currently 50 fleets with a combined 921 vehicles enrolled in MFA, 40% of which meet the state equity criteria. MFA covers a diverse range of fleet sizes, from four vehicles to 370 vehicles each, and industries, including education, dry cleaning, lumber services, non-profits, hospitals, and delivery services. MFA currently offers fleets two phases of electrification planning:

Phase 1 – Fleet Preparation	MFA works with each fleet to collect and analyze fleet data and compile a Fleet Electrification Report that includes short-term and long-term vehicle-to-vehicle replacement analysis; total cost of ownership analysis; an on-site assessment that includes facility upgrade needs, EVSE location recommendations, and recommendations to mitigate grid impacts; state, utility, and federal incentive and tax credit information and eligibility; and an environmental impact assessment.
Phase 2 – Fleet Procurement Support	Fleets who complete the Phase 1 Fleet Electrification Report may choose to move to the Procurement Support phase. In this phase, fleets will receive technical support through vehicle procurement; driver and mechanic training workshops; development of Standard Operating Procedures for drivers and mechanics; and development of FAQs to be disseminated at fleet depots.

In addition to electrification planning, MFA currently funds statewide marketing, which includes channels such as billboards, public transit stations, industry magazines, and fleet supply and parts houses; in-person and virtual events, including in-person vehicle showcases and ride and drives as well as informational webinars; and the creation of publicly available MHD electrification resources to provide helpful information to all MHD fleets regardless of participation in MFA.

CFEI will build upon the existing MFA resources and leverage the new incentives to significantly expand the number of fleets receiving technical assistance and increase the number of ZEVs acquired. Specifically, CFEI funding will enable MFA to:

- Double the number of fleets receiving technical assistance in Phase 1 to 400 fleets;
- Double the number of fleets participating in Phase 2 to at least 150 fleets;
- Support increased acquisitions of ZEVs to an average of three per fleet (from 1-2); and
- Provide expanded assistance through enhanced MFA programs (including Phase 1), sufficient to support ZEV acquisitions among up to 100 additional fleets not needing Phase 2 support.

Through the various MFA support phases, MassCEC estimates that between 200 and 250 distinct fleets will acquire an average of around three ZEVs per fleet. MFA also aims to ensure that 50% of fleets enrolled in the program are domiciled in LIDACs.

Funding for the CFEI program will be used to extend current offerings beyond 2026 when current funding ends, expand the number of fleets served, and add new offerings to provide robust services to fleets necessary to ensure the transition to ZEVs. Specifically, <u>new</u> components of the MFA program funded directly by CFEI will include the following offerings:

<u>One-Stop-Shop Electrification Portal</u>

A one-stop-shop Electrification Portal will serve as a hub for fleet electrification resources. Currently, fleets enroll in MFA and then apply on separate websites for all other programs, such as MOR-EV, MassEVIP, and other infrastructure incentives through utilities and MassDEP. Disparate websites and resources can be confusing and overwhelming for fleets beginning to think about electrification. With a

new Electrification Portal, all the information that fleets need to receive technical assistance and apply for incentives will be in one place. Initial commitments for this CFEI funded portal include:

Electrification Hotline – During the listening sessions, fleet owners indicated that a phone hotline to answer questions about incentive eligibility, vehicle availability, utility contacts, charging station operation, and others would be a valuable resource. Fleets that do not need a full fleet assessment would still benefit from speaking with an electrification expert on their own time. Setting up a hotline through the Portal will ensure that fleet operators are taking full advantage of available incentives and resources.

Fleet Data and Progress Tracking – In the Portal, fleets will be able to enter information such as current vehicle models, ages, average mileage, domicile locations, duty cycles, average annual maintenance and operation costs, and depot facility information to create a fleet profile. The information entered will be sent directly to the technical advisors, which will expedite the current data collection process at the start of the MFA program that has proven burdensome to some fleets. Fleets will then be able to track their progress within the program and determine when the electrification reports are in progress, schedule on-site assessments, and schedule follow-up calls with the technical advisors.

State Incentive Access – Through the Electrification Portal, fleets will be able to submit applications, determine adder eligibility, and track status updates for MOR-EV Truck and MassEVIP EVSE incentives. The Portal will include information on utility EVSE incentives and will link directly to the utility charging incentive applications and other Municipal Light Plant incentives, if available.

Other Fleet Connections – One of the most effective educational tools for fleets is hearing directly from other fleet owners who have successfully procured and are operating ZEVs. The Portal will include the ability to connect with other fleets who have created profiles through an electrification forum, allowing them to ask questions and share best practices.

Expanded Technical Assistance

Based on feedback from listening sessions (see the Demonstration of Funding Need section for session details), through CFEI, MassCEC will broaden the technical assistance provided through MFA to include the following offerings:

Incentive and Tax Credit Eligibility Assistance: Currently, MFA assists fleets with identifying and determining eligibility for state, federal, and utility incentives and tax credits. Under the CFEI, MassCEC will expand this offering to include FAQs on how to file for tax credits, leveraging state and federal resources. This will include newly eligible non-taxable entities that can now monetize tax-credit value under the Direct Pay provisions of the Inflation Reduction Act. The Massachusetts Executive Office of Administration and Finance (A&F), the Office of Climate Innovation and Resilience (OCIR), and the Federal Funds and Infrastructure Office (FFIO) are establishing a process for claiming Direct Pay tax credits on behalf of Commonwealth entities. This process includes engagement across state agencies to collect information about eligible projects and to file the necessary tax forms, as required by the IRS. Additionally, A&F, OCIR, and FFIO are coordinating with EEA, DOER and MassCEC, as well as other state agencies, to disseminate reliable information and materials on Direct Pay to municipalities and other tax-exempt organizations to help those entities leverage this historic opportunity. FFIO is developing an online resource library that includes Direct Pay information and will continue to share updates from the IRS at monthly meetings with municipal leaders.

Managed Charging and Post-Procurement Assistance: To encourage fleets not to charge vehicles at peak periods, MFA will begin working with fleets during the Fleet Procurement Support phase to complete a charging assessment, which will determine optimal charging schedules and practices. Fleets will be educated on managed charging and will receive a charging plan tailored to their vehicle duty cycles. Additionally, following vehicle acquisition, MFA services will continue to be available to fleets to answer questions, address challenges, and provide additional support as needed.

Dealer Education

During the listening sessions, many fleet owners and operators expressed frustration with the lack of knowledge of incentive and tax credit availability and eligibility when speaking with EV dealers. This demonstrates the need for MFA technical assistance and for dealer training to be included in MHD electrification efforts. Through CFEI, MassCEC will fund dealer education initiatives, such as in-person training workshops, online training modules, and the creation of informational brochures and resources to be distributed to dealers and in dealerships.

