

Show-Me MO Environmental Excellence Program
Grant Work Plan for Climate Pollution Reduction Grant – Implementation - General Competition

Section 1 - OVERALL PROJECT SUMMARY AND APPROACH

The Missouri Department of Natural Resources' (department) Air Pollution Control Program (air program) has designed a program to deliver speedy, transformative, and long-lasting benefits based on measures included in Missouri's Plan for Environmental Improvement Grants, which was Missouri's priority climate action plan under EPA's Climate Pollution Reduction Grant (Missouri's plan). Missouri's plan focused on projects that are ready for implementation and that will deliver environmental and economic benefits to all Missourians especially for Low-income and Disadvantaged Communities (LIDAC). The program detailed in this work plan is a result of the unprecedented level of outreach the air program conducted throughout the development of Missouri's plan.

Throughout development of Missouri's plan, the air program engaged with stakeholders across the state. These stakeholders included other divisions in the department, other state agencies, municipalities, public institutions, regional planning organizations, industry, nonprofits, and individuals/citizens spanning across the state. As evidenced in this workplan, the outreach was successful and resulted in the culmination of strong project ideas to improve the environment, reduce emissions, spur economic growth, and help contain energy prices across the state and especially in LIDAC.

The department's Division of Energy has been a crucial partner with the air program throughout this entire process and took the lead in spearheading several different measures to be included in the design of this impactful program. The Missouri Public Utility Alliance (MPUA) also emerged as a leader in the outreach process to help promote environmental stewardship and solutions for municipally owned electric utilities across the state, especially in hard-to-reach rural municipalities.

This workplan outlines the partnership roles between the air program, the Division of Energy, and MPUA, along with a myriad of other stakeholders across the state. The measures included in this work plan are divided into two groups, the air program projects (Group 1) and the Division of Energy projects (Group 2). The MPUA will act as a partner to the air program for specific projects that will benefit communities with rural municipally owned electric service providers. If selected for funding, the air program will award subgrants to both entities to manage their portions of the program and deliver the anticipated benefits.

The first group of projects (Group 1) are the air program projects, which are based on the broad outreach conducted during development of Missouri's plan to solicit project ideas for inclusion in this program. The air program selected these projects based on stakeholder commitment, project readiness, and the impact to communities. These are specific projects that are ready to get moving with funding being the primary barrier to implementation. The air program has divided the nearly 100 projects into several different project types. These include Energy Efficiency, Renewable Energy, Energy Storage, Electric Conversions, Land Use, Cement Innovation, Agriculture, and Waste Management. The approach for the air program projects is to utilize participant support costs much like a rebate program for the pre-identified projects included across the state. For the MPUA community solar farms and utility scale battery projects, the air program will award a subgrant to MPUA to oversee and manage these projects through to completion. All project partners to receive awards from the grant for air program projects have submitted letters of commitment to implement their respective projects once funding is secured. This will allow many projects to break dirt and begin delivering environmental and economic benefits to communities in year one of the program.

The second group of projects (Group 2) are the Division of Energy projects. The air program will award a subgrant to the Division of Energy to oversee and manage hundreds of individual projects across the state, covered by five separate emissions reduction measures. These projects include environmental improvements at state parks, and environmental upgrades for state buildings, an electric vehicle pilot program for the state vehicle fleet, a supplement to the existing low-income weatherization program

(LIWAP), and a new sustainable agriculture program. Following the receipt of their subaward, the Division of Energy will create agreements with the Division of State Parks and the Office of Administration to establish a reimbursement program to fund the pre-identified environmental improvement projects in the state parks, state buildings, and state fleet EV pilot measure groups. They will work with existing weatherization partners across the state in continuing to fund low-income households for weatherization projects and use CPRG funds to break down pre-weatherization barriers in the existing program. This will allow those most in need to secure funds to improve energy efficiency and deliver immediate and lasting benefits to Missouri's most vulnerable communities. Finally, the Division of Energy will stand up a brand-new sustainable agriculture program designed to promote energy efficiency and provide funding for environmental improvement and sustainable agricultural practices for farmers and farming communities across the state.

The project outcomes for the program include delivering significant cumulative greenhouse gas (GHG) reductions. The program will also provide substantial benefits for LIDACs. By implementing projects across wide and diverse geographies, the measures complement other funding sources to maximize GHG reductions, reduce emissions of other pollutants that impact public health, and provide direct community benefits through improved outdoor recreation opportunities and additional green space in urban areas, and help spur job growth and economic development. With support from stakeholders and subgrantees, the department will ensure accountability by utilizing all awarded funds to carry out sustainable projects with a deep impact on the communities we serve.

Measure 1 Renewable Energy – Building and Community Solar - Includes Measures from Group 1 (Air Program Projects) and Group 2 (Division of Energy Projects)

Description: This measure includes the deployment of building and community solar generation sources across the state. The project locations and beneficiaries are pre-identified, with commitments from each project partner. Most of the projects will be implemented through a reimbursement/rebate style program allowing the air program to maintain strong oversight and see projects through to completion. The rural community solar farms will be overseen and managed by MPUA through a subgrant the air program will award. The projects for state parks and state buildings will be overseen by and managed by the Division of Energy. Following the establishment of the award assistance agreements, the project partners will design and procure the systems, have them installed, and then receive reimbursement through the grant. For the Group 1 projects, partners located in or serving LIDAC communities will receive grant funding covering 50 percent of the total cost of equipment and labor to install the systems. Other Group 1 project partners in this measure category will receive grant funding to cover 40 percent of the project costs. These will all be managed as reimbursement/rebate style programs.

Measure 1.1: Utility-scale Community Solar

The projects in the community/utility-scale solar measure group are projected to provide 67.45 MW of clean energy generated for communities and citizens across the state. Each utility-scale solar project will install either ground mounted or floating solar arrays on publicly owned property. The energy will be distributed to the communities served by the local municipality and will offset energy produced by coal- and natural gas-fueled power plants. Institutional and government building solar projects will install building-scale solar photovoltaic systems to provide renewable energy for the building. Through net-metering, excess energy will be fed to the grid to supplement the energy supply to the local community. The pre-identified projects in this measure group include:

- Missouri Public Utilities Association will install solar photovoltaic systems providing 33 MW capacity for 9 pre-identified small, rural municipal utilities
- Municipalities in Springfield, Carthage, Rolla and Poplar Bluff will install solar photovoltaic systems providing a total of 21 MW generation capacity
- Phelps County will install solar photovoltaic system on closed Phelps County Sanitary Landfill to provide 3 MW generation capacity
- Bieser Farms in St. Genevieve, MO will install a solar photovoltaic system to provide 4.95 MW generation capacity

Measure 1.2: Building-Scale Solar

The projects in the building-scale solar measure group will enable the use of a cost-effective, renewable energy source to power municipal and non-profit buildings in communities across Missouri. Buildings powered entirely or partially by solar energy are more resilient to power outages, fluctuating temperatures, and variable energy costs. Building solar projects will provide a total of 9.6 MW. The pre-identified projects in this measure group include:

- Cole County installing 100kW solar array on County Public Works Maintenance facility
- Webster County government installing 50 kW solar array
- City of Columbia installing approximately 160 kW solar array on historic Armory building
- BornToBore installing 35 kw solar array
- Various non-profits in the St. Louis installing a total of 1.6 MW solar array
- St. John's United Church of Christ installing 28 kW solar array
- City of Brentwood installing 175kW solar array on city recreational center
- State of Missouri FDMC is installing solar arrays on 17 State Office Facilities with at total generation capacity of 7.19 MW and five State Parks projects totaling 250 KW (See spreadsheet to the technical appendix for project details.)

Major Features, Tasks, Milestones, and Risks: The major features, tasks, and milestones for the air program for this measure group include developing the award agreements for the Division of Energy, MPA, and other Group 1 project partners. In addition, the air program will assist and oversee project partners as they implement their projects and help identify solutions to any barriers that arise. For project partners, the major tasks and milestones include project design, permitting (for utility-scale), site preparation, bidding, contracting, and scheduling solar panel installation and maintenance of the system. The risks to achieving project outcomes for this measure group are minimal, as no new statutory authority is required other than annual appropriations. However, this measure group could be impacted by supply chain disruptions that cause delays. Also, although project partners have committed to implementing these projects once funding is secured, there is always the risk of unforeseen budgetary concerns or turnover of key personnel that could impede implementation of specific projects.

Relation to PCAP: Utility- and Building-Scale Solar projects are included in Missouri's plan under the *Renewable Energy Priority Reduction Measure* (pages 9-11 Missouri's plan). This measure was selected as a priority in Missouri's plan for several reasons. There are very few barriers to deployment other than the need to secure funding for the projects. Further, increasing renewable electricity in the state has numerous benefits and is one of the most effective ways to drive immediate emission reductions. Fossil fuels are the most common resource used to produce energy in Missouri, accounting for approximately 80% of the total energy portfolio. In addition, the burning of fossil fuels results in numerous other negative impacts to the environment, including numerous air pollutants that impact human health, waste disposal challenges and risks to drinking water, and the need for cooling water and its impact on ecosystems. Most utilities across the state have plans to phase out coal generation over the coming decades and increased deployment of renewable generating sources can help expedite that transition by reducing the need for fossil-generation to meet electricity demand for citizens and consumers. Meeting the demand for increased solar deployment also increases clean energy jobs and helps spur economic growth. These projects also help provide a stable and predictable energy source and promote energy independence and security against volatile utility price fluctuations.

