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# 1. Overall Project Summary and Approach

## i. Description of GHG Reduction Measures

The Southwest Connecticut Priority Climate Action Plan (PCAP) identifies 16 Priority GHG Reduction Measures across seven Action Areas<sup>1</sup>. Through the development of the PCAP, the Connecticut Metropolitan Council of Governments (MetroCOG) identified the following measures as implementation-ready opportunities at the regional-level:

- **Municipal Building Upgrades** (*Figure 1, Measure 2b*): Retrofit municipally owned buildings to improve energy efficiency and decrease reliance on fossil fuels.
- **Renewable Energy Generation, Use, and Storage** (*Figure 2, Measure 3a*): Increase the generation, use, and storage capabilities of renewable energy throughout the region.

### Municipal Building Upgrades

“Municipal Building Upgrades” was selected as a priority for the MetroCOG region because the measure presents a proactive approach for municipalities to lead by example and reduce GHG emissions in the building sector. In the Bridgeport-Stamford-Norwalk Metropolitan Statistical Area (MSA), stationary energy from all types of buildings makes up about 30% of the region’s total GHG emissions<sup>2</sup>. In the MSA, municipally owned buildings include schools, city and town halls, wastewater treatment plants, and public works stations. Retrofitting these structures represents a significant step towards regional GHG reduction goals.

A “retrofit” typically involves weatherizing, enhancing insulation, and installing energy efficient systems. Strengthening a building’s envelope (walls, windows, roof, and foundation) through these methods can reduce energy usage, which is especially important for the considerable number of older structures the region and can help match heating, ventilation and air

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<sup>1</sup> Connecticut Metropolitan Council of Governments, “Southwest CT Priority Climate Action Plan,” Priority Climate Action Plans for States, MSAs, Tribes, and Territories, March 1, 2024, <https://www.epa.gov/system/files/documents/2024-03/bridgeport-ct-msa-metrocog-swct-pcap.pdf>, 57-58.

<sup>2</sup> Connecticut Metropolitan Council of Governments, “Southwest CT Priority Climate Action Plan,” Priority Climate Action Plans for States, MSAs, Tribes, and Territories, March 1, 2024, <https://www.epa.gov/system/files/documents/2024-03/bridgeport-ct-msa-metrocog-swct-pcap.pdf>, 73.

conditioning (HVAC) systems appropriately to the building's use and size. The energy savings from these upgrades, coupled with electrification of building heating and cooling systems will reduce emissions associated with municipal buildings.

**Features, Tasks and Milestones.** Upon award, MetroCOG will meet with municipalities to assess their list of proposed building retrofits. Each retrofit location will undergo site analysis to compile historical data and document structural and environmental considerations, feasibility of building envelope and system upgrades, and potential challenges. These "Municipal Portfolio Evaluations" will be conducted by a building energy auditor, contracted by MetroCOG through a Request for Qualifications (RFQ) process described in Section 3.

The Portfolio Evaluation reports will be used to model "energy scenarios" to tailor a scope, energy assessment, and cost estimate for each project. To prioritize and enact retrofits, project readiness, cost effectiveness, GHG reduction potential, and projected co-benefits (utilizing the framework in Section 4) will be considered.

MetroCOG will assist municipalities with a procurement process, described in Section 3, to contract with an owner's representative to evaluate options, establish project schedules, review local, state, and federal ordinances and guidance, and develop a custom "roadmap" for implementing the municipalities' proposed building retrofits. The owner's representative will provide construction management such as procurement of Contractors (as needed) to develop project specifications, construction bid documents, review permits, and perform retrofits.

**Assumptions and Risks.** One risk of performing retrofits to municipal buildings is that these buildings serve a critical role in the community by enabling town/city operations to run smoothly. To ensure that project milestones do not negatively impact day-to-day use of community assets including Schools, Community Centers, and Town Halls, the owner's representative will hold feedback sessions with building management and facilities staff to ensure the project minimizes, to the extent possible, disruption to tenants and neighbors.

Another challenge of performing retrofits is that existing building conditions must be addressed before updated building systems can be safely installed. The site analysis report (described above) will include testing and documentation on existing risks such as structural issues,

asbestos, drainage issues, and mold. Conducting retrofits before addressing existing risks can disturb dangerous materials and lead to moisture problems down-the-line. To ensure buildings are “retrofit ready” existing defects will be rectified before starting the retrofit project.

Finally, poorly installed retrofits can degrade, rather than improve indoor air quality. MetroCOG will work with the selected owner’s representative and municipalities to establish QA/QC procedures to ensure ventilation systems are not only installed properly, but include routine monitoring protocols such as performance tracking, and periodic inspections and maintenance.

**Municipal Building Retrofits will achieve significant cumulative GHG reductions by 2030 and beyond by** reducing the energy consumption of municipal buildings through improvements to building envelopes (e.g. insulation and fenestration) and transitioning from oil and gas heating and cooling to electric-powered systems. The building upgrades will create near-term emissions reductions by directly reducing fossil fuel usage. The long-term advantage of electric-powered mechanical equipment is that the electricity used to power building systems can be generated from renewable energy sources as renewable energy production increases.

**Municipal Building Retrofits will achieve substantial community benefits by** improving indoor air quality (IAQ). Updated building envelopes can promote good air quality by easing natural ventilation (e.g. through windows and doors); and updated mechanical systems (e.g. HVAC) promote good air quality by controlling temperature, humidity, and ventilation. Modern HVAC systems also filtrate the air, removing or diluting indoor airborne pollutants. IAQ improvements will foster healthy and comfortable communal spaces thereby increasing public health in the region. Further, HVAC (coupled with shading) can help control indoor temperatures, lessening school cancellations due to extreme heat, which have become more common in recent years.

**Municipal Building Retrofits complements other funding sources by** maximizing synergistic federal and state assistance programs, detailed in Section 1.ii.

