

Climate Pollution Reduction Grant

PREPARING ALAMO AREA WATER & ENERGY SYSTEMS FOR AN EQUITABLE & SUSTAINABLE FUTURE

Applicant Organization	City of San Antonio, Texas
Primary Contact	Douglas Melnick
Phone Number	(210) 207-1721
Email Address	douglas.melnick@sanantonio.gov
Type of Application	Individual Applicant
Funding Requested	\$164,131,870.95
Application Title	Preparing Alamo Area Water & Energy Systems for an Equitable & Sustainable Future
Brief Description of GHG Measures	Expansion of local solar generation capacity for electric and water utilities.
Sectors	Electricity Generation, Commercial and Residential Buildings
Expected Total Cumulative GHG Emissions Reductions	1,451,793 metric tons
Location(s)	San Antonio/Bexar County, Texas
Applicable PCAP Reference(s)	Alamo Area Priority Climate Action Plan
PCAP Website	https://www.epa.gov/system/files/documents/2024-02/alamo-area-5d-02f39101-0-pcap.pdf
List of GHG Reduction Measures	Grid Decarbonization
PCAP Page Numbers	Community Solar, page 38 - Project Concept, page 62



SECTION 1: OVERALL PROJECT SUMMARY AND APPROACH

Project Description

The City of San Antonio, Texas (COSA), in partnership with the CPS Energy, San Antonio Water System (SAWS), and the Texas Energy Poverty Research Institute (TEPRI) is seeking an Environmental Protection Agency (EPA) Climate Pollution Reduction Grant (CPRG) for the deployment of 102.5 MW of solar energy that will be used to provide clean energy alternatives, enhance regional water and energy resilience, provide low-income and disadvantaged community (LIDAC) benefit, and create innovative education and job opportunities. Through the successful implementation of this project, local solar capacity will be expanded, and cumulative Greenhouse gas (GHG) emissions will be reduced, further accelerating the decarbonization of COSA's existing power grid and water system.

Introduction to the COSA Project Partners

COSA (Lead Applicant): San Antonio is a vibrant city with a thriving economy, deep cultural heritage, and communities that are compassionate, inclusive, and proudly diverse. With a 2022 population of 1,472,909, it is the seventh largest city in the United States and one of the strongest fiscally managed cities in the country, nurturing entrepreneurship, encouraging investment and funding infrastructure. COSA fosters partnership and growth opportunities in aerospace, bioscience, cybersecurity, green technologies, healthcare, and information technology.

CPS Energy (Sub-recipient): Established in 1860, CPS Energy is the nation's largest community-owned natural gas and electric company serving more than 930,114 electric and 381,379 natural gas customers in San Antonio and portions of seven adjoining counties. CPS Energy's mission is to serve its community through reliable, competitively priced, and sustainable energy services in an equitable manner.

SAWS (Sub-recipient): Established in 1992, SAWS is a public utility owned by the City of San Antonio with a mission to provide "Sustainable, Affordable Water Services" and has developed a diversified water portfolio to ensure a sustainable, reliable supply for the community — even during times of severe drought. In 1995, 100 percent of San Antonio's water came from the Edwards Aquifer. Today, SAWS manages 13 supply projects originating from seven different sources, assuring a secure water future for our growing community. SAWS serves 2 million people in Bexar County as well as parts of Medina and Atascosa counties. The population includes more than 511,300 water customers and 457,600 wastewater customers.

TEPRI (Sub-recipient): Founded in 2015, TEPRI is accelerating the move towards an energy system that is affordable, reliable, sustainable, and supports healthy, thriving communities. TEPRI works in partnership with stakeholders from the energy sector and community-based organizations to conduct research, creates tools for practitioners, and demonstrate new models that can scale for widespread impact.

COSA is seeking \$164,131,870.95 of CPRG Tier B funding, at a 100% federal share, to implement this transformative project. The partnership between COSA, CPS Energy, and SAWS seeks funding to implement the following projects:

- Up to **100MW of community solar** for low-to-moderate income (LMI) residents and small disadvantaged business enterprises (MWBE), with special consideration placed on the most energy burdened households and census tracts,
- Up to **2.5MW of on-site solar** to help offset a portion of the electric consumption at H2Oaks, a critical SAWS water facility, home to three water supplies: desalinated water, aquifer storage and

recovery, and the local Carrizo aquifer,

- **10MW, 2-HR battery energy storage system (BESS)** to enhance resiliency at H2Oaks and other nearby electric customers,
- **Job training and workforce development programs**, and
- Program development and administration.

Description of GHG Reduction Measures

Project Specific GHG Reduction Measure: *Expand local solar energy capacity in San Antonio to reduce GHG emissions created from energy production.*

Connection to the Alamo Area Priority Climate Action

Plan (AAPCAP): *Expansion of community solar programs, privatization of projects with an energy and water nexus, projects that incorporate BESS.*

Preparing Alamo Area Water & Energy Systems for an

Equitable & Sustainable Future is a strategic effort towards decarbonization of San Antonio's energy grid and water system, which is consistent with EPA's quantified local action measures. Building on previous local and regional planning, the Alamo Area Council of Governments (AACOG) and COSA's Office of Sustainability developed the AAPCAP with the intent of identifying emission reductions that will have the greatest impact to the region and its residents. The AAPCAP identified strategies focus primarily on the Building, Energy and Transportation sectors. Priority strategies that align with this grant request include the expansion of **community solar programs**, projects that focus on the **energy and water nexus** and result in the decarbonization of water treatment and distribution systems, and projects that incorporate **BESS**. The incorporation of additional local carbon-free electricity into the power supply supports several quantified GHG Reduction Strategies including EV Adoption Residential and Commercial Solar, and Residential and Commercial Electrification (AAPCAP p. 38-39).

This project will result in the expansion of CPS Energy's solar generation capacity (previous projects are outlined in the sidebar) and further decrease the reliance on fossil fuel energy sources. Through the implementation of this project in San Antonio, GHG emissions will be reduced, as described in Section 2 of this grant application.

SA Climate Ready: A Pathway for Climate Action & Adaptation:

The AAPCAP follows previous climate action planning in San Antonio. Adopted by COSA's City Council in October of 2019, the *Climate Action and Adaptation Plan (CAAP) commits the community to achieving carbon neutrality by 2050*. Mitigation strategies were grouped into five prioritized goals, including: **increasing carbon-free energy**; reducing building energy consumption; reducing transportation energy consumption; advancing the circular economy; promoting biodiversity and healthy ecosystems; and **educating and empowering the community**. This project is consistent with the CAAP Strategy to "Reduce the Carbon Intensity of San Antonio's Energy Supply" and supports the plan's climate equity framework.

CPS ENERGY'S COMMUNITY SOLAR EXPERIENCE

Through their continued commitment to the adoption of solar in the community, CPS Energy has implemented the following local community solar programs:

- **2015 -1MW Roofless Solar**
Approximately 250 customers purchased 107.5-Watt panels in the program, which continues to be fully subscribed.
- **2018 – 5MW Roofless Solar Program Expansion** The program installed community solar panels on carports at commercial businesses across the San Antonio community which were sold to customers, who then received monthly bill credits for production of solar.
- **2024 - Up to 50 MW of Community Solar** Procurement is underway for CPS Energy's latest community solar outlay.



Project Elements and Tasks

The project team has collaborated to develop an implementation project that reflects the goals of the region. Project elements are identified in the four tasks listed as follows:

Task 1: Development of Community Solar

Task Owner: *CPS Energy, in partnership with COSA.*

Outcomes: *GHG reduction, access to affordable community solar and sustained financial benefit for LMI residents and small MWBEs, reduced number of energy burdened households.*

Building on its plan to increase access to clean, affordable electricity for LMI residents, CPS Energy will build up to 100 MW of new community solar. This initiative aims to reduce energy burden for the community's most vulnerable residents, as further described in Section 4. Furthermore, this initiative will support the transition from fossil-based energy assets to clean solar power generation with the potential to leverage Inflation Reduction Act (IRA) Direct Pay Benefits for Clean Energy Projects (See page 10).

Subtasks associated with this effort include:

- Completion of **site evaluations, including environmental and cultural assessments, and interconnection studies**, which will evaluate the infrastructure needs of the community solar project(s), evaluate candidate sites, and determine each site's effectiveness at meeting the needs of the community solar project. A site will be selected once the evaluation and interconnection studies are complete. Preliminary priority sites are described on page 4.
- Procurement and management of a third-party vendor(s) that will **develop the community solar project** at the identified site(s). This vendor will be responsible for engineering and design of the project, procurement and installation of the hardware and equipment required for the community solar development, final interconnection, as well as ongoing operations and maintenance. CPS Energy will provide any infrastructure additions or modifications to get the power to the transmission system.
- Build upon CPS Energy's **community solar initiatives** to increase access to LMI residents, **with a priority placed on the most energy burdened residents and small MWBEs**. To help ensure best practices are utilized to reach these customer groups, CPS Energy and COSA will collaborate with the Texas Energy Poverty Research Institute (TEPRI) as a sub-recipient to collaborate with the community to develop a LIDAC Solar Program with a foundation in community input and guidance. TEPRI will also monitor and report on LIDAC performance measures, such as participation rates, financial benefit, and number of energy burdened households impacted. The focus of reducing barriers to participation for these customer groups will also be included as a requirement in the solicitation of the vendor to implement and manage the program for CPS Energy.
- The target LIDAC financial benefit is to meet or exceed the EPA Solar for All (SFA) standard of ensuring a **minimum 20% household savings** for households served by this program.

SITE EVALUATIONS WILL CREATE A FOUNDATION FOR SUCCESS

Tasks 1, 2 and 3 begin with site assessments. These assessments are essential to an informed decision-making process. By evaluating alternative locations for both solar suitability and for impacts to the community, CPS Energy reduces risks associated with project implementation. Screening will include interconnection studies and essential inputs to the NEPA process (archaeology assessment, threatened and endangered species, and wetlands and water resources).

To support a data driven process, COSA has identified a performance monitoring program for this task, which is described in Section 3 of this grant request.

POTENTIAL LOCATIONS FOR COMMUNITY SOLAR

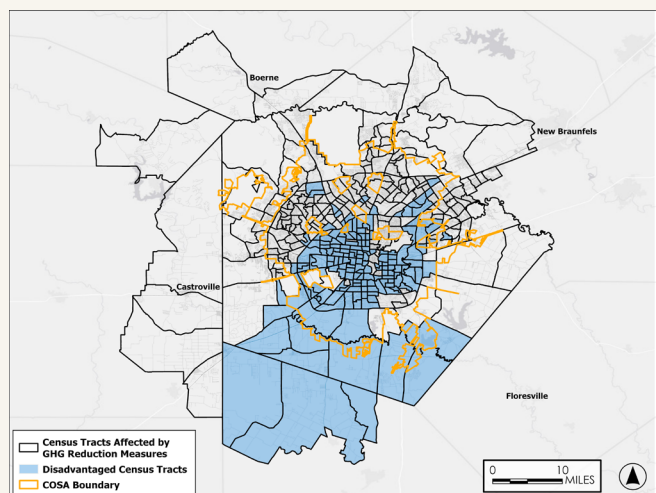
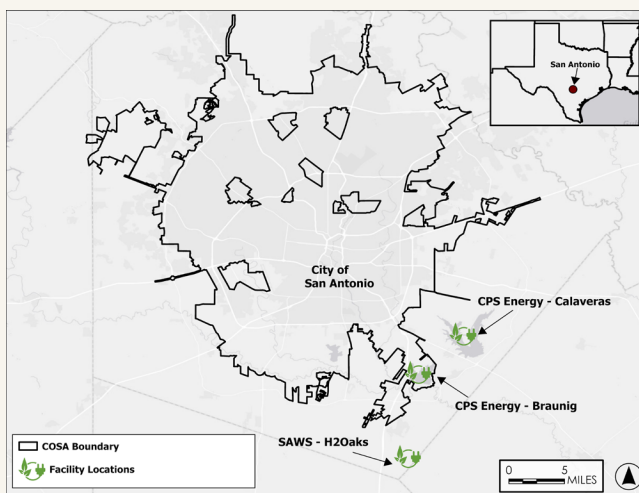
The initial task of the San Antonio CPRG Grant will be to finalize the most feasible location(s) for the community solar farm. The interconnection studies will evaluate the feasibility and cost effectiveness of developing the project at each priority location, including interconnection costs to the existing grid, unimpeded sunlight access, and potential infrastructure improvements, such as modifications or upgrades to circuits, switchyards, substations, breakers, buses, and any other transmission and distribution work that is required based on the interconnection study. Locations owned by CPS Energy or SAWS are being targeted, including:

Calaveras Power Station: The Calaveras Power Station is a series of power plants located in Bexar County, southeast of San Antonio. These plants include the natural gas steam boilers at O.W. Sommers Power Plant, the coal fired units at J.K. Spruce Power Plant, and the retired coal units at J.T. Deely Power Plant, all owned and operated by CPS Energy.