Demonstration of Funding Need: The primary barrier to increased solar deployment is the upfront cost of the systems. Eligible recipients of CPRG grant funds are encouraged to utilize 30% elective pay tax credits expanded by the Inflation Reduction Act to offset project cost. The air program is offering Group 1 project partners 50% funding through CPRG if located in or serving a LIDAC community and 40% if not located in or serving a LIDAC community. After tax credits, 20-30% of the remaining project costs will be provided by or financed by project partners, and monthly energy savings can be used to help pay back any loans used to cover these costs. The air program also considered the Solar-for-all program, which aims to install solar

on low-income residences, and is that anticipated funding source is the primary reason those projects were not included in the design of this program.

Transformative Impact: More renewable energy on the grid benefits consumers by virtue of being a clean and reliable energy source, as well as providing economic benefits to customers. Once the arrays are installed, the cost of solar energy is lower than any fossil generation source. Although solar remains a small portion of Missouri's energy portfolio, it has been steadily increasing year over year. Missouri's path to a clean energy future hinges on decarbonizing the power sector. Decarbonization will benefit all electricity consumers and contribute to healthier communities. Securitization and the continued transition away from coal and other fossil-generation over the next decade will continue through renewable energy solutions with solar buildout. Such efforts will also make it easier to decarbonize buildings, energy intensive industries, and transportation (through electric vehicles), as the clean, renewable energy going into them is carbon free.

Missouri is well positioned to grow its economy in an equitable manner with investments that create a cleaner and more reliable grid. Investments such as those proposed in this program will not only help reduce the energy burden faced by many of the people living in Missouri, but also support our local economy and make our businesses more competitive.¹ Further, deploying distributed renewable energy to municipal and public assets can help raise awareness and confidence in these technologies, build local capacity and demonstrate the economic case for renewable energy solutions, leading to a transformation in mid-size city and rural energy production in Missouri. Reduced expenses for energy at state and local government buildings will also have the effect of freeing up resources to better serve the other needs of the community.

Measure 2.1: Electric Conversions – Transportation - Includes Measures from Group 1 (Air Program Projects) and Group 2 (Division of Energy Projects)

Description: This measure includes the increased deployment of electric vehicles and electric vehicle charging stations at state and local governments, and non-profits located in communities across the state. Electric vehicle charging stations will be installed in 14 different counties representing both rural and urban areas, along interstates, local roadways, in shopping centers and to serve public fleets. These projects will all be implemented through a reimbursement/rebate program. Following the establishment of the award assistance agreements, the project partners will purchase the electric vehicles. For project partners that are replacing an existing IC engine vehicle, they will be required to disable the vehicle they are purchasing. However, some of the projects where volunteers or staff workers are currently using their personal vehicles to deliver benefits to the community, the new EVs will be available to those workers to displace the use and emissions from their personal vehicles, and no vehicle disabling will be required. Following the purchase and disabling of the vehicles (where required), the project partners will then receive reimbursement through the grant program, thus providing maximum oversight and reduced risk to the program outcomes. The partners installing charging stations will design and procure the systems, have them installed, and then receive reimbursement through the grant.

Measure 2.1.1: Electric Vehicle Fleet Conversion

State government, municipalities, other public institutions, and non-profits across Missouri will expand EV fleets replacing gas-powered vehicles with zero-emission EVs. Projects include the replacement of 159 conventional gas fueled vehicles, 6 - large passenger vans, and 52 golf carts on Missouri roads, parks, and businesses. The pre-identified projects in this measure group include:

- City of Springfield replacing a total of 51 gasoline vehicles with electric vehicles during the period from 2025 to 2029.
- Missouri State University will replace 2 minivans, 4-12 passenger vans and 10 patrol cars
- Washington County SB40 will purchase 2 replacement hybrid 14-passenger vans

¹ [Missouri's Path to a Clean Energy Future \(nrdc.org\)](https://www.nrdc.org/missouri-path-to-clean-energy)

- City of Columbia is converting 52 gas-powered golf carts at L.A. Nickell golf course to electric
- Van Buren School District is purchasing 2 electric vehicles to be used by faculty and staff in place of their personal vehicles
- Earthday 365 of St. Louis is replacing 1 gas vehicle with an EV
- Emmaus Village of St. Louis is replacing 10 gas vehicles with EVs
- Seed St. Louis is replacing 3 gas vehicles and a box truck with EVs
- The City of Jefferson is replacing 14 gas vehicles with EVs
- The Missouri Department of Conservation is replacing 10 gas vehicles with EVs
- The State of Missouri is replacing 54 gas vehicles with EVs for an EV fleet pilot program that will be managed by the Division of Energy to collect data and inform a broader conversion of the state fleet

Measure 2.1.2: EV Charging Infrastructure

Charging infrastructure projects will add 93 publicly available direct current fast chargers, 16 publicly available alternating current chargers, 2 privately used level 3 chargers and 19 private chargers. The pre-identified projects in this measure group include:

- 12- direct current fast chargers in Washington County and 6 in St. Francis County
- 12 dual port direct current fast chargers in Green County – 3 at Branson Mall; 3 at T & C Shopping Center; 3 at 27 North; 3 at ReCharge Park
- 4 dual port direct current fast chargers in Taney County – 2 at the Branson Ticket Center; 2 at Branson Travel Group
- 3 dual port direct current fast chargers at the Ozark hills Welcome Center in Christian County
- 14 alternating current chargers in new parking garage in Jefferson City
- 30 alternating current 2 charges in the City of Rolla public parking lots
- 2 dual port direct current fast chargers in Poplar Bluff
- 2 dual pedestal alternating current chargers at Arnold and Hillsboro campus in Jefferson County
- 10 direct current fast chargers in Higginsville
- 3 private alternating current chargers for non-profits in St. Louis
- 5 direct current fast chargers for Emmaus Village in St. Louis
- 4 public/private charging stations for city fleet in Brentwood
- The State of Missouri will install 44 level I/II charging stations to support the state fleet EV pilot program that will be managed by the Division of Energy.

Major Features, Tasks, Milestones, and Risks: The major features, tasks, and milestones for the air program for this measure group include developing the award agreements for the Division of Energy and other project partners. In addition, the air program will assist and oversee project partners as they implement their projects and help identify solutions to any barriers that arise. For project partners purchasing EVs, the major tasks and milestones include the procurement and purchasing of EVs and disabling of the vehicles they are replacing (where required). For EV charging stations, the project partner tasks include project design, site preparation, bidding, contracting, scheduling charger installation, and maintenance of the systems. The risks to achieving project outcomes for this measure group are minimal, as no new statutory authority is required other than annual appropriations. However, this measure group could be impacted by supply chain disruptions that cause delays in the delivery of vehicles or the installation of the charging stations. Also, although project partners have committed to implementing these projects once funding is secured, there is always the risk of unforeseen budgetary concerns or turnover of key personnel that could impede implementation of specific projects.

Relation to PCAP: EV fleets and EV charging infrastructure projects are included in Missouri's plan under the *Electric Conversions Priority Reduction Measure* (pages 12-15 and 21-22 Missouri's plan). These projects were chosen as a priority in the plan because they help meet CPRG program goals by mitigating the environmental impacts of transportation related greenhouse gas emissions, which is the second largest contributor of greenhouse gases in Missouri. They also help provide a cost-effective mode of transportation while avoiding the volatility of gasoline and diesel fuel price fluctuations.

The electrification of fleet vehicles is a vital strategy for businesses and organizations to reduce greenhouse gas emissions and promote a cleaner, more sustainable transportation system that relies less on fossil fuels.

Fleet electrification can encompass a wide range of vehicles, from passenger cars and trucks to buses and delivery vehicles. Electric vehicles (EVs) and plug-in hybrid-electric vehicles (PHEVs) use electricity, which can be generated from a variety of sources, including renewables, such as solar or wind power.

Demonstration of Funding Need: Electric vehicles are considerably more expensive than conventional gas-powered vehicles, therefore cost offsets for vehicle replacements with EVs are helpful to public and non-profit institutions with limited financial means. EV and charging infrastructure project partners are encouraged to utilize elective pay tax credits to further offset vehicle purchase and EV infrastructure project costs. The department is offering Group 1 project partners located in or serving LIDACs up to 80% funding for EVs through CPRG and 70% if not located in or serving a LIDAC community. Electric vehicle chargers are being funded at 90% if publicly owned and available, 75% if either privately owned and publicly available or publicly owned and privately available, and 60% if privately owned and privately available. The remaining costs after tax credits and CPRG funds are the responsibility of the project partner.

Transformative Impact: Offering CPRG project funds make EV ownership economically viable for the applicants and increase public accessibility to charging facilities, which further encourages EV adoption. Further, increasing public and non-profit EV fleets can help raise awareness and confidence in EV technologies, and demonstrate the economic case for broader ownership of EVs by Missourians in both urban and rural areas.

Projects expanding charging infrastructure in Missouri for public use will lower market barriers to EVs. The lack of nearby access to charging stations remains a significant barrier to EV adoption. By expanding the availability of charging points, this program will alleviate range anxiety, a common concern for potential EV adopters, and encourage more widespread adoption of electric vehicles.

Energy storage is another key element necessary to transition energy generation away from fossil fuels, which can be dispatched on demand. As electric vehicles continue to penetrate the market, grid operators will see incentive to capitalize on the opportunities that the batteries in these vehicles can offer to the grid for stabilization, peaking demand, and other needs that would otherwise be met through a combination of renewable energy curtailment and dispatchable fossil generation. Such opportunities could include time of use rates that incentivize charging times, and, in the future, may even allow electricity stored in vehicle batteries to be sold back to the grid during times of peak demand. Such policies would add even more value to EV owners, and further expedite the transition to a clean transportation system across the country.

