# EPA Climate Pollution Reduction Grant (CPRG): Implementation Grant Application

# City of Miami, FL Workplan

City of Miami Climate Ready Housing Program Suite

## Section 1: Overall Project Summary and Approach (45 possible points)

### Description of Greenhouse Gas Reduction Measures (20 possible points)

**Why the City of Miami is Applying for the CPRG Implementation Grant**

The City of Miami is applying for CPRG funding under the [Southeast Florida Priority Climate Action Plan (Southeast Florida PCAP)](https://www.epa.gov/system/files/documents/2024-03/southeast-florida-priority-climate-action-plan.pdf). The Southeast Florida PCAP includes greenhouse gas (GHG) reduction measures with Buildings being a key sector for decarbonization. The City of Miami is focusing on the Building Sector, Measure #6: Residential Energy Efficiency and Measure #7: Residential Renewable Energy, for this application. The City of Miami is applying for Tier D ($10,000,000 – $49,999,999).

The City of Miami is the largest municipality of the 34 municipalities in Miami-Dade County, is considered the ‘urban core’ of the County, and is home to 439,890 residents, with 66% of these residents classifying as low-to-moderate income (LMI) and 21% living in poverty. The household median income is $47,860 compared to the national average of $70,784. As part of the development of the City’s GHG reduction plan, the [Miami Forever Carbon Neutral Plan](https://www.miami.gov/files/4e5f26f7-2622-4c90-834a-eaaa6aa3321e/Miami-Forever-Carbon-Neutral-FULL.pdf) adopted in 2021, the City worked with Catalyst Miami, a Community-Based Organization, to identify Climate Justice Communities in the City. Climate Justice Communities are historically underinvested neighborhoods (which tend to be inland) and populated by individuals that are low-income, predominantly Black, and recent immigrants. Inequities experienced by residents of Climate Justice Communities include: Utility burden; Lack of car ownership; Renters being pushed out of homes due to increasing rent prices; Uninsured or underinsured; Prolonged exposure to extreme heat in homes and worksites; Lack of access to reliable and consistent public transportation; Live paycheck to paycheck and cannot afford hurricane supplies or to evacuate due to flooding; Live more than 3 miles from closest grocery store. These communities include the neighborhoods of Allapattah, Liberty City, Little Havana, Little Haiti, Overtown, and West Grove which are part of the focus of the GHG Reduction Measures in this grant and align with disadvantaged communities as defined by EPA’s EJScreen and the White House’s Climate & Economic Justice Screening Tool (CEJST).

As a [C40 City](https://www.c40.org/?gad_source=1&gclid=Cj0KCQjwk6SwBhDPARIsAJ59Gwe6S1u3F6B3-6MjOgpB_gv4FH-hCYcP-jW6jpJY--Xg8ROh7kicmkAaAs6wEALw_wcB), the City of Miami has pledged to be carbon neutral by 2050, with an interim goal to reduce 60% of our 2018 emissions by 2035. To meet these goals, the City needs funding to implement programs to reduce GHG emissions. As identified in both of the City’s resilience strategies, the [Miami Forever Climate Ready Strategy](https://www.miami.gov/files/sharedassets/public/v/1/miami-forever-climate-ready-2020-strategy.pdf) (adaptation plan developed in 2020) and [Miami Forever Carbon Neutral Plan](https://www.miami.gov/files/4e5f26f7-2622-4c90-834a-eaaa6aa3321e/Miami-Forever-Carbon-Neutral-FULL.pdf) (mitigation plan - GHG reduction plan - developed in 2021), residential programs that reduce GHG emissions are needed to prepare for and prevent climate change so that the City can meet our ambitious goals.

The City of Miami is applying separately from our Miami-Fort Lauderdale-Pompano Beach, FL Metro Area MSA and in a different Funding Tier. There are 34 municipalities in the County, and more than one million residents live in the unincorporated area outside municipal boundaries. The City of Miami has significant environmental justice and disadvantaged community needs that our existing housing programs, which are implementation ready and equipped to accept the CPRP funding, can readily address in our low-income communities. Funding our programs that focus on concentrated high levels of poverty separately will allow the County more financial focus on the smaller cities in our region.

#### PCAP Measures

The following Sector and GHG Reduction Measures were used for this application:

[**Southeast Florida Priority Climate Action Plan**](https://www.epa.gov/system/files/documents/2024-03/southeast-florida-priority-climate-action-plan.pdf)

**4.2.3 Buildings**

**Measure #6 and Measure #7**

**Pages 36 – 38**

***PCAP Measures Used in City of Miami’s CPRG Implementation Grant Application***

|  |  |
| --- | --- |
| **Measure #6: Residential Energy Efficiency** | **Measure #7: Residential Renewable Energy** |
| **The counties and cities in the Southeast Florida Region are leveraging existing residential programs that reduce GHG emissions through building improvements, which reduce the property’s energy load and demand, and technology that runs more efficiently. In addition to reducing GHG emissions, there are co-benefits to the users, such as savings on utility bills, property maintenance, and enhancements, and improving indoor environmental quality through enhancing thermal comfort and sound attenuation. These co-benefits were also highlighted as priorities for low-income communities that would benefit from access to these types of interventions.** | |
| *GHG Reduction Measures:*  R-01. Residential Heat Pump or High-Efficiency A/C Retrofits and Commissioning.  R-03. Residential LED Lighting.  R-04. Residential Enclosure Upgrades (with roof assessment).  R-05. Residential Window, Door, and Skylight Replacement with Assessment.  R-06. Residential Efficient Appliances and Plug Load Management.  R-07. Domestic Heat Pump for Hot Water.  R-09. Residential Smart Thermostats.  *MSA potential GHG (MTCO2e) reduction from business-as-usual (BAU) projection:*  2030 Residential BAU Baseline - 6,681,538  Year 2030 Reduction vs BAU - 805,853  Year 2050 Reduction vs BAU - 536,032  *Implementation Schedule and Milestones:*  Through 2030  *Metrics for Tracking Progress:*   * Number and efficiency of residential energy efficiency upgrades * Megawatt-hours (MWh) electricity consumption reduced * Grid emission factors | *GHG Reduction Measures:*  R-02. Solar Photovoltaics (PV).  R-08. Domestic Solar Hot Water Heater.  *MSA potential GHG (MTCO2e) reduction from business-as-usual (BAU) projection:*  2030 Residential BAU Baseline - 6,681,538  Year 2030 Reduction vs BAU - 750,063  Year 2050 Reduction vs BAU - 493,401  *Implementation Schedule and Milestones:*  Through 2030  *Metrics for Tracking Progress:*   * Megawatts (MW) of Solar Photovoltaics Installed * Kilowatts (KW) of Solar Hot Water Heater Installed |

#### City of Miami Greenhouse Gas (GHG) Reduction Measures & Program Implementation

##### GHG Reduction Measures

GHG Reduction Measures that will be implemented in Miami will include the residential measures within Measure #6 and Measure #7. These measures are for the Building sector, one of the top three GHG emission sectors, and focus on measures that achieve significant GHG reductions while considering other relevant planning goals (e.g., benefits to LIDACs, air pollution benefits, and other co-benefits).

***Description and Features of GHG Reduction Measures:***

**Measure #6: Residential Energy Efficiency** For Measure #6, residential measures R-01, R-03, R-06, R-07, and R-09 address decarbonization through the implementation of newer technology for heating and cooling systems, domestic hot water heating, smart appliances, and controls for more efficient energy performance in the residential context. Residential measures R-04 and R-05 assess and recommend improvements for the building enclosure, windows, doors, and skylights to reduce cooling and heating loads for the building. These measures were chosen as a priority to reduce GHG emissions that can be achievable by both homeowners and renters within the City. These GHG Reduction Measures are:

***R-01. Residential Heat Pump or High-Efficiency A/C Retrofits and Commissioning.*** Replace old A/C technology with a heat pump or high-efficiency A/C coupled with the commissioning of the equipment.

***R-03. Residential LED Lighting.*** Install LEDs or more efficacious lamps that are energy efficient while producing the same amount of illumination.

***R-04. Residential Enclosure Upgrades (with roof assessment).*** Improve the envelope efficiency by creating an airtight envelope for improved energy conservation and comfort. Can include lower-cost fixes such as weather-stripping doors and windows, adding insulation, etc. Assess roof conditions for remaining useful life; and roof replacement and truss replacement if warranted.

***R-05. Residential Window, Door, and Skylight Replacement with Assessment.*** Replace window, door, and skylight to improve energy performance. Assess and evaluate window, door, and skylight conditions before replacement.

***R-06. Residential Efficient Appliances and Plug Load Management.*** Install Energy Star or equivalent appliances to reduce energy consumption. Installing plug load controls allows for user-friendly control and reduced energy consumption.

***R-07. Domestic Heat Pump for Hot Water.*** Install an energy-efficient heat pump for domestic hot water.

***R-09. Residential Smart Thermostats.*** Install smart thermostats to optimize heating, cooling, and preferences to increase energy efficiency, comfort, and ease of use.