V.H. Braunig Power Station: Located in the City of Elmendorf, southeast of San Antonio, the V.H. Braunig Power Station is a gas-fired power plant that includes three natural gas steam boilers, a natural gas combined cycle unit and peaking turbines. Some of the fossil fueled units at these two CPS Energy-owned locations are planned to retire before 2030.

H2Oaks: The 6,000 acre SAWS H2Oaks Center is the only known location in the U.S. where a water utility produces three different water supplies at one location. With the H2Oaks Center sitting over the Carrizo-Wilcox aquifer formations, SAWS is able to serve the San Antonio community through the production of freshwater from the Carrizo Aquifer; brackish groundwater from the Lower Wilcox Aquifer at the Brackish Groundwater Desalination facility, the nation's newest inland desalination plant; and recovery of stored Edwards Aquifer water from the Aquifer Storage and Recovery (ASR) project. Using multiple water sources reduces impacts from drought conditions on the areas water supply.

"I truly think that what's happening here in San Antonio is the kind of thing that we need all across the western United States" – Former EPA Assistant Administrator Radhika Fox (2022)



Task 1 Potential Risks and Mitigation Measures/Strategies:

A project of this scale has risks, which include those identified below for Task 1. The COSA team has substantial expertise in this field and will be developing project elements with considerations for risk mitigation included.

POTENTIAL RISK	SEVERITY OF IMPACT OF THIS RISK	MITIGATION STRATEGIES
Inability to find a site that cost-effectively meets the needs of the project.	Medium – this issue may disrupt both the timeframe of project implementation and the potential benefit of implementation. Additionally, two sites may cost more to prepare, construct and maintain. Other line items, including those for hardware procurement, may have a reduced scope to make up for site constraints.	<ul style="list-style-type: none"> The evaluation will include a prioritization of site evaluation factors. This will allow the team to identify the site that successfully meets the needs of the most essential factors. Site analysis will include the option of having multiple smaller sites in case a large single site is not available.
Reduction of scope due to unit cost increases.	Medium – while cost increases may reduce the potential benefit of the implementation, CPS Energy's use of a single contractor for the implementation is a cost saving measure.	<ul style="list-style-type: none"> Cost estimates have included both a contingency factor and an inflation factor. The MW output can be reduced to meet the identified budget. While 100 MW of community solar is the goal, a project that includes less production will still be a transformative project for the region, which will lead to future community solar projects. The use of a single contractor for the community solar project allows the CPS Energy team to select a company that has experience with value engineering, procurement, and maintenance and operations. Having a single entity performing all tasks will allow CPS Energy and the contractor to consider life cycle costs throughout all elements of the implementation.
Increased national demand for community solar projects may cause supply and demand issues with component parts of the project, all of which meet federal requirements for domestic content.	Medium – An outcome of increased public investment in community solar is a greater need for the equipment and services associated with its implementation. If manufacturers are not able to keep up with the demand, the project implementation schedule may be delayed and/or the cost of equipment may increase.	<ul style="list-style-type: none"> The COSA team will be monitoring the cost and availability of equipment that will be included in this project so that they can plan ahead to reduce the severity of the impact. They will also coordinate with peers on supply availability issues to identify the need for domestic content waivers. The COSA team has substantial experience in negotiating grant agreements with the federal government. This experience will allow COSA to have a reduced grant agreement period, which will allow them to start their procurement activities quickly.
Extreme weather conditions can damage solar cells and degrade other equipment.	Low – the San Antonio area has severe weather that could damage the solar site. The weather events that are most likely to occur in this region are storms (hail, hurricanes and tornados), and droughts. While there have been moderately-severe earthquakes in Texas, the San Antonio area is considered low-risk for a substantial earthquake event.	<ul style="list-style-type: none"> The COSA team will require that the selected contractor include resilience strategies as part of the construction and operations of the community solar site. These resilience strategies will be based on both the likelihood of a weather/geological event and the potential damage that can be expected from these events.
Low participation and enrollment in community solar program by LMI residents and MWBEs.	Low – because the community solar program builds upon existing CPS Energy efforts to provide clean electricity to residents, there is existing community awareness and demand that will be leveraged.	<ul style="list-style-type: none"> CPS Energy will engage a vendor in the development and implementation of the community solar program. This contractor will work with CPS Energy, COSA and community stakeholders to develop the LIDAC solar benefits program, including strategies to increase participation, and policies and mechanisms that reduce the upfront costs of participating in the community solar program and ensure sustained financial benefit to the most energy burdened customers.

Task 1: Schedule and Milestones

TASK	YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Site Location Study																				
Procurement and Management of Community Solar Installation Contractor																				
Procurement and Management of Community Solar (LIDAC) Program Contractor																				
Performance Monitoring (described in Section3)																				

Task 2: Onsite Solar at SAWS H2Oaks

Task Owner: SAWS and CPS Energy, in partnership with COSA.

Outcome: GHG Reduction, enhanced regional water and energy resilience.

COSA and SAWS will leverage available land surrounding SAWS' H2Oaks facility to co-locate clean, resilient energy. This will involve the deployment of 2.5 MW of "behind-the-meter" on-site solar to support SAWS' H2Oaks facility, which will result in a reduction in electricity costs and associated carbon emissions.

The addition of 2.5 MW of behind the meter on-site solar will reduce the site's reliance on carbon-based energy sources and offset approximately 40% of the annual energy use for the Aquifer Storage and Recovery (ASR) and Desalination Plants.

Subtasks associated with this effort include:

- Completion of a **site location study and interconnection studies**, which will evaluate potential locations on the H2Oaks property as described on page 3.
- **Development of the identified behind-the-meter solar site**, including site preparation, procurement and installation of equipment, and interconnection infrastructure.

To support a data driven process, COSA has identified a performance monitoring program for this task, which is described in Section 3 of this grant request.

WATER AND ENERGY NEXUS

This project will address the energy-water nexus which, according to the **USDOE** "are interdependent systems" and requires a "coordinated and integrated approach. This project addresses this nexus, as SAWS is one of CPS Energy's largest electric customers and uses a large amount of electricity to produce and distribute potable water to homes and businesses and treat wastewater throughout the area.



Task 2 Potential Risks and Mitigation Measures/Strategies:

The development of on-site solar at H2Oaks will have less risk than the community solar program. The COSA team has identified the following potential risks, most of which are consistent with the risk categories identified for community solar, and associated mitigation strategies associated with this project.

POTENTIAL RISK	SEVERITY OF IMPACT OF THIS RISK	MITIGATION STRATEGIES
Reduction of scope due to unit cost increases.	Low – while cost increases may reduce the potential benefit of the implementation, this construction and equipment needs for this task are at a much smaller scale than the community solar project.	<ul style="list-style-type: none"> Cost estimates have included both a contingency factor and an inflation factor.
Increased demand for community solar projects may cost supply and demand issues with component parts of the project, all of which meet federal requirements for domestic content.	Medium – An outcome of increased public investment in community solar is a greater need for the equipment and services associated with its implementation. If manufacturers are not able to keep up with the demand, the project implementation schedule may be delayed and/or the cost of equipment may increase.	<ul style="list-style-type: none"> The COSA team will be monitoring the cost and availability of equipment that will be included in this project so that they can plan ahead to reduce the severity of the impact. They will also coordinate with peers on supply availability issues to identify the need for domestic content waivers. The COSA team has substantial experience in negotiating grant agreements with the federal government. This experience will allow COSA to have a reduced grant agreement period, which will allow them to start their procurement activities quickly.
Extreme weather conditions can damage solar cells and degrade other equipment.	Low – the San Antonio area has severe weather that could damage the solar site. The weather events that are most likely to occur in this region are storms (hail, hurricanes and tornados), and droughts. While there have been moderately-severe earthquakes in Texas, the San Antonio area is considered low-risk for a substantial earthquake event.	<ul style="list-style-type: none"> SAWS and CPS Energy will coordinate in the development of resilience strategies that will be focused on reduction of impact by weather and other natural events.

Task 2: Schedule and Milestones

TASK	YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Site Location Study																				
Development of Behind-the-meter Solar Site																				
Performance Monitoring (described in Section 3)																				

Task 3: Energy Storage to Enhance Resilience

Task Owner: CPS Energy

Outcome: Enhanced regional water and energy resilience.

In addition to the on-site solar, a 10 MW, 2-HR battery energy storage system will be added on circuits that feed SAWS H2Oaks facility. The battery will be connected to the transmission grid and will help demonstrate islanding capability (micro-grid) and increase resilience and buffer against temporary outages for both the H2Oaks facility and surrounding customers.

The Energy Storage part of this proposal is complimentary to other work CPS Energy is doing to increase resiliency in the community. CPS Energy is currently in the negotiation phase with the U.S. Department of Energy (DOE) for a \$30M **Grid Resilience & Innovative Partnerships (GRIP) grant**. The DOE funds will advance CPS Energy's Community Energy Resiliency Program, focused on grid innovation, including the deployment of BESS and microgrids throughout their service area.

Subtasks associated with this effort include:

- Completion of a **site location study and interconnection studies**, which will evaluate potential locations on the circuit feeding the H2Oaks facility (as described on page 3).
- **Development of battery storage site**, including site preparation, procurement and installation of equipment, and interconnection to infrastructure.

To support a data driven process, COSA has identified a performance monitoring program for this task, which is described in Section 3 of this grant request.

Task 3 Potential Risks and Mitigation Measures/Strategies:

The implementation of Task 3 is of comparatively lower risk than Tasks 1 and 2. Potential risks and identified mitigation strategies are identified below.

POTENTIAL RISK	SEVERITY OF IMPACT OF THIS RISK	MITIGATION STRATEGIES
Project delays or budget increases due to availability of battery energy storage system.	High – Availability and cost of systems will limit the effectiveness of this task item. However, the on-site solar will still function in real time without this equipment. This equipment expands the impact of the on-site solar as it allows power generated through on-site solar to be captured and stored for use during periods of low solar generation.	<ul style="list-style-type: none"> • The COSA team will be monitoring the cost and availability of equipment that will be included in this project so that they can plan ahead to reduce the severity of the impact. They will also coordinate with peers on supply availability issues to identify the need for domestic content waivers. • The COSA team has substantial experience in negotiating grant agreements with the federal government. This experience will allow COSA to have a reduced grant agreement period, which will allow them to start their procurement activities quickly.

Task 3: Schedule and Milestones

TASK	YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Site Location Study																				
Procurement and Development of Battery Storage Site																				
Performance Monitoring (described in Section 3)																				

Task 4: Program Development and Administration

Task Owner: COSA, in partnership with CPS Energy, SAWS and TEPRI

Outcome: Enhanced engagement of the LIDAC Community, with a focus on workforce development and job training. Adherence to federal aid grant requirements.

This task includes program tasks that will support the effective implementation of the grant,

increase community awareness about the project, and create workforce development opportunities. Understanding that a project of this scale will require a local workforce that can support the solar project's life cycle, the COSA team has developed a strategy to fund and implement workforce development programming as part of this grant request. **In an effort to increase community impact and grow the local solar job workforce, the team will expend 1.8% of the project costs on solar workforce training programs.**

Subtasks associated with this effort include:

- **Grant administration activities**, which will be based out of the COSA Office Sustainability.
- **Development, implementation and monitoring of workforce development and job training programs**, led by the City of San Antonio's Workforce Development Office (WDO).
- **Workforce development and training activities**, coordinated by the WDO and administered by third-party contractors with a proven track record administering similar programs.
- **LIDAC Solar Program Development and Engagement activities focused on LIDAC communities** led Texas Energy Poverty Research Institute (TEPRI) with support from COSA Office of Sustainability and CPS Energy.