CFEI Component 2: Enhanced Vehicle Rebates

Building on the current Massachusetts Offers Rebates for Electric Vehicles (MOR-EV) Program,[3] incentives for MHD vehicles in Class 3-8 will be increased significantly as part of the implementation of this proposal to address the upfront cost discrepancies between ZEVs and internal combustion vehicles, particularly diesel counterparts. Even with a robust state rebate program in place since 2021, uptake of ZEVs in the MHD sector has been minimal and sluggish: Massachusetts Registry of Motor Vehicle data shows that between 2020 and January 2024, BEV adoption in Class 3-8 went from 13 to 82 registered MHD on-road BEVs. Between 2022-2023, the MOR-EV program approved 25 MHD vehicle vouchers, of which 8 were redeemed in those years, signaling delivery of the vehicle had been taken.

According to a survey issued to over 1,500 Massachusetts fleet contacts with over 100 respondents (see the Demonstration of Funding Need section), the biggest electrification barrier continues to be upfront cost. An analysis of 20 existing fleets in the state through the MFA program found that higher rebates– between a minimum of 50%-75% higher than current MOR-EV rebate values depending on vehicle class – would be required to reach total cost of ownership parity. The rebates proposed by CFEI address the funding gaps identified in this analysis while proposed adders for LIDAC and small business fleets will ensure that the barriers associated with upfront costs for those fleets are fully eliminated. Through stakeholder listening sessions in February 2024, MA DOER also learned anecdotally that vehicle manufacturers and dealers are more likely to divert their ZEV inventory to states where rebate levels are higher.

The primary goals of CFEI are to accelerate adoption and increase the number of Class 3-8 ZEVs by nearly ten-fold, potentially adding up to 750 additional vehicles to the road with a focus on replacing diesel vehicles that operate in LIDACs; reserving a portion of incentives for LIDAC fleets specifically; and directly impacting more than 250 distinct fleets, the vast majority of them being small business and community-based fleets. Under CFEI, MA DOER will 1) increase the base MOR-EV rebates across Class 3-8 and include a large-fleet subtractor to more strategically disperse program incentives based on need; and 3) reserve at least 40% of rebate funds for fleets that directly impact LIDACs. The rebate adders will increase the total rebate incentives available to address upfront procurement costs.

[3] The current MOR-EV Program includes base rebates to defray the costs of MHD ZEVs plus a modest environmental justice adder for fleets garaged in or operating predominantly in certain communities.

The final rebate formula, which will build off base MOR-EV rebate amounts that vary by vehicle class, includes the following factors:

LIDAC Adder	For fleets that directly impact federally-designated LIDACs, which may be determined by garaging location, route maps that demonstrate operations occur primarily within LIDACs, or attestation that the vehicles are working within LIDACs.
Small Business Adder	For fleets associated with small businesses, which may be defined as private entities with ≤20 vehicles and <$5M in annual revenue.
Community-based Fleet Adder	For fleets engaging in or providing community-focused services, which may include but is not limited to hospitals, refuse trucks, nonprofit organizations, municipal fleets, transit agencies, and other public entities. This adder cannot be stacked with the Small Business Adder.
Diesel Scrappage Adder	For fleets that demonstrate scrappage of a corresponding diesel model.
Large Fleet Subtractor	Fleets associated with large businesses will receive a rebate subtractor to ensure that most of the incentives are allocated to fleets having the most financial need.

The base rebate, adder, and subtractor values, and how these are calculated as part of the total budget request, are further detailed in the Budget Narrative (file name: Budget_MA-DOER.pdf). Individual rebates cannot equal more than 80% of the total vehicle cost unless the eligible vehicle also qualifies for the diesel scrappage adder, which increases the maximum cost coverage to up to 90%. The program will limit individual fleets to a maximum of ten vehicle rebates during the grant period.

MA DOER intends to conduct a review of rebate levels by the end of Year 2 of the Program to assess whether adjustments to rebate levels are warranted for some or all classes based on market data and continuing feedback from stakeholders. This proposal recognizes that some fleet conversions will also benefit from tax credits available under sections 45W and 30C of the IRS tax code and the proposal incorporates the value of those credits into the overall fleet conversion project capital stack; see the Budget Narrative (file name: Budget_MA-DOER.pdf).

CFEI Component 3: Charging Infrastructure Deployment

The coalition partners recognize that deployment of sufficient charging infrastructure to meet vehicle electrification needs frequently creates a significant financial barrier to entry for many, particularly for small business fleets with less financial capital, many of which are operating in LIDACs. Legacy fossil fuel powered fleets typically use third-party offsite fueling depots for which the costs of installation, operation and maintenance are borne by the site operator, with cost passed on to the fleet operator in fuel costs. However electrified fleets typically require onsite depot charging, for which the costs of planning, installation, operation, and maintenance must be borne by each fleet operator.

Through regular collaboration with the investor-owned utilities (IOUs), CFEI will ensure access to the already approved and potential future IOU funding (which, depending on customer location, may cover up to 100% of utility-side make ready costs, up to $5,700 per port in customer-side utility costs, and varying levels of EVSE costs) for all fleets located in IOU territories where incentives exist. CFEI will fund certain project costs in IOU territories that are not eligible for utility incentives (e.g., networking,

maintenance, additional project costs, etc.). CFEI will additionally work with IOUs and Municipal Light Plants (MLPs) to coordinate technical and outreach support.

Committed external partners for this effort include the three investor-owned utilities in Massachusetts and the two joint action agencies acting as electric cooperatives that serve the 40 Massachusetts Municipal Light Plants (MLPs) connected to the electric grid, which are publicly owned electric utilities. Below is a summary of each partner and their contribution to incentives for approved projects.

Investor-Owned Utilities (IOUs)	• National Grid (funding currently approved): Provide funding for utility-side and customer-side make-ready, as well as EVSE in some cases. • Eversource (pending funding re-allocation approval in 2024): Provide funding for utility-side and customer-side make-ready, as well as EVSE in some cases. • Unitil: No MA Department of Public Utilities-approved incentives at present but would assist participating fleets with enrollment in utility managed charging programs where applicable. *Note: National Grid and Eversource are presumed to support infrastructure in their territories throughout the five-year period of performance, at the level approved in 2022 by the MA DPU for 2023-2026. National Grid and Eversource are presumed to support some or all equipment costs in their territories throughout the five-year period of performance.*
Joint Action Agencies (JOAs)	• Energy New England (ENE) and Massachusetts Municipal Wholesale Electric Company (MMWEC): Identify existing MLP programs with utility-side or customer-side make-ready and/or EVSE incentive programs, as well as locations where no MLP incentives are available.

In addition to the above commitments to offer potential financial support, utility partners and cooperatives will also provide or facilitate the following non-financial support measures:

- Assist participating fleets with enrollment in utility-managed charging programs, where applicable.
- Ensure primary points of contact are identified for communication and collaboration on projects.
- Commit to conducting a timely site survey analysis and cost proposal for awarded projects.
- Participate in a steering committee that would meet regularly with MassCEC, MA DOER, and other IOUs and JOAs.
- Participate in fleet electrification town halls and other public fleet events.

