Connecticut Clean Impact

WORKPLAN NARRATIVE

1. OVERALL PROJECT SUMMARY AND APPROACH.

Connecticut (CT) will tackle the climate crisis by removing more than 1.817 million $MTCO_2e$ by 2030 and 9.791 million $MTCO_2e$ by 2050 with a multi-sector and multi-agency strategy of:

Decarbonize: Support decarbonization of the transportation sector — the largest source of climate and air pollutants in the state — through i) incentivizing the uptake of medium and heavy-duty (MHD) zero emission vehicles (ZEVs) and ii) leading by example with deploying scalable renewable solar energy-powered battery systems that take a diesel-powered state department of transportation MHD truck and effectively convert it to a ZEV while maintaining its work function.
Weatherize: Expand the state's trailblazing program to address health and safety barriers and enable low-income communities to receive the benefits of weatherization and then invest in more weatherization and energy efficiency upgrades including ENERGY STAR-rated appliances to meet the high demand for our existing efficiency programs which reduce emissions in the buildings sector, the state's second highest source of greenhouse gases.
Divert: Encourage a more circular economy by diverting food waste that is currently trucked to out-of-state to landfills and instead i) support municipalities to separate, collect, and compost it locally and ii) enforce the state's pioneering Commercial Organics Law.
Engage: Implement meaningful engagement with low-income and disadvantaged communities (LIDACs) by supporting their participation in the design and performance of the above strategies to ensure they maximize community benefits, including career pathways and training.

We selected the four ambitious measures described below to implement this strategy in the five-year grant period and to 1) achieve significant greenhouse gas emissions by 2030 and beyond; 2) achieve substantial community benefits, including significant reductions in air pollutants in LIDACs; 3) complement and leverage our state funds, ratepayer-backed programs, and other federal funding; and 4) provide replicable and scalable programs and policies that can be implemented in other states.

1a. DESCRIPTION OF GREENHOUSE GAS (GHG) REDUCTION MEASURES

(1) Medium and Heavy-Duty Zero Emissions Vehicles Incentive and Charging. The CT Department of Energy and Environmental Protection (CTDEEP) proposes to develop and implement CT's first incentive program for *Medium and Heavy-Duty (MHD) Zero Emission Vehicles (ZEVs) and Charging* to lower the cost of purchasing MHD ZEVs and building charging infrastructure.

CT will model this incentive program on similar incentive programs in surrounding states, such as the Massachusetts MOR-EV Trucks program, and the New York State Energy Research and Development Authority (NYSERDA) Truck Voucher Incentive Program (TVIP). CTDEEP also will build on its own experience administering the Connecticut Hydrogen and Electric Automobile Purchase Rebate (CHEAPR) program, the first program in the country to offer "on the hood" rebates for light-duty electric vehicles that has been highly successful in getting money into the hands of purchasers who need it.

Program structure. We would prioritize incentives for vehicles owned or operated in communities that bear a disproportionate share of emissions from these vehicles. We would identify those disproportionate impacts through federal resources, such as the Climate and Economic Justice Screening

Tool and EPA's Environmental Justice Screen Tool, and state resources identifying environmental justice neighborhoods such as our EJ Screening Tool and EJ Map. Incentives would include funding for associated electric vehicle supply equipment (EVSE), setting it apart from similar programs in other states. The program would fund outreach to businesses in overburdened communities or with old vehicles. Such outreach could also include "fleet assistance," which has been effective in other states. The program would include funding for incentives that are the same as TVIP current incentive amounts. The proposed budget includes up to 100 vehicle vouchers per year for years 2-5, as well as associated charging, based on a budget of the average incentive amount across all classes of vehicles (classes 4-8).

CPRG Safeguards for No Same Measures Same Location. CTDEEP is part of the *Clean Corridor Coalition (C3)* CPRG application led by the NJ Department of Environmental Protection. The funding in this CTDEEP individual application provides incentives for depot charging, whereas the corridor coalition provides public EVSE, or EV "corridors" along I-95, I-91 and I-84 in CT.

Tasks and Milestones - *Medium and Heavy-Duty Zero Emission Vehicles incentive. (Nov. '24-Nov. '29).*
• *Task 1*: Development of request for proposals (RFP) Anticipated Dates: 2/1/2025. Assumptions: RFP is anticipated to take 2-3 months from date of award
• *Task 2:* RFP Launch Anticipated Dates: 3/1/2025.
• *Task 3:* Bidding and contractor Selection Anticipated Dates: 5/1/2025. Assumptions: Open RFP, bidders conference and contractor selection and contracting
• *Task 4:* Program Development: program guide, platform, application, vehicle eligibility and community engagement. Anticipated Dates: 5/1 through 10/1/2025.
• *Task 5:* Outreach: outreach materials, multilingual marketing, stakeholder input and planned events. Anticipated Dates: 5/1 through 10/1/2025.
• *Task 6:* Enhanced Outreach Development. Anticipated Dates: 5/1 through 10/1/2025. Assumptions: Fleet assistance program development for a limited number of fleets (20-25)
• *Task 7:* Ongoing Outreach: Continued outreach and planning events. Anticipated Dates: 12/1/2025 – Program Completion in 2029.
• *Task 8:* Continued voucher application review and disbursements (80-100/year) Anticipated Dates: 12/1/2025 – 12/1/2029 Assumptions: Done through vendor with approved voucher platform
• *Task 9:* Revise Program Guide, materials and application as necessary Anticipated Dates: Biannually. Assumptions: Based on revision schedules for existing CHEAPR program.
Task 10: Quality Assurance Project Plan (QAPP), Semi-annual and Final Report. (See Section 3c.)

Risks and Mitigation Strategies - *Medium and Heavy-Duty Zero Emission Vehicles Incentive*.
• *Risk 1:* Delays in vendor selection and contracting. Effect on GHG emission reductions: Emission reduction benefits would be delayed until the program is operational. Mitigation Strategy: Utilize pre-existing master contract with pre-approved vendors capable of program implementation. • *Risk 2:* Lack of available vehicles for purchase. Effect on GHG emission reductions: Reduced emissions benefits. Mitigation Strategy: Conduct outreach with OEMS and dealers to prepare for increased vehicle demand.
• *Risk 3:* Undersubscription. Effect on GHG emission reductions: Emission reductions less significant within overburdened or EJ neighborhoods. Mitigation Strategy: Establish tracking statistics and metrics used in CHEAPR program, which uses GIS resources to map voucher locations by CT town and ZIP code. Create targeted outreach in select neighborhoods and through the Connecticut Equity and Environmental Justice Advisory Council (CEEJAC). Consider increasing incentive levels.

Alignment with PCAP and Priority. (See cover page**.)** Priority: This measure was selected as a priority because, according to CTDEEP's most recent Greenhouse Gas Inventory, emissions from MHD vehicles

represent 53% of GHG emissions from the mobile source sector despite being only being 6% of on-road vehicles. This measure was highly cost-effective since public dollars are used to leverage private investment and provided a larger proportion of emissions reductions than other measures in the PCAP, while significantly reducing criteria air pollutants (CAPs) and hazardous air pollutants (HAPs).

• CPRG Goal: GHG reductions by 2030 and beyond. This measure will reduce GHG emissions 1,702,257 $MTCO_2e$ by 2030 and 9,021,823 by 2050 in the transportation sector, which is the largest GHG emissions sector at 40%.
• CPRG Goal: Community benefits. This program will reduce emission of fine particulate matter as well as oxides of nitrogen (NO_x), which is a precursor pollutant of ground level ozone. Three CT counties are in severe non-attainment of the EPA's 2008 National Ambient Air Quality Standards (NAAQS) for ozone and the remaining five counties will likely be reclassified to serious non-attainment under the 2015 ozone NAAQS. The CAP emission reductions from this program help the state meet its clean air obligations to EPA. (See section 4a.)
• CPRG Goal: Complement other funding sources: This funding will complement other funding sources for MHD electrification, including federal Diesel Emissions Reduction Act (DERA) as supplemented by Volkswagen (VW) NO_x Mitigation, federal National Electric Vehicle Incentive program (NEVI), and stand-alone VW NO_x Mitigation funding. CT also anticipates utility-funded infrastructure funded through ongoing the state's Public Utility Regulatory Authority (PURA) efforts. (See Section 1b.)
• CPRG Goal: Innovation and replicability: In 2022 CTDEEP assessed the benefits of transforming MHDs through increased electrification and the adoption of the California MHD standards. The assessment outlined the significant benefits that would accrue including a reduction in criteria, and GHG emissions, the creation of economic benefits, and an estimated $1.4 billion savings in avoided health costs in CT. The State has not yet adopted California's MHD Advanced Clean Trucks (ACT) electrification targets. Until a regulatory framework is in place, market-driven demand-inducing programs will ensure that early adoption of MHD electrification is not stalled by the significant price differential between internal combustion engine (ICE) and ZEV MHDs. (See Section 1c.)

(2) Idle Reduction for the CTDOT Crash Unit. Our second proposal also focuses on the high-emitting MHD transportation sector. CTDEEP will partner with the CT Department of Transportation's (CTDOT) to purchase Idle Reduction ZeroRPM® systems for 144 trucks that have built-in crash protection called truck mounted attenuators (TMAs). ZeroRPM® energy modules use lightweight lithium-ion batteries. The unit can be charged using power from an alternator, solar panels, or other power source. CT will pair them with solar units. The TMAs protect highway crews and drivers during road construction and repair. Because construction takes place over long periods, these trucks must idle all day to provide power for warning lights, signage, and other truck-mounted equipment. Each truck idles for 262 days and over 2,000 hours per year. The ZeroRPM® system would provide power for lights and signage, eliminating the need for idling for 144 trucks.

TMAs with ZeroRPM® systems will prevent idling and reduce fuel consumption, GHG emissions, CAPs and HAPs throughout CT. Crash unit devices will no longer require diesel engines for work zone protection alongside tree work, fence repair, traffic control, asphalt patching, and storm cleanup. Eliminating this idling will provide a direct positive health benefit for the workers performing maintenance tasks over the course of an 8-hour shift as well as any roadway users stuck in traffic. CTDOT will achieve GHG reductions during daily TMA usage that occurs along CT's highways, as well as in urbanized areas**.**

Tasks and Milestones - *Idle reduction for the CTDOT Crash Unit. (Nov. '24-Nov. '29).*
• *Task 1:* Program Manager Selection. Anticipated Dates**:** 12/1/2024. Assumptions: Funding availability.

• *Task 2:* Place orders and Disburse funds for purchase of TMA trucks. Anticipated Dates: 12/2024 through 6/2025. Assumptions: Concurrent orders for purchase, delivery timeline can vary according to production delays.
• *Task 3:* Training and implementation. Anticipated Dates: 7/1/2025 – 12/1/2026. Assumptions: Delivery and acceptance of TMA trucks ready for implementation into service.
• *Task 4:* Educate and provide technical reporting. Anticipated Dates: 7/1/2025-12/1/2029. Assumptions: All TMA will be received and in service.
• *Task 5:* Quality Assurance Project Plan (QAPP), Semi-annual and Final Report. (See Section 3c.)