Measure 2.2: Electric Conversions – Pumps, Generators, and Lawn Equipment – Includes Measures from Group 1 (Air Program Projects) and Group 2 (Division of Energy Projects)

Description: These projects will convert 26 diesel engines to electric, replace 2 MW of diesel fueled emergency power with peaking utility scale batteries, and replace approximately 1,250 gasoline powered residential mowers and 7 commercial mowers with electric powered mowers. These projects are all covered under Group 1 (air program projects). Implementation includes establishing award agreements with project partners and seeing the projects through to completion. The pre-identified projects in this measure group include:

- Missouri Department of Conservation will replace 4 diesel engine powered pumps at Ted Shanks conservation area with four electric motor powered pumps
- Missouri Department of Conservation will replace 22 diesel engine powered wells with 15 electric motor-powered wells at the Ten Mile Pond Conservation Area
- Macon Municipal Utilities will replace an 800 kW diesel emergency generator with 1 MW 4-hour battery
- Marshall Municipal Utilities will supply 1 MW of battery power in place of diesel powered peaking generator
- St. Louis County low-income electric lawn mower exchange program (The exchange program will provide a new electric lawn mower in exchange for a gasoline powered lawn mower for low-income eligible participants. The gas mowers will be collected and recycled.)
- Missouri State Parks to replace 7 gasoline commercial mowers with electric mowers

Major Features, Tasks, Milestones, and Risks: The major features, tasks, and milestones for the air program for this measure group include developing the award agreements for the MPUA, Division of Energy and other project partners. In addition, the air program will assist and oversee project partners as they implement their projects and help identify solutions to any barriers that arise. For project partners, the major tasks include the purchasing of 19 electric motors/pumps by the Missouri Department of Conservation and the purchase of 2 – 1 MW, 4-hour batteries for Macon and Marshall Municipal Utilities, the removal of 26 engines/pumps and 800 kW emergency diesel generator and the installation of the new electric pumps, engines and batteries.

For the project partner in the lawnmower rebate program the major tasks include public education and outreach, registering eligible residents for the program, reviewing documentation of purchased mower, and issuing rebates. The risks of the rebate program include low public interest, inability of residents to provide the upfront cost to purchase the mowers for reimbursement, and the inability of the local market to adequately respond to an increased demand for electric equipment.

Potential risks to this measure group are minimal as no new statutory authority is required. and could include equipment supply delays. However, this measure group could be impacted by supply chain disruptions that cause delays in the delivery equipment or engines. Also, although project partners have committed to implementing these projects once funding is secured, there is always the risk of unforeseen budgetary concerns or turnover of key personnel that could impede implementation of specific projects.

Relation to PCAP: These electric conversion projects will replace energy currently provided by diesel and gasoline engines with clean burning electric powered motors and engines. These projects are included in Missouri's plan under *the Electric Conversions and Energy Storage* measure categories (pages 12-15 of Missouri's plan). These measures were chosen as priorities in the plan because the transition from gas and diesel-powered engines are necessary not only for the transportation sector but also for the nonroad and energy sector. Investments in these sectors will be a necessary part of the energy transition and help reduce greenhouse gas emissions and other pollutants.

Energy storage was selected as a priority measure for numerous reasons, but mainly to reduce curtailment of renewable generation and reduce the need for fossil generation to meet peaking demand. Both of these goals are necessary to reduce greenhouse gas emissions and help continue the transition away from fossil energy and towards a clean and renewable energy system.

Demonstration of Funding Need: Equipment is replaced when its useful life has expended, but it is often retained for as long as possible due to replacement costs. Providing funding through CPRG for these projects will expedite the replacement of diesel and gasoline powered equipment with electric powered equipment. CPRG fund recipients and project owners are encouraged to utilize the elective pay tax credits expanded by the Inflation Reduction Act to offset the cost of electric engines and battery storage. The air program is offering Group 1 project partners partial funding for the engines with the expectation that the cost-share will be partially covered by tax credits and the remaining portion financed or provided by the recipient.

Transformative Impact: Incentivizing the ownership of electric powered lawn care equipment will increase ownership of this innovative technology and highlight the emissions and fuel savings, noise reductions and health benefits that result, perhaps transforming residential lawncare in low-income communities. The electric pump replacements for the Department of Conservation will lower energy costs, improve the environment, and serve as an example for communities and citizens. The utility-scale battery projects have the potential to be transformative to peaking stations connected to the energy grid. Batteries have the advantage of charging while whole-sale energy costs are low, and providing energy in times of peak demand, while also providing grid stabilization. These unique attributes will serve as examples and help pave the way for reduced curtailment of renewable energy, reduced need for fossil-fuel-fired peaking stations, and an overall cleaner energy grid.

Measure 3: Waste Management – Landfill Gas Capture, Recycling/Waste Reduction

Description: This measure falls under Group 1 (air program projects) and consists of two sub-measure groups: landfill methane capture, and recycling/waste reduction. These projects will be implemented as reimbursement/rebate programs for the pre-identified project partners. The air program will establish award agreements and maintain oversight of the projects to ensure their successful completion.

Measure 3.1: Methane Capture

Landfill gas projects will capture an additional 30.59 MMscf/year methane from Missouri landfills, converting 95% to energy and 5% to CO₂ through flaring. The pre-identified projects in this measure group include:

- City of Springfield, MO Noble Hill Landfill
- City of Springfield, MO southwest Wastewater Treatment Plant
- Expansion of the methane gas capture and CO₂ conversion system at Lee's Summit Landfill
- Expansion of the methane-to-energy generation facility at Prairie View Landfill

The City of Springfield is currently expanding the gas well collection field which will increase the amount of methane that can be collected for renewable use. The city also currently produces biogas from multiple digesters at the Southwest wastewater treatment plan. The city is proposing to pursue renewable natural gas projects at these facilities, which will involve cleaning the captured methane to remove contaminants, compressing the cleaned biogas, and then injecting it into a commercial pipeline distribution system for end use as a transportation fuel or for other uses. This results in double benefits by both reducing methane emissions to the atmosphere and displacing the use of energy derived from extracted natural gas.

The Lee's Summit landfill currently has an active gas collection and control system that extracts methane gas from the landfill and converts it to carbon dioxide through flaring. Improvements are proposed to increase gas collection which will decrease fugitive methane emissions. These improvements increase the likelihood of the site being considered for a future landfill gas-to-energy project which will take the methane and utilize it to create energy, thus further reducing GHG emissions by displacing the use of energy derived from extracted natural gas.

The City of Lamar currently operates a methane-to-energy generation facility at the Prairie View Landfill. The city is proposing to expand the operation and add additional generation equipment to the existing facility which would increase the amount of methane captured to help reduce emissions at the landfill and displace the use of energy derived from extracted natural gas.

Measure 3.2: Waste Reduction, Recycling and Waste-to-Energy

The waste reduction and recycling projects will divert more than 1.8 million tons of waste and reduce annual VMT for solid waste pickup by 41,635 miles. The pre-identified projects in this measure group include:

- Statewide satellite recycling collection sites in rural communities;
- City of St. Peters material recovering facility upgrades to support a single stream recycling program and recycling carts for municipal solid waste;
- City of St. Peters route optimization software for solid waste and curbside recycling collection;
- Refuse-to-Energy (R2E) system, 500 tons of waste per day diverted from landfills resulting in production of 14.2 MW of renewable base load power;
- Webster County on-site leachate treatment to reduce hauling for off-site treatment.

The R2E project in Perryville will be constructed at the closed landfill at the site of the existing transfer station. The system will be capable of processing 500 tons of municipal solid waste per day. The system is also capable of utilizing old tires and recovers and recycles 100% of the metals from the waste stream. This project will create approximately 100 jobs during construction and 30 new full-time jobs once in operation.

Major Features, Tasks, Milestones, and Risks: All the projects in this measure group will begin with award agreements from the air program to project partners to outline expectations and requirements for the reimbursement/rebate program. The air program will oversee progress on the projects and help to address barriers and obstacles as they arise. As costs are incurred, the air program will verify expenses and reimburse project partners for the costs of the project to be funded through the grant. This reimbursement strategy for the program dramatically reduces risk to the project outcomes and provides strong incentive for project partners to see projects through to completion.

Project partners with landfill methane capture projects will be responsible for system expansion design, equipment purchasing and installation, and bringing new systems online. Potential risks for the methane capture projects are minimal as the infrastructure is already in place at these locations and these projects are expansions of already existing methane collection and treatment systems. The permitting process could potentially delay implementation of these projects, however because these facilities hold current permits and are experienced in obtaining permits, risks are low.

Project partners with new or improved recycling programs will be responsible for system design, equipment purchasing and installation and public outreach. Potential risks for these projects are minimal and include lack of response and participation by communities and residents. Education and outreach efforts should mitigate these risks.

The project partner for the refuse to energy project will be responsible for assembling a planning team and engineering design (which has been completed), obtaining permits and construction, hiring facility workers, and operations start-up. All projects under this measure group are subject to potential supply chain disruptions, unforeseen future budgetary concerns, and the potential for turnover of key personnel, which could impede or delay implementation of specific projects.

Relation to PCAP: Methane Capture, Waste Reduction, Recycling and Waste-to-Energy projects are included in Missouri's plan under the *Waste Management Priority Reduction Measure* (pages 18 to 21 of Missouri's plan). These measures were chosen as a priority in the plan because they help meet program goals by mitigating the environmental impacts of methane emissions. They also help provide a cost-effective renewable fuel for energy production.

Municipal solid waste (MSW) landfills are the third-largest human-generated source of methane emissions in the United States, releasing an estimated 103.7 million metric tons of carbon dioxide (CO₂) equivalent (MMTCO₂e) to the atmosphere in 2021 alone.² Methane is a short-lived climate pollutant with significant warming potential, and over a 20-year period, one ton of methane causes 72 times more warming than one ton of carbon dioxide. Consequently, the mitigation of methane from existing landfills provides important climate benefits. Decreasing methane emissions can be achieved through capture and treatment of the gases or reductions in the types of waste accepted at the landfill site through recycling, composting and waste reduction programs.