**Municipal Building Retrofits can be “scaled up” across multiple jurisdictions by** unifying municipalities to share best practices and innovative approaches. As town and city buildings from one municipality to the next are comparable in use, scale, function, and regulatory

requirements (e.g. Fire Department, Town Hall, Elementary School), each retrofit undertaken will become a model that can be iterated upon to meet the needs of another community.

## **Renewable Energy Generation, Use, and Storage**

"Renewable Energy Generation, Use, and Storage" was selected as a priority measure for the MetroCOG region, because embracing renewable energy sources is essential for protecting public health, fostering a more resilient and sustainable energy system, and preserving the environment. To meet these ambitions, reducing existing energy demands, promoting renewable energy adoption, and improving energy system resilience is vital as electric power makes up 24% of the total GHG emissions in the region<sup>3</sup>. Increasing the use of renewable energy to the degree which is needed to meet net zero goals will require a variety of sources owned and operated by governments, utilities, businesses, and residents.

By analyzing the GHG Inventory, engaging with MetroCOG's municipalities, the public, and LIDAC communities, and reviewing the authority to implement, two priority strategies were identified for implementing this measure: 1) solar installations on municipal properties, and 2) municipal inter-property microgrids.

- **Installing solar photovoltaic systems** is one example of renewable energy that can be implemented across the region to improve the distributed energy generation in the community. Municipalities can install rooftops, canopy and ground mounted solar to support their own electricity usage and provide improved access to renewables for their residents.
- **Inter-property microgrids** can serve as small-scale energy sources, linking several municipal buildings or residences to form a resilient island that can operate independently of the grid. Renewable microgrids offer a cleaner and cheaper energy option for low-income neighborhoods, diminish communities' susceptibility to blackouts by providing separation from the grid, and can be sourced with power locally.

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<sup>3</sup> Connecticut Metropolitan Council of Governments, "Southwest CT Priority Climate Action Plan," Priority Climate Action Plans for States, MSAs, Tribes, and Territories, March 1, 2024, <https://www.epa.gov/system/files/documents/2024-03/bridgeport-ct-msa-metrocog-swct-pcap.pdf>, 91.

**Features, Tasks and Milestones.** Upon award, MetroCOG will meet with municipalities to assess their list of proposed sites for renewable energy. For locations undergoing both a retrofit project and renewable energy, the building will receive upgrades prior to installation.

Following a procurement process, described in Section 3, MetroCOG will pair municipalities with a Consultant partner to evaluate financing options and develop a tailored scope for each renewable energy project. Depending on the site and municipal goals, financing models may include municipal ownership, Power Purchase Agreements (PPAs), or Leasing.

The selected vendor will perform a site analysis to document building and grid considerations and model “energy scenarios” for the municipality to review. Sites will be prioritized based on cost effectiveness, GHG reduction potential, and projected co-benefits described in Section 4.

**Assumptions and Risks.** As renewable energy adoption in the region grows, the need for trained project managers, electricians, and technicians to install and maintain renewable energy technologies will expand. To meet this growing demand, MetroCOG will connect municipalities to state and federal resources and make available training opportunities for municipal staff. MetroCOG will also work with municipalities to identify project synergies and where practical, coordinate sharing of services regionally to maximize resources.

Municipalities will be encouraged to update local policies that may cause delays to implementation of renewables, such as eliminating burdensome interconnection requirements, which dictate how distributed energy technologies (e.g. solar) connect back to the grid.

**Municipal Renewable Energy will achieve significant cumulative GHG reductions by 2030 and beyond by** eliminating the need for fossil fuels. By 2030, installing solar on its civic buildings included in this application will improve the percentage of overall energy a municipality derives from clean sources. In the long-term, as renewable energy is increasingly adopted throughout the region, municipal buildings will be prepared to support increasingly local generation and consumption of electricity.

**Municipal Renewable Energy will achieve substantial community benefits by** leveraging the municipal building typology in the region—characterized by expansive, flat roofs—as a prime

location for solar panels. Solar panels on municipal properties have substantial advantages for the community over solar farms, which require large amounts of land, can be visually unappealing, and may disrupt natural lands and wildlife. First, peak demand for municipal properties by occupants is during the day, when solar power generation is at a maximum. Second, roof solar systems provide an ancillary cooling effect by reflecting sunlight and shading roofs further reducing energy consumption and improving user comfort. Lastly, when paired with microgrids, solar power can increase energy resiliency by providing energy surety.

**Municipal Renewable Energy complements other funding sources** by maximizing funding from synergistic federal and state assistance programs, detailed in Section 1.ii. Further, the cost savings created by sourcing energy from on-site renewables can be allocated to fund additional retrofit and renewables projects in the community.

**Municipal Renewable Energy can be “scaled up”** to encompass additional renewable energy types. Further, investing in energy storage technologies and grid infrastructure can maximize the efficiency and reliability of renewable energy by improving grid resiliency.

This Implementation Grant Application brings together Southwest Connecticut PCAP measures 2b. Municipal Buildings and 3a. Renewable Energy Generation, Use, and Storage, actions which MetroCOG’s member municipalities have the authority to carry out. These measures, hereafter “Municipal Building and System Retrofits and Renewable Energy Technologies,” are implementation-ready (Section 3.ii), supported by municipal decision-makers (Section 4.ii), and result in cost-effective, measurable GHG Reductions (Section 2).

#### i. Demonstration of Funding Need

Detailed in Section 7, MetroCOG is requesting \$9,629,000 for performing municipal retrofits (e.g. envelope/weatherization improvements and buildings system upgrades) and installing renewable energy technologies (e.g. solar panels). The request from MetroCOG’s municipalities for projects in need of these improvements far exceeds this funding request. That is, the funds requested are projected to fund approximately six (6) building retrofits and ten (10) solar installations regionally, while eight building retrofits and 20 solar installation projects were

identified as priority sites by MetroCOG's municipalities. Pursuing Tier E funding will ensure that MetroCOG is able to maximize CPRG funds through "Pilot" locations, which municipalities can build from to complete additional projects in the future.