Risks and Mitigation Strategies - *Idle reduction for the CTDOT Crash Unit.*
• *Risk 1:* Production and delivery delays. Effect on GHG emission reductions: Delays in production and delivery would reduce GHG emissions reduction benefits in years 1 and 2 since reductions are realized once the TMAs are on the road. Mitigation Strategy**:** Work with manufacturers to time-base deliver TMA trucks to not create backlog of in service and use. • *Risk 2:* Location of use. Effect on GHG emission reductions: Emissions reductions in urbanized areas may be reduced when the TMAs are not used in urban areas. Mitigation Strategy: Tracking usage within urbanized areas. Train end user to target use in urban areas.

Alignment with CTDEEP PCAP (See cover page.) Priority: This measure was selected as a priority because CTDOT uses TMAs the most of any equipment it owns and operates. The ZeroRPM® system can eliminate up to 2,096 gallons of fuel consumed and $6,288 in costs per year, per truck. By reducing truck idling, TMA exhaust emissions would decrease, which can improve air quality, including in already overburdened LIDACs. This decrease can lead to a reduction in respiratory issues such as asthma, which low-income households may be more susceptible to due to factors like limited access to healthcare resources and because these communities are already overburdened by air pollution from multiple stationary and mobile emissions sources. This measure lowers CTDOT's carbon footprint by reducing GHG emissions, maintenance costs, and noise, while maintaining the scope of the Department's highway maintenance without reducing services. This measure could be implemented within the first two years of the grant period, was reasonably cost-effective compared to other measures in the PCAP, and significantly reduced GHG emissions, CAPs, and HAPs.

• CPRG Goal: GHG reductions by 2030 and beyond. This measure will reduce GHG emissions 13,188 $MTCO_2e$ by 2030 and 37,056 $MTCO_2e$ by 2050 in the transportation sector, which is the largest GHG emissions sector at 40%. CTDOT has 48 Maintenance Garages, 4 Electrical Units, 6 Bridge Units, and 4 Signs and Marking Units that all require use of TMAs. Current crash unit devices require the truck to idle to maintain the operation of warning light system and directional arrows for work zone protection while completing various maintenance to State roads. Diesel engines consume 0.9 to 1.2 gallons of diesel fuel for every hour idled. A gallon of gasoline and a gallon of diesel fuel produce 18.95 lbs. and 22.06 lbs. of CO_2, respectively. This translates to a reduction of 31 tons of emissions per 8-hour shift per vehicle.
• CPRG Goal: Community benefits. LIDACs located along major highways such as I-84, I-95, I-91, I-684 and others will benefit from reduced emissions. These communities include ones in New Haven, Bridgeport, Hartford, Waterbury and more. Around 554 LIDAC block groups are located near at least one major roadway. In addition to TMAs reducing GHG emissions, there would be an associated decrease in health risks and noise pollution from the trucks no longer idling for 8 hours per workday. Low-income households will benefit from this reduction in the long-term environmental impacts that may disproportionately affect vulnerable communities. (See Section 4a.)
• CPRG Goal: Complement other funding sources. The $10 million from a general fund allocation to establish a CT MHD ZEV incentive program, expanded with additional funding from the CPRG, can be

paired with the USEPA Clean Heavy-Duty Vehicle Program, that will replace high-emitting heavy-duty vehicles with clean, zero-emission vehicles, as a complementary potential funding source for this GHG reduction measure. (See Section 1b.)

• Innovation and replicability. ZeroRPM® idle reduction technologies utilize an APU battery auxiliary power with managed engine start and stop, charged with renewable solar energy, and effectively takes a diesel-driven MHD truck and converts it to a ZEV while maintaining its work function. This technology is replicable across all types of trucks (e.g. firetrucks, utility trucks, ambulances, etc.) and equipment to reduce emissions, noise, as well as operating and maintenance costs. (See Section 1c.)

(3) Expansion of Health and Safety Barriers Program and Energy Efficiency Programs. As with its proposal to expand the existing CHEAPR program to cover MHD vehicle, here, CTDEEP proposes to build on its proven successes by (i) adding funding to CT's established Residential Energy Preparation Services (REPS) program and (ii) providing increased energy efficiency services to low-income households. CT's REPS program removes health and safety barriers (asbestos, mold, knob-and-tube wiring, etc.) that prevent weatherization projects (such as insulation and air sealing) in income-eligible households. Additional funding would enable REPS to expand beyond its current ~600 homes across CT and ensure these homes get weatherized and GHG emissions reduced. REPS is essential since households are ineligible for weatherization assistance when certain barriers are present. Likewise, increasing energy efficiency improvements such as insulation, air sealing, and HVAC and appliance upgrades, including ENRGY STAR-rated appliances in low-income homes can be accomplished by leveraging CT's nation-leading energy efficiency programs which are critical to enhancing grid and building resilience. Funding to (i) expand REPS and (ii) funding to support low-income building energy efficiency improvements will help CT's most vulnerable populations reduce their energy burdens while lowering GHG emissions and criteria air pollutants.

Program structure. (i) REPS would remediate barriers preventing weatherization such as: asbestos or asbestos-like material, vermiculite, mold, moisture control, lack of exhaust/ventilation, knob and tube wiring, minor roof repairs, lack of smoke or carbon monoxide detectors, minor grading for drainage, gutters/downspouts, dysfunctional or lack of sump pump, presence of pests, radon mitigation, air exchange issues such as filtration and indoor air quality (IAQ) issues, and issues identified via combustion testing. (ii) Energy efficiency measures for low-income households would include weatherization measures, heating, ventilation, and air conditioning (HVAC) related upgrades, water heating efficiency measures, and energy efficient appliances. In both programs, low-income is defined as 60% state median income (SMI) or lower, and various methods for ensuring income eligibility are accepted.

Measures would be provided at 100% cost-coverage and recommended after an initial home energy assessment by a qualified energy auditor. Although CT has existing energy efficiency programs, demand for these programs – especially the low-income 1-4-unit programs – has far outstripped available funding. For example, one investor-owned utility overspent its energy efficiency budget by over $22 million in 2023 due to increased demand. Unfortunately, CT has been unable to identify sufficient funding to meet this increased need. Therefore, DEEP is confident that CPRG funds would unlock energy efficiency improvements in low-income households.

Where possible, CTDEEP will leverage existing energy efficiency and REPS program rules and processes to ensure a seamless program participant experience. Funds would cover the costs of energy/health & safety assessments, measure or remediation costs, and program administrative tasks including data and project management. Funding for measure cost-coverage would go directly to contractors completing the work. Funding for REPS will provide services state-wide and in Tribal Nations.

CPRG Safeguards for No Same Measures Same Location. Energy efficiency services will be provided statewide but not within Tribal Nations as some tribes are seeking CPRG funds to implement their own energy efficiency programs. Coordination between the CT COGs/MSAs and CTDEEP will ensure no measures will be funded in the same location (see Letters of Commitment) and safeguards will be in place to prevent this situation for the CTDEEP-led *New England Heat Pump Accelerator* coalition as well.

Tasks and Milestones - *Expansion of Health and Safety Barriers Program and Energy Efficiency Programs. (Nov. '24-Nov. '29).*

Task 1: Program Implementer Contracting. Task Description: An existing contract with the competitively selected REPS program administrator will be amended to add funding for the program. Similarly, a contract(s) will need to be established with a qualified energy efficiency implementer(s). Anticipated Dates: Completed by Month 4 (4/30/2025). Assumptions: The timeline for executing amended or new contracts assumes that DEEP will complete a competitive Request for Qualifications (RFQ) prior to EPA awards.

• *Task 2:* Creation of Program Coordination Processes. Task Description: Should new energy efficiency program implementer(s) be awarded a state contract, coordination with existing programs will require clear process flow documents to ensure a seamless participant experience. Anticipated Dates: Completed by Month 7 (7/30/2025). Assumptions: This task will not be necessary for REPS funding. It may be necessary for direct energy efficiency funding.

• *Task 3:* Program Delivery. Task Description: During the program delivery period, qualified low-income households will receive weatherization barrier remediation services through REPS and will receive recommended energy efficiency upgrades at zero cost. DEEP estimates that over 2000 more units will receive energy efficiency upgrades with the requested CPRG funding ($22.9 million) Anticipated Dates: For REPS: 5/1/2025 – 12/1/2029 / For Energy Efficiency Funding: 8/1/2025 – 12/1/2029. Assumptions: The estimated number of homes to be served through this task is based on current average costs per unit. It is assumed that these costs will not change during the grant period.

• *Task 4:* Continuous Monitoring. Task Description: Under existing energy efficiency and REPS program rules, a minimum of 10% of all served homes receive either in-progress or post inspections to ensure quality. Anticipated Dates: For REPS: 5/1/2025 – 12/1/2029 / For Energy Efficiency Funding: 8/1/2025 – 12/1/2029. Assumptions: DEEP will ensure that existing program monitoring minimums are continued over the lifetime of this grant.

• *Task 5:* General Administration & Management. Bi-Weekly Team Meetings. Task Description: DEEP currently meets with energy efficiency and REPS program administrators every other week. These meetings will continue and will explicitly include CPRG funding use topics. Anticipated Dates: Bi-weekly throughout program implementation. Assumptions: Assumes CPRG oversight can be combined into existing meetings. DEEP will schedule additional meetings as needed.

• *Task 6:* General Administration & Management. Semi-annual Reporting to EPA & Data Management. Task Description: Throughout the award, DEEP will receive monthly data reports from program implementers and will ensure that all necessary data/information is provided to EPA as needed. Anticipated Dates: Monthly & Semi-annual. Assumptions: Assumes that EPA will provide necessary data reporting templates/formats.

• *Task 7:* Quality Assurance Project Plan (QAPP), Semi-annual and Final Report. (See Section 3c.)

Risks and Mitigation Strategies - *Expansion of Health and Safety Barriers Program and Energy Efficiency Programs.*

• *Risk 1:* Large changes in energy efficiency measure or remediation measure prices. Effect on GHG emission reductions: If the average cost per unit served drastically increased, the total GHG emission reductions achievable with the CPRG funds would decrease. Mitigation Strategy: On an annual basis,

prices are established through a competitive process. The REPS program is also governed by a maximum cost per unit and an average cost per unit that help to ensure program funds serve a minimum number of units. Energy efficiency programs also have caps for certain energy efficiency upgrade costs. • *Risk 2:* Unexpected drop in program demand. Effect on GHG emission reductions: Should significantly fewer low-income households seek energy efficiency services during the grant period, the total GHG emissions reductions achieved could be lower than anticipated. Energy efficiency demand has historically been correlated with higher energy prices in CT, so price drop may impact energy efficiency demand. Mitigation Strategy: Although this risk is small – demand for energy efficiency in CT currently outstrips the CPRG funds requested – DEEP would increase program marketing and outreach if demand appeared to wane. Funding could also be shifted to specific low-income sectors, such as multifamily housing, if demand in different sub-sectors was higher.

