Solar for All Program Narrative

Section 1.1 – Impact Assessment

The Greenhouse Gas Reduction Fund (GGRF) represents a once-in-a-generation investment opportunity to diversify the nation's energy portfolio, create high-paying jobs, improve community resilience, and bring cost savings to communities nationwide. Missouri is well positioned to leverage GGRF funds to launch a Solar for All program aimed at delivering solar energy capacity to low-income and disadvantaged communities. Missouri has tremendous solar potential: currently, only 7% of the state's renewable energy generation comes from solar energy.[1] The availability of low-cost capital is one of the primary obstacles slowing broader expansion in Missouri.

	Missouri	U.S. Average
2020 Generation	42.7 kWh per person	684 kWh per person
Technical Potential	866 MWh per person	853 MWh per person

Sources: US EIA SEDS, US DOE Technical Potential of Renewables Report, US Census Bureau

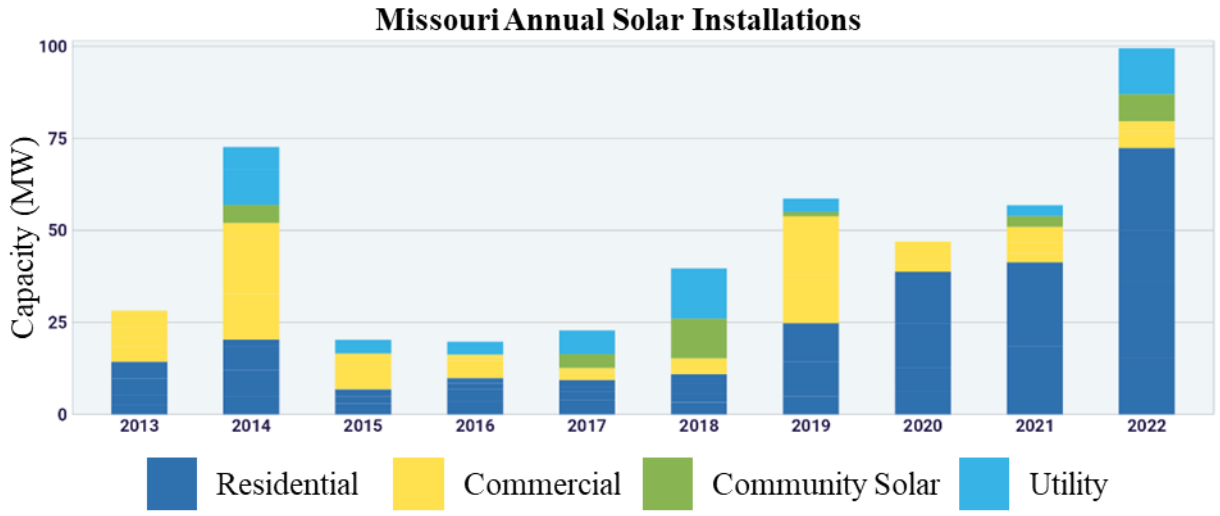
Missouri's vision for its Solar for All program is to create resilient communities by modernizing the electrical grid, enabling low-cost energy security, and creating high-quality jobs to benefit all residents. Missouri aims to demonstrate a winning statewide collaboration through community partnerships that build upon existing, successful local solar programs to deploy an affordable, sustainable, and long-lasting statewide solar program. Such savings will be transformative for households in Missouri, which currently ranks fifth in the nation in per capita residential energy consumption.[2]

Through consultation with partners including community groups and state and local government agencies, Missouri proposes a program that enables distributed solar for disadvantaged communities to maximize benefits for residents across Missouri. Through extensive analysis, a Missouri-specific model was developed that considers local factors including historical solar deployment rates, barriers to adoption, cost for solar and storage, financial structures, and the potential benefit from large-scale partnerships to ensure success with the uptake of the program. Solar for All funding assumptions were chosen while evaluating sensitivities such as reasonable allocations for storage, an assumed percentage of capital cost covered through Solar for All funds versus private capital, and the desire to deploy low-interest and forgivable loans for disadvantaged communities to ensure at least 20% household savings (including direct and indirect costs) in accordance with the EPA's objectives. Realizing several uncertainties at this stage, Missouri will refine these parameters and assumptions to create a robust, sustainable, and impactful program, consulting with residents, utilities, housing developers, landlords, financial institutions, solar developers, and local governments during the Planning Year.

[1] *U.S. Energy Information Administration - EIA - independent statistics and analysis*. EIA. (n.d.). https://www.eia.gov/state/analysis.php?sid=MO.

[2] *U.S. Energy Information Administration - EIA - independent statistics and analysis*. EIA. (n.d.). https://www.eia.gov/state/analysis.php?sid=MO.

As of Q2 2023[3], Missouri (MO) has about 534 megawatts (MW) of cumulative solar installed, which is enough to power 56,440 homes. Historical rates of annual solar installation in MO from 2013 to 2022 are shown in the chart below, stratified by residential, commercial, community solar, and utility installations. In the last three years, all categories of solar installation have seen significant growth, implying a potential for continued growth.



Although Missouri has seen growth in solar deployment, much of the historical growth has not directly benefitted low-income and disadvantaged communities except for some community solar projects. This is primarily because no statewide Solar for All program – such as those in neighboring states like Illinois – exists to provide capital to bolster distributed solar deployment in disadvantaged communities. Therefore, this application will allow Missouri to deploy a truly statewide program that leverages the successes of other local programs.

Missouri has about 139 solar companies in-state (e.g., EnergyONE Renewables, Sunset Solar, Powersync Solar) including 21 manufacturers, 48 installers and developers, and 70 other firms, accounting for some 2,894 solar jobs. Since there are many existing in-state solar employers, Missouri can use Solar for All funds to grow its existing workforce. Total solar investment in the state is about $1.4 billion with about 34,206 total solar installations of varying capacities. The projected growth of solar over the next five years is 2,187 MW[4] which leads to a potential ranking as 23rd among states – up from that current ranking of 35th – at the national level. With a growing demand for solar, a crucial part of Missouri's strategy is to invest in its workforce with a goal of increasing opportunity and participation from disadvantaged communities.