The Priority Climate Action Plan for Southwest Connecticut identified several funding sources, which MetroCOG and its member municipalities can leverage to support municipal building and system retrofits and municipal renewable energy. Funding opportunities may include, but are not limited to:

- **Renew America's Schools Grant (U.S. Department of Energy, anticipated Spring 2024):** Eligible projects under the Renew America's Schools Grant energy infrastructure improvements that reduce building operating costs—like HVAC and ventilation systems, building envelope and lighting projects, and renewable energy technologies. Funding is also available for alternative fueled vehicles and alternative fuel vehicle infrastructure.
- **Energy CLASS Prize (U.S. Department of Energy, anticipated Spring 2024)** The Energy Class Prize program provides cash prizes to schools to establish, train, and support energy managers in their schools.
- **Energy Efficiency and Conservation Block Grant Program (U.S. Department of Energy, Spring 2024)** The EECBG Program provides financial assistance for a range of projects, including energy audits, retrofitting buildings for energy efficiency, implementing renewable energy systems, developing transportation strategies to reduce fuel consumption, and promoting public education and outreach on energy conservation.
- **State Energy Program (CT DEEP, annually in April):** The State Energy Program, funded by a federal grant from the U.S. Department of Energy (DOE), plays a pivotal role in Connecticut's energy strategy. With an emphasis on promoting energy efficiency and security, alongside fostering environmentally friendly economic growth, this program dispenses approximately \$700,000 annually to projects that align with the state's Comprehensive Energy Strategy. The program's flexibility allows for a broad range of initiatives, from technological advancements in energy efficiency to projects enhancing the state's energy independence and environmental stewardship.

**MetroCOG's regional need is unmet by other funding sources.** For example, the community engagement conducted for the Southwest Connecticut PCAP revealed significant demand for retrofitting schools across the region. In the 2022-2023 funding cycle, the City of Bridgeport was one of 24 Selectees to receive the Renew America's Schools Grant. The Department of Energy



(DOE) funding (\$3,616,009) will support an effort to design and implement equipment retrofits and upgrades for two Bridgeport K-12 schools, Geraldine Johnson Elementary and Luis Munoz Marin Elementary. While the DOE more than doubled the 2022-2023 cycle funding from \$80 million to \$178 million “in response to the highly overwhelming evidence of public need,” this funding will support just two of Bridgeport’s 39 schools and the region’s 84<sup>4</sup>.

**Maximizing complementary funding sources.** Four MetroCOG municipalities are eligible entities for DOE technical assistance and competitive grants through the Energy Efficiency and Conservation Block Grant (EECBG) program. The EECBG is designed to assist local governments in implementing strategies to reduce energy use, fossil fuel emissions, and improve energy efficiency. If awarded funding through the CPRG program, eligible municipalities can in turn apply for EECBG funds to supplement and maximize funding from both programs. Eligible municipalities can also pursue EECBG program technical assistance offerings, such as hosting a Community Energy Fellow (DOE-sponsored staff based in the community) to increase capacity and impact of emissions reductions projects. For municipalities pursuing projects for their schools, the Energy Class Prize program is another funding source that may be sought to establish and train energy managers in schools to superintend green building technologies.

**The CPRG program presents the opportunity to enact regional change.** Administering grant funding at the regional level will enable small towns to access funding they would otherwise not have the capacity or competitiveness to apply for on their own. More than 60% of the federal resilience funding in the Bipartisan Infrastructure Law requires a local match, and an additional 13% requires a match under certain conditions<sup>5</sup>. The local match requirement of other funding opportunities for implementing climate change actions can create barriers for disadvantaged communities who cannot meet the match requirement.

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<sup>4</sup> “Renew America’s Schools Grant,” Energy.gov, accessed April 1, 2024, <https://www.energy.gov/scep/renew-americas-schools-grant>.

<sup>5</sup> Kris Smith, Patricia Hernandez, and Janet Clark, “Match Requirements Prevent Rural and Low-Capacity Communities from Accessing Climate Resilience Funding,” Headwaters Economics, January 30, 2024, <https://headwaterseconomics.org/equity/match-requirements/>.

**The CPRG program presents the opportunity to comprehensively reduce GHG emissions.**

Retrofitting municipal buildings and installing renewable energy in tandem can maximize the effectiveness of both actions. Envelope and system improvements reduce building energy demand, increasing the productiveness of renewable energy. The former improves building thermal regulation capability and ventilation, while the latter enables “high-performance buildings,” or those “designed and operated in ways that optimize energy efficiency, minimize environmental impact, and promote a healthy indoor environment for occupants”<sup>6</sup>. While available funding sources would allow piecemeal implementation of these measures, the CPRG program is the only funding source positioned to advance a comprehensive program, whole building approach, designed to retrofit buildings and install renewable energy.

**The CPRG program is a strong match for municipal building upgrades.** The State of Connecticut Department of Energy and Environmental Protection (CT DEEP) applied for the 2023 Solar for All program, which EPA anticipates announcing awards for in Spring 2024. While Solar for All selection would significantly advance solar investment in the region’s low-income and disadvantaged communities, the program focuses solely on the residential sector. For this reason, a program to install solar on municipal buildings in the region would be complementary to Solar for All funds, as both initiatives share common goals of generating distributed community solar power, reducing utility costs in energy burdened communities, and deploying technical expertise to address interconnection challenges and realize on-the-ground solutions.

## ii. Transformative Impact

Green buildings are essential for creating a more sustainable future. The challenge lies in retrofitting existing buildings, especially older structures, which make up a significant portion of the MetroCOG region’s building stock. Proactively upgrading buildings (as opposed to waiting until critical systems fail or require replacing) is crucial. By focusing on areas like energy efficiency, water conservation, material use optimization, and indoor environmental quality

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<sup>6</sup> “What Is a High Performance Building?,” EcoSteel, accessed April 1, 2024, <https://ecosteel.com/ecosteelprefab/what-is-a-high-performance-building/>.

enhancement, updating buildings to be “green” benefits both the environment and occupants by reducing energy consumption, environmental and health impacts, and operational costs.