To support a data driven process, COSA has identified a performance monitoring program for this task, which is described in Section 3 of this grant request.

Task 4 Potential Risks and Mitigation Measures/Strategies:

Programming associated with Task 4 can be flexible dependent on need and availability of resources. To reduce the impact of the potential programming, the following risks have been identified, with mitigation strategies to reduce the impact of the risk.

POTENTIAL RISK	SEVERITY OF IMPACT OF THIS RISK	MITIGATION STRATEGIES
Cost escalation on contractual activities for workforce development implementation based on the type of workforce training activities needed to meet market demand.	Low – Cost increases will reduce the reach of workforce development activities, either the amount of individuals trained, the variety of trainings offered, or the class contact hours.	<ul style="list-style-type: none"> • The City of San Antonio's Workforce Development Office will lead this effort. This office has substantial local experience implementing workforce development strategies, and developed this budget based on previous implementation efforts. • The request for quotations will clearly stipulation minimum assumptions related to target reach, either number of participants, variety of trainings, and/or class contact hours. These assumptions will be conservative, given the budget.



Task 4: Schedule and Milestones

TASK	YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Grant Administration Activities																				
Development and Monitoring of Workforce Development and Job Training Programs																				
Workforce Development and Training Activities																				
LIDAC Solar Program Development and Engagement																				
Performance Monitoring (described in Section 3)																				

Demonstration of Funding Need

COSA is seeking **\$164,131,870.95 of Tier B** funding through the Implementation Grant of the EPA's Climate Pollution Reduction Grant (CPRG). This project is part of a widescale regional effort to reduce GHG emissions, as identified in the AAPCAP. To implement the activities identified in the AAPCAP, COSA and their partners have identified sources of funding to support the variety of activities identified in the plan.

- **IRA Direct Pay:** The COSA team has evaluated the potential use of IRA Direct Pay solar investment tax credits for this project. Based on the identified scope of the project, the COSA team estimates a potential of up to \$60,900,000 in tax credits (dependent on final community solar project location). If COSA, CPS Energy, and SAWS receive these tax credits, the team will reinvest this savings into programming associated with this grant, including expanding workforce development and/or providing direct financial benefit through existing, enhanced, or new COSA, CPS and SAWS low-income assistance programs. A summary of potential IRA's Direct Pay tax credits is below:

SITE	BASE	ENERGY COMMUNITY	WAGE & APPRENTICESHIP	DOMESTIC CONTENT MINIMUMS	TOTAL ITC %	ITC VALUE
Community Solar: H2Oaks	6.00%	N/A	24.00%	10.00%	40.00%	\$44,000,000
Community Solar: Calaveras and/or Braunig Power Stations	6.00%	10.00%	24.00%	10.00%	50.00%	\$55,000,000
SAWS On-site Behind the Meter	6.00%	N/A	24.00%	10.00%	40.00%	\$1,900,000
Battery Storage	6.00%	N/A	24.00%	N/A	30.00%	\$3,000,000

- **Loanstar Revolving Loan Program:** COSA and their partners intend to leverage the Texas State Energy Conservation Office's (SECO) Loanstar Revolving Loan Program that provides low-interest loans to local governments to undertake energy efficiency and renewable energy programs. In 2023, COSA received Loanstar Loans for a 13MW municipal on-site solar project and is well versed in the application requirements.
- **Solar for All (SFA):** The City of San Antonio is a member of the Texas SFA Coalition, a collaborative effort to low-income residents to benefit from solar and storage programs, increase clean energy jobs, and empower communities in the Lone Star State. On behalf of the Coalition, Harris County applied to the EPA's SFA Competition in the amount of \$316,000,000 to support diverse approaches to providing the benefits of solar to low-income residents. If awarded, the City of San Antonio will receive \$35,000,000 for solar program implementation, workforce development, and outreach.

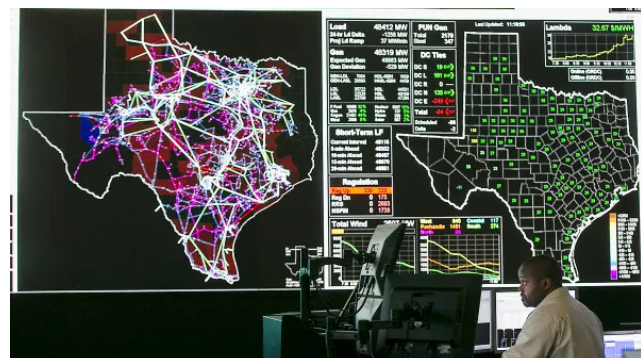
The San Antonio SFA Residential Solar Program will incorporate residential on-site solar on rooftops and parking lots using SFA financial assistance grant dollars. The program will provide direct benefit to low-income households and leverage City investments in affordable housing, urban heat island mitigation, weatherization, and resilience. Solar and BESS may also be incorporated into select community facilities or common areas within an affordable housing development. **While SFA funding will be utilized for installing distributed on-site solar in target LIDAC communities, CPRG Implementation Funding will be utilized to provide direct financial benefit to San Antonio's most energy burdened communities who are unable to take advantage of on-site solar.**

Transformative Impact of this Project

This project is of **regional impact, as the resilience, clean energy, and LIDAC benefits would span both the CPS Energy and SAWS service areas.** CPS Energy's service area includes Bexar County and portions of its 7 surrounding counties and SAWS serves Bexar County, as well as parts of Medina and Atascosa counties, numerous suburban municipalities and several military bases.

Impactful and sustained GHG reductions require a comprehensive and coordinated approach. This project provides a unique approach to emission reductions and resilience through a partnership between a local government and its two municipally-owned utilities. Not only does this project reduce GHG emissions associated with CPS Energy's regional electricity generation, but it also reduces the GHG emissions from the SAWS H2Oaks facility.

In addition, this project provides significant resilience benefits through dependable, renewable electricity production for an Electric Reliability Grid of Texas (ERCOT) grid that continues to experience periods of record-breaking demand during periods of extreme heat and cold. This increased grid resilience is also complemented by increased resilience in the SAWS water system through the proposed 2.5MW on-site solar installation and 10MW BESS.



Finally, this project enables educational and workforce partners to train San Antonio residents to help construct this project, as well as future solar projects, and utilizes a grassroots model to work with stakeholders through a community process. This process will result in an increased understanding of the barriers to LIDAC community participation in community solar programs and create financial mechanisms that ensure that LIDAC and energy-burdened residents and small MWBE's receive sustained financial benefit from clean energy programs.

This project will transform COSA, CPS Energy, and SAW's approach to implementing GHG reduction programming and will serve as a model for future implementation efforts regionally and across the country.

Based on the current scope, this project will reduce GHG emissions by 1,451,793 metric tons of CO₂ between 2025 and 2050. This reduction will be further explained in the following sections of this grant.

SECTION 2: IMPACT OF GHG REDUCTION MEASURES

Through the implementation of the proposed community solar project and the installation of on-site solar at SAWS H2Oaks, GHG emissions are forecasted to be reduced. As part of the grant application, GHG emission reduction calculations were prepared using a combination of EPA's *Avoided Emissions and Generation Tool (AVERT)* and CPS Energy's *Vision 2027 Power Generation Resource Plan* approved in January 2023 (*2022 Community Impact Report, CPS Energy*). All emission reduction totals provided below are presented in terms of metric tons of CO₂-equivalent, calculated using the global warming potentials in the IPCC's Fifth Assessment Report. The methodology and assumptions for the emission reduction calculations from grid decarbonization included in the grant application are described in greater detail in the technical appendix.

Magnitude of GHG Reductions from 2025 through 2030

Through the expansion of local solar power generation, GHG reductions will be achieved by diverting power generation from emission producing power sources such as coal and natural gas to zero emitting solar. The current CPS Energy electric generation portfolio has a blended mix of resources including coal, natural gas, nuclear, and renewables. The implementation of the proposed community solar and H2Oaks on-site solar project are estimated to reduce GHG emissions by 675,958 metric tons of CO₂ from 2025 through 2030. This significant emission reduction is expected to be exceptionally durable as the average solar capacity factor in the region is dependable. Even though solar power is intermittent due to only being available during the day, when it is online it is a reliable source and helps during the peak times at the hottest part of the day. Solar panels are currently made from durable materials that can withstand harsh weather conditions creating a reliable source of renewable energy. High quality solar panels, inverters, and system design paired with an acceptable maintenance program will show lasting emission reduction benefits. The short-term impacts of the expanded solar power network will provide a reliable, durable, and significant source of GHG emission reductions.

Magnitude of GHG Reductions from 2025 through 2050

To identify the longer-term emission reductions from 2025 through 2050, an estimate was prepared. The expansion of local solar power generation will provide GHG reductions beyond 2030 and into the future due to its reliability and durability practices discussed above. Although solar panels do lose capacity over time current solar panel technology materials are seeing expected useful lives of 25 years, producing sufficient electricity generation through the end of the analysis period. Estimated GHG reductions are expected to be 1,451,793 metric tons of CO₂e from 2025 through 2050 from the implementation of the proposed community solar project and on-site solar at SAWS H2Oaks.



Cost Effectiveness of GHG Reductions

As part of the application a cost effectiveness calculation was prepared. For this grant application's purposes, cost effectiveness is defined as below.

$$\text{Cost effectiveness of GHG reductions} = (\text{Requested CPRG funding}) / (\text{Sum of Quantified GHG reductions from CPRG funding from 2025-2030})$$

The cost effectiveness for this project is \$164,131,870.95 / 675,958 or \$242.81 per reduced metric ton of CO2.

SECTION 3: ENVIRONMENTAL RESULTS – OUTPUTS, OUTCOMES, AND PERFORMANCE MEASURES

Expected Outputs and Outcomes

The proposed community solar project and the installation of on-site solar at SAWS H2Oaks, is a strategic effort towards decarbonization of COSA's energy grid and water system, which is consistent with EPA's quantified local action measures. This project aligns with the AAPCAP

Through the implementation of community solar project, installation of on-site solar at SAWS H2Oaks, and the overall expansion of the solar capacity in San Antonio, GHG emissions are expected to be reduced.

THE COSA TEAM'S COMMITMENT TO A RIGOROUS EVALUATION PROCESS

This project, if awarded, will be transformational to the region, and can advance the national research agenda in the areas of community solar, the use of solar to power water utility operations, and subsidized workforce development activities tied to the solar industry. In addition to the required progress reporting, the COSA team will develop a performance measurement strategy for each task, including the measurement item, the methodology for collection of data related to that item, the strategy for analysis and the mechanism for sharing results.

In the evaluation of GHG reduction, CPS Energy and Alamo Area Council of Governments (AACOG) (Letter of Support in Appendix) will collaborate, with CPS Energy focusing on outputs related to the solar investment and AACOG focusing on regional and localized emission data.

To understand the impact of solar power and battery investments at the H2Oaks, CPS Energy and SAWS will collaborate on outputs related to the energy source mix, as well as programmatic and partnering best practices.

The impact of the community engagement activities and the workforce development programming will be evaluated by TEPRI and will focus both on output (number of community engagement events, workforce development opportunities, and participants) and outcomes (change in participation in, or knowledge of, community solar; increase in solar job opportunities; increase in available solar workforce).

The COSA Team will also coordinate with research institutions including the Southwest Research Institute (SwRI) (Letter of Support in Appendix) and the University of Texas at San Antonio (UTSA) to use the data and methods identified for this project to progress academic research in this field, including the energy-water nexus and the impact of solar panels on the urban heat island effect.

The implementation of community solar is estimated to reduce GHG emissions by 674,958 metric tons of CO₂ from 2025 through 2030.

Estimated GHG reductions are expected to be 1,451,793 metric tons of CO₂ from 2025 through 2050 from the implementation of Community Solar, on-site solar at SAWS H2Oaks, and the expansion of solar power in San Antonio.