Solar prices have fallen substantially over the last 10 years in Missouri. The average cost per watt of solar is $3, with additional savings for larger solar installations. This means the cost of power from a solar system installed on a home in Missouri over a 25-year period falls to 5.9 cents/kWh. Meanwhile, the average cost of traditional utility power over 25 years (assuming no solar) is 19.4 cents/kWh. This clearly shows that solar will be a far more cost-effective option in

[3] *Missouri Solar*. SEIA. (n.d.). https://www.seia.org/state-solar-policy/missouri-solar.
[4] *Missouri Solar*. SEIA. (n.d.). https://www.seia.org/state-solar-policy/missouri-solar.

the long run for many households. In addition to equipment and installation costs, the assumed cost of solar also includes permitting costs, inspection costs, and installer profit margins. In Missouri, the average solar payback period (i.e., the amount of time to recover the initial investment through electricity savings) is 11.68 years[5]. These parameters will be crucial during the Planning Year as Missouri defines the payback and interest terms of loans.

Missouri's Solar for All program will substantially reduce pollution by reducing dependence on fossil fuels. In 2022, coal provided 66% of Missouri's net generation[6] which is the fourth-highest share of coal-fired generation of any state. Renewable energy provided 12% of total statewide electricity generation; wind power accounted for three-fourths of the state's renewable generation and solar accounts for about 7% of renewable generation. Missouri uses nearly eight times more energy than it produces and is ranked fifth in the U.S. in per capita energy consumption in the residential sector. Missouri households consume an average of 10 mmbtu per year, 12% more than the U.S. average[7]. This is mainly due to the large home size in Missouri compared to other states with higher detached or attached single-family housing units. Due to the higher average energy use, an 8.5 kW system size was chosen as the basis of the single-family model, rather than a more common 5 kW system size.

High upfront solar costs can be a substantial financial barrier to solar adoption for low-income families. A significant portion of low-income consumers are credit invisible and have unscored records and hence are not able to benefit from the 30% Federal tax credit. Because of unfamiliarity with solar products, low-income communities can also be skeptical toward the potential energy savings being marketed to them, which makes consumer protection measures critical to building trust in local communities. Language barriers and a lack of internet access can also make customer acquisition and community engagement challenging. Furthermore, rooftop suitability and dated electric wiring can result in added costs before solar installation can even occur, increasing an already unattainable upfront cost. As detailed in Section 1.4, *Financial Assistance Strategy*, forgivable loans are a key component of Missouri's approach to reduce upfront cost barriers for low-income and disadvantaged communities.

Solar for All Approach in Missouri: Missouri's approach to a Solar for All program is to create drivers and catalyze financing which will increase the adoption of solar among low-income and disadvantaged communities across all regions statewide. This will require an extensive effort in education and outreach (e.g., site tours, energy code workshops, and webinars to demonstrate the value of solar and financial opportunities) while demonstrating partnerships among governments, agencies, financial institutions, and solar developers. Local leadership and community partnerships will play a critical role in promoting the program.

[5] Mooney, M. E. (2023, February 28). Solar loans: What you need to know: Energysage. EnergySage Blog. https://news.energysage.com/solar-loans-overview/.

[6] *U.S. Energy Information Administration - EIA - independent statistics and analysis*. EIA. (n.d.). https://www.eia.gov/state/analysis.php?sid=MO.

[7] Household Energy Use in Missouri. U.S. Energy Information Administration. (n.d.). https://www.eia.gov/consumption/residential/reports/2009/state_briefs/pdf/mo.pdf.

The Environmental Improvement and Energy Resources Authority (EIERA) – the entity designated to apply on behalf of the State of Missouri – has crafted a preliminary Solar for All program based on a number of factors, which include: extensive market analysis, market research on solar and storage costs, historical deployment rates in Missouri, participation rates among low-income and disadvantaged households, home ownership ratios, additional analysis of other successful Solar for All programs in neighboring states (e.g., Illinois), as well as an understanding of the regulatory frameworks which has been developed in partnership with local communities and other relevant organizations. Missouri's Solar for All program will aim to maximize the impact achievable relative to the $250 million in funding requested. The program will provide benefits to a subset of a population of some 2,075,630 underserved citizens, based on CEJST-identified disadvantaged census tracts in Missouri. With the requested $250 million and the planned use of 75% of financial assistance towards project types including residential distributed solar, storage, and community solar, preliminary program design parameters have been selected to maximize the program's impact, which are summarized in the table below.

#	Metric	Impact
1	Absolute number of households projected to benefit from the solar program	18,877
2	Award funding requested per household ($/Household)	9,933
3	Absolute number of megawatts of solar deployed (MW)	218.3
4	Award funding requested per megawatts of solar ($/MW)	507,551
5	Absolute number of megawatts of storage deployed (MWh)	82.8
6	Award funding requested per megawatts hours of storage ($/MWh)	473,328
7	Absolute number of tons of annual CO2 avoided over time (on an annual basis after the Program period)	315,280
8	Award funding requested per ton of CO2 avoided ($/ton CO2)	594.70
9	Absolute annual household savings for all households ($)	8,970,221
10	Award funding requested per dollar of household savings ($)	20.90

Approximately 18,877 households are projected to benefit from the Solar for All program with $9,933 in award funding requested per household representing $187.5 million, or 75% of the $250 million funding request. Assuming 20% of the financial assistance will be used towards enabling upgrades by households, the remaining $150 million corresponds to the deployment of 218.3 MW of solar capacity over a four-year window with approximately $507,551 funding requested per MW of solar deployed. Given the existing net metering policies in Missouri, EIERA plans to support approximately 82.8 MWh of storage capacity during the program period with approximately $473,328of award funding requested per MWh of storage. Using the AVERT web edition for the Midwest region (distributed (rooftop) and utility-scale solar PV), the

projected solar deployment of 218.3 MW would lead to 315,280 tons of avoided CO2 on an annual basis after the program period. This equates to about $594.70 of funding requested per ton of CO2 avoided. Based on the share of forgivable loans and net metering benefits, at least a total annual household savings of $8,970,221 (cumulative number from all households projected to benefit from the program) is anticipated which leads to approximately $20.90 of award funding per dollar of household savings. Lastly, this program is expected to create thousands of long-term solar industry jobs in Missouri.

Given the annual historical deployment in Missouri, the proposed 218.3 MW over five years is achievable by leveraging a pre-existing network of solar developers and manufacturers in Missouri, a strong coalition of public and private partners, and EIERA's eagerness to learn from programs such as Share the Sun in Kansas City and the Illinois Solar for All program. Although most of the beneficiaries of solar installments have historically not included low-income and disadvantaged communities, EIERA expects that with the benefit of a successful Planning Year focused on addressing key barriers specific to underserved communities, EIERA will deliver a successful Solar for All statewide program in Missouri.