Alignment with CTDEEP Priority Climate Action Plan (PCAP) (See cover page)**.** Priority. This measure was selected as a priority because energy efficiency improvements, and overcoming health & safety barriers to efficiency, not only significantly reduce GHG emissions and criteria air pollution, but are critical to improving energy affordability and environmental justice for CT's disadvantaged communities. By reducing the amount of energy, especially fossil fuels, used in homes, this measure will reduce combustion pollution and reduce strain on the regional electric grid. Existing energy efficiency and barrier remediation programs can also be readily leveraged in CT to deploy awarded CPRG funding quickly and efficiently. These existing programs have much higher demand than funding, which will help ensure that all awarded funds are fully utilized. This measure was reasonably cost-effective compared to other measures in the PCAP while also reducing GHG emissions in the state's second largest source of emissions in the buildings sector. This measure stood out as the greatest opportunity among the PCAP measures to maximize benefits to LIDACs because these communities largely cannot receive weatherization services if this measure is not expanded with CPRG funds.

• CPRG Goal: GHG reductions by 2030 and beyond. This measure will reduce GHG emissions 6,312 $MTCO_2e$ by 2030 and 30,658 $MTCO_2e$ by 2050 in the buildings sector, which is the second largest GHG emissions sector at 30% due to the combustion of fossil fuels in buildings. CT is not on track to reduce these building emissions in line with state goals of 80% reduction by 2050. Demand for existing CT energy efficiency programs has outstripped available funding. In 2023, one program administrator experienced demand $22.4 million above available budgets. Although demand – especially in the residential and HVAC programs – exceeds available funding, CT's energy efficiency programs were able to weatherize over 40,000 homes in 2023 and avoided over 1.26 metric million tons of CO_2 emissions over the lifetime of the installed energy efficiency measures.
• CPRG Goal: Community benefits. By targeting these funds to low-income residents, DEEP expects to reduce GHG emissions, local criteria air pollutants, and energy burdens and health & safety risk exposure for CT's most vulnerable populations. (See Section 4a.)
• CPRG Goal: Complement other funding sources. DEEP will braid CPRG funds with existing resources, including funds from ratepayers, the American Rescue Plan, the Low-Income Home Energy Assistance Program (LIHEAP), and the Regional Greenhouse Gas Initiative (RGGI). Wherever possible, DEEP will seek to use existing funds to support administrative costs, allowing more CPRG monies to directly support upgrades that reduce GHGs reductions through weatherization. (See Section 1b.)
• CPRG Goal: Innovation and replicability. CT's approach is readily replicable across many jurisdictions and is best delivered at the state level due to variability in building construction. Many states have existing energy efficiency programs and are looking to replicate CT's nation-leading barrier remediation approach. If replicated, CT's approach will unlock weatherization and GHG reductions for low-income households across the country. (See Section 1c.)

(4) Food Waste Diversion. CTDEEP proposes diverting food waste to enforce compliance with CT's Commercial Organics Recycling Law and to fund food waste diversion programs and composting infrastructure for CT municipalities.

Wasted food is the single most common material landfilled and incinerated in the United States. Food waste makes up approximately 22% (or 500,000 tons) of the municipal solid waste (MSW) tonnage that CT pays to incinerate or bury in landfills each year. This heavy, wet organic material is valuable if diverted from disposal. Currently, CT is diverting only about 5% of food waste to composting and anaerobic digestion facilities. Landfilling and incineration are among the least preferable pathways for disposal of wasted food. Due to its quick decay rate, food waste in landfills contributes to more methane emissions than any other landfilled material. An estimated 58% of the fugitive methane emissions from municipal solid waste landfills are from landfilled food waste. When incinerated at waste to energy facilities, wasted food makes for a poor feedstock due to its moisture content, and it produces little energy compared to other municipal solid waste.

CT's Commercial Organics Law requires that commercial and institutional generators that produce more than 26 tons of food waste per year are required, or will be required by January 1, 2025, to separate and divert food waste for composting. According to EPA's Excess Food Opportunities Map, CT institutions generate an estimated minimum of 98,189 tons of excess food annually. However, only about 26,000 tons of CT-generated food waste (including those from non-commercial sources) were reportedly diverted to composting or anaerobic digestion in 2022.

Program structure. Funding for this measure will be used for municipal collection programs and composting infrastructure for food waste diversion. Building upon the successes of CT's Sustainable Materials Management (SMM) grant program, this measure will fund municipal programs to set up separation and collection of food wastes through transfer station drop-offs, co-collection, or separate curbside collection of food wastes, diverting an estimated 16,012 tons per year by Year 5. Municipalities may also apply for funding to build composting infrastructure, such as aerated static piles or windrow composting, to ensure that sufficient capacity exists for the additional separation of food wastes in areas that do not have access to existing regional infrastructure.

Additionally, part of the funding for this measure will be used to fund two Environmental Analyst positions to provide compliance assurance and enforcement of generators who are subject to the Commercial Organics Law. These positions will, over the course of the 5-year grant period, reach all estimated 1,255 generators potentially subject to the law and ensure compliance with the Commercial Organics Generator Law diverting an estimated 98,189 tons per year by Year 5.

Tasks and Milestones - *Food Waste Diversion (Nov. '24-Nov. '29).*

• *Task 1:* Hire two Environmental Analyst 2 positions. Anticipated Dates: Positions to begin 7/1/2025. Assumptions: Sufficient interest.

• *Task 2:* Provide Compliance Assistance to Institutions and take appropriate enforcement. Anticipated Dates: Contact 250 institutions per grant year for compliance assistance. 25 enforcement actions per year starting 7/1/2026. Assumptions: Institutions are receptive to compliance assistance. Enforcement actions yield positive results.

• *Task 3:* Grants Program Administrator Contracting - RFP for grant administration to oversee subawards for municipal collection and composting infrastructure. Anticipated Dates Contract in place starting 7/2025. Assumptions: Sufficient RFP response.

• *Task 4:* Solicit Applications for subawards. Anticipated Dates: Applications from municipalities for first round of funding due 7/1/2025. Subsequent rounds of funding due July 1 of each grant year.

Assumptions: Sufficient interest from municipalities and ability to continue to fund programs after grant period ends.
• *Task 5:* Technical Assistance Contracting. Anticipated Dates: Contract in place starting 7/1/2025. Assumptions: Sufficient RFP response.
• *Task 6:* Quality Assurance Project Plan (QAPP), Semi-annual and Final Report. (See Section 3c.)

Risks and Mitigation Strategies - *Food Waste Diversion*
• *Risk 1:* Municipalities are unable or unwilling to participate. Effect on GHG emission reductions: Limits reductions to participating towns. Mitigation Strategy: Sufficient advertising of the program with potential for overall cost savings when paired with Unit-Based-Pricing or other program to reduce overall waste. • *Risk 2:* Municipalities are unable or unwilling to continue with programs after exhausting grant funding. Effect on GHG emission reductions: Emissions reductions would return to baseline after grant period. Mitigation Strategy: Require an upfront commitment to uphold program after grant funding is completed.

Alignment with CTDEEP Priority Climate Action Plan (PCAP) (See cover page.) Priority. This measure was selected as a priority because staffing compliance assistance and enforcement was a highly cost-effective way to reduce food waste tonnage in the waste stream and thereby reduce emissions compared to other measures in the PCAP. This was also the only measure that impacted the waste crisis while reducing GHG emissions. About 30 years ago CT made a conscious decision to shift away from landfills toward waste-to-energy facilities for waste that requires disposal rather than recycling. For a long time, CT was managing virtually 100% of our waste through those waste-to-energy facilities, but they have been located in LIDACs. Given environmental justice, age and high cost of operations considerations, a decision was made to shut down the facility in the LIDAC of Hartford. CT was once shipping out 17% of its waste. That number has grown to 40% since the facility's closure. Transportation costs and other fees make handling trash like this more expensive than in-state disposal. CT's municipalities and their residents are bearing the costs through local taxes. DEEP launched the SMM to provide financial resources to municipalities to cut back on the trash CT citizens are generating in the first place and to ultimately bring waste back to levels that can be dealt with in-state. Expanding the SMM pilot through CPRG was a high priority for municipalities due to the immediate impact on residents and the benefits of GHG reductions.

• CPRG Goal: GHG reductions by 2030 and beyond. This measure will reduce GHG emissions in total of 95,531 $MTCO_2e$ by 2030 and 701,699 $MTCO_2e$ by 2050. Establishing compliance assistance for institutions under the Commercial Organics Law provides a GHG reduction of 70,986 $MTCO_2e$ by 2030 and 554,993 $MTCO_2e$ by 2050. Establishing municipal composting infrastructure and food waste diversion programs provides a GHG reduction of 24,545 $MTCO_2e$ by 2030 and 146,706 $MTCO_2e$ by 2050. Since CT does not have landfills in the state, the emissions reductions have a multi-state impact because effectively CT is shipping its waste and their emission out-of-state.
• CPRG Goal: Community benefits. This measure is expected to reduce $PM_{2.5}$ from the combustion of waste, although primarily out of state. Diverted food waste is expected to reduce the amount of waste exported from CT because CT no longer has landfills. A study conducted for the State of Maryland found that composting facilities employ 13 more workers than incinerators and landfills per 10,000 tons of food waste diverted. The measure may create additional jobs associated with sorting and transportation of food waste to dedicated facilities for recycling the material. (See Section 4a.)
• CPRG Goal: Complement other funding sources. This measure will build upon the success of the current SMM grant, which is providing funding for municipalities to pilot food waste diversion programs.

Additional future funding opportunities may be leveraged to expand the municipal food waste diversion programs statewide. (See Section 1b.)

• CPRG Goal: Innovation and replicability. As more municipalities and commercial institutions adopt food waste diversion programs, barriers to participating in such programs will be reduced. Increased demand and a reliable clean feedstock of food waste will incentivize building new infrastructure and encourage existing facilities to invest in expansion. Costs associated with hauling, sorting, and processing food waste will lower and program accessibility will increase. The existing SMM pilots have shown that as residents separate food waste, they also tend to reduce overall waste generated and increase overall diversion through more educated and therefore increased recycling rates. As organizations subject to the Commercial Organics Law begin to quantify their food waste generated, they may donate more of the excess food, which will decrease costs for disposal/diversion and provide even greater GHG emissions reductions while feeding more people. All of the activities in this measure are replicable and scalable to additional towns and states. (See Section 1c.)

1b. DEMONSTRATION OF FUNDING NEED

CTDEEP and our partner CTDOT have pursued federal and state grants, tax incentives, and funding sources to implement the four proposed GHG reduction measures. Nevertheless, CPRG implementation funding remains necessary because these complementary sources either are insufficient in amount or restricted in scope. The following list includes federal and non-federal funding sources that CTDEEP has applied for, secured, and/or will secure to implement each of the proposed GHG reduction measures, followed by an explanation of why CPRG funds are also needed.