After completion of the proposed solar project, CPS Energy will continue to monitor its performance and compare actual power generation output with the original identified scope. In addition to GHG emission reductions, expected outcomes of this project include:

- Lower energy demand and residential/commercial energy expenditures.
- Reduced energy bills for residents in low-income and disadvantaged communities
- Enhanced community engagement, both in scope and in amount of engagement activities
- Increased participation in community solar programming, including growth in LIDAC and BIPOC participation.

Performance Measures and Plan

The City of San Antonio conducts a GHG Inventory (GHGI) every two years to measure emissions reduction progress against goals in the Climate Action and Adaptation Plan. The most recent community and municipal GHGI was completed by COSA using 2021 data.

The AACOG has begun monitoring fine particulate matter to prepare for potential nonattainment in 2026. AACOG is unique among councils of governments in having in-house photochemical modeling expertise, which will facilitate the development of data collection for the GHGI. The results of this data collection and evaluation will be used to evaluate this project's effectiveness, combined with the other proactive regional efforts to reduce GHG.

Throughout the performance period, COSA will report semi-annually on the project's progress. The progress reporting requirements will be specified in the grant agreement, but will include the following elements, consistent with the NOFO.

THE PROJECT LOCATION IS CURRENTLY IN NON-ATTAINMENT STATUS UNDER NAAQS 2015

Bexar County was designated nonattainment under the 2015 National Ambient Air Quality Standard (NAAQS) for ground-level ozone in September 2018. A recent revision to the NAAQS for fine particulate matter may put Atascosa County, Bexar County, and others at risk of a nonattainment designation by 2026. GHG emission reductions resulting from this proposal will have a co-benefit of reducing fine particulate matter and ozone precursors.

Overseeing sub-recipients, and/or contractors and vendors

- Sub-recipient contracting and oversight
- Procurement documentation for contractors and vendors
- Progress of technical studies and deliverables
- Update on risk profile and mitigation efforts

Tracking and reporting project progress on expenditures and purchases

- Project expenditures, by cost category
- Project expenditures by sub-recipients
- Reporting of quantifiable benefits to LIDAC
- Reporting of ongoing and planning community engagement activities

Tracking, measuring, and reporting accomplishments and proposed timelines/milestones

- Progress on milestones, by percent completion and adherence to planned timelines
- Reporting on other accomplishments of the project that are not identified as milestones
- Evaluation strategy (measures, outputs and outcomes) and progress on data collection and analysis.
- Planned activities for the next reporting period.

Authorities, Implementation Timeline, and Milestones

		YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Task 1	Site Location Study																				
	Procurement and Management of Community Solar Installation Contractor																				
	Procurement and Management of Community Solar (LIDAC) Program Contractor																				
	Performance Monitoring																				
Task 2	Site Location Study																				
	Development of Behind-the-meter Solar Site																				
	Performance Monitoring																				
Task 3	Site Location Study																				
	Procurement and Development of Battery Storage Site																				
	Performance Monitoring																				

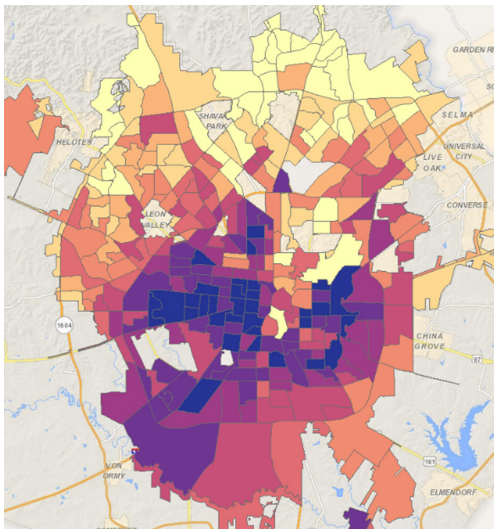


Figure 1- COSA Equity Atlas

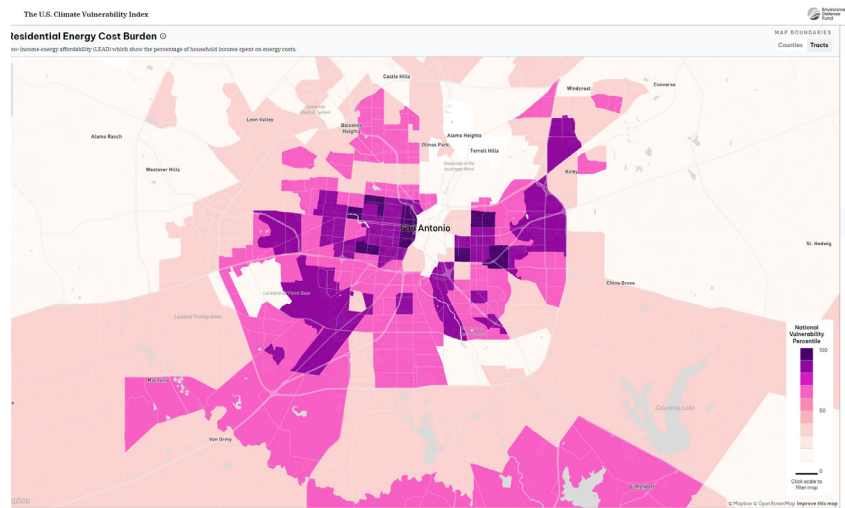


Figure 2- Residential Energy Burden

Direct Benefits

This project would result in four direct benefits to low-income and disadvantaged communities: **improved air quality, reduced energy costs, increased community awareness and trust, and access to job training in solar industries.**

- **Improved Air Quality through Conversion to Clean Energy Sources**

This project seeks to reduce GHGs through the deployment of community solar and the use of solar at H2Oaks to offset the use of fossil-based energy for San Antonio's water supply. Reducing GHG emissions leads to improved air quality, resulting in fewer cases of respiratory illnesses, cardiovascular diseases, and other health impacts. *Research published in the journal Nature found that LIDAC in the United States had a higher risk of death due to exposure to GHG.* The disproportionate impacts are due to the location of pollutant sources, including high volume traffic corridors and industrial uses, near LIDAC.

By increasing local solar capacity, COSA and their project partners will reduce the amount of energy generated from high-emission sources. This change in power source will improve air quality regionally, and specifically in areas near GHG-emitting power plants. Vulnerable populations, such as children, the elderly, and those with pre-existing health conditions, benefit the most from cleaner air. Improved air quality and a healthier environment make outdoor activities more enjoyable and accessible. Communities benefit from increased participation in recreational activities such as walking, biking, hiking, and outdoor sports, leading to improved physical and mental well-being.

- **Increased Community Awareness and Trust**

San Antonio has a history of redlining and inequity, and continues to be one of the most economically segregated large cities in the country. As a result, there continues to be mistrust of government and institutions. This

COMMUNITY SOLAR TARGETED AT RESIDENTS WITH THE GREATEST ENERGY BURDEN

A household is considered to have an energy burden when more than 6% of that household's income is utilized to pay for their home energy costs. In San Antonio 21% of CPS Energy customers fall into this category. Nearly half of the households in Bexar County fall under the federal poverty line or are employed, but asset-limited and income-constrained.

mistrust often results in LIDAC residents not fully taking advantage of resources or programs that can help reduce their energy consumption, save money, and improve household resilience. The proposed LIDAC Solar Program and partnership between TEPRI, CPS Energy, and the COSA Office of Sustainability will provide an opportunity and framework to co-create a program that will truly reflect and address the needs of our most energy-burdened residents and MWBEs. At the same time, these stakeholders will not only learn about the benefits of solar and what they are getting by participating but will be provided with valuable information about CPS Energy's efficiency programs and applicable residential clean energy IRA tax incentives.

- **Reduced Energy Costs through the LIDAC Solar Program**

The LIDAC Solar Program will build upon and expand current CPS Energy efforts to provide the benefit of solar to low-to-moderate income (LMI) customers. However, TEPRI will work with community stakeholders to expand current programs to create mechanisms to ensure that San Antonio's most energy burdened households and small MWBEs not only participate but realize meaningful and sustained financial benefit. These mechanisms include reducing barriers to participation, which often include upfront costs, access to financing, language barriers, and lack of program awareness, and traditional barriers to solar, such as home ownership, roof integrity, shading and the need for upfront capital. Grant funds awarded will significantly reduce the cost of developing and interconnecting the community solar farm.

- **Access to Job Training in the Solar Industry**

To support job creation and workforce development, **this project has allocated 1.8% of the project cost (\$3,000,000) to workforce development programs.** These programs, which will be coordinated by the City of San Antonio's **Workforce Development Office (WDO)** with support from CPS Energy and SAWS will focus on jobs in the solar industry.

Investing in workforce development holds significant importance, particularly for the City of San Antonio. As illustrated in Figure 1 (page 16), San Antonio exhibits pronounced disparities in both race and income. These disparities not only stem from historical redlining practices but also from disparities in job opportunities available to its residents.

The maps below, sourced from a Lightcast Occupation Snapshot for San Antonio, provide a snapshot for San Antonio jobs 2023, with Figure 3 depicting electrician jobs and Figure 4 showing solar photovoltaic installer jobs. Both professions are integral to the advancement of solar projects. However, a notable trend is that many of these employment opportunities are concentrated in the more affluent northern zip codes of San Antonio, leaving areas characterized by high levels of inequity with disproportionately fewer job prospects.

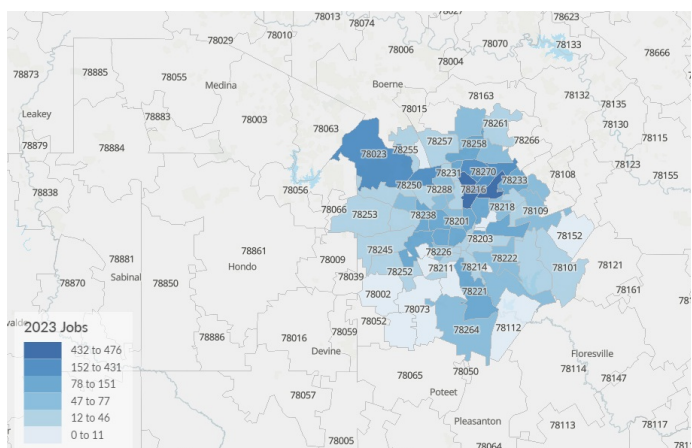


Figure 3 - Electrician Jobs

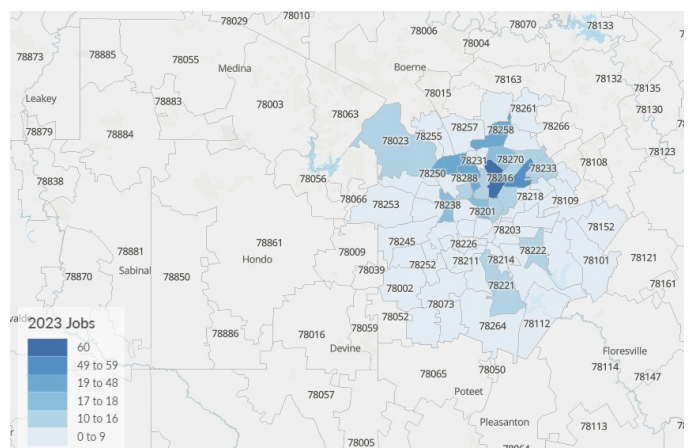


Figure 4- Solar Photovoltaic Installers

Through this program, the investment of CPRG grant funds, and the deep partnerships between COSA's WDO and workforce training organizations, the project partners are committed to increasing the availability of good paying, green jobs in LIDAC communities.

Indirect Benefits

Decarbonizing power generation offers numerous community benefits that align with the EPA's mission of protecting human health and the environment. By decreasing the carbon footprint of electricity production, COSA is doing its part to reduce the risk of extreme weather events and disruptions to ecosystems and agriculture. This benefits the community by safeguarding public health, protecting infrastructure, and preserving natural resources for future generations. Moreover, decarbonizing power generation fosters local economic development and job creation. Investments in renewable energy infrastructure, energy efficiency upgrades, and clean technology innovation stimulate economic activity, attract private investment, and create high-quality jobs across various sectors. These economic benefits extend beyond the energy industry, supporting local businesses, suppliers, and service providers and enhance the overall resilience and competitiveness of our community's economy.