Municipally owned buildings present a significant opportunity for progress as they can serve as a beacon of change within a community. These buildings are highly visible in the community, visited daily by residents going to school and convening for recreation or public meetings.

Modeling renewable energy technology on these structures allows municipalities to set the standard for environmental responsibility and innovation. Municipalities may also consider pursuing certification programs (e.g. Sustainable CT, LEED, WELL, etc.) to further demonstrate their commitment to sustainability. As a result, residents may be more inclined to attend community education events, participate in available renewable energy programs, and install renewable energy on their residences.

## **2. Impact of Reduction Measures**

### **i. Magnitude of GHG Reductions 2025-2030**

It is estimated that the near-term emissions reductions associated with solar photovoltaic installations and building upgrades to HVAC, envelope, and energy efficiency, can yield a savings of 17,482 MTCO<sub>2</sub>e between 2025 and 2030.

### **ii. Magnitude of GHG Reductions 2025-2050**

It is estimated that the long-term emissions reductions associated with solar photovoltaic installations and building upgrades to HVAC, envelope, and energy efficiency, can yield a savings of 134,032 MTCO<sub>2</sub>e between 2025 and 2050.

### **iii. Cost Effectiveness of GHG Reductions**

It is estimated that the near-term (2025 and 2030) emissions reductions associated with the proposed measures in this grant application (17,482 MTCO<sub>2</sub>e) divided by the requested CPRG implementation grant dollars (\$9,629,000) is 1,816 MTCO<sub>2</sub>e/\$1,000,000 or approximately 0.002 MTCO<sub>2</sub>e per dollar spent.

MetroCOG will utilize available tools, such as DOE’s BETTER (Building Efficiency Targeting Tool for Energy Retrofits) to identify the most cost-saving energy efficiency measures for buildings and portfolios in the region<sup>7</sup>. Administering grant funding at the regional level will enable coordination of shared services to maximize municipal resources. Further, cost savings from reduced energy use can be reprioritized to improve service and reduce costs for residents in the region, particularly in communities with a disproportionate number of energy burdened households. This will particularly benefit schools in the region, because energy costs for school districts are second only to salaries<sup>8</sup>.

#### iv. Documentation of Reduction Assumptions

Emissions reductions were calculated based on example buildings from municipalities within the MetroCOG region that have expressed interest in participating in the project. Reductions associated with distributed generation of solar on building rooftops and parking lot canopies were calculated based on available square footage and average capacity and size of the panels. The EPA Avoided Emissions and Generation Tool (AVERT) was employed to determine annual generation.

Emissions reductions associated with building HVAC, envelope, and efficiency upgrades were calculated by assuming a 15% reduction in energy could be achieved in six example buildings. This simplified approach was used because details pertaining to the type of improvements needed are unknown at this time. It was assumed design and implementation would take 2 years and emissions reductions would begin occurring in 2027. Refer to the Technical Appendix for additional information pertaining to assumptions, data sources, and calculations.

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<sup>7</sup> Han Li and McQuillen Interactive Daniel McQuillen, “Better,” About BETTER, accessed April 1, 2024, <https://better.lbl.gov/>.

<sup>8</sup> “Fact Sheet: The Biden-Harris Action Plan for Building Better School Infrastructure,” The White House, April 4, 2022, <https://www.whitehouse.gov/briefing-room/statements-releases/2022/04/04/fact-sheet-the-biden-harris-action-plan-for-building-better-school-infrastructure/>.

### 3. Environmental Results - Outputs, Outcomes, and Performance Measures

#### i. Expected Outputs and Outcomes

The Measures included in this grant application advance EPA's goals to "Tackle the Climate Crisis" and "Reduce Emissions that Cause Climate Change" by reducing emissions of greenhouse gases from the building sector in Greater Bridgeport, increasing municipal energy generation, resource efficiency, and use of renewable energy. Outputs, or "environmental activities efforts, and/or associated work products" that will be used to assess project success in achieving these goals during the assistance agreement funding period, include:

- Number of buildings evaluated;
- Number of buildings retrofitted;
- Number of building systems upgraded;
- Number of renewable energy installations;
- Number of ongoing engagements with disadvantaged communities, and
- Number of education, training and workforce development activities completed.

Outcomes, or "results, effects, or consequences that will occur from carrying out the environmental program," of the GHG reduction measures proposed for CPRG implementation grant funding, include, but are not limited to:

- **Reduction in cumulative metric tons of GHG emissions:**
  - From 2025 through calendar year 2030: 17,482 MTCO<sub>2</sub>e
  - From 2025 through calendar year 2050: 134,032 MTCO<sub>2</sub>e

- **Reduction in annual amount of criteria air pollutants:**

| Pollutant         | Annual reduction from changes to power sector (pounds) |
|-------------------|--|
| SO <sub>2</sub>   | -3.4   |
| NO <sub>x</sub>   | -89.9  |
| PM <sub>2.5</sub> | -28.9  |
| VOCS              | -18.4  |
| NH <sub>3</sub>   | -30.0  |

*Source: EPA Avoided Emissions and Generation Tool based on distributed solar inputs*

- **Other outcomes include:**
  - Regional and municipal knowledge and transparent data on capacity for implementation of retrofits and renewables;
  - Improved indoor Air Quality (IAQ);

- Lower energy demand and municipal energy expenditures;
- Preparing municipal buildings to be net zero by electrifying their systems;
- Increased staff capacity to implement GHG reduction measures;
- Enhanced level of community engagement, and
- Number of job training workshops in disadvantaged communities.

## ii. Performance Measures and Plan

MetroCOG will track, measure, and report progress toward achieving the expected outputs and outcomes utilizing the following Performance Measures:

- Tracking and reporting GHG reductions annually;
- Tracking and reporting indoor air quality;
- Collecting utility data from each facility retrofit and solar installation;
- Tracking and reporting the number of building retrofits completed, including data on the specific upgrades installed (e.g. heating and cooling systems, envelope improvements);
- Tracking and reporting hiring activities associated with implementing the measures;
- Reporting on community engagement activities and making GHG reduction data accessible to the public (e.g. through public-facing utility data dashboard(s), and
- Tracking and reporting on job training workshops disadvantaged communities.