**Measure #7: Residential Renewable Energy** For Measure #7, residential measures R-02 and R-08 address decarbonization by integrating renewable energy provided by on-site photovoltaics and solar hot water systems. These GHG Reduction Measures are:

***R-02. Solar Photovoltaics (PV*).** Generate electricity from onsite solar PV panels for single, and multi-family projects (including rooftop, covered parking, sidewalks, floating, and ground mounted).

***R-08. Domestic Solar Hot Water Heater.*** Replace standard electric or gas domestic hot water systems with a solar water heater.

##### Program Implementation

The City of Miami will implement these measures through a suite of Climate Ready Housing Programs that focus on reducing GHG emissions, utility bill costs, and rental or mortgage costs for renters and homeowners in multi-family units and single-family homes. The programs in the City of Miami Climate Ready Housing Program Suite are programs that the City currently implements so are implementation-ready and will have little downtime to initiate with CPRG funding. Anticipated delays could arise from contractor procurement and hiring of City staff members. These delays should not impact the projected GHG reductions as the implementation of the programs will begin in the first quarter of FY2025 and the contractor procurement and staff hiring are scheduled to occur earlier in FY2024. The City will work diligently to prevent these challenges from occurring.

These measures will significantly help the City of Miami to achieve our goal to be carbon neutral by 2050, with an interim goal to reduce 60% of our 2018 emissions by 2035. As identified in both the [Miami Forever Climate Ready Strategy](https://www.miami.gov/files/sharedassets/public/v/1/miami-forever-climate-ready-2020-strategy.pdf) (adaptation plan) and [Miami Forever Carbon Neutral Plan](https://www.miami.gov/files/4e5f26f7-2622-4c90-834a-eaaa6aa3321e/Miami-Forever-Carbon-Neutral-FULL.pdf) (mitigation plan), residential programs are needed to prepare for and prevent climate change.

**The City of Miami will implement the Greenhouse Reduction Measures through the “City of Miami Climate Ready Housing Program Suite.” This suite includes the following existing programs:**

* Keep Safe Miami Program (geared toward affordable & resilient housing for renters)
* Homeowner Preservation Program (geared toward affordable & resilient housing for homeowners)
* Miami Cools Program (geared toward low-cost resilient options to save utility bills for renters and homeowners)

**Keep Safe Miami Program**

The Keep Safe Miami program equips affordable housing owners and operators of multi-family rental unit buildings with tools to assess their buildings' resilience to climate change and natural disasters, and provide them with actionable strategies and guidance on financing to address these vulnerabilities. The program allows the building to assess and mitigate risks to storms, flooding, and heat; improve energy and water efficiency, and increase the use of solar power at the building level. This enables the building owner/operator to identify measures that can be implemented to mitigate risks and reduce operational costs in order for affordable units to remain operational, reducing displacement and loss of use. Information from the energy resilience assessment includes evaluating the need for heat pumps, AC retrofits, LED lighting, energy and/or water efficient appliances, window or roof replacements, hot water heaters, smart thermostats, and solar panels.

***Features of Current Program:*** Currently the program is opt-in and provides forgivable loans, up to $100,000, to a building owner/operator if a building maintains affordable rents for at least 10 years. This program is geared toward keeping rents affordable and homes climate resilient for renters. There are currently no buildings enrolled in the program.

***Features of Future Expanded Program:*** CPRG funding will fund the Keep Safe Miami Program to provide assistance to building owners/operators with completing the energy resilience assessment such as heat pumps, HVACs, LED lighting, windows and/or doors, energy and water efficient appliances, plug load management, hot water heat pumps, and smart thermostats.

***GHG Reduction Measures:***

These GHG Reduction Measures from the Southeast Florida PCAP include the following for Measure #6:

* *R-01. Residential Heat Pump or High-Efficiency A/C Retrofits and Commissioning.*
* *R-03. Residential LED Lighting.*
* *R-04. Residential Enclosure Upgrades (with roof assessment).*
* *R-05. Residential Window, Door, and Skylight Replacement with Assessment.*
* *R-06. Residential Efficient Appliances and Plug Load Management.*
* *R-07. Domestic Heat Pump for Hot Water.*
* *R-09. Residential Smart Thermostats.*

These GHG Reduction Measures are from the Southeast Florida PCAP include the following for Measure #7:

* *R-02. Solar Photovoltaics (PV).*
* *R-08. Domestic Solar Hot Water Heater.*

***Tasks and Milestones:*** Through the CPRG, the following tasks and milestones for this program include procuring a contractor using federal procurement processes, developing outreach materials, providing outreach to eligible participants, providing energy resilience assessments to eligible participants, and installing GHG Reduction Measures.

**Homeowner Preservation Program**

The Homeownership Preservation Program provides up to $70,000 in rehabilitation assistance to qualified City of Miami homeowners to fund exterior repairs consisting of repair or replacement of roofs, replacement of windows or doors and/or installation of hurricane shutters, necessary to bring the home to decent, safe and sanitary conditions, and to reinforce the property’s exterior to better withstand natural weather occurrences while maximizing the home's energy efficiency. Recent research has shown that new roofs, even on older homes, are the single most important upgrade to prevent wind damage, because of the requirement for a sealed roof deck. Insurance agencies are increasingly focused on replacement of older roofs for insurance coverage. This program assists households up to 140% of Area Median Income (AMI) based on household size but currently is closed to new applicants due to current one-time funding not recurring. A lien up to $70,000 is placed on the property for 10 years. This program is geared toward reducing climate gentrification by preventing displacement for homeowners.

***Features of Current Program:***37 homes are in the process of being rehabilitated.

***Features of Future Expanded Program:*** CPRG funding will allow the Homeownership Preservation Program to fund windows, doors, roof replacements and expand the program to also fund trusses and solar panels. Funding will be increased to $125,000 per home. Funding will also be used to provide outreach so that more residents can participate in the program.

***Greenhouse Gas Reduction Measures:***

These GHG Reduction Measures from the Southeast Florida PCAP include the following for Measure #6:

* *R-04. Residential Enclosure Upgrades (with roof assessment).*
* *R-05. Residential Window, Door, and Skylight Replacement with Assessment.*

These GHG Reduction Measures from the Southeast Florida PCAP include the following for Measure #7:

* *R-02. Solar Photovoltaics (PV).*

***Tasks and Milestones:*** Through the CPRG, the following tasks and milestones for this program include procuring a contractor using federal procurement processes, developing outreach materials, providing outreach to eligible participants, holding lotteries for eligible participants, and installing GHG Reduction Measures.

**Miami Cools Program**

In 2020, the City launched the Miami Cools program wherein free window AC units were distributed to senior and special needs residents to address health concerns associated with heat. This program is geared toward reducing utility bills by making homes more climate resilient for both renters and homeowners.

***Features of Current Program:***The program is paused due to lack of funding.

***Features of Future Expanded Program:*** CPRG funding will reinitiate the program and will fund HVACs, heat pumps, LED lighting, weatherization/air leakage sealing, and smart thermostats.

***Greenhouse Gas Reduction Measures:***

These GHG Reduction Measures from the Southeast Florida PCAP include the following for Measure #6:

* *R-01. Residential Heat Pump or High-Efficiency A/C Retrofits and Commissioning.*
* *R-03. Residential LED Lighting.*
* *R-04. Residential Enclosure Upgrades (with roof assessment).*
* *R-09. Residential Smart Thermostats.*

***Tasks and Milestones:*** Through the CPRG, the following tasks and milestones for this program include procuring a contractor using federal procurement processes, developing outreach materials, providing outreach to eligible participants, holding lotteries for eligible participants, and installing GHG Reduction Measures.

***Additional Tasks and Milestones for Climate Ready Housing Program Suite:*** Additional milestones and tasks for the overall Climate Ready Housing Program Suite include the City Commission accepting the grant funds, hiring staff to serve as project managers, hiring contractors to install the GHG Reduction Measures, working to expand the green economy, traveling locally and nonlocally, developing the Quality Assurance Plan to submit to EPA, and preparing and submitting to EPA the semi-annual Progress Reports, the end of Year 1 LIDAC Benefits Report, and the Final Project Report. The milestones and tasks as further described in Section 3 will ensure the success of the GHG Reduction Measures within the City of Miami Climate Ready Housing Program Suite.

### Demonstration of Funding Need (10 possible points)

Housing affordability coupled with climate change is a compounding challenge for City of Miami residents. Miami is ground zero for climate change with sea levels projecting to rise 2 feet by 2060. Warmer temperatures are causing these rising sea levels which is leading to increased tidal flooding, more intense storms, and extreme heat events in the City of Miami. Property loss or extensive repairs from these climate change effects can significantly impact the ability of residents to have a safe and healthy home, and lead to displacement of families and economic distress across entire communities.