Section 1.2 – Meaningful Benefits Plan

Household Savings: Low-income households face increased barriers to adopting solar, including high upfront costs and limited access to financing. Missouri's Solar for All program must address these challenges, ensuring real savings for low-income households to deliver impact. Missouri's Solar for All program will focus on resilience as well as creating equitable access to cost-saving energy solutions for those who need it most. For single-family homeowners and renters, EIERA's approach to deliver 20% household savings focuses on two mechanisms: (1) robust technical assistance to ensure each household is set up for successful solar installation and (2) significant forgivable loan opportunities to reduce total capital invested by the household.

First, to ensure robust technical assistance, EIERA and its partners will work with homeowners and landlords/renters to ensure that (1) the home is suitable for solar based on the amount of sunlight it receives and other physical building characteristics, (2) that the insulation and roof condition is of suitable quality (or other physical conditions for ground-mounted solar), (3) that the appropriate system size is chosen for the home to offset maximum electricity needs, (4) that the orientation and tilt of the solar panels are optimized, and (5) that battery storage is selected when feasible to store excess energy and allow for participation in net metering. If these conditions are met, it is possible that a household's electric needs may be completely offset by the energy generated, resulting in significant savings for the homeowner.

Second, to provide sustainable financing options, EIERA's *Financial Assistance Strategy* (Section 1.4) for single-family homes prioritizes forgivable loans to reduce both upfront and long-term costs for residents based on their household percentage of Area Median Income (AMI). EIERA intends that most single-family households in Missouri will be eligible to receive up to 75% of the total solar project cost in forgivable loans (and even up to 100% for Native American homeowners and single-parent households). If simple conditions are met, the forgivable loan essentially becomes a grant for up to 75% of project costs. Although there will be

an obligation to make low-interest loan payments for the 25% of funding received through the revolving loan fund, receiving 75% of the total project cost as a forgivable loan can significantly reduce the financial burden on households. This will provide critical financial support to accelerate solar adoption without incurring the huge long-term repayment obligations associated with traditional loans. Considering the increased cost associated with solar and storage, during the Planning Year, EIERA will structure forgivable and revolving loan terms to ensure the target net savings of at least 20% to low-income-qualifying households. For customers who lease solar panels, EIERA will determine the appropriate financing mechanism – either low-interest loans, forgivable loans, or a mixture of each – to help residents with upfront costs such as transaction fees to ensure the minimum 20% utility bill savings inclusive of direct and indirect costs.

For multifamily buildings and community solar developments, forgivable loans will also be a critical mechanism to ensure households receive 20% of savings, even in scenarios where they do not have direct equity in the project. EIERA will set simple but effective conditions that borrowers – including housing developers, solar developers, and utilities – must meet to have their loans forgiven. EIERA will require that these entities pass along a minimum of 20% of utility bill savings to households to have the loan forgiven. In doing so, EIERA creates a strategic alignment where both parties win: businesses receive aid, and the pass-through conditions will enable sustained community savings. EIERA will define the exact terms of the forgivable loans during the Planning Year, but expects to include the following high-level terms:

- **For Multifamily Building Owners and Housing Developers:** Forgivable loan terms will require building owners and developers to report on how each household within a given building receives 20% or greater financial savings than the average household's annual electricity expenditure. Owners and developers should implement a shared savings agreement where the overall savings from solar are distributed among residents, either through reduced rent or utility bill credits. Owners and developers will be required to report this on an annual basis at a minimum, subject to alignment with any additional reporting timeline required by the EPA as grantor. For master-metered buildings that factor utility costs, such as electricity, into monthly rent, owners and developers should reduce each tenant's rent by at least 20% of the average monthly electric bill within the utility territory. During the Planning Year, EIERA will carefully consider how to design multifamily loan terms in buildings where households cannot have 100% – or close to 100% – of their electricity usage offset due to physical building conditions like the size of the roof. EIERA will encourage these customers to also enroll in community solar.
- **For Community Solar:** EIERA will structure the forgivable loan terms to ensure that 20% or greater savings are passed onto each community solar participant. As mentioned in *Section 1.3, Distributed Solar Power Market Strategy*, Missouri's regulatory environment does not currently permit third-party ownership. As a result, utility-owned community solar will be the primary model for Missouri's community solar deployment. To ensure maximum savings, EIERA will recommend that each utility allow participants to enroll in the shared solar system for up to 100% offset of their electricity. EIERA does not expect significant pushback to this recommendation because utilities (such as Ameren, one of the largest in the state) already allow customers to enroll in community solar for an up to 100% electricity

offset. For single-family homes or multifamily buildings where the physical building conditions or other factors do not feasibly enable 20% of savings, EIERA will recommend that these households participate in community solar. Several utilities in Missouri have created voluntary low-income carveouts in their community solar installations without being required to do so. With the additional funding incentives and the opportunity for forgivable loans with the Solar for All program, EIERA expects a significant ramp-up in community solar development.

In addition to the forgivable loan terms, EIERA will employ a whole-home, resilient approach to delivering household savings. EIERA will actively seek opportunities to combine solar installation with energy-efficient appliances, insulation, and lighting to maximize overall efficiency. EIERA will leverage the Weatherization Assistance Program (WAP), Low-Income Home Energy Assistance Program (LIHEAP), funding from other Greenhouse Gas Reduction Fund (GGRF) programs, and other federal, state, and local energy efficiency funding opportunities to fund energy-efficient homes. For instance, in *Section 1.6, Equitable Access and Meaningful Involvement Plan*, EIERA outlines a proposed, robust partnership with the Missouri Housing and Development Commission (MHDC) that will increase solar deployment in multifamily and senior affordable housing developments, leveraging existing MHDC funding sources. By combining related, but disparate, funding that promotes healthy communities and energy efficiency, the Solar for All program will maximize household savings.

Equitable Access to Solar: Improving access to solar will help alleviate the disproportionate energy cost burden on economically vulnerable households, freeing up resources for other critical needs like health care, child care, and transportation. According to the DOE's Low-Income Energy Affordability Data (LEAD) Tool, the average energy burden for households in Missouri at or below 80% AMI is 7%, whereas the average energy burden for households above 80% AMI is only 2%. Energy burden drastically increases for the most at-need households: the average energy burden for households at or below 30% AMI rises sharply to 17%. This reality in Missouri conforms to a general nationwide trend: the most economically disadvantaged households typically expend more disposable household income just on energy costs, a phenomenon known as "fuel poverty."