This application also recognizes the need for additional financial and technical assistance to help support depot charging infrastructure and enable MHD fleets to initiate the transition to all-electric, zero emission vehicles in areas not funded with IOU incentives. In these areas, CFEI will fund a range of costs associated with electrical infrastructure and electric vehicle supply equipment, networking and software contracts, maintenance, extended warranty and support contracts, and certain additional project costs, as outlined below:

Infrastructure Costs for the 15% of projects not in National Grid or Eversource service territories.

Electric Vehicle Supply Equipment (EVSE), i.e., charging station costs for the 15% of projects not in National Grid or Eversource territories, including a console wired into the electrical supply; a cable and connector to plug into the EV; cable management such as a coil, retraction, etc.; mounting on pedestal (hard-wired to a permanent pole or box) or wall (hard-wired to a wall typically with a mounting plate); and separate payment module.

Costs listed below will be funded through CFEI for all projects throughout the Commonwealth.

Networking and Software via a contract between the grantee and vendor for up to five years after vehicles are operational.
Maintenance, Extended Warranty and Support via a contract between the grantee and vendor for up to five years after vehicles are operational.
Additional project costs* such as installation, construction related to installation, shipping and freight, signage, pavement painting, bollards, curbs, wheel stops, setbacks, and bumper guards.

**Costs that the program will not pay for include, but are not limited to, land/parking space purchase or lease; taxes; electricity consumption and demand charges; networking, software and preventative and corrective maintenance costs not covered by a CPRG-funded contract between grantee and vendor; and costs covered by other elements of the CFEI.*

For projects where no utility-side nor customer-side incentives are available from the utility, up to $25,000 per port for Level 2 chargers and $50,000 per port for DCFC chargers will be funded by the grant.

CFEI Component 4: LIDAC-Specific Community Outreach and Engagement

Building on the work of the MA Office of Environmental Justice & Equity and the MOR-EV culturally competent outreach campaign, Massachusetts will build strong relationships with CBOs to support the implementation of this proposal. Dedicated efforts in this area will include direct support (stipends) for community organizations to build capacity to engage in this work. Massachusetts will collaborate with local community leaders to host community meetings on the health impact of diesel emissions and identify specific fleets and transportation "hot spots" that could be targets for electrification. The CFEI partners will analyze health impacts, including where emission reductions occur because of vehicle electrification; see Section 4 for more details.

CFEI Component 5: Technical Training and Workforce Development

The CFEI application has a significant workforce component to support fleet transition to ZEVs. The workforce component will establish training programs to train technicians and fleet operators in the field of maintaining and repairing battery electric MHD vehicles. These programs will be established at the community college and career and technical education (CTE) school level. More detailed information regarding this component can be found in Section 5 of this narrative.

b. Demonstration of Funding Need

Massachusetts has adopted a statewide GHG emissions limit and sector-specific sub-limits for 2050. The 2050 Clean Energy & Climate Plan (CECP) highlights a broad suite of specific goals, strategies, policies, and actions by sector; Massachusetts policymakers are orienting applicable policy and programmatic decisions around the CECP sub-limit for transportation. One of the CECP's key benchmarks is achieving 93% electrification of the MHD vehicle segment by 2050.

The current state of MHD electrification in Massachusetts is worryingly lagging. As of 2020, there were 13 registered Class 3-8 BEVs on the road, which grew to only 82 as of January 2024. The January 2024 total represents a mere 0.04% of registered Class 3-8 vehicles on the road in Massachusetts. Class 3 has seen

the highest rate of electrification, followed closely by Class 8, representing 35 and 27 vehicles respectively. There are two Class 6 BEVs, 18 Class 7 BEVs, and no registered BEVs in Class 4 or 5. MA DOER believes that the reasons behind the sluggish pace of electrification are related to the challenges and barriers identified by fleets directly (survey and discussion results summarized later in this section), including but not limited to upfront costs and charging infrastructure availability, as well as vehicle availability.

While significant funding has been allocated to the MOR-EV program over the past nine years, the current rebate trend and growing number of light-duty ZEVs that will be eligible for rebates is placing an increased burden on existing budgets. Massachusetts is committed to meeting its transportation emissions reduction goals but does not have sufficient funding resources to support rebates for all on-road vehicles, even if limited to the next five years.

Current Programs in Massachusetts

CFEI will utilize the already established MOR-EV and MFA program infrastructure, ensuring a significant amount of up-front work for CFEI is already completed. However, these programs have limited budgets and are not funded in perpetuity. The MFA Program is limited to 200 fleets by current funding, the MOR-EV Program budget is limited, as stated earlier, but is also largely used up by the MOR-EV light-duty vehicle rebate programs, including both light-duty cars and light-duty trucks. For example, in 2023 alone, about $40M in the MOR-EV program was issued to individuals and fleets for light-duty passenger vehicle and light-duty pickup truck rebates. In comparison, about $1M in funds were paid or reserved to MHD vehicle rebates. Under current funding, it is expected that the light-duty rebate program will completely absorb the MOR-EV funds by early 2025. The utility make-ready programs also face a particular challenge in that they are not able to be stacked with outside funding sources; the total of outside funding sources must be deducted from the make-ready program incentive funds. The CFEI partners have accounted for this limitation in the program budget, by incentivizing only non-make-ready costs at utility-funded sites.

Federal Funding Constraints

The Inflation Reduction Act provided two applicable tax credit offerings, the Commercial Clean Vehicle Credit and the Alternative Fuel Vehicle Refueling Property Credit, which could provide aid to both public and private fleets across the Commonwealth. However, there are still challenges for fleets to overcome when taking advantage of these credits, including but not limited to determining the specific credit amount an entity would receive and being able to float the upfront cost while waiting to recoup the credit. See the Budget Narrative (file name: Budget_MA-DOER.pdf) for more information on how CFEI will incorporate the impacts of these credits where possible.

Fleet Survey

As part of this application process, more than 1,500 fleet contacts were surveyed to gather information about the barriers faced in electrifying fleet assets and what state-supported assistance could prompt these fleets to either start to electrify or expand electrification efforts. The survey received a little over 100 responses from both fleets with electric vehicles in operation and fleets that have yet to electrify. When asked to rank common barriers to electrification on a scale of one through six, with one being the most significant barrier, barriers ranked the highest included: upfront cost of vehicles, installation challenges of charging infrastructure, and cost of charging infrastructure.

In response to these barriers, survey respondents reported that higher vehicle incentives, charging infrastructure incentives and technical and/or financial planning assistance would be the most helpful. When asked how helpful financial and technical support would be in jump-starting or expanding the

electrification of their fleets, about 62% of fleet respondents that had no EVs and about 73% of fleet respondents that had at least one EV reported that the support would be somewhat or extremely helpful.

Fleet and Municipality Stakeholder Discussions

In the survey, fleets were invited to participate in two separate meetings with MA DOER and MassCEC to provide additional feedback. Fleets once again reported that a key barrier to electrifying their fleets was the upfront cost of ZEVs. Other reported challenges included lack of vehicle availability to meet operational needs, concerns about range, delivery delays, and a lack of vehicles on the market, with some reporting this was due to available vehicles being shipped to states with higher vehicle incentives.