In 2017, Hurricane Irma demonstrated the vulnerability of low-income and elderly renter populations to the impacts of storms and climate change. 70% of Miami’s population are renters which limits the types of climate preparedness and prevention solutions they can install on their own. There are over 190 multifamily affordable housing rental buildings with over 150,000 households within the City of Miami that can benefit from programs that City implements to increase resilience in residential housing and prevent displacement. In addition, many of the City’s homeowners purchased their homes before the housing bubble that the City is currently experiencing. As the climate changes and sea levels rise, residents are seeing increasing risks of flooding from storms, higher tides, and potential storm surge. This is causing some developers to look to higher ground, more in-land, to develop properties. This higher ground is often located in Miami’s Climate Justice Communities, as described in Section 3, and the potential for displacement of people living in these areas is ominous. This type of development caused by climate change is referred to as climate gentrification. In addition, extreme heat caused by climate change is profoundly impacting the City’s residents. In 2021, the City’s Fire Rescue team received 234 total calls related to heat exhaustion, heat stroke, or sunstroke and 272 total calls in 2022. Besides direct heat-related illness, heat worsens asthma, heart and lung disorders, and even mental illnesses. Studies show that heat can exacerbate respiratory disorders (e.g., chronic obstructive pulmonary disease and bronchospasm) and cause higher incidences of cardiovascular diseases (e.g., strokes and dysrhythmia). Rising temperatures can trigger mental health issues including mental fatigue, aggression, and even higher rates of suicide. The Women’s Fund of Miami-Dade developed a campaign specifically calling out risks to pregnant women and increased likelihoods of domestic violence due to extreme heat.

The City’s Climate Ready Housing Programs help provide tools and information to incentivize residential properties to prepare for major storms, extreme heat, and other natural disasters and prevent displacement from climate gentrification. While the private energy utility, Florida Power & Light (FPL), has customer assistance programs for low-income customers, the needs of the City’s residents are not completely met and the City is not seeing significant decreases in GHG emissions from existence of these programs. The City must lead in assisting residents with cost saving and environmental enhancing measures to be as resilient as possible. Additional funding is needed to sustain the City’s leadership with the City of Miami Climate Ready Housing Program Suite. This Program Suite will successfully implement the GHG Reduction Measures.

**Keep Safe Miami Program:**

*Funding Sources: SSDN (non-federal, non-renewable, 2-year), HUD CDBG (federal, 1 year)*

*Additional Funding Applied For: EPA CPRG (pending)*

The City of Miami received a grant from the Southeast Sustainability Directors Network (SSDN) in 2020 to develop the Keep Safe Miami program. This SSDN grant enabled the City to fund Enterprise Partners to develop the energy resilience assessment tool, criteria for participating in the program, and technical assistant to help administer the assessment tool. The SSDN grant ended in 2022. The City uses U.S. Housing and Urban Development (HUD) Community Development Block Grant (CDBG) funds to administer the forgivable loans. While initial outreach in the beginning of the program was strong, the City has seen hesitancy from the building owners/operators to participate in the program due to a lack of incentives in implementing the GHG Reduction Measures. In addition, once grant funds for Enterprise Partners ran out only one year into implementing the program (the first year was spent designing the program and assessment), outreach to the development community on the availability of the program greatly decreased. The City is seeking CPRG funds to fund the building improvements shown through the assessment. The City will place a 10-year lien on the property to ensure that rents remain affordable, similar to other programs the City administers. The City will also use the 5-year CPRG funding to fund a position within the City to provide sustained outreach for the program to ensure its success in attracting participants and installing the nine (9) GHG Reduction Measures in our plan.

**Homeowner Preservation Program:**

*Funding Source: Miami Forever Bond (non-federal, non-renewable)*

*Additional Funding Applied For: EPA CPRG (pending)*

The City of Miami is using one-time funds from the Miami Forever Bond, a general obligation bond, to fund the Homeowner Preservation Program. This program is funded at $3,000,000 with funds allocated to eligible participants (up to $70,000) in each of the City’s five districts. Currently $1,300,000 are allocated to homes. Experience with the program shows that in some areas the demand exceeds the availability of funding. One district has an especially high demand as a City Commissioner candidate up for election campaigned the district and heavily socialized this program. This district has used all their allocated funding from this effort. Other districts did not receive this type of public engagement and if outreach were performed at a higher level, demand would also increase in other districts. Experience also shows that some properties, while eligible, were not able to move forward due to extensive termite damage that required funding above what the program allocated per home as trusses in the homes needed to be replaced to facilitate roof replacements. Termites are prevalent in southeast Florida and many homes are affected and tenting at regular intervals is needed to prevent and eradicate infestations. Tenting is expensive, approximately $2,000, and many low to middle-income or fixed income homeowners are not able to afford this measure, causing their homes to sustain structural damage in the trusses from termites. Initially 103 applicants were eligible for the program; currently 37 have proceeded to the engineering/site assessment phase, mostly due to structural issues within the homes. The middle-income resident eligibility causes the program to not quality for HUD CDBG funds. The City is seeking CPRG funds to expand the program to meet existing and future demand, increase up to $150,000 per eligible household in order to include additional structural improvements, add the ability to add solar panels to the newly constructed roofs, and provide a higher level of outreach to eligible participants to cast a wider net of low to middle-income homeowners to be able to benefit from the program to prevent displacement from climate gentrification. This funding will successfully install three (3) of the GHG Reduction Measures in our plan.

**Miami Cools Program:**

*Funding Source: American Rescue Plan Act (ARPA) federal, non-renewable)*

*Additional Funding Applied For: EPA EJ G2G Grant (not selected), EPA CPRG (pending)*

The City of Miami used one-time ARPA funds in 2020 to initiate Anti-Poverty Initiative Projects. The Miami Cools Program received a portion of this funding. Through this program the City provided 50 window air conditioning units to low-income residents (renters and homeowners) in need of cooling solutions. Due to the fact that public housing buildings in Miami-Dade County are not required to have air conditioning, many rental residents are in need of energy efficient cooling solutions. These and other types of cooling measures are important as they can be easily installed and at a relatively low cost. However, these measures have the potential to save long-term costs for the residents. The City is seeking CPRG funds to reinitiate this program and expand it to include other types of energy efficient cooling measures that can help renters live in resilience residences as well as save money on their utility bills. This funding will successfully install four (4) of the GHG Reduction Measures in our plan.

### Transformative Impact (15 possible points)

The City of Miami is taking actions to achieve our goal to be carbon neutral by 2050, with an interim goal to reduce 60% of our 2018 emissions by 2035. To meet these goals, the City needs funding to implement programs to reduce GHG emissions. As identified in both the [Miami Forever Climate Ready Strategy](https://www.miami.gov/files/sharedassets/public/v/1/miami-forever-climate-ready-2020-strategy.pdf) (adaptation plan) and [Miami Forever Carbon Neutral Plan](https://www.miami.gov/files/4e5f26f7-2622-4c90-834a-eaaa6aa3321e/Miami-Forever-Carbon-Neutral-FULL.pdf) (mitigation plan), residential programs are needed to prepare for and prevent climate change. The City of Miami prepares GHG Inventories to measure our progress toward reducing GHG emissions. In our 2019 Citywide GHG Inventory, Buildings (both Commercial and Residential) made up 56% of the City’s total GHG emissions. Of this, Residential Buildings represented 35% of the total emissions.

In the [Miami Forever Carbon Neutral Plan](https://www.miami.gov/files/4e5f26f7-2622-4c90-834a-eaaa6aa3321e/Miami-Forever-Carbon-Neutral-FULL.pdf), the City’s GHG Reduction Plan, goals and corresponding actions have been developed for the City to decarbonize. The goals that support the City of Miami Climate Ready Housing Program Suite include:

Goal 2: Renewable Energy: 110% carbon-free electricity by 2035

Goal 4: Energy Efficiency: Improve energy efficiency in buildings to decrease overall energy consumption and support achievement of Goal 2: Renewable Energy

Goal 5: New Green Economy - Additional Enabling Actions: Advocate and educate, integrate climate into governance, and reduce solid waste.

Through the CPRG’s funding of the City of Miami Climate Ready Housing Program Suite, the City can implement these actions from the [Miami Forever Carbon Neutral Plan](https://www.miami.gov/files/4e5f26f7-2622-4c90-834a-eaaa6aa3321e/Miami-Forever-Carbon-Neutral-FULL.pdf):

* Renewable Energy (R-4): Provide additional policy and financial incentives to encourage private solar installations and identify incentives that would appeal to owners of affordable housing.
* Energy Efficiency (E-6): Establish residential, single-family home energy conservation requirements.
* Energy Efficiency (E-8): Provide incentives for construction firms to use locally-sourced materials with low-embodied carbon and high-efficiency fixtures.
* Green Economy (A-11): Develop a financial and technical assistance program that helps residents, particularly low-income, to pursue climate action.

CPRG funding is expected to decrease carbon emissions in the City as described in Section 2. CPRG funding will have a transformative impact on reducing the City’s GHG emissions by scaling up established Climate Ready Housing programs. These programs were developed through community input spurred by the need to assist the public with the effects of climate change. These programs are limited in funding or are largely one-time funding sources. Expanding the programs’ impacts will have a profound impact on the lives of people living in the City.