Recognizing that 49% of Missouri households are renters according to the LEAD Tool and that low-income and disadvantaged communities have largely been left behind in the clean energy transition, Missouri designed its Solar for All Program to bring solar to the state's hardest-to-reach communities. As described in Section 1.4, *Financial Assistance Strategy*, more than 75% of financial assistance funding will be deployed to multifamily buildings and community solar. Prioritizing investments in multifamily and community solar will be the optimal approach for reaching low-income communities since it enables shared resources, cost-sharing of benefits, economies of scale, and the shared opportunities achievable through a concerted, collective effort toward better community sustainability. EIERA also believes this approach will foster an inclusive approach that addresses the energy needs of the broader Missouri population while building trust through community engagement to sustain these projects over the long term.

In addition, EIERA proposes forgivable loans as part of its *Financial Assistance Strategy* because (1) single-family households can have up to 75% of the total solar project cost forgiven, maximizing household savings and (2) multifamily building owners, developers, and utilities must pass at least 20% utility bill savings onto low-income and disadvantaged households to have their loans forgiven. EIERA is confident that the proposed strategy in Section 1.4 will maximize program participation and access among low-income and disadvantaged communities. Moreover, additional low-interest loans provided through the proposed revolving loan fund will allow Missouri to continue its Solar for All program and increase the state's solar capacity long after the five-year program period ends.

In addition to financing mechanisms, helping low-income and disadvantaged residents understand their solar options and how it is viable energy option for them is crucial to increasing access. EIERA plans to work closely with low-income and disadvantaged communities during the planning period to hear their feedback and needs to design a resilient and sustainable Solar for All program. Through EIERA's proposed *Project-Deployment Technical Assistance* plan in Section 1.5 as well as the *Equitable Access and Meaningful Involvement Plan* in Section 1.6, EIERA and its community partners will help low-income and disadvantaged households navigate their unique solar customer journey.

To support each household's solar journey, EIERA will develop a centralized website for Missouri's Solar for All program. The goal is to help connect potential customers with developers, installers, financial resources, and technical assistance all in a single, common, state-sanctioned online marketplace. Currently, Missouri lacks a one-stop shop for residents to understand what solar options are available to them. EIERA will model their approach on other comparable approaches, specifically the Illinois Solar for All website, itself a successful tool to accelerate low-income participation in residential solar in neighboring Illinois. EIERA envisions the following key features of its Missouri Solar for All website:

- **Dedicated Resources by Stakeholder Group**: Create sub-pages for renters, homeowners, building owners, and solar businesses with tailored information for each group.
- **Approved Businesses**: Create a list of approved solar businesses in Missouri as well as instructions on how to register as an approved business.
- **Income-Eligibility Lookup:** Residents can input their address and household size and see what their household income should be at or below to be eligible for Solar for All funding.
- **Education, Training, and Apprenticeship Opportunities:** Provide a centralized resource on solar education, training, pre-apprenticeship, apprenticeship, and other relevant programs.
- **Consumer Protections:** Detail the program's consumer protections to promote awareness among residents and businesses. There will be a form for residents to submit complaints to escalate issues to EIERA (e.g., a building owner does not pass 20% savings onto residents).
- **Feedback Forum:** Encourages current and potential participants of the Solar for All program to share their experiences, feedback, and suggestions for continuous improvement.
- **Reporting:** Like the reporting plan to the EPA, the website will provide residents with outcomes and metrics of Missouri's Solar for All program on an ongoing basis.

EIERA will work with community-based organizations, faith-based organizations, non-profits, solar and housing developers, residents, and other key stakeholders to gather input on what additional information would be helpful to include on the website. EIERA will prioritize accessibility, making sure that the webpage resources are provided in multiple languages.

Resilience Benefits: Solar plus storage enhances energy resilience by storing excess energy generation during sunny periods for use during cloudy days or at night, ensuring a continuous, reliable baseload power source. This reduces dependence on the grid which in Missouri is dominated by fossil fuel generation to provide a reliable energy source. Additionally, storage contributes to grid benefits by stabilizing energy support, reducing peak demand, and lowering overall energy costs by participating in net metering.

According to the Solar Energy Industries Association (SEIA) and Wood Mackenzie Power and Renewables, solar and storage installations represented about 10% of distributed solar systems installed in the U.S. in 2022.[8] The growth of solar paired with storage is expected to be significant over the next five years especially given the significant advancement in battery storage technologies in recent years: solar and storage is projected to increase to about 30% of installations in 2027. To encourage the improved resilience, grid stability, and financial benefits that solar-plus-storage can bring to Missouri residents, EIERA's financial model includes funding for 75% of single-family and multifamily installations to include solar and storage.

Through this proposed approach, EIERA can add approximately 82.8 MWh of storage capacity during the program period. Recognizing that pairing solar and storage adds an additional – and expensive – upfront cost to solar without financial incentives, EIERA carefully designed its *Financial Assistance Strategy* to prioritize forgivable loans so that battery storage can be viable for low-income and disadvantaged households without carrying added debt.

Community Ownership: Community ownership models for solar are crucial for low-income and disadvantaged households because these models provide an opportunity to access affordable clean energy, reduce electricity costs, build equity, and actively participate in the transition to sustainable and equitable energy solutions. One of the major barriers to residential distributed solar deployment among low-income households is the upfront capital required for installation. Community ownership models can overcome this barrier by allocating the upfront project cost across a broad segment of a population or community, thereby achieving economies of scale.

As mentioned earlier, one of EIERA's primary goals in its financial assistance design is to reduce this financial barrier by offering low-interest and forgivable loans. Low-income single-family households who meet certain income criteria will be able to finance up to 75% of their total solar installation cost with forgivable loans. In doing so, low-income households have a unique opportunity with Solar for All to own their solar system and benefit from long-term financial benefits, like increased property values and reduced energy burden while paying for as little as 25% of total costs through a low-interest loan.

[8] "Solar Industry Research Data." SEIA, www.seia.org/solar-industry-research-data. Accessed 8 Oct. 2023.

To facilitate community ownership, EIERA will encourage local governments to leverage group purchase programs to help finance residential solar. For example, the Solarize Kansas City program helps community members by negotiating bulk purchases of solar and storage installations, often at a discounted rate. This model encourages the widespread adoption of solar energy within the community at a more affordable price. As of August 2023, Solarize Kansas City has 93 signed contracts with community members, who have installed more than 700 kW of new clean energy capacity and added 54 kW of battery storage capacity.[9] The success of Solarize Kansas City indicates this model can promote ownership in other communities.