(1) Medium and Heavy-duty Zero Emissions Vehicles Incentive and Charging*.* Successful MHD ZEV incentive programs in NY, MA and CA provide significant incentives averaging $150,000 per vehicle. CT has some discretionary and directed funding through the **Volkswagen Settlement**, **Diesel Emission Reduction Act (DERA) (EPA)**, and **state general fund allocations** that could be leveraged with **federal tax incentives for ZEV MHDs** and related charging infrastructure. But the subsequent program funding would not be sufficient to make meaningful progress towards meeting CT's GHG and air quality goals given the significant cost differential between ICE and ZEV MHDs. For example, **DERA** funding could only support purchasing 2-3 vehicles per year. The remaining **VW program** funds, if directed entirely to zero emission MHDs, could support purchasing 6-10 additional vehicles per year through 2028, at which point it will be exhausted. CTDEEP intends to apply for the **Clean Heavy-Duty Vehicles (CHDV) (EPA)** funding, which could be leveraged to amplify this proposed MHD incentive program. For ZEV charging, CTDOT participates in the **National Electric Vehicle Infrastructure Formula Program - NEVI (USDOT),** which will provide $52 million in formula funds to the state to build out charging along the highway corridors and received a **Charging and Fueling Infrastructure (CFI) grant (USDOT)** to expand CT's DCFC network by 96 stations, but that funding is for light-duty vehicles. The **federal MHD EV tax credits** provide a maximum allowable credit of $40,000 per MHD EV purchase and 30% of the cost per charger, up to $100,000. CT's experience with its light duty incentive program, CHEAPR, is instructive here. It shows that to become self-sustaining, the new MHD program should incentivize 10-15% new MHD sales each year to gain widespread support and potential institutionalization in state policy. As such, CPRG funding at the level proposed here is critical for CT to establish an MHD incentive program. Significantly more funding is needed to establish a transformative program like CHEAPR, which has helped propel new light duty EV sales in CT to over 11% a year. While CHDV, NEVI, CFI, and the MHD EV tax credits support our proposed MHD ZEV incentives, the additional CPRG funding is critical to offer incentives comparable to, if not higher than, those in NY and MA in order increase ZEV MHD uptake in CT; that is because manufacturers will likely first look to deliver zero emission MHDs into states like NY, MA and RI that have adopted CA ACT standards, which CT has not. The state also receives funding from the **Low or**

No Emissions Grants Program (Low No) (USDOT) to replace diesel buses with battery-electric. And the state intends to use formula funds for CT from the **Carbon Reduction Program (USDOT)** to reduce emission by replacing highway lighting with energy efficient LEDs and to install Coordinated Traffic Signal System (CTSS) with Connected Vehicle (CV) technology.

(2) Idle Reduction for the CTDOT Crash Unit. Despite the need for the transition to ZeroRPM® TMAs (See Sec. 1a), there are few relevant funding opportunities. CTDOT requires CPRG funding to purchase the Idle Reduction units since other funding streams are not eligible for this use. The funding explored below is not sufficient to purchase the ZeroRPM® systems for the CTDOT Crash Unit. Therefore, CPRG funds are crucial to the funding and success of this project. The delivery of a more sustainable fleet that upholds the safety of CT residents while safeguarding their quality of life through the adaptation of innovative technologies responsive to climate change and GHG emissions depend on an award. **Carbon Reduction Program (CRP) (FHWA)** funds are sub-allocated to different urbanized and rural areas throughout the State and do not break down into amounts that would easily fund this program. For example, the two smallest urbanized areas in CT are allocated less than $100,000 per year under the CRP, which is, less than half of the cost of one TMA. **Highway and Bridge Equipment Budget (CTDOT state bond funds)** is not suitable since the purchase of 144 crash attenuation trucks with idle mitigation systems would dramatically decrease CTDOT's fleet replacement budget. Purchasing the new TMAs from this funding source would negatively impact CTDOT's ability to replace fleet vehicles that are required for everyday state road maintenance and operations. CPRG grant funds are required to transition TMAs rather than depleting CTDOT's Highway and Bridge Equipment fund. The **Clean Heavy-Duty Vehicle Program (EPA)** funding could complement this GHG reduction measure.

(3) Expansion of Health and Safety Barriers Program and Energy Efficiency Programs. Demand for energy efficiency and weatherization barrier remediation far outstrips the available funding within CT. Approximately 23% of low-income energy efficiency program participants are deferred due to health & safety barriers–almost 700 homes per year. The current **federal ARPA** funding available for weatherization barrier remediation in CT is expected to remediate only about 625 homes in total (not annually). Likewise, in 2023, the state's largest utility energy efficiency program overspent its **ratepayer-funded budget** for its service territory by $22.4 million. This overspend was mostly isolated to residential program offerings, including the low-income focused program. CT used **ARPA** funds to launch the REPS program, but it is a one-time allocation and does not meet the demand. While increased federal funding for the **Weatherization Assistance Program (WAP) (DOE)** and **Home Energy Rebates (HER) (DOE)** will eventually help to lessen the budget gap between available state ratepayer dollars (which are statutorily capped) and program demand, the gap will not be fully filled by these other funding sources. **WAP** BIL funding is being used to establish a multifamily (5+ units) weatherization program, annual formula funding supports a 1–4-unit program. Expanding the REPS program is crucial to prepare households to participate in WAP, while additional funding for energy efficiency measures will better enable CT to meet energy efficiency demand not currently covered by WAP. **HER** funding was awarded to CTDEEP for early administrative funds to develop full applications for the remainder of its $99.4M allocation and to begin developing its programs. HER will help supplement energy efficiency funds in CT, but it is unlikely to provide 100% cost-coverage for all low-income efficiency measures and will not meet the high demand for energy efficiency upgrades across the state. **HER** cannot cover many of the health & safety weatherization barriers that prevent low-income households from installing energy efficiency upgrades. CT is using other federal funding sources, including the **federal IRA tax credits and loan monies,** to support moderate, market rate, and commercial & industrial energy efficiency improvements. But low-income households often cannot rely on loans and tax credits.

(4) Food Waste Diversion. CT initiated the **Sustainable Materials Management (SMM) grant program (state bond funds)** in 2021 following the release of the Comprehensive Materials Management Strategy and the CT Coalition for Sustainable Materials Management recommendations. These funds were to help municipalities and regional waste authorities initiate and scale up Unit-Based Pricing and/ or food waste collection programs. $10 million was appropriated to CTDEEP for pilot food scrap diversion programs and technical assistance. Nearly all appropriated funds have been expended/committed for SMM grant funding. While an excellent base, it could only fund 15 pilot programs. Additional funding is needed to realize significant diversion and GHG emissions reductions. The **Solid Waste Infrastructure Grant Program (state bond funds)** has an authorization of $15M to support municipal investment in existing solid waste disposal infrastructure. The bonding allocation is restricted to municipal upgrades or expansions of solid waste disposal facilities and will help municipalities potentially upgrade or expand existing transfer station infrastructure. CPRG funds would complement these funds to allow for expansion of the successful and desirable pilot projects to correlate with municipal infrastructure projects. CTDEEP has received funding from the **Solid Waste Infrastructure for Recycling (EPA)** grant that will provide a more agile data management system that can complementarily support tracking and measurement aspects of the CPRG grant, but this program does not directly implement GHG reduction strategies. CTDEEP has applied to the **Energy Efficiency and Conservation Block Grant Program (DOE),** but even if awarded these funds will be restricted to certain municipalities and will not fully implement our strategy.

1c. TRANSFORMATIVE IMPACT

The measures proposed in this application have the potential to create transformative impacts that lead to further significant additional GHG emission reductions.

(1) Medium and Heavy-duty Zero Emissions Vehicles Incentive and Charging*.* Reducing emissions from the MHD vehicle sector in CT is an essential strategy for meeting the federal health-based standards for ozone and to meet our GHG reduction goals. Of all mobile source emissions, MHD vehicles account for as much as 53% of emissions of nitrogen oxides and 25% of the GHG emissions from the transportation sector despite being only 6% of the vehicle fleet. CT has also estimated as much as $31 million in avoided health care costs through the electrification of the MHD fleet. Through this program, CT will be pioneering large scale electrification of MHD fleets, absent a regulatory driver, and exploring the value proposition of financial incentives for fleet owners. Additionally, a successful voucher program would have a multiplier effect by increasing MHD EV options in CT and reducing cost barriers that have had a chilling effect on MHD vehicle adoption and will create a replicable model for other jurisdictions.

(2) Idle Reduction for CTDOT Crash Unit. Replacing the existing TMAs operated by a diesel engine with Idle Reduction ZeroRPM® systems is a key strategy for increasing fuel efficiency and reducing diesel use for CTDOT's crash unit fleet. Transitioning CTDOT's TMAs to zero idling technology (IRT) will result in noticeable benefits, including fuel savings and a reduction in pollution, GHG emissions, noise, and engine wear, and a safer work environment for the CTDOT crew performing the road work. Since the main diesel engine is no longer required to power the TMAs, the CTDOT trucks will have a longer service life than their conventional counterparts. This will have a transformative impact by allowing CTDOT to embrace new and innovative technology. IRT will transform the crash unit by propelling the fleet ahead of the curve in demonstrated capability to upgrade existing assets with new innovative technology. Replacing diesel TMAs establishes CT's commitment to being a leader in green transportation technology. This technology can be utilized in local public works fleets as well as emergency vehicles such as ambulances and fire trucks and other vehicles that must idle as part of their regular operations, demonstrating the potential to scale-up and lower emission quickly.

(3) Expansion of Health and Safety Barriers Program and Energy Efficiency Programs. The buildings sector is CT's second largest source of GHG emissions. CT has an ambitious goal of weatherizing 80% of its housing stock by 2030. Low-income families in particular stand to benefit from the health benefits and utility bill savings delivered by energy efficiency upgrades such as insulation and air sealing. However, historically, low-income efficiency programs have been unable to overcome the more prevalent health and safety barriers found in low-income homes including asbestos, vermiculite, and mold. For this reason, CT was a pioneer in establishing a low-income weatherization barrier remediation program that reinstates a home into an efficiency program weatherization queue. CT's strong focus on low-income energy efficiency programs has increased the deployment of insulation in low-income homes by about 50% from 2019 to 2023. This success in a hard-to-abate sector achieved a 7,983 $MTCO_2e$ reduction in 2023 alone through energy efficiency programs. By expanding funding for both low-income energy efficiency programs and the weatherization barrier remediation program as proposed in this application, CTDEEP expects to achieve an additional 30,658 $MTCO_2e$ reduction in GHGs by 2050. CTDEEP's approach would also serve as a strong example for other jurisdictions. The scale of deferrals from WAPs due to health and safety barriers nationally is not yet known. However, state-level service providers have reported encountering deferrals in 15-60% of homes (MEEA & E4TheFuture, 2022). Starting in 2023, the DOE has been requiring all 57 WAP grantees to report such data. Scaling up CT's program now with CPRG funding can provide a national model for WAP nationally.