The transformational impact of preventing climate gentrification is an impact of climate change most notably affecting the City of Miami. As the largest City in the County, on the coast of the Atlantic Ocean, and with a population experiencing a high rate of poverty juxtaposed with a smaller group of the population of extremely wealthy residents, the City sees increased inequities from the effects of climate change. Most of the higher-income residents live on the coast, where the land elevation is near sea level (approximately 3 feet above sea level). The higher land elevations tend to be inland, created geographically by a ridge that in some places is up to 12 feet and typically an average of 6 feet above sea level. These areas coincide with the City’s Climate Justice Communities. As the sea level rises, many wealthier residents will look to move inland to move away from increased flooding. Some developers are already purchasing entire blocks within the Climate Justice Communities as they see developing on higher land elevations as a better business model. This is creating cultural divides and pricing out existing residents who live in these areas, enabling gentrification to occur that is caused by climate change. Funding the City of Miami Climate Ready Housing Program Suite helps lower-income residents stay in their homes, both by being able to afford housing costs as well as have their homes be resilient to climate change.

Funding the expansion of these Programs enables:

* Reduction of existing greenhouse gases,
* Reduction of new GHG emissions to be produced,
* Decrease of residential energy bill burden,
* Ability to obtain residential wind insurance,
* Improvement of the City’s Federal Emergency Management Agency (FEMA) Community Rating Score which provides a reduction in new residential flood insurance policies,
* Stability of rental prices amid increased inflation and the City’s housing affordability crisis,
* Prevention of displacement for lower-income renters and homeowners,
* Prevention of overall climate migration, and
* Ability of the cultural integrity of the City to be maintained by preventing neighborhood redevelopment from climate gentrification.

## Section 2: Impact of Greenhouse Gas Reduction Measures (60 possible points)

Detailed information on the magnitude of both near-term and long-term cumulative GHG emission reductions, the relative cost-effectiveness of those reductions, and the reasonableness and quality of the assumptions and calculations used to determine the reductions and cost-effectiveness of those reductions are including in the Technical Appendix Attachment.

### Magnitude of GHG Reductions from 2025 through 2030 (20 possible points)

See Technical Appendix Attachment for magnitude of GHG Reductions from 2025 through 2030.

### Magnitude of GHG Reductions from 2025 through 2050 (10 possible points)

See Technical Appendix Attachment for magnitude of GHG Reductions from 2025 through 2050.

### Cost Effectiveness of GHG Reductions (15 possible points)

See Technical Appendix Attachment for cost effectiveness of GHG Reductions.

### Documentation of GHG Reduction Assumptions (15 possible points)

See Technical Appendix Attachment for documentation of GHG Reduction Assumptions.

## Section 3: Environmental Results – Outputs, Outcomes, and Performance Measures (30 possible points)

### Expected Outputs and Outcomes (10 possible points)

Implementation of the GHG Reduction Measures will have the following outputs and outcomes in the City:

***Expected Outputs and Outcomes***

|  |  |  |  |
| --- | --- | --- | --- |
| **PCAP Measure** | **GHG Reduction Measure** | **Outputs** | **Outcomes**  **(Outcomes below apply to every GHG Reduction Measure in the table)** |
| Measure #6 | R-01. Residential Heat Pump or High-Efficiency A/C Retrofits and Commissioning. | * Number of heat pump upgrades * Number of AC retrofit upgrades * Number of AC commissioning upgrades * Number of homes that measure is implemented * Megawatt-hours (MWh) electricity consumption reduced * Grid emission factors | * GHG reduction * Utility bill savings (costs estimated from MWHs saved) * Climate gentrification prevention, meaning less residents within climate justice communities will be forced from their homes due to climate related migration from wealthier communities. Reasons for being pushed out are various but can include the home’s habitability. * Enhanced City understanding of climate justice neighborhood needs, challenges, and solutions for climate change health and environmental effects. * Increased resident participation in City initiatives. |
| R-03. Residential LED Lighting. | * Number of LED lighting upgrades * Number of homes that measure is implemented * Megawatt-hours (MWh) electricity consumption reduced * Grid emission factors |
| R-04. Residential Enclosure Upgrades (with roof assessment). | * Number of air sealing upgrades * Number of windows weather-stripped * Number of door weather-striped * Number of insulation installations * Number of roofs assessed * Number of roofs replaced * Number of trusses replaced * Number of homes that measure is implemented * Megawatt-hours (MWh) electricity consumption reduced * Grid emission factors |
| R-05. Residential Window, Door, and Skylight Replacement with Assessment. | * Number of doors replaced * Number of windows replaced * Number of homes that measure is implemented * Megawatt-hours (MWh) electricity consumption reduced * Grid emission factors |
| R-06. Residential Efficient Appliances and Plug Load Management. | * Number and efficiency of residential energy efficiency upgrades * Number of windows tinted * Number of window coverings installed (blackout curtains, blinds) * Number of homes that measure is implemented * Megawatt-hours (MWh) electricity consumption reduced * Grid emission factors |
| R-07. Domestic Heat Pump for Hot Water. | * Number of heat pumps for hot water upgrades * Number of homes that measure is implemented * Megawatt-hours (MWh) electricity consumption reduced * Grid emission factors |
| R-09. Residential Smart Thermostats. | * Number of smart thermostats upgrades * Number of homes that measure is implemented * Megawatt-hours (MWh) electricity consumption reduced * Grid emission factors |
| Measure #7 | R-02. Solar Photovoltaics (PV). | * Number of solar panels installed * Number of homes that measure is implemented * Megawatts (MW) of Solar Photovoltaics Installed |
| R-08. Domestic Solar Hot Water Heater. | * Number of solar hot water heater upgrades * Number of homes that measure is implemented * Kilowatts (KW) of Solar Hot Water Heater Installed |

City of Miami does not anticipate that the GHG reduction measures enacted through this Suite will have significant co-pollutant (CAP and HAP) emissions changes.

### Performance Measures and Plan (10 possible points)

For each GHG Reduction Measure, the City of Miami will track, measure, and report progress toward achieving the expected outputs and outcomes as described above. The City will hire a program manager to oversee the programs that will reside in the Office of Resilience and Sustainability. The programs will be administered by the Department of Housing and Community Development and Office of Capital Improvements for the Keep Safe Miami Program and Homeowner Preservation Program and the Department of Human Services and Office of Capital Improvements for the Miami Cools Program. The Office of Capital Improvements will hire contractors to install the GHG Reduction Measures. The program manager will work with staff in these programs and compile data to track each of the GHG Reduction Measures per home, as well as the total number of measures. These tracking requirements will be contractual obligations for the contractors in which they have to report on a quarterly basis through a progress report. The City will provide a template of the quarterly progress report that needs to be submitted. The City will use ICLEI – Local Governments for Sustainability software to calculate the GHG emission reductions.

The following Performance Measurement Plan will be used to track, measures, and report progress:

***Performance Measurement Plan***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  | **Deliverable** | **Submittal** | **Submittal Process** | **Deliverable Performance Measures** |
| **Performance Measures to Evaluate Contractors’ Progress** | Progress Reports | Quarterly | Contractor submits to the City of Miami | 1. Activities and sub(tasks) successfully implemented 2. Project adhering to schedule and milestones reached 3. Expenses in-line with budget 4. Outputs and Outcomes reported 5. Timeliness in resolving challenges 6. Expected activities for next quarter 7. In-person & social media engagement |
|  | Year End Report | Annually (appendix to 4th Quarter report) | Contractor submits to the City of Miami | 1. Deliverables completed 2. Outputs achieved 3. Outcomes achieved 4. Expenditures to date in alignment with budget 5. Issues that were appropriately prevented and/or resolved |
| **Performance Measures to Evaluate the City’s Progress** | Progress Reports | Semiannually | City of Miami submits to EPA | 1. Technical progress 2. Accomplishments 3. Milestones achieved 4. Outputs and outcomes 5. Planned activities for next 6 months 6. Expenditures to date 7. Community engagement 8. Strategies for mitigating environmental risk (if applicable) 9. Job quality |
|  | LIDAC Benefits Report | 1 year after grant award (submit with Year 1 Semi Annual Report #2) | City of Miami submits to EPA | 1. Quantified benefits to LIDAC communities 2. Changes in co-pollutant emissions 3. Estimate of total benefits to occur in LIDAC communities 4. Community engagement measures |
|  | Final Report | Completion of Project | City of Miami submits to EPA | 1. Summary of measures installed 2. Outputs achieves 3. Outcomes achieved 4. Cost of measures 5. GHG emissions reduced 6. Co-pollutants reduced 7. Summary of public engagement 8. Problems, successes, and lessons learned that could be addressed |

### Authorities, Implementation Timeline, and Milestones (10 possible points)

The City of Miami has authority to administer residential programs that reduce greenhouse gases. In 2021 the state of Florida passed legislation that limits local governments’ ability to enact or enforce any policies that restrict or prohibit the types or fuel sources of energy production. Though the City cannot require our residents to replace their existing natural gas systems, we can encourage and incentivize upgrading to electric appliances, use of carbon-free energy sources, and the construction of net zero buildings. Meeting this objective can be greatly encouraged with City-provided incentives.