Mitigation of landfill gas (LFG) provides many health benefits. Landfill gas is comprised of approximately 50 percent methane and 50 percent CO₂, with trace levels of other compounds, including nitrogen, oxygen, hydrogen, and non-methane organic compounds (NMOCs) such as ammonia and sulfides. NMOCs include hazardous air pollutants that can increase the risk of cancer, cause respiratory issues, and produce strong and unpleasant odors. To mitigate both health and environmental impacts, the EPA currently regulates LFG from very large MSW landfills, which must capture and safely dispose of methane and NMOCs from LFG. This process is typically accomplished either by flaring the gas or by converting the gas into energy.³ Organic waste anaerobic digestion projects can also earn valuable credits for producing low-carbon fuel when biogas is sold for use in transportation applications.

² [2011-2020 Greenhouse Gas Reporting Program Industrial Profile: Waste Sector \(epa.gov\)](#)

³ [Fact Sheet | Landfill Methane | White Papers | EESI](#)

Demonstration of Funding Need: CPRG funding for the landfill methane capture projects is necessary for implementation due to the lack of other funding opportunities. The City of Springfield is willing to contribute a portion of existing reserve funds and obtain low-interest loans and the City of Lamar has offered 10% of project costs through local funding. These projects are being funded at 60-90% from CPRG funds to close the gap in the funding needs for implementation. Landfill-gas to energy projects offer a renewable source of energy to residents while averting methane emissions to the environment. Transforming landfill gas to transportation fuel is an innovative use of an otherwise potent greenhouse gas. Upgrades in capture systems at the Lee's summit landfill will encourage the future use of methane as a fuel source for energy generation.

For the recycling program projects costing over \$1 million and located in or directly benefiting LIDACs, the grant program will fund them at 50%, while smaller projects are being funded at a higher percentage. Fewer funding resources are available for these types of projects although recipients are encouraged to seek out tax credits and assistance from non-profit groups for volunteer labor. CPRG funds are provided to make these projects viable when they otherwise would not be possible.

For the Perry County R2E project, the county has secured or is providing 50% funding for this project and CPRG funds will provide the remaining 50% to make this a viable project.

Transformative Nature of these Projects: Using LFG to generate energy and reduce methane emissions produces positive outcomes for local communities and the environment. Enhancing recycling systems and making them more user-friendly helps increase consumer-buy-in and results in more waste that can be recycled and diverted from landfills, thus reducing the need for landfill capacity and landfill emissions. Refuse-to-energy systems are commonly utilized in large cities such as New York and even in Kansas City, MO. The successful operation of the R2E project in Perryville, Missouri will demonstrate that this innovative process can be used in other communities such as small towns, mid-size cities and rural area as an alternative to landfilling waste. All of these projects create partnerships among citizens, nonprofit organizations, local governments, and industry in sustainable community planning.

Measure 4: Energy Efficiency – Weatherization, Pre-Weatherization, and Building Energy Efficiency Upgrades - Includes Measures from Group 1 (Air Program Projects) and Group 2 (Division of Energy Projects)

Description: This measure includes significant investment in energy efficiency for low-income households and other buildings. The Group 1 (air program projects) measures will be implemented through a reimbursement/rebate style program allowing the air program to maintain strong oversight to see projects through to completion. The Group 2 (Division of Energy projects) measures will utilize the Division of Energy's existing infrastructure for its low-income weatherization program to rapidly deploy funds to benefit low-income households across the state. The measure begins with award agreements from the air program to the Division of Energy and other project partners. The Division of Energy will then establish or supplement agreements with its existing partners across the state to implement weatherization projects for low-income households across the state. In addition, the Division of Energy will establish award agreements with the Division of State Parks and the Office of Administration for weatherization and other energy efficiency upgrades at state parks and other state buildings.

Building weatherization provides building upgrades to improve energy efficiency related to heating, cooling, and electrical systems such as lights or appliances. Upgrades include a variety of projects such as air sealing, adding insulation or ventilation, replacement of doors or windows with higher-efficiency doors or windows, as well as other measures to prevent a loss of energy. The Division of Energy has operated a Weatherization Assistance Program (WAP) since 1977, with a particular focus on bringing energy efficiency upgrades to homes in low-income areas. The statewide program distributes funds to local weatherization agencies based on the population in the agency's area of operation. Additional funds are

available to agencies that demonstrate the ability to effectively and efficiently perform weatherization upgrades. During the application process, applicants and energy auditors may find that a building has structural deficiencies that will undermine the weatherization upgrades. Currently, the US Department of Energy (USDOE)-funded WAP program does not allow funds to be used to remedy these structural deficiencies, and so these buildings are rejected from the program once problems are discovered. The Division of Energy plans to use CPRG funds to expand the existing weatherization program and provide a previously non-existent funding mechanism for these enabling pre-weatherization activities for homes that would otherwise be rejected. This will break down barriers and allow the department to reach those most in need of these upgrades providing direct benefits to LIDACs across the state.

In addition to weatherization and building efficiency upgrades, this measure also includes several projects that will conserve energy by transitioning heating and cooling systems from electricity or natural gas to renewable geothermal energy sources. These projects drastically reduce energy consumption by taking advantage of Earth's natural geothermal energy.

Upgrades to building energy systems and appliances along with weatherization contribute to a sustainable approach to meeting the energy demands of buildings aligning with efforts to reduce greenhouse gas emissions. The electrification of buildings and appliances reduces direct emissions for end-use fossil fuel consumption, and weatherization contributes to lower energy demands of a building. Numerous projects diverse in type and scope are included in this application. The pre-identified projects in this measure group include:

- Northwest Missouri State University replacing HVAC at four campus buildings with geothermal systems
- William Jewel College replacing HVAC with geothermal system and replacement of windows and doors in residential facilities
- Maryville University replacing HVAC for student apartment and chillers for new lab building and campus parking lot lighting conversion- convert 115 light poles with high pressure sodium light fixtures to LED fixtures
- Green County business installing 17,999 sqft of closed cell foam insulation
- City of Columbia install ground source heat pump at historic Armory building
- City of Columbia Rainbow Softball recreation complex lighting replacement
- City of Higginsville replacement of florescent lights in government buildings with LED and upgrading 320 streetlights from high pressure sodium to LED
- Missouri State University – West Plains window replacements and weatherization
- Rolla Municipal Utilities implementation of a demand response system
- Rolla Municipal Utilities installation of ground source heat pump at municipal building
- Missouri Department of Conservation HVAC replacement project at the Springfield Conservation Nature Center
- Missouri Department of Conservation updating Commission Headquarters building with fiber cement siding, insulated doors, double pane glazing, insulation, air sealing and high reflectivity metal roof
- Missouri Department of Conservation updating coolers for storage for two million native tree seedlings
- City Utilities of Springfield implementation of demand response program
- The program will supplement the Division of Energy weatherization program with \$8 million over the five year grant period and provide for pre-weatherization assistance.
- The State of Missouri FMDC is implementing energy efficiency and weatherization upgrades to 16 state buildings. Total energy savings from these projects is 15 GW and 3,690 MMBtu.
- Missouri State Parks is implementing 35 energy efficiency and weatherization upgrades. Total energy savings from these projects is 4.2 GW and 2,248 MMBtu.

Major Features, Tasks, Milestones, and Risks: The projects in this measure group will begin with award agreements from the air program to the Division of Energy and other project partners to outline expectations and requirements for program. The air program will oversee progress on the Group 1 projects and help to address barriers and obstacles as they arise. As costs are incurred, the air program will verify expenses and reimburse project partners for the costs of the project to be funded through the grant. This reimbursement strategy for the program dramatically reduces risk to the project outcomes and provides strong incentive for project partners to see projects through to completion.

The Division of Energy will be responsible for managing and overseeing the projects from this measure in Group 2. They will establish award agreements with existing project partners for the weatherization supplement and will establish agreements with the Division of State Parks and the Office of Administration for the state parks and state building upgrades. The Division of Energy will then oversee these projects and request reimbursement from the air program to pass to the project beneficiaries.

Project partners in both groups will be responsible for performing energy audits (where necessary), project planning, design and approval, bidding and contractor selection, equipment and product purchases, construction, and installation. Risks for these projects are minimal but may include construction delays due to equipment and workforce availability. Also, although project partners have provided commitments to implement these projects, unforeseen budgetary concerns or turnover of key personnel are also potential risks that could impede or delay the implementation of specific projects.

Relation to PCAP: Weatherization and Building Electrification projects are included in Missouri's plan under the *Energy Efficiency Priority Reduction Measure* (pages 7-9 of Missouri's plan). These measures were chosen as a priority in the plan because there is no new statutory authority required allowing the projects to move forward with immediate benefits to communities. These projects also help meet CPRG program goals by reducing building energy demands, thus reducing power plant greenhouse gas emissions due to electricity production.

Demonstration of Funding Need: Buildings most in need of weatherization and electrification are older buildings that were not built to be energy efficient. Therefore, the costs to implement these projects often uncover unknown issues that can raise project costs. Providing CPRG funds for weatherization and energy efficiency is essential to project implementation for the state government, municipalities, educational institutions, who operate on thin budgetary margins. Providing funds for these projects allows governments and educational institutions focus on their direct mission which is helping their communities prosper.

The supplement to the Division of Energy weatherization program and the allowance of pre-weatherization costs directly benefits low-income households. While some agencies do have funds set aside for pre-weatherization, these funds are often difficult to access by individuals. The interconnected nature of structural deficiencies in homes often means that the meager local budgets for pre-weatherization could be spent on a single project, leaving nothing for other applicants. In recent years, around 25% of rejected weatherization applicants were rejected due to the discovery of structural deficiencies which could not be remedied using existing weatherization funds.

Transformative Impact: The government, municipality, and educational institution building upgrades will display the state as a committed partner to reduce energy use and act as a leader in displaying how plans can be integrated into future building projects to conserve energy, lower bills, and free up funding for core functions and purposes.