In addition to environmental and economic benefits, decarbonizing power generation enhances energy security, and mission readiness at the many San Antonio area military bases. Diversifying the area's energy sources and reducing reliance on fossil fuels reduces vulnerability to supply disruptions, price volatility, and geopolitical risks associated with traditional energy sources. This improves energy affordability, reliability, and stability for residents, businesses, and critical infrastructure, particularly during emergencies or natural disasters. By prioritizing energy efficiency and renewable energy deployment in underserved communities and low-income neighborhoods, the City addresses energy affordability challenges, reduces energy burdens, and empowers vulnerable populations to participate in the clean energy transition.

Disbenefits

There are no anticipated disbenefits as a result of the project. Construction is proposed at locations already owned by CPS and SAWS, and construction activities will not impact nearby residents.

Assessments and Reporting

This project, if awarded, will be transformational to the region, and can advance the national research agenda in the areas of community solar, the use of solar to power water utility operations, and subsidized workforce development activities tied to the solar industry. In addition to the required progress reporting, the COSA team will develop a performance measurement strategy for each task, including the measurement item, the methodology for collection of data related to that item, the strategy for analysis and the mechanism for sharing results.

In the evaluation of GHG reduction, CPS Energy and AACOG Letter of Support in Appendix) will collaborate, with CPS Energy focusing on outputs related to the solar investment and AACOG focusing on regional and localized emission data.

MILITARY CITY USA

The largest and most diverse joint base in the Department of Defense (DoD), JBSA is comprised of four primary locations: Camp Bullis, Fort Sam Houston, Lackland Air Force Base, and Randolph Air Force Base. JBSA expands out across a total of eleven geographically separated parcels of land consisting of 46,539 acres, and 35 million square feet in facilities that support over 266 mission partners. Not only in San Antonio but for the nation by accomplishing diverse training, flying, medical, cyber, intelligence and installation support missions every day, JBSA trains more students from the DoD and has more active runways than any other installation.

To understand the impact of solar power and battery investments at the H2Oaks, CPS Energy and SAWS will collaborate on outputs related to the energy source mix, as well as programmatic and partnering best practices.

The impact of the community engagement activities and the workforce development programming will be evaluated by TEPRI and will focus both on output (number of community engagement events, workforce development opportunities, and participants) and outcomes (change in participation in, or knowledge of, community solar; increase in solar job opportunities; increase in available solar workforce).

The COSA Team will coordinate with research institutions including the Southwest Research Institute (SwRI) (Letter of Support in Appendix) and the University of Texas at San Antonio (UTSA) to use the data and methods identified for this project to progress academic research in this field, including the energy-water nexus and the impact of solar panels on the urban heat island effect.

Community Engagement

The COSA team is dedicated to fostering meaningful engagement with key stakeholders, diverse community organizations, and the public. Before completion of the AAPCAP, the City adopted the *SA Climate Ready Plan*, San Antonio's first Climate Action and Adaption Plan (CAAP). SA Climate Ready identified climate equity as an emphasis and included robust community engagement in the plan development. A specialized Climate Equity Working Group was recruited to represent diverse voices and met monthly for almost 2 years to define climate equity. Implementation strategies within the CAAP were evaluated for accessibility, affordability, cultural preservation, health, and safety and security. During plan development, all stakeholder groups identified energy security and utility preparedness for climate impacts as a top priority.

The COSA Office of Sustainability offers capacity-building grants to community-based organizations to bolster communications with under-represented residents. Organizations are chosen for their unique networks and their dedication to furthering education and empowerment around climate action, environmental justice, and community resilience.

Inclusion of Low-income and Disadvantaged Communities in the Application

A fundamental strategy in San Antonio's CAAP and the AAPCAP is educating and empowering the entire community to tackle the greatest challenge of our time. Initial stakeholder engagement consisted of bulk electronic communication of two surveys: one for residents and the other for institutional and public sector organizations. Specific outreach was focused on low-income and disadvantaged communities as well as the organizations that serve disadvantaged and harder to reach groups. Organizations involved in the development of AAPCAP are included in **Other Attachments**.

Scope and Schedule for Engagement Throughout the Life of the Grant

The COSA team is committed to creating a transparent planning process that provides opportunities for meaningful engagement early and consistently. The approach for engagement throughout the life of the grant includes the following activities:

- Developing a community engagement plan,
- Convening a Stakeholder Advisory Committee to assist with program co-creation and implementation,
- Hosting accessible community meetings and grassroots engagement activities in collaboration with Community and Faith-Based Organizations in the most energy burdened census tracts, and

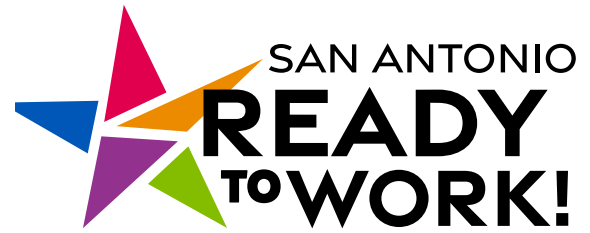
- Communicating project information through multiple, accessible channels.
- Transparent reporting of LIDAC program outcomes and continued engagement with the community to ensure outcomes are being met and a commitment to amend the program if needed.

As part of this project, engagement activities and feedback collected from the public will be documented and accessible on the City's website. Community members will be able to review presented materials and feedback provided. Community engagement activities related to the development of the community solar program and workforce development activities will occur in year 1 of the grant. The implementation of both programs will occur in years 2-5, which will include frequent educational and engagement opportunities.

SECTION 5: JOB QUALITY

This project is positioned to further the Administration's goal of creating high-quality family sustaining jobs.

As part of this project, 1.8% of the total budget will be used for workforce development activities. The City of San Antonio's WDO will work with local organizations to implement trainings focused on job skills needed for solar jobs. This includes electricians, welders, project managers, and land development workers. San Antonio Ready to Work (RTW) is the City's premier education and job placement program. San Antonio voters have allocated a 1/8-cent sales tax revenues to help residents gain access to training and education necessary to fill current and future vacancies in quality jobs in high demand. Over 400 employers have pledged to support RTW. Over 70 approved training providers offer over 850 courses that are aligned with specific target occupations that are as well-paid and in high demand, including Construction, Trades, Utilities, and Manufacturing. This grant could expand and enhance these offerings in trades and manufacturing with an emphasis on clean energy. With a particular focus on women and LIDACs, new courses could tailor learning modules to address and overcome hurdles commonly faced in this industry.



RTW has engaged national subject matter experts to help understand key barriers to successful training completion and job placement, which include poverty, historic injustice, lack of childcare, and criminal backgrounds. Recently RTW hosted an Equity Summit powered by the Good Jobs Great Cities (GJGC) Academy, supported by the National League of Cities and the U.S. Department of Labor, to address these barriers while emphasizing clean energy workforce alignment.

The EPA's CPRG would provide a major steppingstone for San Antonio residents, particularly from LIDAC census tracts, interested in training in clean energy careers. By ensuring that underserved populations including women are (1) provided quality instruction and (2) supported with access to quality childcare, we can expand the talent pool while uplifting residents.

How the grant can help:

1. *Increase quality training opportunities for clean energy careers*

Currently RTW offers several courses in the trades, including a Multi Craft Core Curriculum (MC3) course taught by the North America's Building Trades Unions. This grant could expand and enhance these offerings among others in trades and manufacturing with an emphasis on clean energy.

2. *Increase access to quality childcare resources while in training*

A recent RTW study indicated that 81% of people who need childcare lack funds to access it. Of these, 70% must rely on friends and family or stay home to care for their children. The grant could supplement childcare funding, which would open doors to parents committed to learning. Not only

would that improve the livelihoods of the parents, but also of the children. RTW would willingly leverage the U.S. Department of Labor Women's Bureau's Leveraging Infrastructure Networks for Equity (LINE) *Tools For Building An Equitable Infrastructure Workforce*.

In addition to RTW, the COSA Office of Sustainability is currently developing a "SA Climate Corps" to train and provide jobs to youth and low-income residents from San Antonio's Black, Indigenous, and People of Color (BIPOC) neighborhoods. These individuals will gain essential job training, a living wage, and will contribute to the well-being and resilience of the communities they call home. As part of this program, which complements the White House's American Climate Corps, SA Climate Corps workers may be engaged to assist with the deployment of this CPRG project.



This project not only creates immediate employment opportunities in construction and energy related industries, but the benefits continue long term through regional economic competitiveness and resiliency. Through decarbonizing infrastructure, the region will see enhanced productivity, reduced costs, and increased economic growth. The COSA team is committed to fostering an environment full of quality jobs, reflecting the eight principles of good jobs identified by the Departments of Commerce and Labor.

SECTION 6: PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE

The COSA team is led by the City of San Antonio. The City is a regular recipient of federal funding, through direct discretionary and formula programs and pass-through funding through the State of Texas. The following table provides examples projects from the past three years.

Project 1

Project Title	ATD FY 2019 Intelligent Traffic System
Funding Source	Federal Highway Administration, through Texas Department of Transportation
Federal Assistance Listing Number	20.205
Fiscal Year	2019
Brief Description	Installation of 77 traffic monitoring cameras to advance the operations of roadways throughout San Antonio
Funder Point of Contact	TxDOT AFA Contact: Mark Mosley TxDOT Construction Contact: Dale Picha/Jorge Ramos
Summary of Deliverables	The Citywide Intelligent Transportation Systems (ITS) Enhancements Project will install 77 traffic monitoring cameras, upgrade 31 signalized intersections with advanced vehicle detection, and install travel time data collectors along four top corridors throughout San Antonio.
Summary of Compliance with Reporting Requirements	Single Audit in FY 2020 and received no findings, or an unqualified opinion. https://www.sanantonio.gov/Portals/0/Files/Finance/FY2020-ComprehensiveAnnualFinancialReport.pdf https://www.sanantonio.gov/Portals/0/Files/Finance/FY2020-ComprehensiveAnnualFinancialReport.pdf PDF page 442 No other state or city compliance requirements apply.

Project 2

Project Title	AAMPO Corridor Mobility Planning
Funding Source	Federal Highway Administration, through Texas Department of Transportation
Federal Assistance Listing Number	20.205
Fiscal Year	2020
Brief Description	Multimodal Planning Study for Culebra Rd to create design planning concepts of either high capacity or traditional transit service
Funder Point of Contact	TxDOT AFA Contact: Mark Mosley TxDOT Construction Contact: Dale Picha/Jorge Ramos
Summary of Deliverables	Deliverables included: <ul style="list-style-type: none"> • Summaries and maps outlining the corridor existing conditions • Corridor models, crash maps, corridor assessment • Corridor section proposals based on land use and typology • Pre-schematic level corridor maps • Summary of outreach and received input • Packages for implementation
Summary of Compliance with Reporting Requirements	This grant was not selected as a major program in the Single Audit. No other state or city compliance requirements apply.

Project 3

Project Title	Intelligent Traffic System
Funding Source	Federal Highway Administration, through Texas Department of Transportation
Federal Assistance Listing Number	20.205
Fiscal Year	2021
Brief Description	Congestion Mitigation and Air Quality (CMAQ) Intelligent Transportation Systems Upgrade Project; installation of enhanced vehicle detection and traffic monitoring cameras
Funder Point of Contact	TxDOT AFA Contact: Mark Mosley
TxDOT Construction Contact:	Dale Picha/Jorge Ramos
Summary of Deliverables	The City of San Antonio's Citywide ITS Improvements project will install traffic monitoring equipment, vehicle detection devices, and automated data collection equipment.
Summary of Compliance with Reporting Requirements	This grant was not selected as a major program in the Single Audit. No other state or city compliance requirements apply.

Project 4

Project Title	Congestion Mitigation and Air Quality -Traffic Signal Optimization Program
Funding Source	Federal Highway Administration, through Texas Department of Transportation
Federal Assistance Listing Number	20.205
Fiscal Year	2021
Brief Description	CMAQ Citywide Traffic Signal Optimization Program to improve air quality by reducing travel time and number of stops
Funder Point of Contact	TxDOT AFA Contact: Mark Mosley TxDOT Construction Contact: Dale Picha/Jorge Ramos
Summary of Deliverables	The City of San Antonio's Citywide ITS Improvements project will install traffic monitoring equipment, vehicle detection devices, and automated data collection equipment.