The following departments/offices within the City have authority to implement each GHG Reduction Measure:

**Authorities and Roles/Responsibilities**

|  |  |  |
| --- | --- | --- |
| **Authorities** | **Roles/Responsibilities** | **GHG Reduction Measure** |
| **Miami Department of Housing and Community Development (HCD)** | Existing HCD staff will:   * Administer the Keep Safe Miami Program * Administer the Homeowner Preservation Program * Determine eligibilities to participate in each program * Administer the lottery for the Homeowner Preservation Program * Track budgets for each program | Measure #6:   * R-01. Residential Heat Pump or High-Efficiency A/C Retrofits and Commissioning. * R-03. Residential LED Lighting. * R-04. Residential Enclosure Upgrades (with roof assessment). * R-05. Residential Window, Door, and Skylight Replacement with Assessment. * R-06. Residential Efficient Appliances and Plug Load Management. * R-07. Domestic Heat Pump for Hot Water. * R-09. Residential Smart Thermostats.   Measure #7:   * R-02. Solar Photovoltaics (PV). * R-08. Domestic Solar Hot Water Heater*.* |
| **Miami Department of Human Services (HS)** | Existing HS staff will:   * Administer the Miami Cools Program * Administer the lottery for the Miami Cools Program * Determine eligibility to participate in program * Track budget for program | Measure #6:   * R-01. Residential Heat Pump or High-Efficiency A/C Retrofits and Commissioning. * R-03. Residential LED Lighting. * R-04. Residential Enclosure Upgrades (with roof assessment). * R-09. Residential Smart Thermostats. |
| **Miami Office of Capital Improvements (OCI)**    **and**  **Contractors Procured by OCI** | New OCI Project Manager and Existing OCI staff will:   * Oversee contractors for the Keep Safe Miami Program, Homeowner Preservation Program, and Miami Cools Program that will install the GHG Reduction Measures * Travel locally to housing units where GHG Reduction Measures are being installed and engage with residents who are participating in the Keep Safe Miami Program, Homeowner Preservation Program, and Miami Cools Program * Track outputs of GHG Reduction Measures for the Keep Safe Miami Program, Homeowner Preservation Program, and Miami Cools Program   The Contractors that OCI procures will:   * Implement contract budget * Assign contractor staff to install GHG Reduction Measures * Track metrics required by the City * Participate in monthly update calls with the City Project Managers * Develop quarterly progress reports with tasks completed, required metrics, and challenges encountered and submit to the City | Measure #6:   * R-01. Residential Heat Pump or High-Efficiency A/C Retrofits and Commissioning. * R-03. Residential LED Lighting. * R-04. Residential Enclosure Upgrades (with roof assessment). * R-05. Residential Window, Door, and Skylight Replacement with Assessment. * R-06. Residential Efficient Appliances and Plug Load Management. * R-07. Domestic Heat Pump for Hot Water. * R-09. Residential Smart Thermostats.   Measure #7:   * R-02. Solar Photovoltaics (PV). * R-08. Domestic Solar Hot Water Heater*.* |
| **Miami Office of Resilience and Sustainability (ORS)** | New ORS Project Manager will:   * Oversee tracking, reporting, and management of the Keep Safe Miami Program, Homeowner Preservation Program, and Miami Cools Program * Provide outreach for the Keep Safe Miami Program, Homeowner Preservation Program, and Miami Cools Program * Assist building owners/operators with completing energy resilience assessments for the Keep Safe Miami Program * Engage with building owners/operators for the Keep Safe Miami Program * Track outcomes of GHG Reduction Measures for the Keep Safe Miami Program, Homeowner Preservation Program, and Miami Cools Program * Work with stakeholders to expand the Green Economy and outreach to disadvantaged communities on green jobs created with CPRG funding * Travel to annual conferences or workshops to provide a presentation on or discuss the project that EPA hosts or other stakeholders host in order to provide awareness and outreach on the project * Prepare semiannual Progress Reports and submit to EPA * Prepare end of Year 1 LIDAC Benefits Reports and submit to EPA * Prepare Final Report after completion of project and submit to EPA | Measure #6:   * R-01. Residential Heat Pump or High-Efficiency A/C Retrofits and Commissioning. * R-03. Residential LED Lighting. * R-04. Residential Enclosure Upgrades (with roof assessment). * R-05. Residential Window, Door, and Skylight Replacement with Assessment. * R-06. Residential Efficient Appliances and Plug Load Management. * R-07. Domestic Heat Pump for Hot Water. * R-09. Residential Smart Thermostats.   Measure #7:   * R-02. Solar Photovoltaics (PV). * R-08. Domestic Solar Hot Water Heater*.* |

The following Implementation Milestones and Timeline will be adhered to:

**Implementation Timeline and Milestones**

|  |  |  |
| --- | --- | --- |
| **YEAR 1 (OCTOBER 2024 – SEPTEMBER 2024)** | | |
| **Task 0: Project Administration** | | |
| **Activity** | **Responsible Entity** | **Dates** |
| Project start date | EPA | October 2024 |
| Accept grant funds through City Commission | ORS | December 2024 |
| Hire Project Manager for Office of Resilience and Sustainability | ORS | October 2024 – January 2025 |
| Hire Project Manager for Office of Capital Improvements | OCI | October 2024 – January 2025 |
| Complete Quality Assurance Plan | ORS | February 2025 |
| Procurement of Contractor for Keep Safe Program | OCI | November 2024 – May 2025 |
| Procurement of Contractor for Homeowner Preservation Program | OCI | November 2024 – May 2025 |
| Procurement of Contractor for Miami Cools Program | OCI | November 2024 – May 2025 |
| Year 1 Semi-annual EPA Progress Report #1 | ORS | March 2025 |
| Work with stakeholders to expand the Green Economy | ORS | May 2025 |
| Year 1 Semi-annual EPA Progress Report #2  (including LIDAC Benefits Report) | ORS | September 2025 |
| **Task 1: Keep Safe Miami Program** | | |
| **Activity** | **Responsible Entity** | **Dates** |
| Develop outreach materials | ORS | March 2025 |
| Provide outreach to eligible building owners/operators | HCD | April – September 2025 |
| Assist building owners/operators with completing energy resilience assessments | ORS | May – September 2025 |
| **Task 2: Homeowner Preservation Program** | | |
| **Activity** | **Responsible Entity** | **Dates** |
| Develop outreach materials | ORS | March 2025 |
| Provide outreach to eligible homeowners | HCD | April – August 2025 |
| Hold lottery for multi-year program | HCD | September 2025 |
| **Task 3: Miami Cools Program** | | |
| **Activity** | **Responsible Entity** | **Dates** |
| Develop outreach materials | ORS | March 2025 |
| Provide outreach to eligible homeowners and renters | HS | April – June 2025 |
| Hold lottery for multi-year program | HS | July 2025 |

|  |  |  |
| --- | --- | --- |
| **YEARS 2-4 (OCTOBER 2025 – SEPTEMBER 2028)** | | |
| **Task 0: Project Administration** | | |
| **Activity** | **Responsible Entity** | **Dates** |
| Year 2 Semi-annual EPA Progress Report #1 | ORS | March 2026 |
| Year 2 Semi-annual EPA Progress Report #2 | ORS | September 2026 |
| Year 3 Semi-annual EPA Progress Report #1 | ORS | March 2027 |
| Year 3 Semi-annual EPA Progress Report #2 | ORS | September 2027 |
| Year 4 Semi-annual EPA Progress Report #1 | ORS | March 2028 |
| Year 4 Semi-annual EPA Progress Report #2 | ORS | September 2028 |
| **Task 1: Keep Safe Miami Program** | | |
| **Activity** | **Responsible Entity** | **Dates** |
| Assist building owners/operators with completing energy resilience assessments | ORS | 1st – 4th Quarter of FY |
| Conduct baseline energy assessments | OCI | 1st Quarter of FY |
| Implement Keep Safe Miami Program. Install GHG Reduction Measures in apartment buildings. Annual goal: 20 multifamily buildings/80 housing units per year (0.04% of total housing/year)  Measures include: - R-01. Heat pumps or high efficiency AC retrofits and commissioning - R-02. Solar PV (800 kW installed/year) - R-03. LED lighting - R-04. Enclosure upgrades - R-05. Window, door, and skylight replacements - R-06. Efficient appliances and plug load management - R-07. Heat pump for hot water - R-08. Solar hot water heater - R-09. Smart thermostat | OCI | 2nd – 4th Quarter of FY |
| **Task 2: Homeowner Preservation Program** | | |
| **Activity** | **Responsible Entity** | **Dates** |
| Conduct baseline energy assessments | OCI | 1st Quarter of FY |
| Implement Homeownership Preservation Program. Install GHG Reduction Measures in single-family homes buildings. Annual goal: 20 single family homes per year (0.009% of total housing)  Measures include: - R-02. Solar PV (200 kW installed/year) - R-04. Enclosure upgrades - R-05. Window, door, and skylight replacement | OCI | 2nd – 4th Quarter of FY |
| **Task 3: Miami Cools Program** | | |
| **Activity** | **Responsible Entity** | **Dates** |
| Conduct baseline energy assessments | OCI | 1st Quarter of FY |
| Implement Miami Cools Program. Install GHG Reduction Measures in renter-occupied units. Annual goal: 50 housing units per year – 25 single family homes, 25 units in multifamily (.02% of total housing)  Measures include: - R-01. Heat pumps or high efficiency AC retrofits and commissioning - R-03. LED lighting - R-04. Enclosure upgrades - R-09. Smart thermostat | OCI | 2nd – 4th Quarter of FY |