Through the duration of the grant, MetroCOG will use Performance Measures to evaluate the effectiveness of the GHG reduction measures, control project costs, and monitor project efficiency. MetroCOG will make necessary adjustments to ensure the project is advancing the intended outcomes of measurable Reductions in GHG emissions from the building sector and increased municipal energy, resource efficiency, and the use of renewable energy in Greater Bridgeport. Likewise, MetroCOG will adjust the project as needed to ensure the desired outcomes of the program (Section 3.i) are occurring as anticipated.

## iii. Authorities, Implementation Timeline, and Milestones

Municipal Building Upgrades and Renewable Energy, Generation, Use and Storage have been identified by MetroCOG and our member municipalities as the most implementation-ready GHG Reduction Measures within our region. These measures were selected, in part, because they are measures which municipalities do not require state and federal authority to implement. Specifically, all proposed project sites contemplated in this application are owned

by the municipality. Thus, municipalities have the authority to perform building retrofits and renewable energy installations for these properties.

All six of MetroCOG's member municipalities, the City of Bridgeport and the Towns of Easton, Fairfield, Monroe, Stratford, and Trumbull have provided Letters of Support endorsing their interest in participating in the proposed program. The roles and responsibilities anticipated to implement the actions included in this application are as follows:

**Lead Agency:** MetroCOG will administer and provide reporting for the grant award. Additionally, MetroCOG will:

- Guide the planning process, review deliverables, and provide technical assistance such as coordinating educational workshops and outreach;
- Contract building auditor on behalf of municipalities to complete the required portfolio evaluations, and
- Perform project management and oversight of all subawards.

**Subawardee(s):** MetroCOG's municipalities will:

- Coordinate with and enter into a Subaward Agreement with MetroCOG;
- Complete the implementation evaluations using municipal staff and/or their preferred vendor(s). If municipal staff or a municipal procured vendor is utilized, MetroCOG will validate this analysis utilizing its consultant.

### **Authority to Implement**

All building retrofits and renewable energy measures funded under this CPRG Implementation Grant will be implemented through a Subaward Agreement with a member municipality. Under the Connecticut General Statutes (CGS), the State of Connecticut provides Municipal Powers that allow municipal governments to "Take or acquire by gift, purchase, grant, including any grant from the United States or the state, bequest or devise and hold, condemn, lease, sell, manage, transfer, release and convey such real and personal property or interest therein absolutely or in trust as the purposes of the municipality or any public use or purpose...". Furthermore, Connecticut, which is a "Home Rule" state, allows municipalities the authority to write and amend their own Charter. A Municipal Charter allows any municipality the power to

“adopt and amend a charter which shall be its organic law...”. The Charter shall not be inconsistent with the Constitution or Connecticut General Statutes. Both CGS and local Town Charters provide municipalities with the ability to own, manage and maintain property. Each municipality within the region was given the opportunity to identify municipally owned and managed properties, which would benefit from building retrofits and renewable energy projects. Properties identified include City/Town Halls, Schools, Public Safety Buildings, Public Works Facilities, and Community/Senior Centers.

Once a Subaward Agreement is made with a member municipality, the municipality will competitively procure the services of a contractor to implement the measures. Contractors will have the authority to carry out the measures based on construction contracts that are subject to legislative review and approval.

MetroCOG has the authority to procure the services of Building Energy Auditor to conduct municipal building portfolio evaluations. MetroCOG will follow all federal and state procurement guidelines to solicit firms through a Qualification Based Selection RFQ process. MetroCOG will carry out the municipal portfolio evaluations on behalf of, and in coordination with, our member municipalities. Additionally, MetroCOG will collaborate with the State of Connecticut Department of Energy and Environmental Protection (CT DEEP) and the Capitol Region Council of Governments to ensure that no CPRG funds allocated to efficiency improvements (CT DEEP’s application) or to renewable energy for Affordable Housing Properties (CRCOG’s application) will be used to perform retrofits on any of the municipal building locations funded by the application being led by MetroCOG.

### **Implementation Timeline and Milestones**

The anticipated timeline and milestones for implementing Municipal Building Upgrades and Renewable Energy, Generation, Use and Storage are as follows:



| <b>Task</b>                                    | <b>Party</b>                  | <b>Deliverable/Outcome</b>  | <b>Timeline</b>  |
|--|-------------------------------|---|--|
| <b>Grant/Cooperative Agreement with EPA</b>    | MetroCOG/EPA                  | Formal Cooperative Agreement w/EPA  | 1 <sup>st</sup> Quarter  |
| <b>Municipal Subaward Agreements</b>           | MetroCOG/<br>Municipalities   | Coordinate w/municipalities & enter Subaward Agreement(s) for evaluating/implementing reduction measures on municipal properties.   | Oct. 1, 2024 - Dec. 31, 2024   |
| <b>Community Outreach &amp; Education</b>      | MetroCOG                      | <ul style="list-style-type: none"> <li>• Create Project Website</li> <li>• Disseminate Information</li> </ul>   | 2 <sup>nd</sup> Quarter (Jan. 1, 2025) - Close Out ( <i>Ongoing</i> )    |
| <b>Municipal Portfolio Evaluations</b>         | MetroCOG                      | <ul style="list-style-type: none"> <li>• Procure Energy Auditor</li> <li>• Review Existing Conditions Assessment (by Energy Auditor)</li> <li>• Facilitate retrofit &amp; renewable Site Evaluations (by Auditor)</li> <li>• Review Cost Estimates (by Auditor)</li> <li>• Recommend Projects</li> </ul>  | 2 <sup>nd</sup> /3 <sup>rd</sup> Quarter - Year 4 ( <i>Ongoing</i> )     |
| <b>Construction Management Services</b>        | Municipalities (Consultant)   | Municipalities procure Construction Management services ("owner's representative") to project manage Retrofits/Renewables.  | 3 <sup>rd</sup> /4 <sup>th</sup> (Year 1) - Close Out ( <i>Ongoing</i> ) |
| <b>Conduct Building Retrofits</b>              | Municipalities/<br>Contractor | Municipalities procure licensed Contractor(s) for retrofit(s) projects.   | Starting Year 2 (Oct. 1, 2025)   |
| <b>Conduct Renewable(s) Projects</b>           | Municipalities/<br>Contractor | Municipalities procure licensed Contractors for renewable(s) projects.  | Starting Year 2 (Oct. 1, 2025)   |
| <b>Implementation Report</b>                   | MetroCOG                      | MetroCOG to provide a detailed Implementation Report to EPA.  | Year 5 (2029)  |
| <b>Project Management/Grant Administration</b> | MetroCOG                      | <ul style="list-style-type: none"> <li>• Subaward Agreement between MetroCOG &amp; municipalities</li> <li>• Manage subaward agreements</li> <li>• Procure Energy Auditor</li> <li>• Manage Energy Auditor</li> <li>• Review deliverables</li> <li>• Coordinate between EPA, state agencies &amp; municipalities.</li> <li>• Program &amp; financial reporting</li> </ul> | Oct. 1, 2024 – Sept. 30, 2029. ( <i>Ongoing</i> )                        |