***(4) Food Waste Diversion*.** Diverting food scraps from disposal is a key strategy for reducing the tonnage of solid waste shipped out of state and one of the most impactful strategies for reducing methane emissions from landfills. These investments in compliance and in collection and processing infrastructure will transform the region's solid waste system by providing more available, cost-effective, and convenient strategies to divert food waste state and region wide. CT is one of only nine states with laws restricting food scraps from disposal. Improved compliance and demonstrable success with the Commercial Organics Law could trigger additional states to pass similar or more stringent laws, creating markets for larger regional food scrap processing infrastructure and hauling routes and multiplying GHG emissions reductions. As CT municipalities pioneer food scrap diversion programs across CT, diversion program templates, best management practices, options for collection, and other resources will be available to share across the state and nationwide and make it easier for additional states and towns to implement novel programs.

2. IMPACT OF GHG REDUCTION MEASURES

Table 1 provides estimates of the cumulative emission reductions in metric tons of carbon dioxide equivalent ($MTCO_2e$) anticipated from implementation of the proposed measure(s) per the program and budget included with this application for two time periods: 2025 – 2030 and 2025 - 2050. Further details on quantification methods, relevant assumptions, annual emission reduction estimates, and any uncertainties associated with the estimates are provided in the Technical Appendix to this application.

The measures to be implemented because of the CPRG funding will result in durable and long-term improvements to the transportation, building, and waste sectors. MHD ZEV incentives would encourage the uptake of zero-emitting trucks in service for 10 to 15 years. ZEV charging infrastructure incentives will spur installation of charging hardware, wiring, and electronics that will remain in service for 10 years and longer with periodic repair. Residential building upgrades will be long lasting and include insulation and air sealing, electric wiring upgrades, safe asbestos removal, minor grading and gutter work to reduce flooding, and other measures, all of which will provide sustained benefits. Insulation which will be installed or unlocked with CPRG funds has a minimum expected lifespan of 15+ years, while other measures such as HVAC and appliance upgrades often have expected lifespans of 10-15 years. The waste diversion measure would result in the construction of new composting facilities,

which can last for over 20 years, and long-term municipal waste diversion programs. CTDOT crash unit trucks, which will contain warrantied idle reduction systems, are expected to provide emissions reductions for at least 13 years of service.

Implementation of the proposal is highly cost-effective. The cost-effectiveness of the proposal, inclusive of all measures in this application, is $15.64 per ton of CO_2e for the cumulative emissions reductions achieved between 2025-2050 and $84.26 per ton CO_2e for the cumulative emissions reductions achieved between 2025-2030. Costs associated with each measure are detailed in the Budget Table spreadsheet accompanying this application.

Table 1 Cumulative GHG Emission Reductions Anticipated from Implementation of Proposed Measures

Priority Measure	**Cumulative GHG emission reductions (metric tons CO_2e)**	
	2025–2030	**2025–2050**
Medium and Heavy-duty Zero Emissions Vehicles Incentive and Charging	1,702,257	9,021,823
Idle Reduction for CTDOT Crash Unit	13,188	37,056
Expansion of Health and Safety Barriers Program and Energy Efficiency Programs	6,312	30,658
Food Waste Diversion	95,531	701,699
Total	**1,817,288**	**9,791,236**

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

The four highly effective, implementation-ready climate actions in this proposal, if implemented, will help CT meet its GHG emission reduction targets. Based on our analyses, we expect these measures to reduce CT's total GHG emissions by more than 9,517,237 $MTCO_2e$ between 2025 and 2050 while providing meaningful benefits to low-income and disadvantaged communities in the state, including cleaner air, high quality jobs, climate-resilient homes, and lower energy bills.

We designed measures that reduce emissions in the sectors that emit the most CO_2e in CT. Our latest GHG Emissions Inventory notes that approximately 30% of CT's economy-wide emissions are from combustion of fossil fuels in buildings. Medium- and heavy-duty trucks emit approximately 25% of CT's transportation-related GHGs. Since CT no longer landfills its waste, the state is shipping its GHG emissions out of state, which presents both an inter-state equity and a climate challenge; also, the state is currently experiencing a waste crisis. (See Section 1a "priority.")

3a. EXPECTED OUTPUTS and OUTCOMES*

**See Technical Appendix for calculations. Jobs are derived from studies provided in Section 4a.*

Outputs from this proposal include (community benefits marked as "CB"):

- Establishment of one new program to provide incentives for MHD ZEVs, which would include expanding a charging infrastructure program to include MHD ZEV chargers
- 400 medium- and heavy-duty ZEV chargers installed (CB)
- 404 medium- and heavy-duty ZEVs placed in service
- 144 DOT trucks equipped with zero idle emissions technology
- 1.25 FTE hired for expansion of REPS program
- 12 million gallons of diesel fuel reduced between 2025 and 2030
- Over 298,000 gallons of home heating oil reduced between 2025 and 2030
- Over 800 LIDAC homes will have health and safety barriers to weatherization removed (CB)
- 2,000 LIDAC homes with energy efficiency and weatherization upgrades (CB)

• 2 FTE hired for full enforcement of Organics Recycling Law
• 5 new composting facilities
• Establishment of food scrap collection programs that would reach an estimated 200,000 in households in 45 municipalities (CB)
• 150 individuals provided with workforce training and support services (CB)
• 5 LIDAC fellows supported per year for five years (CB)
• 25 community meetings or workshops in LIDACs (CB)
• 2500 participants supported with stipends in community workshops or meetings (CB)
• 10 semi-annual progress reports and 1 detailed final report

Outcomes from this proposal include (community benefits marked as "CB"):
• Reduction in over 1.82 million metric tons of GHG emissions by 2030
• Reduction in over 9.79 million cumulative metric tons of GHG emissions by 2050
• Reduction in annual criteria air pollutant (CAP) and hazardous air pollutant (HAP) emissions in 2030 (CB): NO_x – 4,210 tons; $PM_{2.5}$ – 85.6 ton; SO_2 – 21.6 tons; N_2O – 727.1 tons; CO – 2.1 tons
• Reduction in annual CAP and HAP in LIDACs in 2030 (CB): NO_x –1347.2 tons; $PM_{2.5}$ – 27.4 tons; SO_2 – 6.9 tons; N_2O – 232.7 tons; CO – 0.7 tons
•Up to $31 million in avoided mortality, heart attacks, hospital admissions, bronchitis, lost work, and asthma-related emergency room visits between 2025 and 2030 (CB)
• Up to $10 million in avoided adverse health effects in LIDACs (CB)
• Between 2025 and 2030, expansion of REPS and energy efficiency programs would reduce a cumulative 209,000 gallons of heating oil, 75,000 gallons of propane, 69,000 therms of natural gas, and 38,000 MWh of electricity in residences in LIDACs. These energy savings will reduce bills by more than $12 million in LIDACs between 2025 and 2030. These programs will also make those residences more comfortable and safer through the removal of knob and tube wiring and other electrical improvements, and improved climate resiliency through better air conditioning and heating. (CB)
• The MHD ZEV incentives and charging infrastructure measure will save a cumulative 42 million gallons of diesel fuel for owners of ZEV trucks between 2025 and 2030. Assuming $4 per gallon of diesel fuel, owners of ZEV trucks will save $168 million between 2025 and 2030. The idle reduction measure will save 2 million gallons of fuel between 2025 and 2030, saving DOT approximately $8 million, which can be spent to improve infrastructure.
• Bringing commercial generators into compliance with the Commercial Organics Law is estimated to remove nearly 100,000 tons of food scraps from the waste stream annually. Providing funding for municipal food scrap collection and composting infrastructure is estimated to remove over 16,000 tons of food scraps from the waste stream annually.
• Reduced exposure to hazardous air pollution or unhealthy ambient air quality (CB)
• Increased staff capacity to implement GHG reduction measures
• Enhanced level of community engagement, as measured by an increased number of ongoing actions to engage with organizations and residents of LIDACs, and other interested parties (CB)
• 723 high-quality jobs created throughout CT, with 290 in CT LIDACs (CB)
• 800 LIDAC homes with improved indoor air quality and/or fewer home hazards from the removal of asbestos, mold, vermiculite, pests, knob and tube wiring, addressing moisture/leaks and other health and safety barriers (CB)
• 2,000 LIDAC homes with increased resilience to climate change impacts due to weatherization improving indoor air temperatures for both extreme heat and cold weather (CB)

3b. PERFORMANCE MEASURES AND PLAN

CTDEEP has established the following performance measures to track progress of the implemented GHG reduction measures on a timetable. These performance measures are directly related to the GHG

reduction analyses that we developed for our CPRG PCAP. We will also track air quality in areas where measures are being implemented with CTDEEP's existing monitoring programs.

Tracking measures for:

(1) Medium and Heavy-Duty Zero Emissions Vehicles Incentive and Charging

- Number of applications to the program
- Number of incentives disbursed relative to the number of applications
- Placement of MHD ZEVs in service
- Number of chargers installed (CB)
- Annual electricity usage from installed chargers (utilization rate of chargers)

(2) Idle Reduction for the CTDOT Crash Unit

- Tracking to ensure that the 144 trucks are equipped with the idle reduction system on schedule
- Tracking and reporting on project expenditures and purchases
- Tracking of annual crash truck fuel consumption to verify reduced consumption

(3) Expansion of Health and Safety Barriers Program and Energy Efficiency Programs

- Number of unique units served by each program (REPS and energy efficiency) (CB)
- Costs, differentiated by type of weatherization barrier (e.g., asbestos, mold, vermiculite, pests) and type of efficiency upgrade (e.g., insulation, air sealing, HVAC upgrade) (CB)
- Funding expenditures against project milestones
- Energy saved by fuel type through efficiency and weatherization upgrades per home (CB)

(4) Food Waste Diversion

- Number of municipalities and Regional Waste Authorities participating (CB)
- Number of new facilities established to compost food scraps, or new contracts with existing facilities to recycle additional food scraps
- Tons of food diverted to new facilities and diverted from the waste stream (donation, animal feed, composting, anaerobic digestion)

CTDEEP will track progress for each performance measure by developing a spreadsheet reporting form for each measure. CTDEEP will provide a status update on each performance measure to EPA in the semi-annual reports and final report.

3c. AUTHORITIES, IMPLEMENTATION TIMELINE, AND MILESTONES

To invest the CPRG funding efficiently and effectively and ensure maximum GHG emissions while avoiding the uncertainty risk associated with obtaining new statutory authority, CTDEEP and its partners are implementing measures for which they have existing authority as further described below.