|  |  |  |
| --- | --- | --- |
| **YEAR 5 (OCTOBER 2028 – SEPTEMBER 2029)** | | |
| **Task 0: Project Administration** | | |
| **Activity** | **Responsible Entity** | **Dates** |
| Year 5 Semi-annual EPA Progress Report #1 | ORS | March 2029 |
| Year 5 Semi-annual EPA Progress Report #2 | ORS | September 2029 |
| Final Report | ORS | December 2029 |
| **Task 1: Keep Safe Miami Program** | | |
| **Activity** | **Responsible Entity** | **Dates** |
| Assist building owners/operators with completing energy resilience assessments | ORS | 1st – 4th Quarter of FY |
| Conduct baseline energy assessments | OCI | 1st Quarter of FY |
| Implement Keep Safe Miami Program. Install GHG Reduction Measures in apartment buildings. Annual goal: 20 multifamily buildings/80 housing units per year (0.04% of total housing/year))  Measures include: - R-01. Heat pumps or high efficiency AC retrofits and commissioning - R-02. Solar PV (800 kW installed/year) - R-03. LED lighting - R-04. Enclosure upgrades - R-05. Window, door, and skylight replacements - R-06. Efficient appliances and plug load management - R-07. Heat pump for hot water - R-08. Solar hot water heater - R-09. Smart thermostat | OCI | 2nd – 4th Quarter of FY |
| **Task 2: Homeowner Preservation Program** | | |
| **Activity** | **Responsible Entity** | **Dates** |
| Conduct baseline energy assessments | OCI | 1st Quarter of FY |
| Implement Homeownership Preservation Program. Install GHG Reduction Measures in single-family homes buildings. Annual goal: 20 single family homes per year (0.009% of total housing)  Measures include: - R-02. Solar PV (200 kW installed/year) - R-04. Enclosure upgrades - R-05. Window, door, and skylight replacement | OCI | 2nd – 4th Quarter of FY |
| **Task 3: Miami Cools Program** | | |
| **Activity** | **Responsible Entity** | **Dates** |
| Conduct baseline energy assessments | OCI | 1st Quarter of FY |
| Implement Miami Cools Program. Install GHG Reduction Measures in renter-occupied units. Annual goal: 50 housing units per year – 25 single family homes, 25 units in multifamily (.02% of total housing)  Measures include: - R-01. Heat pumps or high efficiency AC retrofits and commissioning - R-03. LED lighting - R-04. Enclosure upgrades - R-09. Smart thermostat | OCI | 2nd – 4th Quarter of FY |

## Section 4: Low-Income and Disadvantaged Communities (35 possible points)

The GHG Reduction Measures being utilized are designed to deliver benefits, and avoid disbenefits, to low-income and disadvantaged communities. These GHG Reduction Measures decrease carbon emissions, reduce energy bill burden, and prevent displacement from homes.

### Community Benefits (25 possible points)

The City of Miami is the largest municipality in Miami-Dade County and home to 439,890 residents, with 66% of these residents classifying as low-to-moderate income (LMI) and 21% living in poverty. The household median income is $47,860 compared to the national average of $70,784. As part of the development of the City’s GHG reduction plan the City worked with a Community-based Organization, Catalyst Miami, to identify the following Climate Justice Communities in the City:

***Allapattah*** is a working-class neighborhood known for its sizable Dominican American population. (84% Hispanic, 10.5% Black, 5.5% White/Other). Poverty level hovers between 26% and 32% (2015 U.S. Census). ***Liberty City*** is the heart of Miami-Dade County's largest African-American community. The median income is $18,000 and is 81% low-moderate-income (LMI) with 95% Black, 3% Hispanic and 2% White/Other. It was a thriving middle-class community until it fell victim to redlining. ***Little Haiti*** has a great social and cultural significance to the Haitian Diaspora - between 35% and 76% of residents identify as Haitian. Like Liberty City, Little Haiti is an area where more than 8 in 10 households are very low/low income. ***Little Havana*** serves as an entry point for many immigrants from Latin America/Caribbean, with 92% identifying as Hispanic and 52% speaking little to no English. Prior to the Affordable Care Act, 44% of residents carried no health insurance. ***Overtown*** was once a thriving center for commerce and arts for the Black community until the construction of I-95 in the 1960s tore the neighborhood apart. Overtown now has a majority Black population who are extremely low-income with a median income of about $13,000 per year. Most residents are renters (87%) and rent-burdened (56%) paying over 30% of their income in rent. ***West Coconut Grove*** is a historically Black community of Bahamian descendants. More than 40% of West Grove’s 3,000 Black residents live below the poverty level versus 21% of Miami residents. Real estate speculation and gentrification is ongoing in this area. The Black population has declined over 32% from 2000-2017, while the White population has increased by more than 176%.

**Climate Justice Communities / Disadvantaged Communities**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **EJ Screen Tool** | **Allapattah** | **Liberty City** | **Little Haiti** | **Little Havana** | **Overtown** | **West Grove** |
| **Socioeconomic Indicators** | **%ile in USA** | **%ile in USA** | **%ile in USA** | **%ile in USA** | **%ile in USA** | **%ile in USA** |
| People of Color | 93 | 95 | 91 | 93 | 86 | 80 |
| Low Income | 92 | 92 | 87 | 85 | 79 | 60 |
| Low Life Expectancy | 85 | 96 | 83 | 18 | 32 | 16 |
| **Health Disparities** | | | | | | |
| Current Asthma | 90th-95th | 95th – 100th | 90th-95th | 90th – 95th | 90th – 95th | < than 50th |
| Coronary Heart Disease | 90th-95th | 95th – 100th | 90th-95th | 90th-95th | 90th-95th | < than 50th |
| **Pollution and Sources** | | | | | | |
| Particulate Matter 2.5 (μg/m3**)** | 77 | 78 | 74 | 74 | 33 | 63 |
| Air Toxics Respiratory HI | 95 | 95 | 90 | 86 | 60th - 70th | 65 |

The City of Miami Climate Ready Housing Program Suite seeks to not only mitigate the environmental impacts but also prioritize equity by focusing on our Climate Justice Communities that fall under low-income and disadvantaged communities (LIDACs) within the City of Miami, aligning with the EPA’s definition of these communities. Our efforts are pivotal in mitigating climate change by reducing GHG emissions and tackling broader societal issues including energy burden, housing affordability, access to services, job opportunity, and public health. Central to our approach is of the importance of quantifying both direct and indirect benefits to low-income and disadvantaged communities (LIDACs), while also identifying potential disbenefits and outlining mitigation strategies.

**Direct and Indirect Benefits:**

Implementing residential energy efficiency and renewable energy measures in the City of Miami offers significant **direct benefits**, including mitigating climate impacts, increasing resilience, reducing energy bills, improving indoor air quality, and enhancing overall comfort, particularly crucial for our Climate Justice Communities in the City of Miami. In mitigating climate impacts and increasing resilience to climate change, our proposed measures focus on reducing reliance on fossil fuels and lowering energy consumption. Installing solar panels and solar hot water systems decreases GHG emissions, combatting climate change and reducing the risk of extreme weather. Additionally, energy-efficient measures such as insulation, sealing leaks, and upgrading heating and cooling systems not only reduce energy consumption but also mitigate climate impacts like extreme weather events. Improving building efficiency further reduces energy demand, lowering heat island effect in urban areas and decreasing health risks associated with extreme heat. The Miami metro area ranks third worst among the 44 largest U.S. cities in terms of the urban heat island effect. Employing renewable energy sources like solar panels provides decentralized energy generation will enhance resilience to power outages during extreme weather events and reduce reliance on centralized energy systems vulnerable to disruption.

The disproportionate energy burden faced by low- and moderate-income households in the Miami metropolitan area underscores the urgency of our energy efficiency and renewable energy measures. With one in four low-income households facing an energy burden above 11%, significantly higher than the national average, and 23% of all households experiencing high energy burdens.[[1]](#endnote-2) Black and Hispanic households are disproportionately affected, with 29% and 24% respectively facing high energy burdens, exacerbating broader socio-economic challenges in the community.[[2]](#endnote-3) Many of these households reside in older, less efficient buildings, leading to disproportionately higher energy bills and lower comfort levels. The U.S. Department of Energy has shown that energy efficiency measures can reduce energy bills by up to 29% for low-income families in Florida.[[3]](#endnote-4) Addressing the 'energy burden' is crucial as it not only affects household finances, but also exacerbates health disparities, forcing difficult tradeoffs between essential expenses like medications, childcare, and food. Higher energy burdens often correlate with higher incidences of asthma and other conditions, with 51% of households earning less than $25,000 reporting cutbacks on basic necessities to pay energy bills in the first quarter of 2022.[[4]](#endnote-5) [[5]](#endnote-6) Implementing energy-efficient measures aims to ease this burden by providing substantial cost savings that can be allocated to other essential, life-saving, needs such as healthcare, education, and food security. Enhancing indoor air quality through energy efficiency upgrades fosters healthier living environments, particularly crucial for vulnerable populations susceptible to respiratory ailments exacerbated by poor air quality.