For the weatherization program, many organizations have recognized the need for pre-weatherization activities in low-income communities. Remedial actions to correct structural deficiencies not only make a dwelling safer for occupants, but also enable further upgrades to reduce energy burdens. However, while this need is identified, funding for these projects is scarce. Federally-funded programs, such as Missouri's Weatherization Assistance Program, are often prohibited from using funds for remedial, "enabling" actions. Additionally, because there is so little pre-weatherization funding available, and because structural problems are often interconnected and expensive, agencies are reluctant to expend the funds. Expansion of the existing weatherization program will give local agencies the confidence to undertake these necessary projects and demonstrate the viability of this kind of program for future funding.

Measure 5: Land Use Includes Measures from Group 1 (Air Program Projects) and Group 2 (Division of Energy Projects)

Description: This measure consists of two sub-measure groups: Urban Greening and Afforestation and Prairie and Native Plants Cultivation and Restoration. The Group 1 (air program projects) measures will be implemented through a reimbursement/rebate style program allowing for strong oversight to see projects through to completion. For the Group 2 (Division of Energy projects), the Division of Energy will establish award agreements with the Division of State Parks for afforestation projects.

Measure 5.1: Urban Greening and Afforestation

Missouri's Urban greening and afforestation projects will add 10,968 trees in the near term and 9,000 per year thereafter to Missouri in rural areas, cities, state parks and conservation areas. The pre-identified projects in this measure group include:

- Expansion of Forest ReLeaf's nursery operation to provide an additional 3,000 trees per year
- City Tree Farm at the Scott Joplin House in St. Louis will disburse 3,000 trees per year
- Downtown Kansas City urban greening project to plant 73 trees of varying variety to produce 1.2 acres of new tree canopy
- 480 new trees for City of Columbia parks
- 20 fruit trees for Seed St. Louis
- 1,000 trees for Emmaus Village in St. Louis, MO
- 300 trees for New Roots Urban Farm Orchard
- 45 trees for Rustic Roots Sanctuary
- Big Lakes State Park to replace 3000 trees lost to flooding and invasive species since 2011

Measure 5.2: Prairie and Native Plants Cultivation and Restoration

Through Missouri's agricultural cover crop, native species, and prairie gas projects, 100,000 acres of Missouri farmland will be enhanced with carbon sequestering cover crops and an additional 35 acres of prairie grass will be restored, 5 acres will be planted with pollinator and other native species, and 24 acres will be planted with giant cane. The pre-identified projects in this measure group include:

- Expand an ongoing tallgrass prairie restoration project on the Missouri Western University campus
- Install a five acre pollinator plot at Northeast Power Co-op
- Initiate the establishment of large populations of cane plants available to underserved farmers, 24 acres with 16,000 stems per acre
- Mizzou Center for Regenerative Agriculture cover crop project
- 20 acres of prairie grass between solar arrays at Biesel Farms in St. Genevieve, MO

Major Features, Tasks, Milestones, and Risks: The major features, tasks, and milestones for the air program for this measure group include developing the award agreements for the Division of Energy and other project partners. In addition, the air program will assist and oversee project partners as they implement their projects and help identify solutions to any barriers that arise. For project partners, the major tasks and milestones include setting up tree propagation dispersal operations, purchasing trees and native plants, renting equipment, and hiring staff, obtaining cover crop seed, and sowing and harvesting. The risks to achieving project outcomes for this measure group are minimal, as no new statutory authority is required other than annual appropriations. However, this measure group could be impacted by overly dry or wet weather affecting a successful planting and growing season. Also, as with all project unforeseen future budgetary concerns or turnover of key personnel are potential risks that could impede or delay implementation of specific projects.

Relation to PCAP: Urban Greening, Afforestation and Cover Crop projects are included in the Missouri's plan under the *Land Use Priority Reduction Measure* (pages 15-18 of Missouri's plan). These projects were chosen as a priority in the plan because they help meet program goals by sequestering CO₂. Additional benefits of urban greening are numerous; they improve the lives of the people and wildlife in the area, as well as making our cities eco-friendlier and pleasing to the eye. Urban greening can also help alleviate the "heat island" effect of cities. Afforestation projects are some of the most natural and technologically simple ways to reduce GHG emissions because as the trees grow, they naturally sequester CO₂ into themselves and

the soil they grow in. Native tallgrass prairie, which once covered large portions of the state of Missouri and have largely been converted to crop production or seeded to non-native forage grasses to support the cattle industry, not only reduce GHG emissions but provide habitats for native wildlife and pollinators.

Demonstration of Funding Need: The Missouri Department of Conservation has been a partner for community tree projects and can offset costs by providing the sites for these types of programs. However, the financial burden to purchase trees, plants, and seeds, pay staff, and to conduct community outreach and education are high. Also, there are very few funding sources available for these types of projects. For these reasons, for the Group 1 projects, CPRG funds can be used to cover 90% of project costs for larger projects, and projects costing less than \$50,000 are being funded 100%, unless the project partner requested a lower percentage when they proposed their project.

Transformative Impact: Providing CPRG funds for these projects make them realistically viable projects for the applicants and without this funding, they would not be possible. The benefits of planting trees and restoring native plant cover in Missouri are numerous and transformative. Not only do these projects reduce carbon in the atmosphere, but spending time among trees and green spaces has been shown to reduce stress, increase overall health, and increase educational achievement. Tree-lined streets have a calming effect, screen unwanted noise and compliment the beauty of urban communities, while reducing urban heat island effects. These projects not only filter out pollutants such as ozone, carbon monoxide and sulfur dioxide, they increase the oxygen we breathe, reduce storm water runoff which reduces erosion and pollution in waterways and protect against flooding. Additionally, many species of wildlife depend on trees and ground cover for habitat, food, and protection. Economically, well placed trees can reduce cooling costs by shading homes and buildings in the summer and allowing sun to pass through and warm homes and buildings in the winter. The benefits of trees increase over time as newly planted trees grow to maturity and the average tree lifespan of 300-400 years will ensure these projects have a positive impact for generations.

Measure 6: Agriculture Energy Efficiency Grant Program

Description: Missouri is an agricultural state, with more than 28 million acres devoted to the cultivation of crops and livestock, more than two-thirds of the state's land. The Division of Energy will use CPRG funds to establish a funding program to enable energy efficiency upgrades at farms across the state. This program will provide grants to farmers for solar power at farms, GPS and guidance systems for farm equipment, weatherization, energy efficiency upgrades at livestock facilities, and electrification of farm equipment to reduce fuel use and dependency.

Environmental benefits include:

- Reduced fuel and fertilizer use through precision GPS and guidance technology,
- Reduced reliance on fossil fuels through local solar electric generation,
- Enhanced energy efficiency by replacement of aging fossil fuel irrigators and other field equipment with newer electric equipment
- Reduced energy use for heating, cooling, and ventilation of livestock facilities and other farm buildings

Major Features, Tasks, Milestones, and Risks: The major features, tasks, and milestones for the air program for this measure group include developing the award agreement for the Division of Energy. Major tasks and milestones for Division of Energy include program design, public outreach and education about this funding opportunity, coordination with other state agencies, and contracting for program activities such as coordination, community engagement, and technical assistance. For project partners, the major tasks and milestones include project design and application for funds and implementation. The risks to achieving project outcomes for this measure group are minimal, as no new statutory authority is required other than annual appropriations. However, there is potential risk of low-public interest with this new program. Also, this measure group could be impacted by supply chain disruptions that cause delays in the availability of equipment and supplies necessary for project implementation.

Relation to the PCAP: Agricultural energy efficiency projects are included in Missouri's plan under *Sustainable Agriculture Practices Priority Reduction Measure* (pages 21-22 of Missouri's plan). This program was included because it offers many opportunities to reduce GHG emissions in Missouri's large agriculture industry through energy conservation. The promotion of sustainable agricultural practices can be transformative and have trickle effects of lowering food production costs and increasing economic stability in this sector.

Demonstration of Funding Need: More than two-thirds of Missouri's land is dedicated to agriculture, with 90 percent of farms being family-owned. Previous energy efficiency grants targeted to agriculture were quickly oversubscribed. So, this funding is sorely needed to reduce emissions from the agricultural sector. Oftentimes, agricultural equipment is too expensive to justify a purchase for a small farm, so farms will tend to use and repair older equipment indefinitely. Many of Missouri's rural areas are also LIDACs, and would benefit greatly from investment in clean, reliable, and efficient equipment.

Transformative Impact: This proposed program builds off of a previous program called the Energize Missouri Agriculture Program (EMAP). EMAP was a \$3 million program funded by USDOE through the American Recovery and Reinvestment Act of 2009, and accepted applications from December of 2021 to February of 2022 on a first-come-first-served basis. EMAP was well-received by Missouri's farming community and was quickly oversubscribed, funding more than four hundred applications for energy- and fuel-efficient equipment. With much more available funding from CPRG, and by strategically pairing equipment grants with low-interest loans offered through the National Clean Investment Fund which will be run through the department's sister agency the Environmental Improvement and Energy Resources Authority (EI ERA), this proposed funding program will be able to reach more of Missouri's farmers and alleviate the cost burden of new, energy efficient farm equipment.

Measure 7: Decarbonization in Cement Manufacturing

Description: The cement decarbonization project is located at Missouri's Holcim plant in Ste. Genevieve County. The project entails the replacement of a portion of the plant's overall solid fossil fuel (coal & pet coke) needs with 240,000 metric tons per year of low carbon engineered fuel. The full project includes a low carbon engineered fuel processing facility (off site) and the kiln modification, low carbon engineered fuel receiving and handling systems at Ste Genevieve proper.