Similarly, a lack of access to adequate charging infrastructure was highlighted, including a lack of reliable public charging stations and inadequate incentives for DC fast charging stations. Smaller fleets commented on their lack of time and resources, reporting that they do not have the time and personnel to navigate the various incentives and their eligibility criteria.

Fleet operators also raised reservations about potential risks associated with early adoption of electric vehicles. These risks included a lack of knowledge about whether there would be a market for used ZEVs, and concern about what return on investment they may receive for these vehicles. Some participants expressed concern over the availability of technicians with the expertise to repair their ZEVs.

MA DOER also engaged with CBOs and municipalities located in and/or serving LIDACs through several presentations and discussions with larger groups, such as the Justice 40 and Equitable Investment Working Group, as well as through three separate, targeted stakeholder sessions, which provided an opportunity for municipalities, regional planning associations, and CBOs to learn more about the application and engage directly with MA DOER staff. Clear support for CFEI was expressed by participants, and key recommendations that have been incorporated into the CFEI proposal include 1) ensuring that working automotive technicians be targeted for additional BEV training in addition to students, and 2) focusing incentives on smaller, more local fleets that are often embedded in and part of the community to make sure incentives are not excessively awarded to entities with national or international reach.

c. Transformative Impact

The CFEI program will accelerate the adoption of electric MHD vehicles by fleets in Massachusetts while reducing associated GHG emissions and criteria pollutants such as particulate matter and improving public health conditions in LIDACs. As noted above, electrification of MHD vehicles has proven to be extremely challenging due to a host of barriers related to vehicle cost, lack of charging infrastructure, inadequate information and knowledge about vehicle operation, and concerns about long-term operational performance. CFEI is meant to address all these challenges and support fleets from beginning to end, facilitating their transition away from fossil-fuel vehicles. The estimated emissions reductions detailed in Section 2 are the direct result of transitioning 750 MHD vehicles to zero emission models and accounting for emissions reductions over the life of those vehicles.

However, the true transformative benefits of CFEI lie beyond just the electrification of the vehicles themselves and the immediate emissions and public health benefits. Each component of the CFEI proposal is designed to lay the foundation for continued adoption of MHD ZEVs among fleets in the Commonwealth and provide the initial catalyst necessary to maintain the momentum that will begin with the CFEI. The resulting transportation sector emissions reductions and the broad improvements in local air quality throughout the Commonwealth will be particularly experienced by residents of LIDACs. The CFEI grant period will be a crucial opportunity for the Commonwealth to identify the strategies with the most direct

impacts and work across state government stakeholders and the legislature to develop long-term incentives and policy initiatives that will ensure continued progress. These foundations have been noted throughout this narrative but in summary include:

Fleet Advisory Services: Fleet managers currently face a significant gap in technical knowledge with regards to electrification, including necessary data collection, vehicle inventory and availability, and total costs of ownership and electrification. CFEI's Fleet Advisory Services are meant to address these barriers, both during the grant period and beyond. First, by directly and fully supporting fleets through every step of the process, fleets will develop in-house expertise in what is needed to effectively electrify fleet vehicles in the future. Additionally, MassCEC will utilize lessons learned across similar fleet types during the grant period to determine what specific needs are most critical for a longer-term program beyond the grant.

Rebates: The design of the rebates is intended to result in the adoption of MHD ZEVs among hundreds of fleets rather than concentrate large numbers of ZEVs among a few fleets. Based on surveys and conversations with trade and dealer associations, this approach is strongly supported and there is agreement that "sowing" fleets with just a few ZEVs each is an effective strategy to ensure that those fleets continue with fleet electrification into the future. Providing the experience and knowledge with ZEVs across a wide range of fleet types, sizes, and locations will help to accelerate the adoption of MHD ZEVs across the Commonwealth. While rebates funded through CFEI may not continue, it is the Commonwealth's intent to ensure that whatever ZEV rebates are available in the future are targeted toward the vehicle sectors that have the largest impact on emissions and public health and are aimed at the fleet operators and vehicle types that need the most financial support.

EV Infrastructure Deployment: Similarly, fleets have expressed confusion and lack of awareness surrounding available EVSE opportunities. CFEI will play a critical role in coordinating the planning and funding for the deployment of EVSE to provide charging access for ZEVs and, wherever possible, create pre-wiring to facilitate and streamline future EVSE needs. Working directly with utilities and fleet advisory services, the CFEI program will ensure that fleets are receiving prompt and coordinated technical and financial support for site investigations, any required electrical upgrades and equipment deployment. Providing fleets with the experience associated with obtaining the necessary charging and pre-wiring for future deployment wherever possible is a key element for future expansion of fleet electrification.

Community Engagement, Outreach, and Education: Massachusetts will use the support from this grant to build on nation-leading environmental justice programs, including the 2021 Environmental Justice Policy and the establishment of the MA Office of Environmental Justice and Equity. The CFEI program will work directly with and adequately compensate CBOs to help them develop the ZEV knowledge and resources necessary to reach significant numbers of fleet operators. CFEI will consider adopting the MassCEC Accelerating Clean Transportation for All (ACT4All) program model, which provides direct grant funding to CBOs to build capacity for community-led engagement efforts. Over the five-year grant period, MA DOER and partner CBOs will develop a deeper understanding of the needs of MHD fleet operators and the most effective ways to reach them. Such understanding will facilitate continued outreach efforts beyond the grant period, which will be particularly important as requirements for MHD ZEVs ramp up.

Workforce Development: Development of a trained, quality workforce that is sufficient to support MHD ZEV fleet maintenance and repair needs is a key goal of CFEI. By providing funding for the equipment, curriculum development and training needs of community college and CTE school automotive programs, CFEI will effectively create a long-term supply of technicians that will be able to receive training well beyond the end of the grant period. By doing so, CFEI will address one of the key concerns expressed by

fleets hoping to electrify their vehicles but wondering where they will be able to access appropriate maintenance and repair services. With the growing recognition that diesel vehicle electrification is coming, the CFEI workforce development partners are excited to be entering this field and provide their students and trainees access to skills that will lead to high paying and stable careers.

In summary, the Commonwealth intends to use the CPRG funding in a way that will have both short- and long-term impacts on the adoption of MHD ZEVs among Commonwealth fleets. Some of the longer-term efforts will require additional smaller amounts of funding, while some will continue indefinitely based on the seed funding provided through this grant. Given the overarching commitment of the Commonwealth to address emissions and health impacts of transportation and specifically MHD vehicles, Massachusetts is committed to evaluating the impacts of project components and to continuing the progress for programs initiated through this CPRG grant, pending available funding.