## **4. Low Income and Disadvantaged Communities**

### **i. Community Benefits**

Municipal Retrofits and Renewables both directly and indirectly benefit low-income and disadvantaged communities (LIDAC). MetroCOG is committed to prioritizing projects, which create measurable direct benefits for LIDAC populations over those which do not.

All eight of the proposed sites in the City of Bridgeport are located within both disadvantaged CEJST census tracts and EJScreen block groups. Retrofitting and installing renewable energy at these sites will create direct benefits in LIDAC communities through improvements that make municipal buildings—public spaces in the community—safer, healthier, and more resilient. As these buildings are weatherized to require less energy input and receive energy-efficient building systems and renewable technology installations, their interiors will benefit from improved thermal regulation and air quality; and building operators will benefit from fewer issues associated with aging systems such as noise pollution, waste heat, breakdowns, and maintenance challenges.

While Fairfield Town Hall is not located within a LIDAC community, there are several EJScreen disadvantaged block groups in the Town of Fairfield. Notably, while only one census tract in Fairfield is a CEJST disadvantaged census tract, the category of burden the tract meets the threshold for is “Workforce Development.” For this reason, the proposed project in the Town will directly lessen a key burden for Fairfield’s LIDAC population as Town Halls support an important role in labor, training, and employment. Similarly, while the Birdseye Municipal Complex in Stratford is not located within a LIDAC community, there are several disadvantaged EPA IRA Disadvantaged communities in the Town of Stratford. The Birdseye complex serves the Stratford community as a space for interaction, inclusivity, active recreation, and learning. Community centers are especially important for low income and disadvantaged youth as they provide a safe and healthy outlet for their creativity and energy.

The Municipal Retrofits and Renewables project will also create several indirect benefits for LIDAC communities. While the Towns of Monroe, Easton, and Trumbull do not have LIDAC communities, because these Towns are looking to retrofit and transition some of the region’s

oldest buildings to renewable power, co-pollutants in Bridgeport will be reduced. This will indirectly improve public health in communities with disproportionate asthma/respiratory illness rates as co-pollutants, such as CO<sub>2</sub>, NO<sub>x</sub>, and SO<sub>x</sub> are known to contribute to asthma, heart conditions, and respiratory diseases<sup>9</sup>.

Installing microgrids at municipal properties can improve energy resilience (as microgrids can separate from the power grid), safeguarding municipal buildings, which often act as shelter locations in times of emergency, including power outages. Paired with energy storage solutions this allows emergency shelters to be powered by renewable energy if the grid goes out, when previously they were dependent on polluting gas generators.

Installing solar panels on municipal roofs can reduce building energy demands by cooling building roofs. Passive cooling of municipal buildings without AC particularly benefits low-income and disadvantaged communities, where lack of access to AC is common, exacerbating health conditions.

Because many of the region's municipal buildings were constructed prior to 1980, one possible disbenefit of weatherization is uncovering health and safety barriers, including asbestos, mold, and lead. For this reason, each town will be required to evaluate their municipal portfolio, taking precautions to ensure all buildings are inspected for the presence of health and safety barriers, prior to initiating retrofits.

## ii. Community Engagement

The engagement strategy for the PCAP consisted of: State and COG coordination, Municipal Input, Public and Stakeholder Engagement, and Low Income and Disadvantaged Community (LIDAC) Engagement.

State and COG Coordination occurred bi-weekly throughout the development of the PCAP (Fall 2023 through February 2024). MetroCOG will continue this close collaboration with the

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<sup>9</sup> Angelica I. Tiotiu et al., "Impact of Air Pollution on Asthma Outcomes," *International Journal of Environmental Research and Public Health* 17, no. 17 (August 27, 2020): 6212, <https://doi.org/10.3390/ijerph17176212>.

Connecticut Department of Energy & Environmental Protection (CT DEEP) to ensure that no CPRG funds allocated to efficiency improvements in DEEP's application will be used to perform retrofits on any of the municipal building locations funded by the application being led by the Metropolitan Council of Governments.

A combination of in-person and virtual municipal input sessions were held in December 2023 and January 2024. MetroCOG obtained input from municipal staff, chief elected officials, specific committees that are already in place (generally, those aligned with climate action and sustainability topics), and redevelopment agencies. Themes from the municipal engagement sessions are summarized below.