In addition, EIERA's proposed model will support ownership for multifamily building owners who are members of the communities they live in. These local community members will own or have equity stake in a building that receives financial assistance from the Solar for All program, thereby building community ownership. Then, through the forgivable loan structure, these building owners will be required to pass at least 20% in utility bill savings onto their residents. This approach will embed investment at the local community level, giving local communities a stake in the benefits to be delivered for years to come.

Given Missouri's current regulatory environment, utility-owned community solar will be the primary model for facilitating community solar deployment. As mentioned in *Section 1.3, Distributed Solar Power Market Strategy*, EIERA will adjust its approach to community solar deployment if there are regulatory changes that enable community-owned community solar.

Workforce Development and Entrepreneurship: Building a diverse solar workforce requires a coordinated effort involving collaboration between educational institutions, employers, government agencies, community-based organizations, unions, residents, and industry organizations. With Solar for All funding, EIERA projects to add another 218.3 MW of solar power over the next five years. To support this expansion for low-income and disadvantaged communities, there is an additional opportunity to create thousands of clean energy jobs as part of the state workforce. Missouri is well-positioned to meet the increased demand for a solar workforce: according to the U.S. Bureau of Labor Statistics, the fastest-growing job in Missouri was a solar panel installer from 2017 to 2019.[10]

Solar for All will accelerate Missouri's workforce growth and provide an opportunity for increased participation from low-income and disadvantaged community members and businesses. Additionally, Missourians finding gainful employment in a growing solar energy sector will also lead to rising incomes through the expansion of higher paid, more highly skilled solar and energy storage jobs. EIERA envisions using a share of Solar for All funds to help train job candidates and help them find placement with solar firms with the potential of a long-term career in solar as part of the strategy outlined in Section 1.5, *Project-Deployment Technical Assistance*. Moreover, EIERA will use Solar for All funds to grow diverse solar businesses in

[9] Solarize Kansas City. (n.d.). Solar CrowdSource. Retrieved October 8, 2023, from https://www.solarcrowdsource.com/campaign/solarize-kansas-city/.

[10] Missouri Solar Panel Installations: 2023 Pricing & Savings. (n.d.). EnergySage. Retrieved October 8, 2023, from https://www.energysage.com/solar-panels/mo/?rc=seia.

Missouri, including minority-, women-, and veteran-owned businesses, and leverage access in historically underutilized business zones.

According to the Interstate Renewable Energy Council's (IREC's) 2022 National Solar Job Census, the top reason for the difficulty in hiring solar workers is competition among a small applicant pool, followed by a lack of experience, training, or technical skills.[11] To address these challenges, EIERA will leverage the best practices and recommendations from the National Clean Energy Workforce Alliance (NCEW) from their 2023 *Cultivating a Diverse and Skilled Talent Pipeline for the Equitable Transition* report. NCEW convened more than 500 stakeholders representing solar employers, education and training providers, organized labor, community-based and energy justice organizations, workforce program designers and funders, and policymakers to develop the report. EIERA will use NCEW's recommendations as a core basis of its workforce development initiatives and adjust as needed during the Planning Year as Missouri's stakeholders are engaged. NCEW's recommendations are summarized below and initially tailored to Missouri's specific needs.

1. Provide technical support to statewide and local solar workforce systems
    a. Centralize resources and technical assistance on Missouri's Solar for All website
    b. Work with community-based organizations that have trusting relationships with their respective community
2. Conduct recruitment campaigns, focusing on outreach in disadvantaged communities
    a. Prepare culturally appropriate materials in multiple languages
3. Develop and promote career pathways for an inclusive workforce
    a. Develop a mentorship program
    b. Subsidize employers committed to "high road" labor practices
4. Prioritize funding of education, training, and Registered Apprenticeship programs
    a. Support instructors with resources and technical assistance
5. Integrate clean energy into existing education and professional development pathways
    a. Expand K-12 and community college solar education statewide
6. Drive recruitment and retention by prioritizing job quality, including union participation
    a. Align training standards across union and non-union jobs
    b. Expand pre-apprenticeship opportunities

According to IREC's Career Map, there are more than 40 different occupations in the solar industry spanning manufacturing, system design, project development, installation, and operations. Across workforce development initiatives, EIERA will make sure that job opportunities are diversified so the workforce can support increased deployment of solar. For example, if Missouri neglects investment in qualified electricians, this could cause a bottleneck in solar deployment. Supporting all types of solar jobs will contribute to the overall growth and sustainability of the industry. Each role plays a critical part in advancing the technology, improving efficiency, and expanding renewable energy adoption in a manner that is coordinated

[11] Solar Jobs Census. (n.d.). Interstate Renewable Energy Council (IREC). https://irecusa.org/programs/solar-jobs-census/.

and balanced across the solar industry. EIERA is committed to fostering this growth through a balanced, deliberate approach to developing Missouri's solar workforce.

Section 1.3 – Distributed Solar Power Market Strategy

Net Metering: Net metering is one of the strongest financial incentives customers can receive on their solar installations, other than the federal tax credit and additional utility or local incentive programs. In 2007, Missouri enacted the Net Metering and Easy Connection Act[12] which requires all electric utilities (i.e., investor-owned utilities, municipal utilities, and electric cooperatives) to offer net metering to customers with systems up to 100kW in capacity. As of 2021, there were more than 16,000 customers enrolled in net metering with electric utilities under the jurisdiction of the Missouri Public Service Commission. Importantly, Missouri's law states that utilities must treat net-metering the same as non-net-metered customers, and it expressly prevents a utility from assigning other fees or charges to net-metered customers. Any excess generation beyond a customer's monthly usage is credited to them at a wholesale rate. Residential solar installations significantly grew between 2021 and 2022 in Missouri, and EIERA expects the number of customers enrolled in net metering to likewise increase.

2021 Missouri Annual Net Metering Report Summary[13]

Utility	Total Net Metering Customers	Total Net Metered Generator Capacity (kW)	Total net kWh Received by Utility
Ameren Missouri	6,233	91,028	5,109,641
Evergy Missouri Metro	2,906	41,921	15,018,893
Evergy Missouri West	3,641	59,915	28,132,653
The Empire Electric District Company	3,245	45,565	5,222,537
TOTAL	**16,025**	**238,429**	**53,483,724**

The Net Metering and Easy Connection Act, Section 386.890 R.S. Mo., limits individual net-metered systems to 100 kW, though Ameren, Evergy, and Liberty Utilities, which are investor-owned utilities, are capped at 150 kW. This cap is below most states, many of which have moved to a 2 MW cap or larger, or no cap at all. Missouri's cap limits net metering to residential buildings and small commercial applications, though the PSC approves individual net-metered systems above 100-150 kW on a case-by-case basis.