(1) Medium and Heavy-Duty Zero Emissions Vehicles Incentive and Charging. Implementing Parties: CTDEEP (Role – General Administration & Management, Outreach and Reporting) and contractor (Role - Voucher application review and Disbursements). Authority to implement. CTDEEP has authority to provide incentives for electric vehicles, including establishing and administering the Connecticut Hydrogen and Electric Automobile Purchase Rebate program (CGS 22a-202(b-d)). In addition, CTDEEP is authorized to award vouchers to support the deployment of ZEV trucks (ranging from 2-axle, single-unit trucks to multi-axle, multi-trailer trucks) and school buses (ranging from pick-ups and vans to 4-axle, single-trailer trucks; CGS 22a-202(d)). CTDEEP has authority to award vouchers for installation of EV chargers for all types of vehicles, including light-duty and medium-heavy duty vehicles (CGS 22a-201e).

(2) Idle Reduction for the CTDOT Crash Unit. Implementing Parties: CTDOT (Role – General Administration & Management, Implementation and Reporting) Program Manager (Role – Purchase order placement, Disbursements, Delivery follow-up, Reporting). Authority to Implement: CTDOT currently maintains the crash unit and has authority to purchase TMAs with ZeroRPM® systems for use in road construction to protect highway crews and drivers (CGS 13a-23(a) and (d)).

(3) Expansion of Health and Safety Barriers Program and Energy Efficiency Programs. Implementing Parties: CTDEEP (Role - General Administration & Management, Reporting) Program Implementers (Role - Coordination with existing programs, Program delivery, Monitoring and Inspections). Authority to Implement: CTDEEP addresses weatherization barriers through its existing REPS program. CTDEEP has authority to expand funding to address health and safety barriers to weatherization for residents and building owners (CGS 8-240a(c), as well as residential rental units (CGS 8-240a(d)). CTDEEP has existing energy efficiency plans and programs and authority to expand them (CGS 16-245m(d)(1-5).
(4) Food Waste Diversion**.** Implementing Parties: CTDEEP (Role - General Administration & Management, Reporting) Environmental Analysts (Role - Compliance Assistance, Enforcement actions) Grants Program Administrator (Role – oversight of subawards for municipal collection and composting infrastructure) Subawardees (Role – implementing municipal collection and composting infrastructure) Technical Assistance contractor (Role – provide technical assistance). Authority to implement**.** CTDEEP has authority to fund municipalities to implement food waste diversion programs, including construction of infrastructure (e.g., facilities for composting or anaerobic digestors; CGS 22a-241n), promote organic materials management (see CGS 22a-207(30)), and promote composting of solid waste (CGS 22a-241a).

Implementation Timeline and Milestones (See Section 1a for Timelines and Milestones.)
QAPP, Semi-annual and Final Reports. CTDEEP will submit semi-annual progress reports every six months and a detailed Final Report within 120 calendar days of the completion of the period of performance. The semi-annual reports will summarize technical progress, accomplishments, and milestones achieved including a description of outputs and outcomes, planned activities for the next six months, and a summary of expenditures to date. The final report will summarize the GHG reduction measures implemented; outputs and outcomes achieved; costs; total GHG emissions and other pollutants reduced (in general and in LIDACs); and community engagement. The report will also discuss the problems, successes, and lessons learned that could help overcome structural, organizational, or technical obstacles to implementing a similar project elsewhere. Timeline: QAPP – deliver by 1/1/2025. Semi-annual progress reports every six months starting May 2025 and a Final Report in March 2029 (120 calendar days from the close of the period of performance. Assumptions: Determination of whether QAPP is needed with EPA. November 2024 EPA Contract signed. (Final schedule for reporting will be established by EPA once the contracts are signed.)

4. LOW-INCOME AND DISADVANTAGED COMMUNITIES
4a. COMMUNITY BENEFITS
The implementation of the measures included in this proposal are anticipated to provide significant benefits to LIDACs. In CT, approximately 32% of the population lives in LIDACs (see Technical Appendix). Using EPA's CO-Benefits Risk Assessment (COBRA) screening tool, and apportioning these co-benefits to 32% of the population, we estimate that implementing these measures will result in ~$4.2 million to $10 million per year in avoided adverse health effects in CT LIDACs between 2025-2030. The improved health outcomes would result from lower CAPs emissions and result in fewer health effects such as mortality, asthma exacerbation, upper respiratory symptoms, hospital admissions for asthma, and nonfatal heart attacks. The measures would result in approximately 1,190 fewer restricted activity days, 200 fewer lost workdays, and 102 fewer incidents of respiratory and asthma symptoms in LIDACs. The measures will improve air quality, increase the comfort and resiliency of homes, reduce energy costs, and create jobs in LIDACs. All health co-benefits from emission reductions to LIDACs are estimated using EPA's COBRA screening tool outputs. These benefits are included in the descriptions below.
(1) Medium and Heavy-duty Zero Emissions Vehicles Incentive and Charging. By lowering the costs of purchasing MHD ZEV vehicles and building charging infrastructure, this measure would (i) address high upfront costs that are often barriers to lower-to-moderate income residents, (ii) cut emissions and co-

pollutants from larger vehicles that often operate in or near LIDACs, and (iii) lower fuel and maintenance expenses. The incentives will be prioritized in areas that receive a disproportionate share of emissions from these vehicles. Many LIDACs are near ports, distribution centers, and highways where exposure to diesel particulate and other harmful exhaust is considerably higher than in wealthier communities. The development of a truck charging network will not only lower diesel emissions by dispensing clean power for trucks but also will incentivize fleets to transition fully to electric trucks. The MHD ZEV and idle reduction measures will reduce CAPs and HAPs in LIDACs by approximately 2,203 cumulative tons between 2025 and 2030. Between 2025 and 2030, the MHD ZEV measure would reduce more than 1,389 tons of NO_x, 35 tons of $PM_{2.5}$, and 440 tons of volatile organic compounds emissions in LIDACs in CT, which equates to between $12 million and $31 million in health benefits to LIDACs in CT.

Installing and maintaining charging infrastructure would create a variety of high-quality job opportunities in fields such as electrical installation, maintenance and repair, charger assembly, general construction, software maintenance and repair, planning and design, and administration. Assuming 12 jobs are created for every million-dollar investment in charging infrastructure (*IEA Sustainable Recovery Report* 2020; *Zero Emissions Transportation Association* 2022), an investment of $4 million to install 400 new MHD EV chargers would result in ~48 full-time equivalent jobs in CT. CT would follow the federal goal of at least 40% of benefits going to LIDACs, which equates to ~19 jobs in LIDACs.

While the construction and maintenance of electric vehicles and charging infrastructure can create new job opportunities, it may result in job losses for traditional fossil fuel-dependent industries. To mitigate such impacts, retraining programs and new job opportunities are a critical part of this application (see workforce development below). CT is committed to equitable distribution of charging stations to avoid additional commuting burdens and range anxiety for LIDACs. Ensuring accessible infrastructure, particularly near multi-family buildings, would help address electrical system upgrade costs and potential landlord or owner resistance to installing charging infrastructure.

(2) Idle Reduction for the CTDOT Crash Unit. This equipment is used throughout the state including in urban areas such as New Haven, Bridgeport, Hartford, Waterbury and other LIDACs. TMAs usage also includes work zones on highways to protect highway workers and drivers from the dangers of collision. By reducing truck idling, exhaust emissions will decrease, which can improve air quality in cities and along highways where the majority of the LIDACs are located in the state. The reduction of truck idling can also improve the health of workers around this equipment. This idling reduction can in turn reduce respiratory issues such as asthma, which LIDACs may be more susceptible to due to factors like limited access to healthcare and being overburdened by air pollution from multiple stationary and mobile emissions sources. Due to reductions in CAPs, this measure reduces lost workdays, restricted activity days, and health effects such as upper respiratory symptoms and asthma exacerbation in LIDACs equating to an estimated cumulative savings of $272,000 to $613,000 from 2025 to 2030.

The battery storage system is produced outside of CT, however, CTDOT will likely hire a company to install these systems on the trucks. A study of municipalities installing other idle reduction technologies for emergency service vehicles indicates that a typical idle reduction system takes approximately 4 hours to install (Owens and Laughlin 2016). This means that installing 144 systems will require a total of 576 labor hours for installation. Additional hours may be required for installation training. With an allocation of 40% of benefits to LIDACs, there would be a potential of 230 labor hours over the full installation period in LIDACs. We do not anticipate any disbenefits for LIDACs.

***(3) Expansion of Health and Safety Barriers Program and Energy Efficiency Programs*.** Nearly a quarter of income-eligible homes have weatherization barriers that are also health and safety issues, such as mold, asbestos, and vermiculite. The remediation of these health and safety barriers can reduce rates of asthma and other medical conditions which are higher in LIDACs. Removing these barriers allows homes to be weatherized resulting in multiple benefits. Weatherization services such as installing insulation and air sealing offer benefits including energy savings and improved health. Weatherization may save

households thousands of dollars annually from mitigation of thermal stress (coldness) and arthritis, improved home productivity, and reduced fire risk.

LIDACs are more likely to have high energy burden and the installation of energy efficiency measures would reduce energy consumption and lower energy bills, which can help households afford other essentials without forgoing basic energy needs. Reducing energy consumption decreases emissions of air pollutants which improves regional air quality and can reduce the rate of asthma and other respiratory illnesses. Reducing energy consumption during extreme weather events can alleviate strain on the grid and benefit LIDACs through improved overall resilience and lower electricity costs. To mitigate potential economic impacts in the clean energy transition, efforts such as those taken by CT to establish a low-income discount rate can limit LIDAC energy cost burdens, recognizing that households in LIDACs often consume less energy compared to higher income households and industries.

The estimated monetized health benefits resulting from REPS and energy efficiency programs will save $55,000 to $141,000 in LIDACs between 2025 and 2030. Between 2025 and 2030, expansion of the REPS and energy efficiency programs would reduce a cumulative 209,000 gallons of heating oil, 75,000 gallons of propane, and 69,000 therms of natural gas in residences in LIDACs. In addition, approximately 38,000 MWh of electricity will be saved in LIDACs because of this measure. These energy savings will result in a reduction in energy bills of more than $12 million in CT LIDACs between 2025 and 2030. In addition to lowering energy bills, these programs will also make residents in LIDACs more comfortable and safer by removing knob and tube wiring and other improvements. The measure will improve climate resiliency by reducing the potential for leaks and moisture and by facilitating improved air conditioning and heating, which provide protection during extreme temperature events.