Summary of Compliance with Reporting Requirements	This grant was not selected as a major program in the Single Audit. No other state or city compliance requirements apply.
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Project 5

Project Title	S. Presa (SE Military Dr-Southcross Blvd)
Funding Source	Federal Highway Administration, through Texas Department of Transportation
Federal Assistance Listing Number	20.205
Fiscal Year	2019
Brief Description	Construction of improvements from Military to Southcross to provide for pedestrian connectivity by constructing sidewalks and curbs
Funder Point of Contact	TxDOT AFA Contact: Mark Mosley TxDOT Construction Contact: Amelia De La Garza
Summary of Deliverables	This project provides pedestrian connectivity by constructing sidewalks, curb and driveway approaches from Mitchell to SE Military Dr. Full Depth reconstruction will be from SE Military to E Dullnig. Mill and Overlay from E Duling to E Southcross. Full depth from Fair to Steves and multiple traffic upgrades.
Summary of Compliance with Reporting Requirements	Single Audit in FY 2020 and received no findings, or an unqualified opinion. https://www.sanantonio.gov/Portals/0/Files/Finance/FY2020-ComprehensiveAnnualFinancialReport.pdf https://www.sanantonio.gov/Portals/0/Files/Finance/FY2020-ComprehensiveAnnualFinancialReport.pdf PDF page 442 City audits the project at 30/60/90% for internal compliance. TxDOT audits approx. 45/90% for compliance. Requirements met with minor adjustments. TxDOT field audit April 2023, Oct. 2023, and Nov. 2023.

Staff Expertise

The COSA Team includes participants who are industry leaders in sustainability and utility service. This section will introduce the organizations and the staff participating in this project.

Organizational Information

COSA: San Antonio is a vibrant city with a thriving economy, deep cultural heritage, and communities that are compassionate, inclusive, and proudly diverse. With a 2022 population of 1,472,909, it is the **seventh largest city in the United States** and one of the strongest fiscally managed cities in the country, nurturing entrepreneurship, encouraging investment and funding infrastructure. COSA fosters partnership and growth opportunities in aerospace, bioscience, cybersecurity, green technologies, healthcare, and information technology. Proudly called Military City, USA®, San Antonio is home to one of the largest populations of active-duty military and veterans, as well as mission-critical commands, including military medicine, cybersecurity, pilot training and basic training.

PROGRAM SUCCESS: CPS ENERGY'S SUSTAINABLE TOMORROW ENERGY PLAN (STEP)

CPS Energy's STEP program is an energy efficiency and conservation program, aims to reduce community demand by 410 megawatts, achieve 1% energy savings per year, weatherize 16,000 homes, and contribute to 1.85 million tons of avoided carbon over 5 years through equitable programs designed to help customers save energy and money. CPS Energy is ranked 5th in the nation and 1st in Texas for solar capacity. As a community-owned utility, CPS Energy also believes in the value of investing in the community it serves and proactively seeks opportunities to support local, small, minority-owned businesses.

CPS Energy: Established in 1860, CPS Energy is the **nation's largest community-owned natural gas and electric company** serving more than 930,114 electric and 381,379 natural gas customers in San Antonio and portions of seven adjoining counties. CPS Energy's mission is to serve its community through reliable, competitively priced, and sustainable energy services in an equitable manner. As a trusted community partner, CPS Energy has a long history of investing in innovative approaches and technologies that benefit the community it serves. Aligned with the City of San Antonio's vision for the community.

SAWS: Established in 1992, SAWS is a public utility owned by the City of San Antonio with a mission to provide "Sustainable, Affordable Water Services" and has developed a diversified water portfolio to ensure a sustainable, reliable supply for the community — even during times of severe drought. In 1995, 100 percent of San Antonio's water came from the Edwards Aquifer. **Today, SAWS manages 13 supply projects originating from seven different sources, assuring a secure water future for our growing community.** SAWS serves 2 million people in Bexar County as well as parts of Medina and Atascosa counties. The population includes more than 511,300 water customers and 457,600 wastewater customers.

TEPRI: Founded in 2015, TEPRI is accelerating the move towards an energy system that is affordable, reliable, sustainable, and supports healthy, thriving communities. TEPRI works in partnership with stakeholders from the energy sector and community-based organizations to conduct research, create tools for practitioners, and demonstrate new models that can scale for widespread impact. **TEPRI's work improves the systems that enable clean energy solutions to reach underserved communities**

Descriptions of Key Staff

Other Attachments include biographies of lead staff from the COSA, CPS Energy, SAWS, and TEPRI teams.



SECTION 7: BUDGET

The budget for this project includes direct funding to the City of San Antonio for implementation activities as well as pass through funding to three sub-recipients: CPS Energy, SAWS, and TEPRI for elements of the project.

The budget shown in Table 1, which is consistent with the SF424 form categories. Pass through funding to the sub-recipients is shown in the “Other” category, per the instructions of the SF424 Form. The attached Budget Narrative will detail the expense categories for City of San Antonio its three sub-recipients.

City of San Antonio CPRG Implementation Grant Budget, SF424 Format

LEAD ORGANIZATION: CITY OF SAN ANTONIO	
Personnel	\$425,721.00
Fringe Benefits	\$140,050.94
Travel	\$0
Equipment	\$0
Supplies	\$14,994.01
Contractual	\$3,426,105.00
Construction	\$0
Other	\$160,125,000.00
Total Direct	\$164,131,870.95
Indirect	\$0
Total (Direct and Indirect)	\$164,131,870.95
Grand Total	\$164,131,870.95



TECHNICAL APPENDIX

Overview

This report explains the methodology and assumptions for developing the estimated GHG emission reductions in Section 2 of the CPRG grant application. In addition, as a co-benefit, the reduction calculations for another criteria pollutant, nitrogen oxides (NOx), are included to show progress towards reducing impact on local air quality. Through the implementation of the proposed community solar project and the installation of on-site solar at SAWS H2Oaks, (GHG) emissions from electricity generation and the municipal water system will be reduced. GHG emission reduction calculations were prepared using a combination of EPA's *Avoided Emissions and Generation Tool (AVERT)* and CPS Energy's *Vision 2027 Power Generation Resource Plan* approved in January 2023 (*2022 Community Impact Report, CPS Energy*). All emission reduction totals provided below are presented in terms of metric tons of CO2-equivalent, calculated using the global warming potentials in the IPCC's Fifth Assessment Report.

Emission reductions were calculated annually and provided in cumulative totals for two analysis periods: 2025 through 2030 and 2025 through 2050. Providing emission reductions for the periods identifies the estimated short-term and long-term impacts of the expected GHG emission reductions. As part of the grant application a cost effectiveness calculation was also provided. The cost effectiveness calculation is referenced below:

$$\text{Cost effectiveness of GHG reductions} = (\text{Requested CPRG funding}) / (\text{Sum of Quantified GHG reductions from CPRG funding from 2025-2030})$$

The cost effectiveness for this project is \$164,131,870.95 /675,958 or \$242.81 per reduced metric ton of CO2.

Methodology

Emission reductions were evaluated on an alternative case (completion of the project) against the business as usual (BAU) case. GHG reductions were estimated based on the expansion of solar power capacity and the reduction of need from other emission generating power sources. Inputs assumed and used in the analysis are provided in the input section of this document and were gathered from EPA's *Avoided Emissions and Generation Tool (AVERT)* and the CPS Energy (utility provider based in San Antonio) 2023 Power Resource Generation Plan.

This analysis presumes that emissions would be offset by reducing the amount of power generation coming from the grid (a mix of generation sources including fossil fuels) and replacing it with clean power. The generation provided by solar power produces zero emissions. While the average grid emission factor (carbon intensity lbs/MWh) includes emissions from a diverse portfolio of sources including fossil fuel. Reductions were estimated by calculating total mega-watt hours (MWhs) produced from solar during a year and using those MWhs to offset MWhs that would have come from the grid. Carbon intensities for utilities in lbs/MWh were gathered from the AVERT tool and CPS Energy's 2023 Power Generation Plan. Using total annual MWhs of solar power provided at a capacity factor of 0.26 (acquired from AVERT tool for solar power capacity factor for Texas) and carbon intensities in lbs/MWh; annual tons of carbon produced per year avoided was calculated. This calculation was provided for both carbon dioxide (CO2) and nitrogen oxides (NOX) emissions, as these emissions had the most readily available data, and the total emission reductions were converted to metric tons and finally metric tons of CO2-equivalents. Only metric tons of CO2 were included in section 2 of the CPRG application, metric tons of NOx calculations are discussed as follows.

The calculation method for nitrogen oxide (NOX) emissions was similar to the method for CO2. NOx is a precursor to Ozone formation and reducing Ozone is also important to the local community due to the area being designated nonattainment of the EPA's Ozone standard. Reducing NOx is a co-benefit of carbon reducing initiatives and provides local air quality and health benefits.

The project is proposing 100 MW solar capacity for Community Solar and 2.5 MW on site solar at SAWS H2OAKS. The two project components expand solar power and provide a combined 102.5 MW of solar power capacity to help with grid decarbonization and resilience. In the emission reduction analysis, the combined 102.5 MW of solar capacity was used to estimate GHG reductions. Key assumptions, inputs, calculations, and results are shared throughout this appendix.

Inputs

Several inputs were required to calculate the estimated reduction in emissions from the GHG reduction measure. A table is provided below outlining the inputs and sources if required.

INPUT	UNIT	SOURCE
Days Per Year	365	NA
Hours Per Day	24	NA
MW of Solar Power Capacity	102.5	NA
Solar Power Capacity Factor	0.26	AVERT Tool, solar power capacity factor for Texas
Tons to Metric Tons Conversion Rate	1.102	NA

Along with the inputs provided above, avoided CO2 and NOX rates in lbs/MWh from solar power were required to calculate GHG emission reductions. These rates from 2025-2029 were provided from the AVERT tool and 2030 and beyond were emission intensity rates from CPS Energy's 2023 Power Generation Report. An input table is provided below showing the avoided emission rate/intensities. Note that emission data from the CPS Energy 2023 Power Generation plan was available out to 2047, for years 2048 through 2050 these rates were extrapolated in Microsoft Excel using the forecast function.

YEAR	AVERT /CARBON INTENSITY JAN 2023 GEN PLAN (LBS/MWH)	AVERT/ NOX INTENSITY JAN 2023 GEN PLAN (LBS/MWH)
2025	1171	0.61
2026	1171	0.61
2027	1171	0.61
2028	1171	0.61
2029	1171	0.61
2030	517	0.07
2031	507	0.07
2032	488	0.06
2033	432	0.06
2034	415	0.06
2035	398	0.05

YEAR	AVERT /CARBON INTENSITY JAN 2023 GEN PLAN (LBS/MWH)	AVERT/ NOX INTENSITY JAN 2023 GEN PLAN (LBS/MWH)
2036	383	0.05
2037	395	0.05
2038	370	0.05
2039	383	0.05
2040	354	0.04
2041	337	0.04
2042	334	0.04
2043	342	0.04
2044	330	0.03
2045	326	0.03
2046	343	0.03
2047	336	0.03
2048	311	0.03
2049	287	0.03
2050	262	0.03

In the analysis all final emission reductions were provided in CO2 metric ton equivalents by using the global warming potentials in the IPCC's Fifth Assessment Report. Only metric tons of CO2 were included in the GHG reduction totals in section 2 of the CPRG grant application however, due to the importance of NOx reductions and their impact on local air quality they were included in the technical appendix.

Assumptions

Throughout the emission reductions analysis several assumptions were made to estimate expected GHG emission reductions from the completion of the project against the BAU case. The assumptions used in the analysis are documented below.

- Solar power would be generated 365 days a year
- Solar power would be generated 24 hours a day however, a .26 capacity factor is used in the analysis to account for nighttime, cloudy days, unexpected weather events, etc.
- 102.5 MW of solar power capacity is available daily year-round.
- Avoided emission rates from 2025-2029 were provided from the AVERT Tool using regional avoided emission rates from solar implementation for Texas for both CO2 and NOX.
- AVERT emission input data was used from 2025-2029 as the AVERT tool suggests not using its data beyond five years.
- Avoided emission rates from 2030-2050 were calculated using CPS Energy 2023 Power Generation Plan CO2 and NOX emission intensities from its anticipated power generation plan. Data availability is discussed in the inputs section of the document.
- The analysis assumes that the full 102.5 MW of solar power capacity will be used in conjunction with the capacity factor of 0.26 to offset emission generating power sources in San Antonio (coal and natural gas)
- The data provided for emission reduction factors assumes average daily amounts of emission producing power source levels however, it is likely that solar power would be more available during the day and offset natural gas emissions more thus leading to conservative estimates in GHG emission reductions.