One barrier to net metering is that utilities are only required to provide net metering to customers on a first-come, first-serve basis until the total installed capacity of net-metered systems equates to five percent of the utility's peak load (though many utilities exceed the five percent minimum). Since Missouri operates on a regulated utility model and utilities have a monopoly

[12] Incorporation and Regulation of Certain Utilities and Carriers, 386.890 R.S. Mo. (2022).
[13] Net Metering Reports. Public Service Commission. (2021). https://psc.mo.gov/Electric/Net_Metering_Reports.

over a jurisdictional area, many low-income residents or those in disadvantaged communities could face difficulty accessing net metering depending on where they live in the state.

Due to Missouri's beneficial net metering policies, EIERA has allocated 75% of single-family and multifamily financial assistance toward solar plus storage, totaling up to 82.8 MWh of added solar storage capacity over 5 years (details described in *Section 1.4 Financial Assistance Strategy*). This assumes that 25% of single-family and multifamily financial assistance will be for solar only, not solar plus storage. These assumptions are subject to change during the Planning Year as EIERA engages with stakeholders from across the state. EIERA is confident that our proposed financial strategy will help low-income residents finance the additional cost of storage and that EIERA will deliver a minimum of 20% household savings. In cases where a utility has reached its minimum cap of installed capacity of net-metered systems equating to five percent, EIERA will engage customers and utilities to determine the appropriate strategy which could involve a potential change in minimum cap of installed capacity or change in storage deployment for customers.

Third-Party Ownership: Missouri's current regulations do not allow for third-party ownership, which is a large barrier to residential distributed solar deployment in low-income and disadvantaged communities. Section 386.020, RSMo, Title XXV *Incorporation and Regulation of Certain Utilities and Carriers,* specifies that an electric utility is given the authority by Missouri to provide electricity for a service territory. This means that a customer-generator who provides power for sale to others qualifies as an "electrical corporation" and is subject to regulation by the Public Service Commission (PSC). Since the PSC has designated certain utilities to serve as the sole electricity provider for a given service territory, third-party ownership is unallowable. Only the designated utility can sell electricity in each jurisdiction.

Furthermore, community solar designs that allow third parties to build solar generation to sell shares or blocks of that power produced to customers are not permitted under law at present. Over the years, lawmakers have introduced legislation to permit third-party ownership, but these efforts have yet to be successful. Although third-party ownership is not permitted in Missouri, third-party leases to finance solar deployment are allowed. EIERA recognizes that for many of our low-income residents, even with Missouri's proposed financial approach to cover a significant portion of single-family solar costs outright, the upfront costs and maintenance of owning and installing solar outright may still be too high for many disadvantaged households. Consequently, some residents may prefer a third-party leasing model due to the benefits of lower upfront costs, immediate savings, and no ongoing maintenance costs. EIERA and its partners will work with residents to help them choose the best option for each resident's individual needs and circumstances. Crucially, EIERA will continually evaluate the regulatory environment and adjust its approach to the Solar for All program should third-party ownership be allowed.

Interconnection: The Net Metering and Easy Connection Act established a free and simple interconnection process for residential solar in Missouri. Utility obligations under net metering are: (1) provide net metering, (2) offer a tariff that is identical in rates, rate structure, and monthly charges, and (3) disclose the availability of the net metering program. All Missouri utilities must provide a simple form for a customer to apply for interconnection. The utility must

respond to requests for interconnection within (i) 30 days for systems below 10kW and (ii) 90 days for systems between 10kW and 100kW. Once approved by the utility, the customer-generator and their utility must submit an interconnection application to the Missouri PSC.

Despite statutory guidance in Section 386.890 RSMo, some non-regulated Missouri utilities layer on additional requirements beyond the simple application for interconnection. These can include additional insurance requirements, added fees, and duplicative safety regulations, though such add-on barriers are not widespread. Generally, customers experience a straightforward interconnection process, enabled by the specified timeframes in which the PSC must respond to requests. Interconnection can be a barrier for some residents unfamiliar with the process, but as part of the new Solar for All program, EIERA plans to work with supporting organizations across Missouri to develop a comprehensive outreach, community engagement, education, and technical assistance program to aid residents through the interconnection process once Solar for All sponsored solar projects are deployed.

Renewable Energy Standard: The Renewable Energy Standard (RES) (sections 393.1020—393.1030 RSMo) requires investor-owned electric utilities to obtain renewable energy credits (RECs) equivalent to 15 percent of their retail sales by 2021, with two percent of this requirement to be met by solar RECs. One of the key benefits of a RES is that utilities offer their customers incentives to install solar, reducing the total cost of a solar installation. In Missouri, investor-owned utilities under the Renewable Energy Standard were required to offer a solar rebate program to customers through 2020, and many utilities have voluntarily kept or even expanded these programs, as shown in the table below. In these cases, utilities own the solar renewable energy certificates (SRECs) for ten years for systems that receive a rebate.

Utility	Solar Rebate or Incentive	Expiration Date
Ameren Missouri	$250/kW up to 25kW	N/a
Columbia Water & Light	Up to $625/kW for the first 10 kW Up to $500/kW for 10-50 kW Up to $250/kW for 50-100 kW	N/a
Evergy	$250/kW up to 25kW	December 31, 2023
Liberty Utilities	$250/kW	December 31, 2023

Customers can continue to benefit from utility rebate programs even though Missouri's Renewable Energy Standard was only extended through 2021. Recognizing that some utility programs are slated to expire at the end of this year if they are not extended, EIERA will re-evaluate rebate programs across the state during the planning phase of the program. Based on the availability and significance of these rebates, EIERA will adjust its financial approach accordingly, with the goal of maximizing the number of households served by the program while delivering at least 20% savings to each household.

Community Solar: Missouri does not currently have any enabling regulatory frameworks that support community solar. Community solar legislation has been unsuccessful to date, but there has been a renewed push in 2023 for a free-market solution to enable community solar in Missouri's regulated environment. During the next legislative session to begin in January 2024,

advocates expect up to eight bills may be introduced that will address Missouri's current barriers to residential solar deployment, including community solar. Knowing that the EPA will be issuing an unprecedented level of funding for residential solar deployment in low-income and disadvantaged communities through the GGRF, several Missouri Senators are proactively working with solar stakeholders – including solar and housing developers, advocacy organizations, utilities, and disadvantaged communities – to understand current barriers to solar deployment and how legislative action can reduce these barriers. Missouri is hard at work to prime the state for robust residential solar deployment and enable the success of the program.