Expanding energy efficiency services would increase work opportunities in CT. CT already has a strong workforce in the energy sector (an estimated 70,000 employees), around half of which work in energy efficiency; expanding funding for energy efficiency programs would create more work for local contractors that often support economies in LIDACs. This measure will provide about $19 million towards energy efficiency that would go directly to contractors completing the work. This measure provides an opportunity to sustain high-quality local jobs in LIDACs. Direct jobs include construction contractors hired to install energy efficiency measures. Indirect jobs may include manufacturers and service providers that supply the building industry with products such as insulation and tools. When the workers from the direct and indirect industries spend their earnings on goods and services in the local economy, this creates induced jobs (American Council for an Energy-Efficient Economy, n.d.). A study by Garret-Peltier (2017) estimated that with every $1 million invested in energy efficiency, approximately 10.6 jobs are created. Investing a total of $19 million in energy efficiency will result in approximately 201 jobs. CT would follow Justice40 goals which would result in ~80 jobs in LIDACs. These energy efficiency jobs can provide professionals with practical skills and technical proficiency in areas including energy upgrade implementation and home inspections. In CT, multiple forms of job training are available, including building operation certification training through *EnergizeCT*, to support the creation of energy-efficiency service jobs in the state. The DOE WAP regards job creation as one of the program's greatest impacts and supports an annual 8,500 jobs nationally. The success of these programs in job creation, coupled with the high demand for REPS and efficiency in CT, especially the low-income single-family programs, demonstrates the importance of this measure.

Potential participants of REPS and energy efficiency programs may have perceived risks of these services being disruptive or producing unverifiable results. To mitigate these concerns, efforts can be made to provide more financial, technical, and educational support for energy efficiency improvements, increasing oversight of housing upgrades and increasing and improving workforce training.

***(4) Food Waste Diversion*.** Funding for food waste diversion programs and supporting the compliance with CT's Commercial Organics Recycling Law would reduce $PM_{2.5}$ from the combustion of waste. These reductions will likely occur out of state since diverted food waste is expected to reduce the amount of

waste exported from CT, rather than reducing waste landfilled or combusted in-state. Thus, we do not anticipate any reductions in co-pollutants in CT because of this measure. This measure holds the potential to reduce natural gas consumption in-state by potentially generating an equivalent amount of biogas and displacing the use of natural gas. Some economic benefits in LIDACs from establishing composting or anaerobic digesting facilities could include additional jobs at anaerobic digestion and composting facilities and transportation of food waste to such facilities in CT. For example, the Quantum Biopower anaerobic digestor facility in Southington CT created both construction jobs and up to 50 permanent employees. We assume 13 jobs are created with each 10,000 tons of waste diverted each year. Assuming 368,276 tons in 5 years, ~479 jobs could be created. An allocation of at least 40% of jobs to LIDACs, would result in ~191 jobs. These high-quality jobs include equipment operators for windrow turners, front-end loaders, grinders, and screeners. Additional jobs associated with transportation of food scraps to dedicated facilities for recycling the material and to staff anaerobic digesters in CT.

Progress report on LIDAC benefits and avoided disbenefits. All measures in this application are state-wide and are expected to benefit all LIDACs in CT. (See Areas_CTDEEP.xlsx attachment for a list of EPA Inflation Reduction Act (IRA) Disadvantaged Communities downloaded from the EPA EJScreen tool.) CTDEEP will assess, quantify, and report a thorough analysis of associated community benefits based on actual data collected during implementation, especially focusing on LIDACs. CTDEEP will track the deployment of all the proposed measures in and near identified LIDACs to quantify reduction in GHG emissions and co-pollutant emissions and other community benefits. Whenever possible, CTDEEP will compare baseline data on GHG emissions, co-pollutants, and health metrics within LIDACs to compare pre- and post-implementation impacts. This comparison may be completed by using community-based air monitoring sensors deployed in LIDACs through CTDEEP's sensor loan program, socioeconomic and environmental indicators' data from EPA's EJScreen tool, public health data from the CT Department of Public Health, and CT's GHG Inventory data. In addition, CTDEEP will report on the feedback that residents of LIDACs provide on benefits and avoided disbenefits in their communities through the community engagement and participant support costs program. (See Section 1b.) CTDEEP will include results of these assessments and engagement activities in the semi-annual reports and final report to EPA as described in the outputs, outcomes, and performance measures plan and make these reports available on CTDEEP's website. (See community benefits (CB) coded outputs, outcomes, and performance measures in Sections 3a and 3b.)

Workforce development. CTDEEP requests funding for high-quality workforce development activities tied to the implementation of the electric vehicle incentives and energy efficiency programs, including removing barriers to participation to benefit individuals in LIDACs. This workforce training in jobs related to electric vehicles, weatherization, and energy efficiency will be done in partnership with the CT Office of Workforce Strategy (OWS) and in consultation with the CT Department of Labor (CT DOL) (see Letters of Commitment). Both OWs and CT DOL have extensive experience administering workforce development programs and working with labor and union organizations and local workforce development boards. The RFP to implement the workforce development activities may include pre-apprenticeship programs with connections to one or more Registered Apprenticeship Programs; registered Apprenticeship Programs; joint Labor-Management Training Programs; paid internships; and partnerships with community colleges that award an industry-recognized credential. Using labor market data, trends from federal investment, and feedback from employers, OWS will partner with training organizations that provide certifications and industry-recognized credentials associated with targeted job roles. Training curricula will be vetted with employers. Organizations also will provide participants with supportive services required to enable them to participate in training,

which may include transportation, childcare, housing, food, technology, stipends, or other necessary services.

While CT State procurement requirements typically require us to select our partners for the workforce trainings - including the potential partners of worker representatives, including labor unions or worker centers and local workforce boards - through a competitive RFP process instead of as subrecipients in this application, CT's workforce ecosystem has the infrastructure and experience in workforce programs to seamlessly implement additional programming. The five regional Workforce Development Boards in CT work in tandem with OWS and DOL to help people earn industry recognized credentials and increase employment, retention, and earnings. This project will aim to promote the potential creation of certified pre-apprenticeship programs in concurrence with the federal Training and Enforcement Notice (TEN) 23-23 that, for state and federal purposes defines Quality Pre-Apprenticeship, throughout the region leading to enrollment in Registered Apprentice Programs (RAPs), which increases and improves industry engagement, diversity, equity, access, and innovation.

Tasks and Milestones - *Workforce Development Programs***.** Task 1: OWS selects program manager. Anticipated Dates: 12/2024. Assumptions: Funding availability. Task 2: OWS issues workforce training RFP. Anticipated Dates: 3/2025. Assumptions: Internal approvals to issue RFP. Task 3: Receipt of bids, selection of contractor, and development of scope of work with selected contractor. Anticipated Dates: 4/2025 - 7/2025. Task 4: Workforce development program begins and continues through period of performance. Anticipated Dates: 8/2025 – 8/2029 Assumptions: Contracting and RFP following timeline.

4b. COMMUNITY ENGAGEMENT

LIDAC input incorporated into the application. Built on prior long-term engagement in climate planning**:** The 2020-2021 CT Governor's Council on Climate Change (GC3) produced 61 recommendations, from which the measures in the PCAP and this application were drawn. The GC3 had 7 working groups, including an Environmental Justice working group, with 231 individuals from over 100 different organizations participating. (See CTDEEP's PCAP pgs. 42-44.) Online resources: Notifications were distributed via CTDEEP's CPRG webpage; email lists via CTDEEP's Climate Solutions Newsletter and other CTDEEP mailing lists; and social media (LinkedIn, Facebook and Instagram). Presentations and meetings: December 11, 2023 - Connecticut Equity and Environmental Justice Advisory Council (CEEJAC). The 18 CEEJAC members advise CTDEEP on addressing current and historic environmental injustice, pollution reduction, energy equity, climate change mitigation and resiliency, health disparities and racial inequity in the agency's programs; December 18, 2023 - public meeting presenting the 14 climate actions in CTDEEP's PCAP with opportunity for feedback at an accessible time (6 p.m.) and with simultaneous live Spanish translation. A recording is available in English and Spanish on the State's CPRG website; January 25, 2024 - meeting with the Bridgeport Regional Energy Partnership and MetroCOG to discuss project ideas, challenges and needs. Bridgeport is a LIDAC and CT EJ Community; February 27, 2024 - Heat pumps 101 and energy efficiency workshops with the North Hartford Partnership, Hartford. The North Hartford neighborhood is a LIDAC and CT EJ Community, and CTDEEP has been partnering with North Hartford on municipal and stormwater-related initiatives. (See outreach log in CTDEEP's PCAP pgs. 180-182.) CPRG LIDAC Advisory Group: The LIDAC Advisory Group played a crucial role in developing this CPRG application, tasked with ensuring that the proposed GHG reduction actions are beneficial, equitable, and responsive to LIDACs' specific needs. The group met monthly (November 2023 to March 2024) to update members on every step; members provided expert insights focusing on maximizing benefits, promoting inclusivity, and addressing the potential challenges and negative impacts of the proposed measures. This group's feedback ensured that the proposed actions not only contribute to GHG reduction but also align closely with principles of equity and justice in serving LIDACs. The six members all have lived experience or expertise on environmental justice within CT and all also serve on

the GC3 and its working groups. Three members also serve on the CEEJAC. (See Letters of Commitment and CTDEEP's PCAP pg. 37.) Public comment survey: CTDEEP created a survey to lower barriers to participation in the public comment process on CTDEEP's PCAP measures. This form allowed respondents to easily select from among option on a range of potential challenges and benefits posed by each measure. The form took about 10 minutes to complete, but respondents could spend more time providing detailed written responses to open-ended questions for each measure. This process was a success, with 326 individuals responding—including 59 self-identifying as from LIDACs. (See CTDEEP's PCAP pgs. 37, 170-179.)

Continued engagement with LIDACs. Funding for the measures in this application will support the State's ongoing efforts to curb emissions while also deepening community engagement that will create momentum for further climate pollution reduction actions. CTDEEP is committed to maintaining a continuous and dynamic engagement process with LIDACs throughout the implementation of the proposed GHG reduction actions. CTDEEP's approach is to fund a Participant Support Costs Program with a request of $2,587,500 in funding. The state will conduct a Request for Information (RFI) (November 2024) to inform the development of expected objectives for a community outreach and engagement strategy plan. The state will then likely conduct an RFP (January 2025) for a contracted third-party implementer that will develop and administer the Participant Support Costs program. This program would fund five fellows per year for five years and provide stipends for an estimated 100 individuals per meeting or workshop to participate in five meetings or workshops per year. Informed by the RFI process for the engagement strategy, an RFP for a third-party implementer would ask bidders to develop a Scope of Work (SoW) that presents a strategy for meaningful community involvement. A successful SoW will engage LIDACs frequently in all stages of the decision-making, implementation, and oversight processes; the goal is to ensure the design and performance of the measures are transparent, accountable, accessible, inclusive, and equitable.

CTDEEP recognizes the importance of creating a transparent planning process that also provides opportunities for early risk mitigation of potential negative impacts. This goal will be achieved by maintaining existing platforms and channels to share feedback, ask questions, and receive updates. Therefore, bidders will need to include in their SoW how the Participant Support Costs Program will complement and integrate with existing engagement efforts on these measures through advisory boards including CEEJAC; the Energy Efficiency Board (charged with evaluating, advising, and assisting the state's utility companies in developing and implementing comprehensive, cost-effective energy conservation and market transformation plans); State Implementation Plan Revision Advisory Committee (SIPRAC) (CTDEEP Air Bureau's standing advisory committee on CT's implementation of the Clean Air Act); and the Connecticut Coalition for Sustainable Materials Management (CCSMM) (a coalition of 90 municipalities from across the state that joined together to explore ways to reduce the amount of waste that is generated in our state, improve reuse, recycling, organics collection, support EPR legislation, and consider other innovative solutions). The SoW should also address how it will integrate with the CPRG Comprehensive Climate Action Plan to be released in summer/fall 2025. The fellows will serve as community liaisons between the DEEP CPRG-funded programs and LIDACs in the state, creating a dynamic feedback process. These fellows will attend and participate on the above standing and new advisory boards, councils or working groups. They may also organize and attend community meetings to share information with LIDACs. The stipends would support LIDAC residents to participate in those meetings. CTDEEP will ensure geographic diversity when selecting fellows.