Results

GHG emission reductions were provided annually as well as grouped sums from years 2025 through 2030 and 2025 through 2050. The emission reductions were calculated as follows:

$$(\text{MW of Solar} * \text{days/year} * \text{hrs/day} * \text{capacity factor}) = \text{Annual MWhs of solar power generation}$$

$$\text{Tons of avoided emissions per year} = (\text{Annual MWhs of solar power generation} * \text{AVERT/2023 CPS Power Gen Plan avoided emission rate/emission intensity (lbs/MWh)})$$

Tons of avoided emissions were converted to metric tons.

Short Term and Long Term GHG Emission Reductions

YEARS	TOTAL AVOIDED METRIC TONS OF CO2
2025-2030	675,958
2025-2050	1,451,793

Annual GHG Emission Reductions

YEAR	AVOIDED METRIC TONS CO2	AVOIDED METRIC TONS NOx
2025	124,036	64.6
2026	124,036	64.6
2027	124,036	64.6
2028	124,036	64.6
2029	124,036	64.6
2030	54,780	7.3
2031	53,671	7.1
2032	51,640	6.8
2033	45,811	6.2
2034	43,993	5.9
2035	42,199	5.7
2036	40,577	5.4
2037	41,818	5.5
2038	39,230	5.1
2039	40,576	5.2
2040	37,467	4.4
2041	35,743	4.1
2042	35,402	3.9
2043	36,226	3.8
2044	34,925	3.7
2045	34,519	3.5
2046	36,379	3.4

YEAR	AVOIDED METRIC TONS CO2	AVOIDED METRIC TONS NOx
2047	35,565	3.2
2048	32,942	3.2
2049	30,400	3.2
2050	27,752	3.2

		YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Task 1	Site Location Study																				
	Procurement and Management of Community Solar Installation Contractor																				
	Procurement and Management of Community Solar (LIDAC) Program Contractor																				
	Performance Monitoring																				
Task 2	Site Location Study																				
	Development of Behind-the-meter Solar Site																				
	Performance Monitoring																				
Task 3	Site Location Study																				
	Procurement and Development of Battery Storage Site																				
	Performance Monitoring																				

[illegible]

BUDGET NARRATIVE

The budget for this project is for the implementation of grid decarbonization activities. The GHG measure associated with all elements of this project is to **expand the solar network in San Antonio to reduce greenhouse gas emissions created from energy production.**

This budget narrative supports Section 7 by providing additional detail on the project budget by cost category and project partner.

Summary Budget Table

The budget for this project includes direct funding to the City of San Antonio for implementation activities as well as pass through funding to three Sub-recipients: CPS Energy, SAWS, and TEPRI for elements of the project.

The budget shown in Table 1, which is consistent with the SF424 form categories, describes how program funding will be used by the City of San Antonio for project implementation. Pass through funding to the sub-recipients is shown in the “Other” category, per the instructions of the SF424 Form.

Table 1: City of San Antonio CPRG Implementation Grant Budget

LEAD ORGANIZATION: CITY OF SAN ANTONIO	
Personnel	\$425,721.00
Fringe Benefits	\$140,050.94
Travel	\$0
Equipment	\$0
Supplies	\$14,994.01
Contractual	\$3,426,105.00
Construction	\$0
Other	\$160,125,000.00
Total Direct	\$164,131,870.95
Indirect	\$0
Total (Direct and Indirect)	\$164,131,870.95
Grand Total	\$164,131,870.95

Budget Detail – COSA and Sub-Recipients

COSA and its three Sub-recipients collaborated on the development of a budget for the five-year implementation of the grant. This section includes the budget breakdown for the City of San Antonio and its Sub-recipients by cost category and year.

COSA

As the lead applicant, the City of San Antonio will lead grant administration activities and administer Sub-recipient contracts. A description of the City of San Antonio's activities is described followed by a budget breakdown by cost category and year.

BUDGET CATEGORY	DEFINITION OF ITEM	TOTAL FUNDS REQUESTED
Personnel	One full-time-equivalent (FTE) employee will be hired to administer this project. Classification: Grant Administrator Salary: \$81,806/year with a 2% annual salary increase	\$425,721
Fringe Benefits	Fringe benefits, consistent with the City of San Antonio's fringe rate of 22.66%, which includes FICA and Medicare, Life Insurance, and Retirement Fund Participation, is budgeted for the Grant Administrator. In addition to the fringe rate, a lump sum of \$9,568 is budgeted annually for participation in the employee health plan.	\$ 140,051
Travel	No activities are budgeted in the travel category.	\$0
Equipment	No activities are budgeted in the equipment category.	\$0
Supplies	<ul style="list-style-type: none">• One computer is budgeted at the beginning of the grant period for the Grant Administrator. The cost for the computer includes the current cost for an employee workstation, appropriate to tasks associated with a Grant Administrator. The workstation will include a laptop computer and accessories, monitors, a keyboard, and mouse.• Office supplies, consistent with the role of a grant administrator, have been budgeted for the five-year period of performance. Costs are consistent with per-employee supply spending by COSA.	<ul style="list-style-type: none">• \$3,119• \$11,875
Contractual	<ul style="list-style-type: none">• A competitively procured contract for Workforce Development and Training services by the COSA. The tasks associated with this contract will occur in years 2-5. The budget estimate is consistent with similar activities procured by the COSA Office of Workforce Development• COSA will contract for a 1 FTE Project Administration Support for the five-year period of performance. This position is consistent with similar contract positions by COSA.	<ul style="list-style-type: none">• \$3,000,000• \$426,105
Construction	No activities are budgeted in the construction category.	\$0
Other Direct Costs	<ul style="list-style-type: none">• COSA will provide funding to CPS Energy to implement activities related to Task 1 and Task 3.• COSA will provide funding to SAWS to implement activities related to Tasks 2 and 3.• COSA will provide funding to TEPRI to implement activities related to Task 4.	<ul style="list-style-type: none">• \$154,625,000• \$5,050,000• \$450,000
Indirect Costs	No activities are budgeted in the indirect category.	\$0

BUDGET BY YEAR - COSA							
COST-TYPE	CATEGORY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
Direct Costs	Personnel						
	Grant Administrator @ \$81,806/yr, 1 FTE with 2% annual salary increase	\$81,806	\$83,442	\$85,111	\$86,813	\$88,549	\$425,721
	<i>TOTAL PERSONNEL</i>	<i>\$81,806</i>	<i>\$83,442</i>	<i>\$85,111</i>	<i>\$86,813</i>	<i>\$88,549</i>	<i>\$425,721</i>
	Fringe Benefits						
	Full-time Employee @ 21.66% of salary with lump sum \$9,568 for health care	\$27,287	\$27,642	\$28,003	\$28,372	\$28,747	\$140,051
	<i>TOTAL FRINGE BENEFITS</i>	<i>\$27,287</i>	<i>\$27,641</i>	<i>\$28,003</i>	<i>\$28,372</i>	<i>\$28,747</i>	<i>\$140,051</i>
	Travel						
	N/A	\$-	\$-	\$-	\$-	\$-	\$-
	<i>TOTAL TRAVEL</i>	<i>\$-</i>	<i>\$-</i>	<i>\$-</i>	<i>\$-</i>	<i>\$-</i>	<i>\$-</i>
	Equipment						
	N/A	\$-	\$-	\$-	\$-	\$-	\$-
	<i>TOTAL EQUIPMENT</i>	<i>\$-</i>	<i>\$-</i>	<i>\$-</i>	<i>\$-</i>	<i>\$-</i>	<i>\$-</i>
	Supplies						
	1 computer @ 3,119.01	\$3,119	\$-	\$-	\$-	\$-	\$3,119
	Office Supplies @ 2,375 per year	\$2,375	\$2,375	\$2,375	\$2,375	\$2,375	\$11,875
	<i>TOTAL SUPPLIES</i>	<i>\$-</i>	<i>\$-</i>	<i>\$-</i>	<i>\$-</i>	<i>\$-</i>	<i>\$14,994</i>
	Contractual						
	Workforce Development and Job Training Contract	\$-	\$750,000	\$750,000	\$750,000	\$750,000	\$3,000,000
	Project Administration Support (Fiscal Analyst 1 - Temp Position)	\$81,880	\$83,518	\$85,188	\$86,891	\$88,628	\$426,105
	<i>TOTAL CONTRACTUAL</i>	<i>\$81,880</i>	<i>\$833,518</i>	<i>\$835,188</i>	<i>\$836,891</i>	<i>\$838,628</i>	<i>\$3,426,105</i>
	Other						
	Sub-recipient - CPS Energy	\$875,000	\$91,875,000	\$41,875,000	\$10,000,000	\$10,000,000	\$154,625,000
	Sub-recipient - SAWS	\$50,000	\$2,375,000	\$2,625,000	\$-	\$-	\$5,050,000
	Sub-recipient - TEPRI	\$123,875	\$111,860	\$82,710	\$61,845	\$69,710	\$450,000
	<i>TOTAL OTHER</i>	<i>\$1,048,875</i>	<i>\$94,361,860</i>	<i>\$44,582,710</i>	<i>\$10,061,845</i>	<i>\$10,069,710</i>	<i>\$160,125,000</i>
	TOTAL DIRECT	\$1,245,342	\$95,308,837	\$45,533,387	\$11,016,296	\$11,028,009	\$164,131,871

CPS Energy

As a Sub-recipient of the City of San Antonio, CPS Energy will implement activities related to tasks 1 and 3. A description of the CPS Energy's activities is described followed by a budget breakdown by cost category and year.

BUDGET CATEGORY	DEFINITION OF ITEM	TOTAL FUNDS REQUESTED
Personnel	No activities are budgeted in the personnel category.	\$0
Fringe Benefits	No activities are budgeted in the fringe category.	\$0
Travel	No activities are budgeted in the travel category.	\$0
Equipment	No activities are budgeted in the equipment category.	\$0
Supplies	No activities are budgeted in the supplies category.	\$0
Contractual	<ul style="list-style-type: none"> CPS Energy will procure contractual services for an Interconnection Study and subsequent environmental evaluation for three sites to determine the appropriate location for community solar and the battery storage system. Budget estimates were developed based on previous studies of similar scope. CPS Energy will procure contractual services for the implementation of a community solar program including, site development, procurement of hardware, installation, interconnection to the CPS Energy network, maintenance activities during the grant period of performance and management of the community solar program. Budget estimates were defined based on current costs, with escalation for a turnkey community solar program of consistent size (up to 100 MW). CPS Energy will procure contractual services for the implementation of a battery storage system at the H2Oaks Site. Services will include procuring and installing the battery storage system and connection to the grid after the point of interconnection (up to 2.5 MW). 	<ul style="list-style-type: none"> \$875,000 \$140,000,000 \$14,000,000
Construction	No activities are budgeted in the construction category.	\$0
Other Direct Costs	No activities are budgeted in the other category.	\$0
Indirect Costs	No activities are budgeted in the indirect category.	\$0

BUDGET BY YEAR - CPS ENERGY							
COST-TYPE	CATEGORY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
Direct Costs	Personnel						
	N/A	\$-	\$-	\$-	\$-	\$-	\$-
	TOTAL PERSONNEL	\$-	\$-	\$-	\$-	\$-	\$-
	Fringe Benefits						
	N/A	\$-	\$-	\$-	\$-	\$-	\$-
	TOTAL FRINGE BENEFITS	\$-	\$-	\$-	\$-	\$-	\$-
	Travel						
	N/A	\$-	\$-	\$-	\$-	\$-	\$-

BUDGET BY YEAR - CPS ENERGY

	TOTAL TRAVEL	\$-	\$-	\$-	\$-	\$-	\$-
	Equipment						
	N/A	\$-	\$-	\$-	\$-	\$-	\$-
	TOTAL EQUIPMENT	\$-	\$-	\$-	\$-	\$-	\$-
	Supplies						
	N/A	\$-	\$-	\$-	\$-	\$-	\$-
	TOTAL SUPPLIES	\$-	\$-	\$-	\$-	\$-	\$-
	Contractual						
	Interconnection studies	\$875,000	\$-	\$-	\$-	\$-	\$875,000
	Management of Community Solar Project	\$-	\$80,000,000	\$40,000,000	\$10,000,000	\$10,000,000	\$14,000,000
	Contractor to procure, install and connection battery storage system after point of interconnection	\$-	\$12,000,000	\$2,000,000	\$-	\$-	\$14,000,000
	TOTAL CONTRACTUAL	\$875,000	\$92,000,000	\$42,000,000	\$10,000,000	\$10,000,000	\$154,000,000
	Other						
	N/A	\$-	\$-	\$-	\$-	\$-	\$-
	TOTAL OTHER	\$-	\$-	\$-	\$-	\$-	\$-
	TOTAL DIRECT	\$875,000	\$92,000,000	\$42,000,000	\$10,000,000	\$10,000,000	\$154,875,000

SAWS

As a sub-recipient of the City of San Antonio, SAWS will implement activities related to tasks 2 and 3. A description of the SAWS' activities is described followed by a budget breakdown by cost category and year.