Financing is a particularly acute barrier to community solar development in Missouri, and EIERA expects that the Solar for All program will critically address this barrier. Customers often pay a premium rate to participate in community solar, which creates a disincentive for disadvantaged customers to participate. With the requested Solar for All funding, EIERA believes that opportunities for cost-effective utility-owned community solar developments will be unlocked that will directly benefit disadvantaged residents, especially those who live in multifamily housing, who rent, or who cannot afford the upfront costs of solar installation.

As mentioned earlier, third-party ownership is not legally permitted in Missouri at present, which poses a barrier to some models of community solar. As a result, Missouri has primarily pursued utility-owned community solar to date. The PSC has approved utility-sponsored community solar programs for each electrical corporation in Missouri. For example, Ameren Missouri launched a percentage-based community solar program in 2022 that allows utility customers to enroll in community solar for up to 100% of their current electricity usage. Each of Ameren's future facilities will be built under this percentage-based program. Elsewhere, Columbia Water & Light developed its own community solar framework that distributed solar energy to customers using a net billing system from its two projects in Truman and Bernadette Fields. One MW is designated for residential customers and divided into 1.5 kW blocks, with 15 percent of the blocks designated for low-income eligible customers. Low-income participants will not pay an application fee and will be charged a reduced fixed monthly solar subscription fee.

Missouri's community solar approach will focus on utility-owned community solar projects given the current regulatory environment. Utilities like Ameren and Evergy have proved that they can successfully deploy community solar in Missouri, and additional funding will allow utilities to deliver even greater benefits to and greater program carveouts for low-income and disadvantaged communities. EIERA's approach to community solar will remain flexible in anticipation of potential legislative changes that may expand free-market approaches to community solar, such as third-party ownership.

Statewide Deployment: EIERA is committed to equitably serving disadvantaged communities across the entire state, from Atchison County in the northwest to Pemiscot County in the southeast, and all points in between. Using the CEJST tool, EIERA has confirmed that the CEJST-identified disadvantaged census tract population is 2,075,630 citizens. EIERA plans to make funding available for solar based on the percent of the total population living in CEJST-identified disadvantaged census tracts. EIERA believes this approach will allow EIERA to maximize the number of households served with Solar for All funds across the *entire* state.

As Missouri deploys solar to residents across the state, there are some operational challenges that must be considered, but they do not pose a major barrier to solar deployment. The PSC regulates investor-owned utilities like Ameren and Evergy, but the PSC has limited jurisdiction over rural electric cooperatives and other municipal utilities. This results in some key regulatory differences across different types of utilities at the local level. Among regulated utilities – the larger investor-owned utilities – there are also some operational differences that could impact solar deployment. There are two Regional Transmission Operators (RTOs) in Missouri: The Southwest Power Pool (SPP) and the Midcontinent Independent System Operator (MISO). They operate under different rules and constraints but generally resemble each other in being comprised of vertically integrated utilities. Evergy and Liberty are SPP members while Ameren is a MISO member.

While there may be some operational differences between and amongst regulated and non-regulated electric utilities in Missouri, EIERA does not anticipate these differences will be a major barrier to residential solar deployment. The Net Metering and Easy Connection Act substantially improved the standardization of net metering and interconnection statewide. EIERA will encourage residents, community organizations, and other partners to consult with their local utility providers to understand available programs, incentives, and net metering policies that apply to their service area. Additionally, EIERA will continue to foster existing relationships and build new partnerships with utilities to help customers understand how to navigate their respective service areas and ultimately maximize the financial incentives available to them.

Section 1.4 – Financial Assistance Strategy

For months, EIERA has been conducting stakeholder outreach and working with community organizations, non-profits, utilities, and state agencies to develop the necessary partnerships to support a statewide Solar for All program. EIERA leads weekly meetings with its key partners across Missouri to solicit feedback on its proposed Solar for All financial assistance strategy. The core team of EIERA also facilitated several working sessions to analyze different financial structures and technical design parameters for Missouri-specific demographics. EIERA's primary objective is twofold: to maximize the number of households that benefit from the program, and to maximize household savings of program participants. With these objectives in mind, EIERA has forecast the potential impact of the program in terms of households benefitting from the program, solar deployed, and storage deployed with the proposed financial assistance outlined in this section.

Allocation of funds: EIERA is requesting $250 million for Missouri's Solar for All program based upon the 2,075,630 population of citizens residing in disadvantaged census tracts identified by CEJST in Missouri. As shown in the table below, of the $250 million, EIERA will make $187.5 million (75% of the total) available as financial assistance for the solar and storage deployment including a maximum of 20% for enabling upgrades. Out of the remaining 25% of the funds, $37.5 million (15%) will be contributed towards project-deployment technical assistance and $25 million (10%) for program administrative activities. Project-deployment technical assistance would include components such as community engagement, customer acquisition support, management and verification requirements, and support for solar market

stakeholders. Program administration activities may include hiring staff and consulting/contract services for EIERA to manage the program, covering expenses around tools, and technology support. These resources will provide support to administer the state-wide platform for all project types.

SOLAR FOR ALL	$ Million	% Share
EIERA funding requested from EPA	250	100
Funding for Financial Assistance	187.5	75
Funding for Project-Deployment Technical Assistance	37.5	15
Funding for Administrative costs	25	10

Project types: Under financial assistance, eligible uses will include distributed solar projects comprising of residential rooftop or ground mounted installations and residential serving community solar projects. A summary of all project types that will be considered for financial assistance is provided below. Given Missouri's beneficial net metering policies and commitment to resiliency, EIERA allocated 75% of single-family and multifamily financial assistance funding to solar plus storage. Since Missouri's proposed community solar model under the current regulatory structure is utility-owned, EIERA does not plan to fund storage for community solar. If third-party ownership becomes an option in Missouri, EIERA will re-evaluate storage funding for community solar.

	Deployment Type	
Solar project types	*Solar*	*Solar + Storage*
Residential Solar (Rooftop and Ground Mounted)	Single-family solar	Single-family solar + storage
	Multifamily solar	Multifamily solar + storage
Residential-Serving Community Solar	Residential-serving community solar	N/a

Financial Structure Strategy: Through consultations with various partners, including local governments, utilities, organizations, environmental justice groups, and solar developers, EIERA has developed the following Financial Assistance Strategy. The breakdown of funding for single-family, multifamily, and community solar provided by Solar for All funds and other sources of capital are depicted in the chart below. This preliminary baseline is established against a full allocation of $250 million, of which a total of $187.5 million will be made available for solar and storage and from which 20% may go toward enabling upgrades in accordance with 2 CFR Part 200. Recognizing that low-income and disadvantaged communities often do not have access to the capital necessary to complete home upgrades, EIERA anticipates that the full 20% of funding for upgrades will be allocated, ultimately maximizing participation from those most in need.