- **Municipal Buildings:** there was broad support among MetroCOG municipalities for performing Municipal Building Retrofits. Municipalities provided additional information about which municipal buildings have recently been upgraded in addition to priorities and considerations for additional building upgrades.
- **Renewable Energy Technologies:** the municipalities also support renewable energy technologies for municipal buildings, particularly solar. However, municipalities noted that many buildings will not be eligible for solar because of the condition of roofs or other structural reasons, so parking lots and other structures eligible for solar should also be considered. Many municipalities were interested in pursuing microgrids for Town campuses, where feasible. Several municipalities also mentioned that guidance on zoning and land use regulations for renewable energy would be helpful.

Public and Stakeholder Engagement included two virtual workshops. The first workshop, held on November 14, 2023, was hosted by the Connecticut Conference of Municipalities (CCM) in collaboration with CT DEEP, the Capitol Region Council of Governments (CRCOG) and the South Central Regional Council of Governments (SCRCOG). The November workshop was an opportunity for interested stakeholders across the state to learn about the CPRG program and provide EPA-sector feedback, which was used to guide the development of the PCAP, including future engagement opportunities. The second workshop, held on February 7, 2024, was hosted by MetroCOG and its Consultant for the PCAP. The focus of the February workshop was to present the proposed GHG reduction measures included in the PCAP and give interested stakeholders the opportunity to ask questions on the development of the actions and provide

feedback. Public engagement also included a stakeholder meeting for the Bridgeport Regional Energy Partnership (BREP) held on January 25, 2024. Local municipal staff and State representatives also attended these engagement events.

In addition to the public meetings, a public survey was launched on January 3, 2024, and was open to all community members throughout the region until February 23, 2024. The survey included 38 ranking, multiple choice, and open-ended questions which considered participant demographics, opinion on incentive programs, perception on GHG reduction measure effectiveness, and allowed them to provide any additional comments. The survey yielded 150 responses from 18 municipalities. Just over 11% of respondents represented a LIDAC from Bridgeport, Danbury, and Norwalk.

Low Income and Disadvantaged Community Engagement included four in-person workshops in different neighborhoods across the City of Bridgeport, where the highest number of LIDAC communities are located. LIDAC community engagement also included a survey conducted by the City of Bridgeport and a meeting with the Connecticut Equity and Environmental Justice Advisory Council (CEEJAC) (January 9, 2024). CEEJAC, an advisory council within CT DEEP, provided insight and best practices to enhance public engagement in LIDAC communities.

Input by low-income and disadvantaged communities and the public influenced the priority measures selected for implementation. The results of the MSA-wide survey showed that the public views “Municipal Renewable Energy Systems” as the most effective action and “Electrification of Government Buildings” as the second most effective action, which can be taken by the region to reduce GHG emissions in the electricity generation sector. Moreover, when asked “which benefits from emission reduction projects are most important to you?” the priority ranked highest (56% of respondents), was “improved air quality and public health.” In-person engagement within four of the City of Bridgeport’s neighborhoods further emphasized solar power as a top priority for LIDAC communities.

If awarded, throughout the life of the CPRG program, meaningful engagement with low-income and disadvantaged communities will be continuous and ongoing. This will be achieved through educational engagement workshops designed to raise public awareness about sustainable

energy and the positive impact it has on the community. LIDAC communities will also be engaged to help select retrofits for implementation through engagement activities designed to understand desired co-benefits and prioritize projects, which advance community goals.

## 5. Job Quality

MetroCOG will ensure that all GHG Reduction Measures will be implemented through a diverse, highly skilled workforce. MetroCOG has established strong relationships with the regional workforce development board, The WorkPlace, a workforce development non-profit agency, Career Resources and with local labor organizations. The Workplace, which operates a full-service American Job Center (AJC), coordinates regional workforce development programs to prepare people for careers while strengthening the region's overall workforce capacity. The Workplace administers workforce development funds and coordinates with providers of job training and education programs. Career Resources, Inc. (CRI) is a workforce development nonprofit agency, with documented expertise in meeting the needs of both jobseekers and employers. CRI offers an array of workforce development programs to support youth and adults, many with significant barriers to employment, in obtaining the skills needed to enter the workforce and build a career pathway to economic self-sufficiency. CRI is the statewide leader in supporting the re-entry population through programs and support services designed to assist returning citizens and other system-impacted individuals to successfully reintegrate into their communities. MetroCOG and our member municipalities will also coordinate with the National Electrical Contractors Association and the International Brotherhood of Electrical Workers to ensure that projects provide good jobs to local residents.

All Building Retrofit and Renewable Energy projects will be performed by contractors and sub-contractors procured by our member municipalities (sub-awardees). Contractors and sub-contractors will be required to be properly licensed under the laws governing their respective trades. Furthermore, bidders will need to meet all current State of Connecticut Department of Administrative Services requirements, including but not limited to, the requirement that Bidders be pre-qualified and registered with the State of Connecticut as licensed contractors.

MetroCOG and our member municipalities will also promote, advertise and contract with as many federal and state recognized disadvantaged, minority-owned and woman-owned business enterprises.

Any contract or sub-contract funded under CPRG will require compliance with federal, state and local requirements for wages paid by the Contractor, and conditions of employment. MetroCOG will adhere to Davis-Bacon and Related Acts (DBRA) and the State of Connecticut Department of Labor's Prevailing Wage Law. Under the Connecticut Prevailing Wage Law construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project by the state or any of its agents, or by any political subdivision of the state or any of its agents, shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the town in which such public works project is being constructed.