BUDGET CATEGORY	DEFINITION OF ITEM	TOTAL FUNDS REQUESTED
Personnel	No activities are budgeted in the personnel category.	\$0
Fringe Benefits	No activities are budgeted in the fringe category.	\$0
Travel	No activities are budgeted in the travel category.	\$0
Equipment	No activities are budgeted in the equipment category.	\$0
Supplies	No activities are budgeted in the supplies category.	\$0
Contractual	<ul style="list-style-type: none"> SAWS will procure contractual services for an Interconnection Study and subsequent environmental evaluation at H2Oaks to determine the appropriate location for the behind-the-meter solar site. Budget estimates were developed based on previous studies of similar scope. SAWS will procure contractual services for the implementation of the behind-the-meter solar site including, site development, procurement of hardware, installation, and interconnection to the H2Oaks facility. Budget estimates were defined based on current costs, with escalation for behind-the-meter solar of consistent size (2.5 MW). 	<ul style="list-style-type: none"> \$50,000 \$4,750,000
Construction	No activities are budgeted in the construction category.	\$0
Other Direct Costs	No activities are budgeted in the other category.	\$0
Indirect Costs	No activities are budgeted in the indirect category.	\$0

BUDGET BY YEAR - SAWS							
COST-TYPE	CATEGORY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
Direct Costs	Personnel						
	N/A	\$-	\$-	\$-	\$-	\$-	\$-
	<i>TOTAL PERSONNEL</i>	\$-	\$-	\$-	\$-	\$-	\$-
	Fringe Benefits						
	N/A	\$-	\$-	\$-	\$-	\$-	\$-
	<i>TOTAL FRINGE BENEFITS</i>	\$-	\$-	\$-	\$-	\$-	\$-
	Travel						
	N/A	\$-	\$-	\$-	\$-	\$-	\$-
	<i>TOTAL TRAVEL</i>	\$-	\$-	\$-	\$-	\$-	\$-
	Equipment						
	N/A	\$-	\$-	\$-	\$-	\$-	\$-
	<i>TOTAL EQUIPMENT</i>	\$-	\$-	\$-	\$-	\$-	\$-
	Supplies						
	N/A	\$-	\$-	\$-	\$-	\$-	\$-
	<i>TOTAL SUPPLIES</i>	\$-	\$-	\$-	\$-	\$-	\$-
	Contractual						

BUDGET BY YEAR - SAWS

	Interconnection studies	\$50,000	\$-	\$-	\$-	\$-	\$50,000
	Contractor to develop behind-the solar site	\$-	\$2,375,000	\$2,375,000	\$-	\$-	\$4,750,000
	<i>TOTAL CONTRACTUAL</i>	<i>\$50,000</i>	<i>\$2,375,000</i>	<i>\$2,375,000</i>	<i>\$-</i>	<i>\$-</i>	<i>\$4,800,000</i>
	Other						
	N/A	\$-	\$-	\$-	\$-	\$-	\$-
	TOTAL OTHER	\$-	\$-	\$-	\$-	\$-	\$-
	TOTAL DIRECT	\$50,000	\$2,375,000	\$2,375,000	\$-	\$-	\$4,800,000

TEPRI

As a Sub-recipient of the City of San Antonio, TEPRI will implement activities related to task 4. A description of the TEPRI's activities is described followed by a budget breakdown by cost category and year.

BUDGET CATEGORY	DEFINITION OF ITEM	TOTAL FUNDS REQUESTED
Personnel	<p>An allocation of 3 full time equivalent (FTE) employees to support community engagement activities and workforce development planning and evaluation. Job classification, annual salary, and FTE allocation over the five-year period of performance are as follows:</p> <ul style="list-style-type: none"> Project Manager at \$110,000/yr., FTE = 35% in year 1, 35% in year 2, 20% in year 3, 15% in year 4, 20% in year 5. Project Associate at \$80,000/yr., FTE = 20% in year 1, 25% in year 2, 20% in year 3, 20% in year 4, 20% in year 5. Project Supervisor at \$180,000/yr., FTE = 10% in year 1, 5% in year 2, 5% in year 3, 5% in year 4, 5% in year 5. 	<ul style="list-style-type: none"> \$137,500 \$84,000 \$54,000
Fringe Benefits	Fringe benefits, consistent with the TEPRI's 43% fringe rate, which includes FICA, Unemployment, Medicare, WCI, Retirement, Vacation Leave, and Sick Leave, are budgeted for the three employees based on their FTE allocation.	<ul style="list-style-type: none"> \$59,125 \$36,120 \$23,220
Travel	Mileage reimbursement at the 2024 IRS rate of 67 cents per mile for the five-year period of performance at an estimated 1,493 miles annually.	\$5,000
Equipment	No activities are budgeted in the equipment category.	\$0
Supplies	<ul style="list-style-type: none"> Materials education and evaluation activities for the five-year period of performance. The estimate is based on the cost of materials for similar activities by TEPRI. Postage is budget for evaluation activities, including shipping to participants and for return mailing for years 3-5 of the projects. The estimate of \$3,000 assumes shipping costs for 2,200 mailings with return postage at the first-class mail rate. 	<ul style="list-style-type: none"> \$1,000 \$3,000
Contractual	<ul style="list-style-type: none"> Contracts with community organizations to support community engagement and workforce development planning activities during the first three years of the project. These contracts will include funding for staff to market participation in project activities by clients of community organizations and other affiliated services including language translation, transportation, and staff participation at events. The budget estimate is based on previous contracts awarded by TEPRI for similar activities. TEPRI contracts with an accounting firm to manage their chart of accounts. The amount allocated from each revenue source is approximately 0.5% of the non-contractual budget and is budget for years 2-5 of the project. 	<ul style="list-style-type: none"> \$35,000 \$1,035
Construction	No activities are budgeted in the construction category.	\$0
Other Direct Costs	<ul style="list-style-type: none"> Facility fees, including room and technology rental fees are estimated for education workshops, which will occur during the first three years of the period of performance. The estimate assumes \$500 per large event and \$250 per small event, for a total of 3 large events and 6 small events per year. Facility fees, including room and technology rental fees are estimated for community solar workshops, which will occur during years 1 and 2 of the period of performance. The estimate assumes \$250 per event, for a total of four events per year. 	<ul style="list-style-type: none"> \$9,000 \$2,000
Indirect Costs	No activities are budgeted in the indirect category.	\$0

BUDGET BY YEAR - TEPRI							
COST-TYPE	CATEGORY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
Direct Costs	Personnel						
	Project Manager @ \$110,000/yr, FTE = 35% in year 1, 35% in year 2, 20% in year 3, 15% in year 4, 20% in year 5	\$38,500	\$38,500	\$22,000	\$16,500	\$22,000	\$137,500
	Project Associate @ \$80,000/yr, FTE = 20% in year 1, 25% in year 2, 20% in year 3, 20% in year 4, 20% in year 5	\$16,000	\$20,000	\$16,000	\$16,000	\$16,000	\$84,000
	Project Supervisor @ \$180,000/yr, FTE = 10% in year 1, 5% in year 2, 5% in year 3, 5% in year 4, 5% in year 5	\$18,000	\$9,000	\$9,000	\$9,000	\$9,000	\$54,000
	TOTAL PERSONNEL	\$72,500	\$67,500	\$47,000	\$41,500	\$47,000	\$275,500
	Fringe Benefits						
	43% Fringe Rate for Project Manager @ \$110,000/yr, FTE = 35% in year 1, 35% in year 2, 20% in year 3, 15% in year 4, 20% in year 5	\$16,555	\$16,555	\$9,460	\$7,095	\$9,460	\$59,125
	43% Fringe Rate Project Associate @ \$80,000/yr, FTE = 20% in year 1, 25% in year 2, 20% in year 3, 20% in year 4, 20% in year 5	\$6,880	\$8,600	\$6,880	\$6,880	\$6,880	\$36,120
	43% Fringe Rate Project Supervisor @ \$180,000/yr, FTE = 10% in year 1, 5% in year 2, 5% in year 3, 5% in year 4, 5% in year 5	\$7,740	\$3,870	\$3,870	\$3,870	\$3,870	\$23,220
	TOTAL FRINGE BENEFITS	\$31,175	\$29,025	\$20,210	\$17,845	\$20,210	\$118,465
	Travel						
	Mileage reimbursement for local travel	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$5,000
	TOTAL TRAVEL	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$5,000
	Equipment						
	N/A	\$-	\$-	\$-	\$-	\$-	\$-
	TOTAL EQUIPMENT	\$-	\$-	\$-	\$-	\$-	\$-
	Supplies						
	Materials for education and evaluation activities	\$200	\$200	\$200	\$200	\$200	\$1,000
	Postage for evaluation	\$-	\$-	\$1,000	\$1,000	\$1,000	\$3,000
	TOTAL SUPPLIES	\$200	\$200	\$1,200	\$1,200	\$1,200	\$4,000
	Contractual						
	Contracts with community organizations to subsidize workshop participation	\$15,000	\$10,000	\$10,000	\$-	\$-	\$35,000
	Contractual accounting services for project administration support	\$-	\$135	\$300	\$300	\$300	\$1,035

BUDGET BY YEAR - TEPRI							
	TOTAL CONTRACTUAL	\$15,000	\$10,135	\$10,300	\$300	\$300	\$36,035
	Other						
	Facility fees and day of event services for Education Workshops	\$3,000	\$3,000	\$3,000	\$-	\$-	\$9,000
	Facility fees and day of event services for Community Solar Workshops/Trainings	\$1,000	\$1,000	\$-	\$-	\$-	\$2,000
	TOTAL OTHER	\$4,000	\$4,000	\$3,000	\$-	\$-	\$11,000
	TOTAL DIRECT	\$123,875	\$111,860	\$82,710	\$61,845	\$69,710	\$450,000

Expenditure of Awarded Funds

The City of San Antonio (COSA) is a regular recipient of federal grants from a variety of administration programs. This includes Sub-recipient funding from the State of Texas and regional agencies, including the Alamo Area Metropolitan Planning Organization. Section 6 provides examples of recent grants administered by the city.

COSA has an administrative directive on the financial management of grants. The purpose of the directive is to set forth a uniform approach to grants management across all departments within the city. This directive reflects the requirements of the Office of Management and Budget Uniform Guidance. It reflects COSA's policy that departments manage grants in accordance with federal, state, and local guidelines and commit to timely and accurate billing and other submittals to grantors. This directive stipulates general guidelines for grant administration, and process steps for the life cycle of the grant.

The Sub-recipient section of the administrative directive provides clear directions about the management of Sub-recipients, which will govern COSA's relationships with CPS Energy, SAWS and TEPRI through the life of the grant.

Reasonableness of Costs

The COSA team consulted with industry experts and reflected on previous project expenditures in the development of cost estimates for this project. The tables shown in this budget narrative reflect the thoughtfulness of each cost item, regardless of the budgeted amount.