Energy-efficient buildings reduce emissions of co-pollutants such as NOx, ozone, and PM2.5, resulting in improved air quality and reduced respiratory illnesses. Transitioning to renewable energy sources further lowers harmful pollutants associated with fossil fuel combustion, decreasing respiratory diseases and hospital admissions related to air pollution. These measures offer tangible benefits for low-income and disadvantaged communities (LIDACs), as demonstrated by their potential for co-pollutant reduction outlined in Table 5.6-2 of the PCAP. The City will utilize its existing network of PurpleAir sensors to monitor changes in air quality throughout the project period. In addition, the EPA FLIGHT tool shows that the FPL Turkey Point power plant does emit CO2, CH4, and N2O. While this power plant is not in the City of Miami, reduced energy use and use of carbon-free solar energy will contribute to reduced emissions.

The **indirect benefits** extend beyond immediate financial savings that encompass broader improvements in quality of life and community well-being in the City of Miami. Energy-efficient homes not only offer economic relief but also provide increased comfort and safety. Residents of LIDACs will experience enhanced thermal conditions year-round, reducing exposure to extreme temperatures and improving overall living standards.

However, in the pursuit of reducing GHG emissions, the City of Miami is mindful of potential disbenefits that can impact LIDACs. While our initiatives provide significant benefits, there is recognition of unintended consequences, particularly for low-income and disadvantaged communities in our City. Notably the lack of knowledge of maintaining newer technologies faced by low-income households may be a disbenefit that residents will face. To tackle this issue, we will provide advice on maintenance needs to energy efficient HVACs and heat pumps, how to operate solar hot water heaters, and what to expect from solar panel usage.

Quantifying the benefits of our initiatives is essential for demonstrating their effectiveness and ensuring accountability. Another unintended consequence of investment and retrofits is increased market attractiveness. The Keep Safe Miami program includes a property owner requirement to maintain rents below market rate to ensure current residents are not displaced by the increased value of the property.

The City will employ robust methodologies to measure the direct and indirect impacts on LIDACs, including reductions in energy consumption, GHG emissions, and co-pollutants. Through tools such as the AVoided Emissions and geneRation Tool (AVERT) and calculators from ICLEI – Local Governments for Sustainability, we will estimate the annual co-pollutant reduction in the city of Miami for our climate justice communities and assess the corresponding benefits for LIDACs. Additionally, ongoing data collection, analysis, and evaluation will be conducted throughout the grant period to track progress, identify areas for improvement, and adjust strategies as needed.

### Community Engagement (10 possible points)

Community engagement and participatory planning processes will be integral to decision-making, ensuring that the needs and voices of LIDAC residents are heard and prioritized throughout the implementation process. A key measure of the success of the CPRG planning phase for the South Florida PCAP was to incorporate input from affected stakeholders, particularly LIDACs and the public across four counties – Palm Beach County, Broward County, **Miami-Dade County**, Monroe County – in the Southeast Florida region. The major goals of these engagements included collaborating, transparency, providing access to information, and fostering discussions. These goals were achieved by conducting a community “needs/wants” survey to solicit feedback on LIDAC’s challenges, community priorities, and considerations as they pertain to reduction measures prioritized, as well as workforce development to support mitigation objectives. Further, stakeholder engagement sessions with LIDACs were organized to ensure targeted and localized engagement. Other groups invited to complete the survey and participate in the stakeholder engagement sessions included nonprofit organizations (e.g., faith-based, community-based, social service), local government, academic institutions, and others. The CEJST and the Environmental Justice Screening and Mapping Tool (EJScreen) were used to identify LIDACs. See the LIDAC Census Track Attachment of the census tracts of LIDACs in Miami.

The City of Miami has also developed climate resilience strategies to take action on reducing the effects of climate change. Through a collaborative process, the [Miami Forever Climate Ready Strategy](https://www.miami.gov/files/sharedassets/public/v/1/miami-forever-climate-ready-2020-strategy.pdf) was developed in 2020 to recognize the importance of engaging diverse perspectives and stakeholders to address climate challenges effectively. Residents, business owners, non-profits, universities, Committees, and staff, actively participated in identifying climate change challenges and proposing actionable solutions. Input was gathered through expert workshops, community meetings, online surveys, collaboration with academic institutions, and advisory panels. These actions are actively being implemented and tracked by the City’s Office of Resilience and Sustainability. Additionally, the establishment of an interdepartmental Resilience Action Group within the City of Miami government ensures ongoing collaboration and communication on resilience efforts. The results of these efforts are communicated to the public through a monthly Resilience newsletter.

Looking ahead, we are committed to maintaining meaningful engagement with low-income and disadvantaged communities throughout the life of the grant, similar to what has been done in our previous programs. By fostering ongoing participation and collaboration, we aim to ensure that the voices and needs of all community members are central to the successful implementation of our GHG Reduction Measures, fostering a more equitable and resilient future for Miami. The City of Miami is dedicated to fostering meaningful engagement with low-income and disadvantaged communities throughout the development and implementation of GHG Reduction Measures funded by this grant. Recognizing the importance of incorporating residents' perspectives and experiences into decision-making processes, the City will employ a variety of outreach methods to ensure early and consistent inclusion of diverse perspectives. To facilitate ongoing dialogue and feedback, the City will host regular town hall meetings, focus groups, and community forums specifically tailored to engage residents from low-income communities. These platforms will provide opportunities for residents to voice their concerns, provide suggestions, and offer feedback on the implemented initiatives. Additionally, community surveys will be conducted to assess residents' satisfaction levels and perceived benefits of the implemented initiatives.

In order to ensure that all Miami residents are well-informed about available programs and benefits, the City will implement targeted outreach strategies. Materials and communication efforts will be conducted in multiple languages, primarily English, Spanish and Creole, to cater to the diverse linguistic and cultural backgrounds of Miami's population. An updated section dedicated to energy programs will be maintained on the official City of Miami website, providing comprehensive information on available grants, rebates, and energy-saving tips. Press releases during the program lotteries will be scheduled as well as flyers and social media content will be posted online. Additionally, many of the City’s LIDAC communities feel more comfortable receiving information face-to-face and word of mouth. The City will provide in-person outreach at our City Parks facilities that serve as community centers for many neighborhoods throughout the City. City Commissioners will also provide information through their community liaisons and canvassing activities.

## Section 5: Job Quality (5 possible points)

The City of Miami is committed to expanding the green economy and creating high-quality, family-sustaining jobs with a workforce that is diverse, highly skilled that supports “high road” labor practices including the free and fair choice to join a union. Critical to Miami is ensuring that local businesses and residents economically benefit from sustainability and resilience efforts. Prioritizing green investments – those that support GHG mitigation and climate adaptation – will simultaneously facilitate economic development and diversification, achieve GHG mitigation goals, and support climate justice priorities. Miami’s green economy aims to realize our climate justice goals by providing middle-skill, living wage jobs, creating demand for workforce training opportunities, and promoting economic resilience for Miami’s socially vulnerable residents.

The green buildings sector, which includes energy efficiency contractors, electricians, and other specialty contractors, accounts for 35% of Miami’s green jobs. Today’s green building sector is the result of traditional industries investing in green buildings and retrofits. In 2019, traditional industries spent over $2 billion in Miami’s green buildings industry. The buildings sector also offers the opportunity for the growth in green jobs: green building jobs are currently just 13% of all buildings jobs, leaving 87% of jobs in this industry with the opportunity to become green. The renewable energy industry in Miami provides over 400 jobs, which is less than 30% of the total jobs in Miami’s energy sector. However, renewable energy jobs have grown by 16% in the past decade, showing that there is consistent local growth in this industry. This growth is driven by purchases from Miami’s traditional industry sectors (e.g., government, healthcare, tourism). In 2019, traditional industries spent nearly $600 million on renewable energy in Miami.

Construction field can elevate job opportunities, showing that a large in scope project can help train, place, and retain the underrepresented community in good-paying jobs. Acknowledging its socioeconomics, the City manages programs to develop the local workforce targeting businesses and job seekers in low-income areas such as: 1) Training & Certificates 2) Vouchers for training/job access 3) Small Business Navigators 4) On-The-Job Training and paid apprenticeship; and 5) Underemployed Navigators Readiness Program. Miami’s Opportunity Center connects job seekers with job opportunities and employment resources to gain income at or above a living wage. The City of Miami's Opportunity Center connects ready, willing, and able job seekers with local job opportunities and employment resources through our newest hiring platform. The City’s Opportunity Center and other training entities can partner with local green businesses to surface job orders, locate trainings in the City, and prioritize recruiting displaced, underemployed, or unemployed workers from climate justice communities. The City will gain an understanding of barriers to employment in the green economy and build relationships with workforce and education partners to develop programming to bridge the identified gaps.