## **6. Programmatic Capability and Past Performance**

### **ii. Past Performance**

The following are five (5) examples of federally funded assistance agreements the Connecticut Metropolitan Council of Governments (MetroCOG) has performed in the last three (3) years.

|                            |   |
|----------------------------|---|
| <b>Project 1 - Title</b>   | Bridgeport Harbor Station Unit 3 – Site Reuse & Planning Study  |
| <b>Assist. Agreement #</b> | 01-69-15226   |
| <b>Federal Agency</b>      | US EDA  |
| <b>Agreement</b>           | Reuse study for a decommissioned coal-fired power plant in Bridgeport, CT   |
| <b>Contact</b>             | Linda Cruz-Carnall (Regional Director)  |
| <b>Description</b>         | \$22 million in state funding has been secured to demolish the plant. The purpose of the study is to determine the appropriate reuse of the site. The US EDA provided \$300,000 in ARPA funds to support the \$400,000 reuse study. |

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|----------------------------|---|
| <b>Project 2 - Title</b>   | Brownfields, Community-Wide Assessment Program, 2023  |
| <b>Assist. Agreement #</b> | 00A01418  |
| <b>Federal Agency</b>      | US EPA  |
| <b>Agreement</b>           | Brownfields assessment activities focused on Bridgeport's Downtown, East End, and East Side neighborhoods.  |
| <b>Contact</b>             | Christine Beling, EPA Project Officer, <a href="mailto:beling.christine@epa.gov">beling.christine@epa.gov</a>   |
| <b>Description</b>         | The \$500,000 award continues activities of past assessment grants from 2013 and 2015 that funded site assessments in Bridgeport, Stratford, and Trumbull. The 2013 and 2015 assessments were closed out at 99% and 91% expended, respectively. |

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|----------------------------|---|
| <b>Project 3 - Title</b>   | Comprehensive Economic Development Strategy (CEDS)  |
| <b>Assist. Agreement #</b> | ED19PH13030038  |
| <b>Federal Agency</b>      | US EDA  |
| <b>Agreement</b>           | The CEDS includes an assessment of regional strengths, weaknesses, opportunities, and threats, a prioritized listing of goals and objectives, and an implementation strategy.   |
| <b>Contact</b>             | Linda Cruz-Carnall (Regional Director), <a href="mailto:lcruz-carnall@eda.gov">lcruz-carnall@eda.gov</a><br>Marguerite McGinley (Area Director), <a href="mailto:mmcginley@eda.gov">mmcginley@eda.gov</a><br>Chivas Grannum (Economic Development Rep.), <a href="mailto:cgrannum@eda.gov">cgrannum@eda.gov</a> |
| <b>Description</b>         | The CEDS was developed through extensive engagement with stakeholders in the private sector. After the document was approved in 2021, MetroCOG began the process to designate the Greater Bridgeport Region as an Economic Development District.  |



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|----------------------------|--|
| <b>Project 4 - Title</b>   | Brownfields, Revolving Loan Fund, 2014-current   |
| <b>Assist. Agreement #</b> | 96195101   |
| <b>Federal Agency</b>      | US EPA   |
| <b>Agreement</b>           | Brownfields cleanup activities in Bridgeport and Stratford, including loan funds toward a private development in Bridgeport's West End neighborhood.   |
| <b>Contact</b>             | Christine Beling, EPA Project Officer, <a href="mailto:beling.christine@epa.gov">beling.christine@epa.gov</a>  |
| <b>Description</b>         | Awarded in 2014, supplemental funds were provided in 2021 to continue funding clean-up activities in Bridgeport and Stratford. Activities include capitalizing the RLF, marketing and managing the fund, enrolling sites in the state Voluntary Cleanup Program (VCP), conducting cleanup planning and community involvement activities, making loans & subgrants, and overseeing and documenting site cleanups. |

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|----------------------------|---|
| <b>Project 5 - Title</b>   | Transportation Planning   |
| <b>Assist. Agreement #</b> | Federal Project No.: UR23(002); State Project No.: DOT07249996 PL   |
| <b>Federal Agency</b>      | Connecticut Department of Transportation (CT DOT), FHWA, and FTA.   |
| <b>Agreement</b>           | MetroCOG serves as the designated recipient of federal transportation planning funds for the Greater Bridgeport and Valley Planning Region.   |
| <b>Contact</b>             | Jane Dunbar, Transportation Planner, CTDOT, <a href="mailto:jane.dunbar@ct.gov">jane.dunbar@ct.gov</a>  |
| <b>Description</b>         | MetroCOG is responsible for conducting transportation planning activities that ensure a safe, reliable and accessible transportation network. In addition to federal transportation planning, MetroCOG administers the state's Local Transportation Capital Improvement Program for the region. |

### iii. Reporting Requirements

As the Council of Governments for the Greater Bridgeport Region, MetroCOG has significant expertise in grant administration, management, and implementation. MetroCOG is the federally designated Metropolitan Planning Organization (MPO) for the Greater Bridgeport Region and is responsible for programming all federal transportation improvement funds for the region. Our staff has strong capability in grant monitoring/reporting on work plan activities, grant compliance, and the timely submission of programmatic and financial reporting under all

federal assistance agreements. Our established processes have allowed us to timely and effectively complete projects and ensure programmatic success. The strong partnerships and relationships we have built with local, state, and federal government, residents, businesses, and community stakeholders have been critical to this success.

#### iv. Staff Expertise

Connecticut Metropolitan Council of Governments (MetroCOG) is a multi-discipline, regional planning organization with six member communities—Bridgeport, Easton, Fairfield, Monroe, Stratford and Trumbull—centered on the City of Bridgeport, Connecticut.

The Team responsible for implementing the Municipal Building and System Retrofits and Renewable Energy Technologies Application is comprised of MetroCOG’s nine full-time staff with support from municipal staff and local partner organizations.

Lindsay Naughton, AICP, Regional Planner serves as the Project Manager for the CPRG Planning Grant and will continue administering the program with oversight by Patrick Carleton, Deputy Director. Colleen Kelleher, MBA, Finance Director, will provide financial oversight. Additional support will be provided by Meghan Sloan, AICP, Director of Planning, Hannah Reichle, Regional Planner, MS in Environmental Science and Nicolas Dostal, Regional Planner. Staff is cross trained in project management to ensure that project deliverables and requirements are met. Matt Fulda, Executive Director, is responsible for human resources and will provide oversight of recruitment as needed.

## 7. Budget

The project budget is \$9,629,000, which breaks down as follows:

- Personnel: \$400,000
- Fringe Benefits: \$136,000
- Travel: \$1,000
- Contractual: \$700,000
- Other:
  - Subawards: \$8,000,000
  - Indirect: \$392,000