Major Features, Tasks, Milestones, and Risks: The major features, tasks, and milestones for the air program for this measure group include developing the award agreement with Holcim. For Holcim, the major tasks and milestones include permitting, preliminary design, project and market development, which are already completed. Construction and erection work could start in late 2025 and conclude with commissioning in Q4 2026. Holcim anticipates commercial operations launching in Q2 2027. The risks to achieving project outcomes for this measure group are minimal, as no new statutory authority is required other than annual appropriations. However, this measure could be impacted by supply chain disruptions that cause delays in the availability of equipment and supplies necessary for project implementation. Also, although Holcim has committed to implementing this project once funding is secured, there is always the risk of unforeseen budgetary concerns or turnover of key personnel that could impede implementation. However, Holcim will implement project management plans, risk management plans, safety plans, and respective reporting tools/procedures to the full extent, relying on a solid layer of internal controls and decades of experience in deploying large capital projects.

Relation to the PCAP: Projects aimed at decarbonizing cement manufacturing are included in Missouri's plan under *Decarbonization in Cement Manufacturing Priority Reduction Measure* (pages 22-24 of Missouri's plan). This measure was included as a priority in the plan because no new statutory authority is required and Missouri is a large producer of cement. Decarbonization of this sector has proven challenging for many reasons, yet carbon intensity from this sector is significant. Many of Missouri's cement manufacturers are in or near low-income communities; therefore, emissions reductions at these facilities

will directly benefit disadvantaged Missourians through cleaner air and healthier environments. Cement decarbonization projects can be initiated soon following completion of the permitting process as funds become available.

Demonstration of Funding Need: No federal or state funding has been secured for this project. The CPRG funding will aid the company's private investment in its decarbonization commitments in the country's largest cement manufacturing facility. Funding support from the CPRG would allow Holcim to develop the required supply chain and infrastructure at a faster pace and to deliver a more robust partially integrated supply chain model supported by state-of-the-art efficient and highly automated system.

Transformative Impact: Missouri is one of the largest cement producers in the country and ninety percent of emissions from cement making are from the kiln where limestone and silica are heated to high temperatures to chemically create the material, called clinker, necessary in making cement. Sixty percent of the on-site emissions associated with this step are process emissions—coming from the chemical decomposition of limestone in the kiln. The rest come from the combustion of fossil fuels to reach the high temperatures required for the process. The wide availability of low-priced fossil fuels in the region and the large supply chain required to feed the needs of a large plant, such as Holcim, have been the main constraints that prevented the development of a significant low carbon engineered fuel program at the plant. The sheer size of the volumes considered is an important milestone for the decarbonization of the operations of the Holcim Group, and the entire cement industry globally. Large cement plants in the US have not been able to implement large low carbon engineered fuel programs due to low priced fossil fuels, a lack of government incentives and support, and the fear for loss of gross contribution in key markets.

The successful deployment of a project of this size is transformative and it will demonstrate to the rest of the US cement industry that even the largest plants in the world can run efficiently, minimizing the need for fossil fuels. Additionally, the cement industry is estimated to be responsible for 8% of global CO₂ emissions, and fossil fuels accounted for over 70% of the total energy used in the US cement industry in 2015. Fuel switching to low carbon alternative fuels is a clear part of the global decarbonization roadmap to reduce the CO₂ impact of the cement industry.

All Projects Interaction with Other Funding Sources:

In addition to this application, the department is aware of two other CPRG implementation grant applications seeking funds to implement measures in the state of Missouri. These include the Resiliency Coalition being led by the state of Hawaii and the application submitted by the Mid-America Regional Council (MARC). The department took steps to ensure that all measures included in this application are non-duplicative of the measures included in either of these two applications.

The application submitted by Mid-America Regional Council (MARC) includes measures to be implemented in the bi-state Kansas City Region covered by MARC's jurisdiction. The department has engaged in extensive coordination and collaboration with MARC throughout development of our priority plans and implementation grant applications and we have taken steps to ensure this application is not duplicative of any measures included in MARC's application. Further, we are committed to continuing our coordination and collaboration efforts with MARC throughout the implementation phase of the grant program. In the event, that the department's, MARC's, and/or the coalition applications are awarded funding, our agencies have agreed to share progress and details on all projects and measures implemented in the Kansas City area. We will ensure both our agencies have safeguards in place to prevent any projects from receiving CPRG funds from two different CPRG implementation grants. This will ensure compliance with EPA's grant requirements and maximize the amount of projects and benefits we can achieve together.

Contingency for Unused Funds

In the event any of the pre-identified projects included in any of the measures utilize less funding than projected, or drop out due to unforeseen circumstances, the department has a plan in place to utilize these unexpended funds to further the project outputs and outcomes. After the second year of the grant, the

department intends to evaluate all remaining outstanding projects and assess the amount of any anticipated unused funds at that time. Then, the department plans to distribute these funds to four different measures based on funding need. These include the Division of Energy projects relating to the supplement for the low-income weatherization program and the new sustainable agriculture program. If funding is anticipated to remain after fully funding anticipated project costs from all eligible projects from these two categories, funding will shift to state parks environmental upgrades and state building environmental upgrades. The Office of Administration has stated that over a \$100 million in additional state building efficiency and solar projects are viable if funding is secured. This will ensure that all funds awarded through this program are expended to further the anticipated environmental and economic benefits to citizens and communities across the state, and shows the department is committed to ensuring the success of this program.

Section 2: Impact of GHG Reduction Measures

Through these projects, the department expects to achieve nearly 5.2 million tons of CO₂e reduction through 2030, with more than 26.8 million tons of reduction through 2050. The overall cost effectiveness for the included measures is \$15.96 per ton of total emissions reduction through 2050. A description of the methodology for obtaining these estimations can be found in Technical Appendix A, including documentation of assumptions made to estimate emissions reductions. A detailed calculations spreadsheet is also included with the technical appendix. The magnitude of GHG reductions and cost effectiveness resulting from all projects from 2025 through 2030, and from 2025 through 2050 are listed in Table 1.

Table 1: Magnitude of GHG Emissions Reductions and Cost Effectiveness

Emissions Reduction Measure	CO ₂ e Reduction (tons)		Cost (\$) CPRG Funds *	Cost per ton of CO ₂ e reductions	
	2025-2030	2025-2050		2025-2030	2025-2050
Industrial Solar (Group 1 projects only)	816,056	2,474,626	\$66,375,000	\$81.34	\$26.82
Building Solar (Group 1 projects only)	36,655	164,573	\$2,711,953	\$73.99	\$16.48
Methane Capture (Group 1 projects only)	1,829,601	9,961,160	\$32,600,000	\$17.82	\$3.27
Waste Reduction and Recycling (Group 1 projects only)	263,132	1,929,043	\$51,912,000	\$197.29	\$26.91
Land Use and Natural Sequestration (Group 1 and 2 projects)	872	40,196	\$10,643,475	\$12,199.89	\$264.79
Energy Efficiency and Weatherization (Group 1 projects only)	80,434	404,045	21,720,790	\$270.05	\$53.76
Electric Vehicle Fleet Exchange (Group 1 and 2 projects)	7,666	30,049	10,968,669	\$1,430.85	\$365.03
Electric Conversions (Group 1 and 2 projects)	7,443	37,216	\$7,925,500	\$1,064.79	\$212.96
Alternative Transportation (Group 1 projects only)	148	894	\$904,763	\$6,101.60	\$1,011.48
Electric Vehicle Charging Infrastructure (Group 1 and 2 projects)	23,805	114,165	\$4,715,130	\$198.07	\$41.30
Cement Production Innovation (Group 1 projects only)	1,354,500	6,923,000	\$10,000,000	\$7.38	\$1.44
Low-Income Pre-Weatherization / Weatherization Program (Group 2 projects only)	1,360	8,292	\$8,000,000	\$5,880.79	\$964.79
State Parks Energy Efficiency and Building Solar Upgrades (Group 2 projects only)	5,991	40,227	\$21,812,938	\$3640.84	\$542.25
State Buildings – Energy Efficiency and Building Solar Upgrades (Group 2 projects only)	61,945	391,018	\$89,655,019	\$1,447.33	\$542.25
Sustainable Agriculture Program (Group 2 projects only)	706,204	4,304,595	\$71,816,307	\$101.69	\$16.68
TOTAL GHG Emissions Reductions:	5,195,813	26,823,100	\$428,312,280	\$82.43	\$15.96

* CPRG funds per measure do not include administrative expenses from the department or subgrantees; however, the total cost from all projects at the bottom of the table are inclusive of administrative expenses.

Section 3: Environmental Results – Outputs, Outcomes, and Performance Measures

The implementation of the projects contained in this application are projected to result in many positive outcomes including the following:

1) Increase in renewable energy sources and resiliency

The implementation of industrial and building level solar, methane capture and refuse-to-energy projects will result in more energy supplied by renewable sources. This will be evidenced by the overall capacity of solar farms constructed, the amount of methane captured, cleaned and fed to energy generating systems or provided for vehicle or other fuels, and the amount of energy produced through the Perryville R2E facility.

Outcomes: The expected outcomes vary per project but include additional clean energy available to local municipalities, lower energy bills for buildings that install building-scale solar arrays, increased energy produced at the Prairie View, Perry County, Webster County and Noble Hill Landfills and the Southwest Wastewater Treatment Plant in Springfield.

Co-Pollutant Emissions Reductions Potential: Industrial and building solar projects are projected to decrease co-pollutant emissions in the following amounts:

SO ₂ (tons)	NO _x (tons)	PM _{2.5} (tons)	VOC (tons)	NH ₃ (tons)
2,080.44	1,925.40	166.81	59.65	60.46

Performance Measures

- Increased capacity (MW) provided by the industrial solar installations
- Decreases in energy drawn from the grid in buildings equipped with solar panels
- Amount of methane captured
- Tons of waste diverted from landfills
- MW of energy produced from methane and R2E
- Amount of money saved from renewable energy production

2) Increases in recycling and reductions in waste

The implementation of waste reduction and recycling projects will result in less waste in Missouri landfills which in turn will reduce methane emissions in facilities with inadequate methane capture systems. Reductions in methane, a powerful greenhouse gas will have a positive mitigating affect on climate change.