2. IMPACT OF GHG REDUCTION MEASURES

a. Magnitude of GHG Reductions from 2025 through 2030

The table below presents projected GHG emissions reductions in 2030 as well as projected cumulative reductions from 2025 to 2030. These estimates are based on 750 targeted vehicle deployments across vehicle classes 3-8 during the period 2026-2030 (inclusive). Differences in GHG emissions (fossil fuel versus electric) for a representative vehicle in each class were sourced from the Argonne National Laboratory's 2023 AFLEET tool.

Emissions reductions in 2030 capture the reductions in that single year from all previously deployed CFEI incentivized vehicles. It can be interpreted as the difference between a baseline for 2030 where no program-incentivized vehicles were deployed as compared to the projected deployment of 750 vehicles across Classes 3-8 by that year. Cumulative reductions for 2025-2030 are instead based on the sum of annual reductions for each year during that period, where each annual reduction is calculated based on the total number of program-incentivized vehicles deployed prior to or in that year. Part D of this section addresses the durability of the emissions estimates; for additional methodology details, please refer to the Technical Appendix (file name: Techappx_MA-DOER.pdf) and the GHG Emission Reduction Calculations Spreadsheet (file name: GHGcalcs_MA-DOER.xlsx).

Vehicle Class	**Reduction in 2030 (metric tons CO2e)**	**Cumulative Reduction 2025-2030 (metric tons CO2e)**
Class 3 (300 deployed)	2,681	6,614
Class 4 (150 deployed)	1,341	3,307
Class 5 (75 deployed)	1,271	3,102
Class 6 (75 deployed)	2,000	4,881
Class 7 (75 deployed)	1,002	2,444
Class 8 (75 deployed)	6,499	15,857
Total	**14,794**	**36,205**

b. Magnitude of GHG Reductions from 2025 through 2050

The table below presents projected cumulative GHG emissions reductions from 2025 to 2050. These estimates are based on 750 targeted vehicle deployments across vehicle Classes 3-8 during the period 2026-2030 (inclusive). Differences in GHG emissions (fossil fuel versus electric) for a representative vehicle in each class were sourced from the Argonne National's Laboratory's 2023 AFLEET tool. Cumulative reductions for 2025-2050 are based on the sum of annual reductions for each year during that period,

where each annual reduction is calculated based on the total number of program-incentivized vehicles deployed prior to or in that year (and that have not yet been retired). Part D of this section addresses the durability of the emissions estimates; for additional methodology details, please refer to the Technical Appendix (file name: Techappx_MA-DOER.pdf) and the GHG Emission Reduction Calculations Spreadsheet (file name: GHGcalcs_MA-DOER.xlsx).

Vehicle Class	**Cumulative Reduction 2025-2050 (metric tons CO2e)**
Class 3 (300 deployed)	40,219
Class 4 (150 deployed)	20,110
Class 5 (75 deployed)	19,069
Class 6 (75 deployed)	30,005
Class 7 (75 deployed)	15,027
Class 8 (75 deployed)	97,482
Total	**221,912**

c. Cost Effectiveness of GHG Reductions

Per the NOFO, the cost-effectiveness of the CFEI program overall is as follows:

$95,100,619 (requested CPRG funding) / 36,205 metric tons (estimated emissions reductions attributed to CPRG funding 2025-2030) = **$2,626.73 / metric ton reduced**

The Commonwealth has already invested significant amounts of funding into programs that will serve as the foundation of CFEI, as detailed in the Budget Narrative (file name: Budget_MA-DOER.pdf). MA DOER has deducted the emissions benefits according to the existing estimated state program funding to be contributed, and are trying to distinguish the additionality of emissions reductions from the specific program impacts the CPRG funding will enable Massachusetts to realize. The emissions assumption used for the cost-effectiveness calculation is viewed by MA DOER as the most conservative scenario; the CFEI coalition partners expect that the transformative impacts (i.e., indirect emissions reduction impacts) of getting fleets poised to continue replacing their fleets with ZEVs and the creation of a pipeline of skilled technicians to support the growing MHD ZEV sector will have profound implications for future emissions reductions, though they may not be quantifiable for the purposes of this exercise.

d. Documentation of GHG Reduction Assumptions

As to the durability of these emissions estimates, MA DOER is confident these emission reductions will continue and even increase over time. Most directly, the ZEVs funded through CFEI will, barring any unforeseen circumstances (e.g., catastrophic accident) be on the road for the full duration of their 15-year lifetime. Given the lower maintenance requirements and resulting longer life of ZEVs, this timeframe may even be longer. Second, with many of the upfront barriers addressed through CFEI, it is MA DOER's belief that fleets receiving ZEV and EVSE incentives will, at a minimum, continue to electrify those same vehicles when a replacement is needed. Third, given the investments made in charging infrastructure, driver training, combined with important hands-on experience with ZEVs, it seems very likely many will use program benefits as the impetus to electrify additional fleet assets. Fourth, CFEI combined with the Advanced Clean Trucks regulation (increasing availability and minimum percentage of sales as ZEVs over time) will ensure increasing use and adoption of ZEVs. CFEI is a key piece of the overall MHD electrification strategy and ensuring adoption of ZEVs in this sector will continue to grow. Documentation further detailing the GHG reduction assumptions and estimates for CFEI can be found in the Technical Appendix (file name: Techappx_MA-DOER.pdf).

3. ENVIRONMENTAL RESULTS – OUTPUTS, OUTCOMES, AND PERFORMANCE MEASURES

a. Expected Outputs and Outcomes

CFEI aims to support several tenets of the *FY 2022-2026 EPA Strategic Plan*, including but not limited to Objective 1.1 (reducing emissions that cause climate change), Objective 4.1 (improving air quality and reducing localized pollution and health impacts), Cross-agency Strategy #3 (advancing organizational excellence and workforce equity) and Cross-agency Strategy #4 (strengthening intergovernmental partnerships and enhancing engagement). As noted earlier in this proposal, transitioning high-emitting and high-polluting MHD vehicles, particularly those operating within LIDACs and communities with the highest asthma rates in Massachusetts, will have significant positive impacts on overall emissions and air quality in the Commonwealth and help to ensure historically disadvantaged communities are not further overburdened by a slow transition to zero emission vehicles.

Expected outputs include the deployment of some 750 MHD ZEVs for Massachusetts-based fleet use, installation, and maintenance of associated charging infrastructure for those vehicles, trainings for and outreach with various stakeholders (CBOs, manufacturers, distributors) to aid in the fleet transition, and education and training programs for BEV technician workforce development. CFEI will furthermore result in the training of approximately 300 individuals over the grant period through the community college, continuing education, and CTE schools, bolstering the creation and conservation of high-quality jobs across the state. The anticipated outcomes include the quantified GHG emissions reductions; criteria air pollutant and hazardous air pollutant reductions; enhanced level of community engagement; and high-quality jobs directly created throughout the Commonwealth via CFEI.

b. Performance Measures and Plan

Based on the number and types of ZEVs placed into operation through CFEI, as tracked through MOR-EV program data, the anticipated outcomes include the quantified GHG emissions reductions in 2025-2030 and 2025-2050 and criteria air pollutant and hazardous air pollutant reductions in 2030; these metrics will be tracked both overall and for LIDACs specifically. Application data from each of the coalition partners regarding their specific applicants (some of which may seek incentives through one or all the three programs – rebates, fleet advisory services, and charging infrastructure) will be used to track and understand the relative geographic, demographic, and other characteristics of the program impacts. This includes but is not limited to calculating what proportion of CFEI funding has been directed to LIDACs (e.g., calculating progress toward Justice40 goals) and identifying areas where additional community-based outreach may be necessary.