All community engagement opportunities will be shared via publicly accessible lists, promoted with ample lead time, and scheduled at times that maximize public participation. CTDEEP will utilize the fellows to ensure that engagement strategies maintain the inclusion of various linguistic, cultural, institutional, geographic, and other perspectives throughout the project development and

implementation. Recognizing the critical importance of LIDACs in shaping effective and inclusive climate action strategies, the process will be organized around the four principles of public participation in the CTDEEP *Environmental Justice Public Participation Guidance* developed by the GC3's Equity and Environmental Justice Working Group in 2020 that was co-chaired by Marianne Engelman-Lado, then Yale Environmental Justice Clinic and former Acting Principal Deputy Assistant Administrator of the new federal Office of Environmental Justice and Civil Rights. CTDEEP will also follow EPA's guidance on *Capacity Building Through Effective Meaningful Engagement*. CTDEEP's Environmental Justice and Equity Office will also support this work. This office has recently expanded to a team of several staff led by an office director and supported by fellows, as well as two new tribal affairs hires and two openings that will be filled by health equity specialists.

5. JOB QUALITY

CTDEEP will ensure that CPRG funding supports quality jobs through the following strategies:

• Requiring employers, including contractors and subcontractors, to provide family sustaining benefits, including more expansive Family and Medical Leave protections than the federal program through, at a minimum CT's Paid Family and Medical Leave Act, which extends benefits to employers with 1 or more employees.

• Ensuring compliance with CGS § 31-104, which protects CT employees' rights to join a union freely and fairly and collectively bargain.

• Incorporating labor and job quality requirements into contracts associated with each measure, including 1) terms prohibiting the contractor from discriminating in hiring, promoting, or other terms and conditions of employment based on classes protected by both federal and the more expansive state laws, which classes include race, color, religious creed, age, marital status, national origin, ancestry, sex, sexual orientation, gender identity or expression, status as a veteran, intellectual disability, mental disability, or physical disability; 2) compliance with the state's affirmative action and sexual harassment policies; and 3) protections against workplace violence.

• Requiring health and safety plans that are developed in conjunction with workers, including antiharassment training for workers and management, OSHA training to minimize workplace hazards (e.g., OSHA 10 and OSHA 30), and supplemental health and safety training as needed.

• Focusing CPRG funding, especially for the weatherization barrier remediation and energy efficiency programs measure, on expanding existing, long-lasting programs that currently support a robust workforce of more than 34,000 energy efficiency professional and workers from across the state and region. These programs provide stable and predictable employment, and by gradually deploying CRPG funding over the available time horizon, CTDEEP seeks to sustain and bolster the employment opportunities they provide.

• Conducting a workforce development program in partnership with the CT OWS and CT DOL that will include pre-apprenticeship programs; this work may be conducted in partnership with labor organizations and other workers' rights groups, targeting our workforce development program to benefit individuals from disadvantaged communities, and providing supportive services, such as childcare and transportation assistance, for employees that need them. (See Section 4a and please note that CT procurement rules usually require that all non-governmental partners be competitively selected, and therefore no specific labor organizations were included as subrecipients in this application, but we intend to do outreach to them with our OWS and CT DOL partners.)

6. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE

6a and 6b. PAST PERFORMANCE and REPORTING REQUIREMENTS

• **Diesel Emission Reduction Act (DERA)** Assistance Agreement Number: DS-00A00174 Funding Agency: US EPA Assistance Listing Number: 66.040 DERA State Grants (CFDA) Description: This program funds grants and rebates that protect human health and improve air quality by reducing harmful emissions from diesel engines. Funding Agency Contact: Ms. Pujarini Maiti, phone: 617-918-1625, email: Maitl.Pujarini@epa.gov Status: DEEP has a history of success administering the DERA program since 2008. This specific award started its period of performance on 10/1/19 and is expected to end on 9/30/24. Reporting Requirements History: This grant has required quarterly programmatic reporting, quarterly cash drawdown minimum, and annual financial reporting. All financial and programmatic reporting has been satisfied over the course of the performance period to date. Additionally, CTDEEP has continually posted project selections and status reports on its website.

• **Brownfield grant program** Assistance Agreement Number: RP00A00819-0 Funding Agency: US EPA Assistance Listing Number: 66.817 State & Tribal Response Program Grants Description: CTDEEP was awarded this funding to administer to brownfield sites in CT to perform I) environmental assessments and II) cleanup activities. CTDEEP has encouraged applications that enable the creation, preservation, or addition of park space, greenways or other recreational space, or other property used for nonprofit purposes. Funding Agency Contact: William Lariviere, phone: 614-260-8526, email: Lariviere.William@epa.gov Status: CTDEEP will publicly announce its first round of grant awards to projects in 4 separate towns. Awardees will utilize the funds to conduct environmental investigation or environmental cleanup to render the subject properties suitable for redevelopment as greenspace or park space. Reporting Requirements History: CTDEEP has submitted timely interim bi-annual reports under this agreement summarizing project progress and providing detailed information on activities, products and deliverables, funds expended and the project schedule, among other topics.

• **Long Island Sound Study (LISS)** Assistance Agreement Number: 4S-00A01431-0 Funding Agency: US EPA Assistance Listing Number: 66.437 Long Island Sound Program Description: This grant program advances habitat restoration and access along the Long Island Sound (LIS) coast, river connectivity, integrated environmental characterization of LIS, water quality in embayments, and green infrastructure in the LIS watershed. Funding Agency Contact: Evelyn Spencer, phone: 617-918-1176, email: spencer.evelyn@epa.gov Status: Program supports multiple complex projects. Project is ongoing and progress has been reported as highlighted below. Reporting Requirements History: CTDEEP has timely submitted quarterly reports and meets regularly with EPA through the Long Island Sound Study workgroups, Implementation Team, and Management Committee. Progress toward achieving the expected outputs and outcomes, challenges to meeting expected outputs and outcomes during the reporting period, and strategies to address such challenges are discussed.

• **Water Quality Management (604b) awards** Assistance Agreement Number: C6-00100621-0 Funding Agency: US EPA Assistance Listing Number: 66.454 Water Quality Management Planning Description: Funds from this grant program are used to support the Clean Water Act. CTDEEP reserves and awards 40% of the funds to regional planning entities for projects that help meet CT's water quality goals and program priorities, and uses the remaining 60% of the funds for water quality management planning purposes and oversight. Funding Agency Contact: Bessie Wright, phone: 617-918-1679, email: Wright.Bessie@epa.gov Status: CTDEEP has received and managed Water Quality Management (604b) awards for over 15 years. The referenced award was successfully completed through the implementation of a carefully crafted and thoroughly reviewed work plan, 1 full-time staff devoted to the work of the project, full support of Bureau of Central Services for financial and administrative needs, and state matching funds at the disposal to supplement funds. Reporting Requirements History: All required financial and technical reports were filed timely and in accordance with the agreed-upon award. The work plan had details regarding Grant Administration, Reporting, CT Water Quality Reporting Standards, Stream Flow, and Water Use Data Collectables to help ensure the all-award objectives were met and reports were filed in an accurate and timely manner.

• **State Energy Program (SEP)** Assistance Agreement Number: DE-EE0008645 Funding Agency: DOE Assistance Listing Number: 81.041 State Energy Program Description: This grant supports CT's Comprehensive Energy Strategy (CES). These funds can be used to pay for projects that promote energy efficiency, energy security, or environmentally friendly economic growth. Projects are selected by DEEP in alignment with the goals of the Comprehensive Energy Strategy. Funding Agency Contact: Jason Nguyen, phone: 202-450-0524, email: jason.nguyen@hq.doe.gov Status: The project is ongoing and the grant ends on 6/30/2024. Most of the work funded through this grant has been completed, and the lead agency is currently finalizing payment to contracted entities. Reporting Requirements History: This work was successfully managed by the Bureau of Energy and Technology staff and its management team. CTDEEP submitted timely quarterly reports to DOE about progress toward achieving the expected outputs and outcomes, challenges to meeting them during the reporting period, and strategies to address such challenges. Regular monthly meetings were held with a designated DOE Project Officer.

6c. STAFF EXPERTISE

CTDEEP is charged with conserving, improving, and protecting the environment of the state of CT as well as making cleaner, and more reliable and affordable energy available for the people and businesses of the state. CTDEEP is highly unique among environmental agencies because the energy, environmental quality, and environmental conservation branches are in a single agency led by one commissioner. The state merged these functions in 2011 recognizing the climate crisis requires full integration of climate action with unified leadership. CTDEEP's organizational structure is optimal for the implementation of a CPRG grant. Measures implemented by the environmental quality bureaus—Air and Materials Management and Compliance Assurance–will be in the same agency as the Bureau of Energy and Technology Policy leading the expansion of health and safety barriers program and energy efficiency programs measure. Combined with a long-standing partnership between CTDOT and CTDEEP on climate, as exemplified by CTDOT's membership on the Governor's Council on Climate Change, chaired by CTDEEP, and the newer partnership with OWS and DOL on the Connecticut Clean Economy Council established in Executive Order 21-3, CT is a clear choice for implementing EPA's vision for the Climate Pollution Reduction Grant.

Full biographical sketches are appended to this application for the experienced CTDEEP and CTDOT staff listed in the budget worksheet and budget narrative for each GHG Reduction Measure.

7. BUDGET

CTDEEP requests **$153,133,413** to implement the four measures, community engagement, and workforce development. See attached Budget Narrative document and spreadsheet with itemized budget tables and a detailed description of the budget.

CTDEEP will expend and account for awarded funds in accordance with state laws and procedures for expending and accounting for the state's own funds. The financial management system of CTDEEP complies with the requirements of 2 CFR 200.302(b).

CTDEEP has a long-standing history of compliance with regards to grants terms and conditions. CTDEEP adheres to both policies set forth in the Connecticut State Accounting Manual as well as 2 CFR § 200 as a whole. It will continue to utilize procedures and tools already in place and modify certain procedural and staffing requirements to ensure the funds of Opportunity EPA-R-OAR-CPRGI-23-07 are used in accordance with the terms and conditions outlined in the award. A more detailed description of CTDEEP's approach, procedures, and controls for ensuring that awarded grant funds will be expended in a timely and efficient manner within the grant period is included in the Budget Narrative.