Outcomes: The expected outcomes are less waste picked up curbside and more materials recycled. This results in conservation of raw materials, reduced pollution, less damage to biological habitats and water quality. Economic benefits include a decrease in waste disposal costs and reduction in costs of harvesting raw materials.

Performance Measures

- Increases in the amount of material collected at recycling collection points
- Decrease in fuel used to pick up waste
- Increased efficiency and materials processed at recycling facilities

3) Additional trees and restoration of natural areas

The implementation of land use and natural sequestration projects will result in higher sequestration of carbon from the atmosphere. Each year that a tree grows it stores more carbon by holding it in its accumulated tissue. Trees also provide shade and reduce urban heat islands by lowering surface and air temperatures and serve as habitats to wildlife. Areas with adequate tree canopy encourage recreation and social gathering, which increases health outcomes from community residents.

Outcomes: The expected outcomes vary per project but include an increase in trees planted in both urban and rural areas (nearly 11,000). An increase in produce and nuts harvested from the fruit and nut trees provided to St. Louis non-profits is expected as well. Regenerative agricultural cover crops will protect Missouri farmland from nutrient stripping and erosion and prairie grass and pollinator plots will provide support for bees and other wildlife.

Co-Pollutant Emissions Reductions Potential: Natural sequestration projects are conservatively projected to decrease co-pollutant emissions in the following amounts over 20 years from the initial 10,968 trees planted. These reductions will grow each year, as projects will add an additional 9,000 trees per year thereafter.

SO ₂ (lb)	NO _x (lb)	PM _{2.5} (lb)	Ozone (lb)	CO (lb)
2,756	350	1,529	32,951	740

Performance Measures

- Increase in number of trees disbursed through CommuniTree, City Tree Farm and other programs
- Additional acreage of tree canopy in downtown Kansas City
- Increase in fruit and nuts harvested from trees serving food-insecurity non-profits
- Number of farmers participating in the regenerative agriculture cover-crop program

4) Increases in EV use

The implementation of widespread EV charging infrastructure along with providing funding for increases in EV fleets for government, municipal and other public and non-profit institutions in Missouri will result in increases in the adoption of electric vehicles. This will be evidenced by the purchase and utilization of EVs and the installation and activation of a network of publicly available charging stations strategically placed in residential areas, community centers, and along major transportation corridors (87 level 3 units and 46 level 2 units resulting in an estimated additional 4,553 EV's).

Outcomes: The expected outcome is a substantial reduction in tailpipe emissions from traditional vehicles, leading to improved air quality and reduced greenhouse gas (GHG) emissions. The increased adoption of EVs will also demonstrate a tangible, quantifiable shift towards cleaner and more sustainable transportation options that can encourage similar projects to succeed in other regions.

Co-Pollutant Emissions Reductions Potential: EV fleet projects are conservatively projected to decrease co-pollutant emissions in the following amounts:

SO ₂ (tons)	NO _x (tons)	PM _{2.5} (tons)
20.12	17.34	1.0

Performance Measures

- Number of new EVs purchased with CPRG funds
- Number of new charging units available and ongoing use of chargers
- Numbers of users and origin of users of charging units
- Increased penetration of EVs measured through Department of Revenue vehicle registration data

Authorities, Implementation Timeline, and Milestones for All Measures

One of the primary objectives of Missouri's Plan for Environmental Improvement Grants was to seek out projects that meet CPRG objectives without the need for new statutory authority. Section 643.060 empowers the air program director to accept, receive, and administer grants from the federal government for the purpose of carrying out the Missouri Air Conservation Law. The air program has a long history of applying for, receiving, and administering such grants. Annual appropriations are always required for executive agency expenses, and the air program has a long history of providing the necessary information to the governor and state legislature to inform the legislative appropriations process and obtain spending authority for grant programs that benefit Missourians.

Section 1 of this workplan clearly identifies the roles and responsibilities for each emission reduction measure in the "description" sections, and the "major features, tasks, milestones, and risks" sections. Table 2 provides a timeline of anticipated milestones for all measures included in this program.

Table 2: Anticipated Project Timeline

Milestone	Anticipated Completion Dates
Air Program develops and executes subgrants to Division of Energy and MPUA	Oct-Nov 2024
Air Program develops and executes award agreements for reimbursement/rebate programs for other Group 1 projects	Oct-Nov 2024
Division of Energy develops and executes award agreements with the Division of State Parks and the Office of Administration for EV Pilot, State Park upgrades, and State Building Upgrades	Dec 2024
Division of Energy develops and executes award agreements existing weatherization partners to supplement existing weatherization programs.	Dec 2024
Division of Energy develops Sustainable Agriculture Program requirements and application forms and develops and executes contract for technical support for the new program.	Dec 2024 – Dec 2025
Division of Energy conducts outreach and releases request for applications for Sustainable Agriculture Program	Early 2026, 2027, and 2028
Division of Energy selects sustainable agriculture projects and create award agreements with successful applicants	Mid 2026, 2027, and 2028
Sustainable agriculture projects are implemented and reimbursed	Mid 2026 – Sept 2029
Project partners (beneficiaries) begin design and procurement of their projects	Jan 2025
Project partners (beneficiaries) execute contracts and purchase orders for implementation of their projects	March 2025 – Dec 2026
Project partners (beneficiaries) begin construction/installation or implementation of their projects.	April 2025 – Dec 2027
Project partners (beneficiaries) complete projects and submit payment requests and the department reimburses the grant portion of project costs	May 2025 – Sept 2029
Department submits progress reports to EPA detailing progress, status, expenditures, and obstacles encountered	Semi-annually
All projects completed and grant portion reimbursed	September 2029
Department submits final financial and programmatic report to EPA	December 2029

SECTION 4 – Low-Income and Disadvantaged Communities

Community Benefits: Implementing the projects included in the department’s grant application will provide significant benefits to LIDACs. Many of the emissions reduction measures included in this application also have co-benefits localized to the area where the measure is implemented. Benefits related to reductions in criteria air pollutants such as a reduction of ground-level ozone or PM_{2.5} concentrations in populated areas can have quantifiable impacts on the health of communities including reducing new asthma cases and hospital admissions due to respiratory illness; decreases in lost workdays due to illness; and reductions in pulmonary disease and chronic heart disease.

Other less quantifiable localized benefits, such as city beautification or an increased engagement of the community in air pollution topics, may also be attributable to specific projects such as the land use projects within this application, however co-benefits vary on a case-by-case basis and depend on the specifics of each project location. Many of the broader effects of greenhouse gas emissions, such as extreme weather events and excessively high or low temperatures disproportionately affect low-income and disadvantaged communities that oftentimes do not have the economic flexibility to avoid or plan for unexpected extreme weather and may be un- or under-insured when damage to property occurs.

The effects of extreme weather and a changing climate are not limited to human health. The Missouri Department of Agriculture estimated in 2021 that the agriculture industry contributed \$93.7 billion to the state’s economy. Heat waves, droughts, and other extreme weather events can also negatively affect these industries by decreasing crop yields, killing plants and livestock, and decreasing soil health. Low-income,

rural communities that are supported by the agriculture industry are at risk of losing the livelihoods of residents in addition to the risks to human health from extreme weather. Furthermore, increases in food prices that result from the effects of extreme seasonal weather on the agricultural industry disproportionately affect low-income Americans.

Broadly, implementation of the proposed projects contained in this application will reduce GHG emissions. While these projects only represent Missouri communities, CPRG funds will support EPA's overall program goal of reducing greenhouse gas emissions nationwide. As one application among many, the projects in this application will have a net positive effect in reducing greenhouse gas emissions and their impact on LIDAC communities simply by virtue of the global nature of greenhouse gas emissions.

The majority of projects making up this grant application are either located in or directly benefit residents of LIDACs. Each project was evaluated based on the Climate and Economic Justice Screening Tool (CEJST) and the census tracts affected by each project are listed in the Attached spreadsheet to the Technical Appendix. The specific Emissions Reduction Priority Measures addressed in this application affect LIDAC populations as displayed in the following table:

Emissions Reduction Priority Measure	LIDAC Population
Industrial Solar	204,055
Building Solar	89,179
Methane Capture	9,710
Waste Reduction and Recycling	26,363
Land Use and Natural Sequestration	29,537
Energy Efficiency and Weatherization	202,791
Electric Vehicle Fleet Exchange	359,119
Electric Conversions	190,137
Alternative Transportation	12,675
Electric Vehicle Charging Infrastructure	63,054
Cement Production Innovation	None
Pre-Weatherization - Weatherization Programs	Statewide with low-income requirements for residences
Energy Efficiency in Agriculture Program	Statewide

Other specific benefits to LIDACs from the measures included in this application are as follows:

- Weatherization and Pre-Weatherization Projects lower energy costs and increase property values for eligible residents and provide quality jobs and training in the community.
- Residential building and home energy upgrades directly benefit low-income residents by reducing energy consumption, resulting in decreased electric bills. Replacing aging appliances with more energy efficient new appliances allows homeowners and renters to cook healthy meals, clean dishes and clothes, and heat and cool their homes and apartments reliably and economically.
- Renewable energy generation such as municipal solar panels will benefit low-income residents by reducing energy costs for local governments and community-serving non-profits which can be redirected to increase services for LIDAC. These projects provide a sustainable power source and create job opportunities in the renewable energy sector. This can contribute to economic empowerment and environmental sustainability for residents.
- Electric Vehicle (EV) programs can benefit low-income and disadvantaged communities by providing increased access to electric vehicles for drivers who may not otherwise be able to afford these vehicles. Also, health-impacting air pollutants disproportionately impact LIDAC. Cutting air pollution of traditional air pollutants through measures that expedite greater EV adoption improve the health and air quality of LIDAC directly. It is imperative that charging infrastructure be widely available to increase

the consideration of residents of all communities of purchasing an EV. Over time, lower operating costs for EVs contribute to more affordable and sustainable mobility options for residents in these communities. Pedestrian areas and bike lanes and trails also offer alternative transportation options and encourage active lifestyles and recreation. All additional modes of transportation improve access to jobs, education, and essential services, enhancing overall economic opportunities and quality of life for residents of LIDACs.