The application processes for MFA and MOR-EV will require applicants to provide data related to existing fleets to aid with emissions reduction calculations over time, including but not limited to number and types of vehicles; annual miles driven by any vehicle to be replaced by a ZEV; typical vehicle operation location(s); and the extent to which ZEVs will be deployed only for fleet expansion vs. full or partial ICE replacement. Fleets receiving ZEV incentives will be required to report annually on vehicle miles traveled (e.g., through submitting a vehicle inspection report) and any changes to operational location during the first five years post-incentives; the designated CFEI Outreach Manager will be responsible for ongoing data tracking for fleets that receive incentives through CFEI.

The enhanced level of community engagement enabled by CFEI will be measured by tracking the number of community events hosted by CBOs, as well as the number of community members reached through various CBO-led engagement and outreach efforts. Through continued collaboration with its sub-

awardees, MA DOER will also track the number of trainees and high-quality job placements created through CFEI including for LIDAC residents. MA DOER intends to use insights gleaned from the performance measures herein to provide robust reporting to US EPA and when conducting periodic program reviews to identify opportunities for program improvements.

c. Authorities, Implementation Timeline, and Milestones

The roles and responsibilities for the parties engaged in the design and implementation of CFEI include:

	Entity	Roles and Responsibilities
Coalition Partners	MA DOER	Pursuant to M.G.L. 25A Section 19(a), MA DOER implements the MOR-EV vehicle rebate program; serves as the primary applicant and CFEI project manager; ensures coordination among coalition partners; will design and administer rebate-related components of the CFEI, including third-party contract negotiations, hiring staff, and overseeing community outreach and engagement strategies in conjunction with MA OEJE.
	MassDEP	Pursuant to 815 CMR 2 *State Grants, Federal Grant Awards, Federal Subgrants and Subsidies* and 815 CMR 6 *Interdepartmental Fiscal Business*, MassDEP will implement a MassEVIP MHD charging infrastructure rebate program; will design and administer charging-related components of the CFEI, including hiring staff and issuing appropriate incentives for charging infrastructure to approved fleet recipients (see Budget Narrative).
	MassCEC	MassCEC Board of Directors granted authority to implement the MFA program in 2021; MassCEC will design and administer advisory services-related components of the CFEI, including third-party contract negotiations, hiring staff, developing new program elements, and bolstering outreach to potential participants (see Budget Narrative).
Sub-Awardees	MCC	To be given authority to develop two medium/heavy duty automotive battery electric vehicle technician programs at the community college level: one for new students interested in automotive technical work and another program for current technicians and fleet operators within the MHD field.
	MA DESE	To be given authority to develop a medium-duty automotive electric vehicle technician grant program at the CTE school level to support development of automotive battery electric vehicle technician programs.
Electric Utilities	Investor-owned utilities	Authority to implement approved charging infrastructure programs using utility funding; since charging infrastructure is a key component of increasing EV adoption, cooperation is necessary for GHG reduction measure implementation.
	Joint action agencies	
Other	Contractors (Multiple)	To be given authority by means of a competitively procured contract with MA DOER, MassDEP, and/or MassCEC; responsible for administering various aspects of the expanded MOR-EV, MassEVIP, and MFA programs that comprise the foundation of CFEI, such as web portal development, application processing, customer service, fleet analyses, designing and facilitating community and industry outreach and education, and subcontracting with local CBOs.

Timeline and Milestones

Est. Date	Key CFEI Milestones
July 2024	Execute memorandum of understanding between coalition partners.
July 2024	Initiate process to update existing MOR-EV program regulation, including public comment process, to align with revised program.
Aug. 2024	Engage with community stakeholders and organizations as well as industry stakeholders to gather feedback on final program design elements and requirements.
Sep. 2024	Finalize updates to existing competitively procured contracts or secure new competitively procured vendor contracts to account for expanded program services and offerings so existing program redesign can begin.
Oct. 2024	Sign agreement with MA DESE for CTE high school grant to support development of multiple programs at schools across the state.
Oct. 2024	Develop and launch proposal to solicit CBO participation in outreach efforts
Jan. 2025	Semi-annual report to US EPA.
Jan. 2025	Launch grant program with MA DESE for CTE schools.
Feb. 2025	Select initial group of CBOs to partner with
Feb. 2025	Finalize MOR-EV program regulation update to revise rebate levels and establish adders and subtractors.
March 2025	Formal launch of CFEI, which will include access to the new MOR-EV rebates, expanded MFA, and broadened fleet charging infrastructure incentives.
March 2025	MCC hires a project coordinator, begins student outreach, and establishes initial employer partnerships, which will be ongoing through the duration of the program.
April 2025	Make awards for MA DESE CTE school programs.
Sep. 2025	MCC develops curriculum for pre-apprenticeship and advanced fleet operator training programs, finishes designing an apprenticeship pathway, and purchases instructional supplies and equipment.
July 2025	Semi-annual report to US EPA.
Jan. 2026	Semi-annual report to US EPA.
Jan. 2026	Launch CTE high school training programs.
Jan. 2026	MCC hires instructor(s) for their new training programs and begins enrolling students and delivering training.
July 2026	Semi-annual report to US EPA.
Jan. 2027	Semi-annual report to US EPA.
July 2027	Semi-annual report to US EPA.
Aug. 2027	Year 2 analysis/review of CFEI and potential adjustments (including the MOR-EV rebate portion of the program and potential stakeholder feedback and rebate level adjustments).
Jan. 2028	Semi-annual report to US EPA.
July 2028	Semi-annual report to US EPA.
Jan. 2029	Semi-annual report to US EPA.
July 2029	Semi-annual report to US EPA.
Dec. 2029	Wrap-up of CFEI; launch of new programs to ensure progress continues.
Jan. 2030	Final report to US EPA, including analysis of impacts/recommendations for MHD vehicle programming in support of ongoing electrification.

4. LOW-INCOME AND DISADVANTAGED COMMUNITIES

a. Community Benefits

The primary community benefit of this program is reduced GHGs and reduced emissions that harm human health, particularly PM and NOx and therefore public health benefits will be measured in terms of their relative reductions. Based on these calculations, CFEI partners will translate the emission benefits of this program into public health outcomes such as fewer asthma attacks, hospital visits, preventable deaths, and healthcare cost savings. An additional benefit that is difficult to quantify but that will make a significant difference in the quality of life for drivers and Massachusetts residents is the benefit of reduced noise, as electric trucks produce half the noise pollution of diesel vehicles. The primary potential disbenefit is the potential additional strain on grid capacity in communities with MHD fleets. The benefits of this program will be particularly acute for those communities that are most heavily impacted by MHD vehicle traffic in and traveling through their neighborhoods.

b. Community & Industry Engagement

Working with partners and through existing channels, MA DOER and MassCEC conducted outreach to community-based organizations and cities and towns with LIDACs to get feedback on program design. This outreach included presentations to the Justice40 and Equitable Investment Working Group convened by OEJE and to a group of municipalities operating in Justice40 communities run by the Metropolitan Area Planning Council (MAPC). Community members who were interested in providing additional input were provided a stipend to participate in two separate listening sessions focused on this proposal.