CPRG funding will increase demand of green jobs by catalyzing the creation of more green building and renewable energy jobs to install the GHG Reduction Measures. As implementation takes off and demand for green buildings and retrofits grows, there will be corresponding demand for specialty contractors. Miami’s workforce will need to be prepared to fill these green buildings jobs or otherwise risk losing them to people outside the region. It will be critical for the City and economic development actors to market green jobs in the buildings industry, particularly to young people, and to develop and expand training pathways tailored to these jobs. New or expanded green workforce development opportunities will need to offer training to people entering the workforce and to re-skilling those already within the buildings and construction industry. Since these jobs tend to pay at or above the living wage, special attention should be given to recruiting and training potential employees from historically underinvested and climate justice communities.

The City of Miami will support the following policies to create jobs and increase the job quality of green jobs:

* Work with regional partners including Miami-Dade County, Beacon Council, the Chamber of Commerce, CareerSource, Florida Solar Energy Industries Association (FLaSEIA) and non-governmental organizations (NGOs), to identify a green economy champion to intentionally foster creation of a functioning, inclusive ecosystem which advances equity and opportunity through innovation. This will complement the regional efforts to build a South Florida Climate Tech Hub, an effort spurred by investment from the US Economic Development Administration.
* Dedicate time from the ORS Project Manager to support the green economy champion and to lead the City’s role in growing the green economy ecosystem.
* Offer relevant job trainings through the Opportunity Center and connect job seekers to local employers with a priority of recruiting displaced, underemployed, or unemployed workers from climate justice communities.

## Section 6: Programmatic Capability and Past Performance (30 possible points)

The City has programmatic capability and past performance experience to successfully implement this grant.

### Past Performance (10 possible points)

The City receives over $75,000,000 in federal grants yearly. They are awarded by various federal agencies for a host of programs and services including public safety, education, housing development, home buying and rental assistance, fire prevention, meals, transportation, public works and infrastructure, after-school care, economic development initiatives, emergency preparedness, job creation, training, green initiatives, art, and cultural programs. The City consistently successfully manages these agreements and complies with all programmatic and contractual requirements, including reporting. The following awards have been made directly to the City:

1. The Miami Region Securing The Cities Program

* Assistance agreement number – 20CWDSTC00007
* Federal funding agency – Department of Homeland Security
* Assistance listing number – 97.106
* Brief description of the agreement – Establishment and operation of the City of Miami’s goal of the Miami Region office in accordance to the Securing Cities Program. Grant funding utilized to develop local and regional capabilities to identify threads involving radioactive/nuclear materials.
* Contact – Ki L. Harvey, Deputy Director, [ki.harvey@hq.dhs.gov](mailto:ki.harvey@hq.dhs.gov)

1. City of Miami Charles Hadley Park Resilience Hub

* Assistance agreement number (if applicable) – Commerce Agreement Number: I0130
* Funding agency – Florida Department of Economic Opportunity, Assistance Listing Number, pass-thru CDBG
* Assistance listing number – 072220791
* Brief description of the agreement – Build a Resilience Hub to educate, distribute resources, transmit information and provide services to our residents before, during and after an incident such as a hurricane.  Funding utilized to increase resilience of critical facility by retrofitting the building envelop, installing a new generator and install charging stations.
* Contact– Anthony B. Spivey, Office of Long-Term Resiliency, 850-921-3187, [Anthony.Spivey@deo.myflorida.com](mailto:Anthony.Spivey@deo.myflorida.com)

1. FY 2022 Assistance to Firefighters (AFG) Grant

* Assistance agreement number (if applicable) – EMW-2022-FG-01526
* Federal funding agency – Department of Homeland Security, Federal Emergency Management Agency (FEMA)
* Assistance listing number – 97.044
* Brief description of the agreement – Grant to provide Fire Officer Development training.  The state-certified training will ensure firefighters have the skills, command capabilities, and knowledge to serve as scene commanders of a fire crew.
* Contact – Conor Jackman, Preparedness Officer, Assistance to Firefighters Grant Program | Grant Programs Directorate| Resilience, [Conor.Jackman@fema.dhs.gov](mailto:Conor.Jackman@fema.dhs.gov)

1. Project Title: East Little Havana Flood Improvements and Pump Station
   * Assistance agreement number – Community Development Block Grant Mitigation Program (CDBG-MIT) (Federal)
   * Agreement listing number – MT122
   * Non-federal funding agency – Florida Department of Commerce
   * Brief description of agreement – Design and construction of a new and upsized stormwater inlets and pipes, exfiltration trenches, gravity drainage wells, injection wells, and a new stormwater pump station with an outfall to the Miami River.
   * Contact – Anthony B. Spivey, Office of Long-Term Resiliency, 850-921-3187, [Anthony.Spivey@deo.myflorida.com](mailto:Anthony.Spivey@deo.myflorida.com)

### Reporting Requirements (10 possible points)

The federal grants described in Section 6.b. all require regularly scheduled reporting through official progress reports. The City successfully meets the deadlines for the progress report submittals and includes all necessary progress of tasks in these reports. Progress reports are typically monthly or quarterly.

Examples of information required in these progress reports include progress of procuring contractors, installing impact windows and doors in buildings, constructing large stormwater infrastructure, and implementing training programs. In addition, budget expenditures are included in progress reports.

### Staff Expertise (10 possible points)

**City of Miami: Sonia Brubaker** is the Chief Resilience Officer for City of Miami and the Director for the Office of Resilience and Sustainability. She works to reduce greenhouse gas emissions to mitigate the effects of climate change related to sea level rise, intense storms, and extreme heat and provides technical and management guidance on approaches to do so to City Departments, City Manager’s Office, City Commissioners, and City Mayor. Her work includes Climate Mitigation initiatives to reduce greenhouse gases by increasing energy efficiency, advancing renewable energy, increasing electric vehicle chargers throughout the community, and advocating for electrifying the City’s fleet; and Climate Justice initiatives to engage with disadvantaged communities to increase participation and prevent climate gentrification.

**City of Miami: Alissa Farina** is the Assistant Chief Resilience Officer for City of Miami and the Director for the Office of Resilience and Sustainability. She helped develop the regional urban resilience strategy, Resilient305, and the City’s Miami Forever Climate Ready adaptation plan. Her extensive experience in climate and environmental projects include leading: development of the City's greenhouse gas reduction plan, development of the community engagement strategies for Climate Ready and Carbon Neutral strategies, collaboration with Catalyst Miami to define climate justice in the Carbon Neutral plan and evaluate all actions for climate justice impact, and spearheading the implementation of the City’s Resilience Hub network program.

**City of Miami: Hector Badia** is the Director of the Office of Capital Improvements. He has over 30 years of experience in various facets of municipal planning, budgeting, and community development experience. He has delivered over 350 projects effectively, managing a budget of over $650 million and a day-to-day workforce of 50. He ardently designs, builds, and promotes the amenities and infrastructure that elevate life in the City, from Historic Preservation initiatives to construction and improvements of Parks, Marinas, Roadways and Public Facilities. He also previously worked as a project manager at an engineering and architectural firm.

**City of Miami: Alfredo Duran** is the Assistant Director for the Department of Housing and Community Development. He has over 30 years of experience managing housing programs.

**City of Miami: David Gilbert** is the Director for the Department of Human Services. He has over 20 years of experience in workforce and economic development. Prior to joining the City of Miami, David was the Assistant Director at CareerSource South Florida, where he managed various workforce development programs for at-risk youth, veterans, individuals with disabilities, homeless individuals and justice impacted individuals.

**City of Miami: ORS Project Manager** minimum requirements will include a bachelor’s degree in business or public administration, with experience in sustainability and/or resiliency. S/he will be responsible for developing project ideas, carry-out project related assignments and administer grant. S/he will be able to coordinate activities and meetings with partners, community organizations and residents.

**City of Miami: ORS Project Manager** minimum requirements will include a bachelor’s degree in engineering, architecture, or public policy with experience in project management and housing, sustainability, and/or resiliency. S/he will be responsible for developing project ideas, carry-out project related assignments and administer grant. S/he will be able to coordinate activities and meetings with partners, community organizations and residents.

## Section 7: Budget (45 possible points)

The budget for the Climate Ready Housing Programs Suite is contained in the separately attached Budget Narrative and separately attached Budget Spreadsheet. These attachments include a detailed description of the project budget and demonstrate that the City of Miami will properly manage grant funds.

### Budget Detail (20 possible points)

See attached Budget Narrative and attached Budget Spreadsheet.

### Expenditure of Awarded Funds (15 possible points)

See attached Budget Narrative.

### Reasonableness of Costs (10 possible points)

See attached Budget Narrative.

1. https://www.miamiherald.com/opinion/op-ed/article284021498.html [↑](#endnote-ref-2)
2. https://www.aceee.org/sites/default/files/pdfs/aceee-01\_energy\_burden\_-\_miami.pdf [↑](#endnote-ref-3)
3. https://www.energy.gov/sites/prod/files/2019/01/f58/WIP-Energy-Burden\_final.pdf [↑](#endnote-ref-4)
4. https://www.jchs.harvard.edu/blog/energy-insecurity-threatens-destabilize-households-winter [↑](#endnote-ref-5)
5. https://www.aceee.org/sites/default/files/pdfs/u2006.pdf [↑](#endnote-ref-6)