- Urban greening projects can offer low-income urban residents many physical and social benefits. Improving and expanding green spaces in urban areas results in residents spending more time interacting with the outdoors and engaging in recreational activities like biking, running, and walking. These spaces may also serve as meeting grounds, encouraging stronger social ties and social cohesion within a community, providing a host of social and emotional benefits. Through these physical and social benefits, urban greening can decrease stress, improve physical health, and increase safety and well-being for LIDAC residents.
- Afforestation and prairie management can similarly benefit low-income residents in more rural areas by providing recreational areas for walking, hiking, and hunting. Exposure to nature has been linked to a host of benefits, including improved attention, lower stress, better mood, and reduced risk of psychiatric disorders. Low-income property owners will further benefit from increases in property values that result from increased tree growth and well managed agricultural and wildlife areas.

Community Engagement: The department's general outreach and public engagement during the development of Missouri's plan and this grant application included a combination of online and electronic communication and in-person and virtual presentations. The department set up an email list for all interested parties to receive updates and department communications regarding the CPRG program and an email address was created to send and receive communication to those who submitted project ideas. The department worked closely with both the Mid America Regional Council (MARC) and the East West Gateway Council of Governments (EWGW) to provide outreach to LIDACs in the Kansas City and St. Louis metro regions, which are urban areas with a high concentration of LIDAC residents.

The department also awarded planning sub-grants to five municipalities and community groups for the purpose of conducting a minimum of three outreach meetings to help solicit input on Missouri's plan and project ideas for evaluation and possible inclusion in this grant application. Target groups for these outreach events were marginalized, underserved, and overburdened residents in each community and subgrantees were directed to seek out and involve these groups to the extent possible. Organizations receiving the planning sub-grants represent diverse areas of the state of Missouri and include Harry S. Turman Coordinating Council, City of Columbia, City of Higginsville, Meramec Regional Planning Commission and Southwest Missouri Council of Governments.

Outreach efforts, including the CPRG electronic communication, webinars, partnering with MARC and EWGW, planning subgrants and solicitation of project ideas for implementation by these groups resulted in the department receiving over 300 project ideas to consider. These ideas were received from state government agencies, non-profit groups, municipalities, educational institutions, business owners, and individual Missouri citizens. Each project idea was evaluated based on impact to LIDAC residents, project readiness, and GHG emissions reduction potential. Based on these evaluations nearly 100 projects that came directly from these outreach efforts were included in the department's application.

The department is committed to continuing this extensive outreach effort throughout implementation of this program. The sustainable agriculture and low-income weatherization program will routinely target and communicate with LIDAC residents and offers innovative ways to overcome obstacles and deliver strong and lasting benefits. The department will continue posting routine updates to project implementation on its website and provide updates at Missouri Air Conservation Commission meetings, and regional planning meetings across the state. Communication via email groups, public meetings, webinars, one-on-one communication, and other avenues will continue to build on the tremendous outreach effort the department has displayed throughout this process.

SECTION 5 – JOB QUALITY

The diversity of project types included along with the vast geographic area benefiting from CPRG funding through this application will result in growth to local workforces employed in the implementation of these projects. Energy efficiency work means good local jobs and equitable economic growth in these communities. Funding projects that reduce GHG emissions will create more jobs in Missouri’s low-income and disadvantaged communities, rural communities and everywhere in between. Energy efficiency jobs are projected to grow by almost 6% further incentivizing growth in workforce development programs in this area. In Missouri, construction employment totaled 139,800 in 2022 and the demand for quality workers in the field remains high. Training and certification for energy efficiency jobs is especially important both in insuring quality infrastructure and building performance and in helping workers land good jobs with high salaries. These jobs include manufacturing and sales, installation and repair, and jobs in the professions such as architecture, accounting, and engineering. Two examples of successful workforce development and energy efficiency apprenticeship programs are:

- The Mid-America Regional Council (MARC) produced a report of EnergyWorks KC workforce training successes made possible through Better Buildings Neighborhood Program funding. MARC supports six organizations in the Kansas City, Missouri, region that provide workforce development training programs in energy efficiency, water conservation, and deconstruction through the EnergyWorks KC program.
- North East Community Action Corporation (NECAC) worked with the U.S. Department of Labor St. Louis Office of Apprenticeship to develop, register, and launch a new Weatherization Assistance Program apprenticeship program. It is a 1-year apprenticeship program for entry-level retrofit installers.

This program, which targets hundreds of shovel-ready projects will signal the job market that demand for these positions is high in the coming years and for decades after. The outreach and communication the department is committed to performing throughout the implementation of this program will only contribute to increased interest and pursuit of clean energy jobs across the state.

SECTION 6 – PROGRAMMATIC CAPABILITY AND REPORTING ON RESULTS

Staff Expertise/Qualifications:

The air program has a long history of receiving Federal grants and complying with all the programmatic and financial reporting requirements. The administration staff at the department, including accountants, section chiefs, and environmental engineers are experienced in reporting on budget issues and quantifiable outcomes with federal grants. Department staff has a history of close coordination with the EPA project officers. No questionable costs or alternatives that vary in any way from the proposed project or the terms and conditions of the grant are ever pursued without written approval from the project officer. Additionally, the air program communicates all unexpected issues that have arisen in past projects in writing to the project officer as soon as they are discovered. When alternatives may be necessary to successfully complete the project, all alternatives are detailed with emission results for each option and laid out for the EPA project officer’s review and approval.

If an EPA project officer requests any information verbally or in writing, this request is given immediate importance and air program staff routinely give extremely timely and adequate responses. Required progress reports for grants are routinely turned in by deadlines and include detailed programmatic and financial status reports. Air program staff have routinely given extremely detailed reports including progress on all outputs and outcomes from the project. When projects are completed, all the project and cost information is documented and reported. Additionally, all calculations are re-worked to ensure detailed and accurate emission reduction results are reported. The air program has a strong and ongoing relationship with EPA and has received and successfully implemented the following grants from EPA:

- ❖ DERA State Clean Diesel Program (2019, 2020) – Federal Aid Number – DS977687-01
- ❖ DERA State Clean Diesel Program (2021, 2022) – Federal Aid Number – DS977887-01
- ❖ DERA State Clean Diesel Program (2023) – Federal Aid Number – DS967103-01
- ❖ Climate Pollution Reduction Grant - Planning (2023) – Federal Aid Number – CR967027-01
- ❖ Clean Air Act 103 - Fine Particulate Matter Ambient Air Monitoring Network – Federal Aid Number – PM967009-01
- ❖ Clean Air Act 103 IRA – Federal Aid Number – 5A967024-01
- ❖ Clean Air Act Section 103 Direct ARPA – Federal Aid Number – 0P977931-01
- ❖ National Air Toxics Trends Site – Federal Aid Number – XA967052-01
- ❖ Performance Partnership Grant – Federal Aid Number – BG97731324AA

All external subgrantees and the project partners for pre-identified projects have indicated that they are committed and able to implement their projects as proposed. All matching requirements and leveraged funding have been committed to in the attached letters of commitment. The reimbursement/rebate structure for the majority for of the measures included in this grant applications are very similar in nature to projects the air program has managed and overseen in the past, and all outputs and outcomes from the program are expected to meet EPA expectations. Please see all the letters of commitment the project partners included in this program, which reinforce the air program’s commitment and likelihood to successfully complete the project as proposed.

MPUA-MEC provides electrical power supply services, energy management services, and transmission services to its member municipal utilities. The arrangement for MPUA to construct, operate, and maintain solar fields and utility-scale batteries in coordination with member cities provides an ideal opportunity to grow renewable resources in rural Missouri and aligns with MPUA’s power supply portfolio. MPUA has a strong history of managing grants. MPUA is implementing grants such as the Environmental Protection Agency’s Environmental Finance Center grant. MPUA has sufficient expertise and resources to complete the projects under their management. MPUA has an ongoing relationship with EPA and has received and is successfully implementing the following grants:

- ❖ EPA – ETC Grant - federal aid number – 96701601
- ❖ Department of Economic Development Workforce Development Grant - federal aid number – SLFRP4542

The Missouri Division of Energy (DOE) has been an important partner during the planning phase of this project. DOE will be managing the implementation of the pre-weatherization program expansion, state building energy efficiency upgrades, state electric vehicle fleet pilot program, energy efficiency in agriculture program, and all State Parks facilities projects. The division has a strong history of success managing grant programs such as the Low-Income Weatherization Program and loan programs such as the Energy Loan Program. DOE staff have experience in awarding and managing projects of this type. They have sufficient expertise and resources to complete the projects under their management. The DOE has an on-going relationship with EPA and has received and successfully implemented the following grants:

- ❖ Weatherization Assistance Program Grant - federal aid number – EE0009912
- ❖ Weatherization Assistance Program Grant (Bipartisan Infrastructure Law) – federal aid number – G-22-EE0009997
- ❖ State Energy Planning Grant – federal aid number - DE-EE0010038
- ❖ State Energy Planning Grant (Bipartisan Infrastructure Law) – federal aid number -

Section 7: Budget

Please see attached Budget Narrative and detailed budget spreadsheet.