The CFEI program reflects this community input in several important ways. First, community stakeholders wanted to see the direct economic benefits of this program flow to members of the community and community institutions, rather than large national fleets. Based on this feedback, the program includes additional adders for small businesses and fleets operating in LIDACs as well as rebate subtractors for large fleets. The coalition partners also heard from community members about the importance of building a diverse workforce. The proposal therefore includes a strong workforce development component focused on community colleges and CTE schools. Through the Justice40 and Equitable Investment Working Group, the Environmental Justice Council comprised of Governor-appointed environmental justice leaders, and other existing avenues, CFEI will continue to meaningfully engage to:

- Solicit input and feedback from CBOs on program design issues, such as how to define equitable investments and how to encourage a diverse workforce.
- Partner with CBOs to identify transportation hot spots or specific fleets that are a priority for electrification and develop effective outreach and communication strategies.
- Participate in community meetings and events highlighting the importance of reducing diesel emissions and how communities can leverage state and federal programs to support vehicle electrification. Meetings will respond to the challenges of working families and work towards ensuring that childcare is available at all in-person meetings, assist with transportation and transportation costs, and address other barriers to participation.
- Work directly with, and provide compensation to, CBOs to conduct targeted outreach to:
    - Private fleets that have been identified as important environmental justice priorities; and,
    - Non-profit community institutions that use MHD vehicles, considering opportunities to support vulnerable populations, such as schools, hospitals, religious institutions, youth centers, and senior citizen centers.
- Provide community input as the Commonwealth builds relationships with public health researchers looking into quantifying the benefits of MHD vehicle electrification for LIDACs and for workers, e.g. providing feedback on program design, identifying projects that could work as case

studies for research.

- Translate all materials into the top ten languages in Massachusetts and have translators at in-person and virtual/hybrid meetings.

5. JOB QUALITY

As the MA DOER survey and stakeholder discussions demonstrated, fleets in the Commonwealth are concerned about the availability of technicians to repair and maintain their electric vehicles; there is a desperate need for technicians of MHD vehicles, with a job growth rate of 6%, double the average growth rate for all employment sectors in the United States, according to the U.S. Bureau of Labor and Statistics (source). Most repairs for fleet vehicles are performed by technicians that work directly for a specific fleet or at the dealership. There are a few public diesel technician training programs in the Commonwealth, including one at the community college level and three at the CTE level; there are several CTE schools that have developed some curriculum on ZEVs, but only for light-duty vehicles. None of the public education programs in the Commonwealth have an all-electric curriculum component for MHD vehicles.

A focus on workforce development in the field of heavy vehicle repair and a focus on enhancing training in areas with LIDAC students could bring a great benefit to these students. According to the U.S. Bureau of Labor Statistics, the median pay nationwide for diesel vehicle technicians is $28.06 an hour (source). And, as mentioned earlier, this field needs more laborers. A program at the community college level would be especially valuable given the launch in 2023 of MassReconnect, a program that will establish free community college for Massachusetts residents that are 25 or older. This, in tandem with an EV training program, will open doors for Massachusetts residents to pursue a career in an expanding, productive field.

To achieve this goal, the workforce development component of the program includes a partnership with Massasoit Community College (MCC) to develop a heavy-duty BEV automotive technology program. MCC is the only public community college in the Commonwealth with a MHD automotive program, focusing mostly on Class 7 and Class 8 vehicles. Due to their specialization in the topic and the available physical space they have for such a program, MCC stood out as a vital partner for this program. As part of this subaward, a portion of funds will go to MCC to purchase a BEV chassis, install necessary charging equipment, enhance their curriculum and to applicable administration needs. Through this funding, MCC will develop two curriculum pathways: a pre-apprenticeship noncredit workforce training program for new technicians and a fleet operator advanced training certificate. The pre-apprenticeship noncredit program will consist of two cohorts a year, each with 12 students and would be free to students for the duration of CFEI. The program would include foundational courses to MHD vehicles but would quickly introduce BEV specific courses related to electric systems and propulsion, as well as safety protocols.

The advanced fleet operator program would be targeted towards current fleet technicians and operators looking to enhance their current skills. This program would have four cohorts of six students each per year and would focus on the BEV specific courses. The combination of these two programs would create a multi-pronged workforce development initiative that would enable MCC to train students and practitioners of various ages with different skillsets at varying stages of their careers. In addition, the MCC program would also use their partnerships with fleets and dealerships in Massachusetts to ensure that students have a smooth transfer into those careers. The programs will recruit students from CBOs, secondary CTE high schools, career centers, re-entry programs, and veterans service organizations who are interested in pursuing a career in MHD ZEV technology. The certificate program will align with current curriculum standards for diesel technicians.

To complement the MCC programs, CPRG funding will also support the development of a BEV training program at between three and five CTEs. MA DOER will partner with the Massachusetts Department of Elementary and Secondary Education (MA DESE) and MassCEC's workforce development division to develop a competitive grant program for CTE schools that are interested in adding a BEV automotive component to their existing program offerings. The grant will be managed by MA DESE with technical assistance to schools provided by MassCEC's workforce development division. The grant will solicit proposals from CTE schools for funding that will supply the appropriate equipment and supplies necessary to incorporate BEV training into approved curriculum. This may include the purchase of a chassis or a battery simulator, other equipment needs, and any associated administrative needs. In addition, while MCC will focus on the heavier vehicle weight classes, the CTE schools will focus on medium-duty vehicles, thus diversifying program offerings. The MA DESE program will prioritize funding to schools that demonstrate geographic diversity across Massachusetts and that are in, or primarily serve, LIDACs.

6. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE

a. Past Performance

I. SEP BIL Funding FY23 Allocation

a. Assistance agreement number: DE-EE0010078
b. Federal funding agency and assistance listing number: U.S. Department of Energy 81.041 – State Energy Program Bipartisan Infrastructure Law
c. Brief description of the agreement (no more than two sentences): The goal of the MA DOER State Energy Program is to support the overall MA DOER mission. In addition, the plan sets specific goals in the areas of Resiliency and Energy Security, Renewable and Alternative Portfolio Standards and Grid Modernization, Clean Peak, Storage and Transportation.
d. Contact from the organization that funded the assistance agreement: Kyle Ellsworth: kyle.ellsworth@hq.doe.gov
e. Include a discussion of whether and, if so, how the applicant was able to successfully complete and manage the listed agreements: MA DOER completed all quarterly performance and financial reporting to U.S. DOE. Any reports that were rejected by project officer(s) were corrected and re-submitted on a timely basis. MA DOER submitted any annual reports on grants by end of project period (90 days after close of grant period) as required.

II. Energy Efficiency and Conservation Block Grant Program (EECBG)

a. Assistance agreement number: DE-SE0000224
b. Federal funding agency and assistance listing number: U.S. Department of Energy 81.128 - Energy Efficiency and Conservation Block Grant
c. Brief description of the agreement: Proposal to award EECBG sub-grants to Massachusetts municipalities and conduct activities that will assist local governments to reduce energy use and fossil fuel emissions.
d. Contact from the organization that funded the assistance agreement: Kyle Ellsworth: kyle.ellsworth@hq.doe.gov
e. Include a discussion of whether and, if so, how the applicant was able to successfully complete and manage the listed agreements: MA DOER completed all quarterly performance and financial reporting to U.S. DOE. Any reports that were rejected by project officer(s) were corrected and re-submitted on a timely basis. MA DOER submitted any annual reports on grants by end of project period (90 days after close of grant period) as required.

III. SEP Funding PY23 Allocation

a. Assistance agreement number: DE-EE0010035

b. Federal funding agency and assistance listing number: U.S. Department of Energy CFDA# 81.041- State Energy Plan
c. Brief description of the agreement: The State Energy Program formula grant provides funding to states to support planning activities and programs that help reduce carbon emissions in all sectors of the economy. The grant is awarded in three-year increments and states must apply every year for the award.
d. Contact from the organization that funded the assistance agreement: Kyle Ellsworth: kyle.ellsworth@hq.doe.gov
e. Include a discussion of whether and, if so, how the applicant was able to successfully complete and manage the listed agreements: MA DOER completed all quarterly performance and financial reporting to U.S. DOE. Any reports that were rejected by project officer(s) were corrected and re-submitted on a timely basis. MA DOER submitted any annual reports on grants by end of project period (90 days after close of grant period) as required.

IV. SEP Funding PY22 Allocation

a. Assistance agreement number: DE-EE0008652
b. Federal funding agency and assistance listing number: U.S. Department of Energy 81.041 - State Energy Program
c. Brief description of the agreement: The State Energy Program formula grant provides funding to states to support planning activities and programs that help reduce carbon emissions in all sectors of the economy. The grant is awarded in three-year increments and states must apply every year for the award.
d. Contact from the organization that funded the assistance agreement: Kyle Ellsworth: kyle.ellsworth@hq.doe.gov
e. Include a discussion of whether and, if so, how the applicant was able to successfully complete and manage the listed agreements: MA DOER completed all quarterly performance and financial reporting to U.S. DOE. Any reports that were rejected by project officer(s) were corrected and re-submitted on a timely basis. MA DOER submitted any annual reports on grants by end of project period (90 days after grant period close) as required.

V. Clean Cities Coalition Network Outreach, Education and Performance Tracking Program

a. Assistance agreement number: DE-EE0009593
b. Federal funding agency and assistance listing number: U.S. DOE/NETL 81.086
c. Brief description of the agreement: The Clean Cities Coalition provides technical assistance and outreach, participates in program meetings, and tracks and reports critical program and performance metrics. Clean Cities Coalitions are expected to engage in activities that support the goals and objectives of the National Clean Cities program.
d. Contact from the organization that funded the assistance agreement: Erin L. Russell-Story: erin.russell-story@netl.doe.gov
e. Include a discussion of whether and, if so, how the applicant was able to successfully complete and manage the listed agreements: MA DOER completed all quarterly performance and financial reporting to U.S. DOE. Any reports that were rejected by project officer(s) were corrected and re-submitted on a timely basis. MA DOER submitted any annual reports on grants by end of project period (90 days after close of grant period) as required.

b. Reporting Requirements

MA DOER completed all quarterly performance and financial reporting to US DOE. Any reports that were rejected by project officer(s) were corrected and re-submitted to US DOE on a timely basis. MA DOER also submitted any grant annual reports by end of project period (90 days after grant period close) as required.

c. Staff Expertise

The following staff will directly engage in the development and ultimate deployment of the CFEI proposal. They possess the knowledge, expertise, and qualifications to successfully achieve the proposal's goals and GHG reduction measures. Additional staff from MA DOER, MassDEP, and MassCEC who may interface periodically with CFEI, as well as two new to-be-hired positions, are not included herein. The curriculum vitae for the staff below can be found among the team biography attachments.

- **Eric Friedman – Director, MA DOER LBE Division.** *Possesses over 25 years of experience in sustainability and clean energy project and program management. Managed the Commonwealth's $54.9 million ARRA grant.*
- **Catie Snyder – Deputy Director, MA DOER LBE Division.** *Experienced senior program manager. Oversaw competitive program administration procurement process for $27M MOR-EV contract; managed over $50M in deployed MOR-EV rebate funds between 2022-2024.*
- **Mark Scribner – Electric Transportation Program Manager, MA DOER LBE Division.** *Experienced program manager and subject matter expert in electric vehicles and EV charging with a demonstrated history of working in education, technology, and utility fields.*
- **Morgan Bowler – Clean Energy & Sustainability Coordinator, MA DOER LBE Division.** *Experienced program coordinator with a demonstrated history of working on topics related to sustainability. Skilled in program management; research; data analysis; and multi-stakeholder communications.*
- **Sharon Weber – Deputy Division Director, Air & Climate Programs, MassDEP.** *Possesses over 25 years of experience with MassDEP, managing numerous grant programs including $75 million in VW Settlement funds, annual EPA state DERA grants, and MassEVIP.*
- **Rachel Ackerman – Clean Transportation Program Director, MassCEC.** *Possesses 15 years of experience in the clean energy field. Developed transformative transportation programming across all sectors, executing over $70M in annual program funding, leveraging public-private partnerships.*
- **Rhys Webb – Clean Transportation Program Manager, MassCEC.** *Experienced program manager with a demonstrated history of developing, administering, and managing over $38M in equitable clean transportation grant programs. Designed and oversees the MFA Program.*

7. BUDGET

MA DOER believes that CFEI, which builds upon preexisting programs and sunk costs, demonstrates a comprehensive approach, and the use of these preexisting programs as a baseline will enable grant funds to be expended efficiently and in a timely manner. Given that many of the contractual cost estimates are based upon existing funding and cost structures, MA DOER further believes that the proposed CFEI expenditures are reasonable for accomplishing the proposed goals, objectives, and measurable environmental outcomes described in this application. Documentation detailing the budget and associated estimates of CFEI can be found in the Budget Narrative (file name: Budget_MA-DOER.pdf) and Budget Spreadsheet (file name: Budgetcalcs_MA-DOER.xlsx).

a. Budget Detail – See applicable attachments.

b. Expenditure of Awarded Funds – See applicable attachments.

c. Reasonableness of Costs – See applicable attachments.