The Solar for All funding will utilize innovative financial structures to ensure financial sustainability beyond the five-year program period and ensure at least 20% in household utility bill savings. The funds will be available as a combination of forgivable loans and a revolving loan fund. The loans will be structured so that there will be low-to-no upfront costs to borrowers while keeping program longevity and market transformation in mind. To support low-income

families, EIERA proposes forgivable loans so that recipients must meet certain conditions to have their loan forgiven, such as providing proof that the loan funds went toward a qualified use of funds. If necessary, EIERA will adjust its approach based on EPA guidance and additional experience gathered during the Planning Year.

	Single-Family Housing	Multifamily Housing	Community Solar
	24% of all Financial Assistance Funding	*47% of all Financial Assistance Funding*	*29% of all Financial Assistance Funding*
Forgivable Loans	**$27M, covers up to 75% of individual project costs**	**$10M, covers 7% of individual project costs**	**$14M, covers 16% of individual project costs**
Revolving Loan Fund	**$9M, covers up to 25% of individual project costs***	**$60M, covers 43% of individual project costs**	**$30M, covers 34% of individual project costs**
		Assumes private capital covers the remaining 50% of project costs	
TOTAL SOLAR FOR ALL FUNDS	**$36M**	**$70M**	**$44M**

Note: *Out of the $187.5M of funds allocated to Financial Assistance, 20% is assumed for enabling upgrades. This $37.5M is not reflected above.*

EIERA proposes the following financial structure to deploy Solar for All funding:

- **Single-family** households will be eligible to receive a combination of forgivable loans and low-interest loans. EIERA will manage the low-interest loans through a revolving loan fund. The amount and type of funding (forgivable vs revolving loan) that a single-family household can receive will be based on the household's percentage of AMI. EIERA expects single-family households can receive up to 75% of project cost financed through forgivable loans, and up to 25% of the project cost financed through a low-interest revolving loan fund.
- For **multifamily buildings**, approximately 50% of the project costs would be covered in the form of forgivable and low-interest loans from the program. To drive private capital mobilization, the remaining 50% of project costs would be provided through other financing mechanisms, which could include capital from housing developers or private investment. Within Solar for All funding for multifamily housing, approximately 7% of the total cost will be a forgivable loan while the remaining 43% will be a low-interest loan. EIERA plans to include conditions for developers to ensure the savings equivalent to forgivable loans are passed down to households to meet the 20% household savings requirements of the program. EIERA will also work closely with housing and solar developers to provide in-kind support for the remaining 50% of funding as needed.

- Like our multifamily approach, approximately 50% of the total project cost for **community solar** deployments will be funded through forgivable and low-interest loans. Approximately 16% of the total cost will be in the form of a forgivable loan with conditions for utilities to pass down the savings equivalent to the forgivable loan component to households to ensure 20% savings in utility bills. EIERA will also work with utilities to provide in-kind support for the remaining 50% funding as needed.

EIERA recognizes that program income will be generated through the revolving loan fund. The financial management plan for generated program income is described in Section 2.2, *Fiscal Stewardship Plan*. The exact details of interest rates and terms for the revolving loan will be determined during the Planning Year. Out of the proposed $99 million set aside for the revolving loan fund across all three project types, it is assumed that approximately 30% of financial assistance from the revolving fund in 2026 and 2027 (~$12 million) will be returned as principal repayment during the five-year program period which will be redeployed to finance additional solar projects. After the program period ends, and in accordance with forthcoming EPA guidance, EIERA will continue to operate the revolving loan fund to finance projects that align with Solar for All objectives.

Financial assistance details for type and size of projects: To identify the extent and quality of Missouri's Solar for All program targets for deployment of residential rooftop solar and residential-serving community solar, the characteristics and needs of the Missouri communities have been reviewed and incorporated into the preliminary financial strategy design. Some key considerations and assumptions have been included to inform the program design:

- *Complement other programs*: The Solar for All program will cover the cost of solar and storage after accounting for the 30% Federal Residential Clean Energy Credit (FRCEC), where applicable. Households that are unable to leverage the FRCEC due to low-income will get consideration for full cost coverage. Additionally, local solar incentives by utilities will be included in estimating the funding amounts.
- *Special plan for American Indian Communities*: EIERA plans to cover 100% cost for American Indian residents.
- *Special plan for single-parent households*: EIERA plans to cover 100% of the cost for single-parent households.
- *Distribution of funds for single-family relative to American Medium Income (AMI)*: EIERA will prioritize supporting households with lower AMI while balancing the interest rates, repayment terms, % of cost covered, % of the cost through forgivable vs. revolving loans based upon their income relative to AMI.

Based on discussions with Missouri solar developers, local governments, as well as extensive research, EIERA considers the following Missouri-specific technical and economic solar assumptions for the preliminary financial assistance strategy and program impacts. During the Planning Year, EIERA will engage with solar stakeholders to provide discounted rates given the large number of single-family, multifamily, and community solar deployments to potentially increase the number of households benefitting from the program.

- **Single-family system:** Single-family installations are based on an 8.5-kW system. EIERA estimates that solar only will cost $25,500 and solar + storage will cost $48,500 for rooftop installations. Ground-mounted installations, which we predict will be 15% of single-family installations, will cost $30,000 for solar only and $53,000 for solar + storage.
- **Multifamily system**: Multifamily installations are based on a 55-kW system. We estimate that solar only will cost about $140,000 and solar + storage will cost about $237,000. Each 55-kW system can serve approximately 6 to 7 households.
- **Community Solar**: Community Solar developments may range from 1 MW to no greater than 5 MW. In all cases, we estimate that 1 MW = $1M. In addition, 1 MW of community solar can serve approximately 115 households in Missouri according to the SEIA.

Proposed targets for solar and storage: Using Missouri-specific information, as well as other rooftop solar programs from comparable demographics/geographies (e.g., Illinois Solar for All program), it is estimated that 18,877 households in Missouri can benefit from the program and approximately 218.3 MW solar capacity and 82.8 MWh of storage will be generated. A phased deployment for solar and storage is assumed to ensure the solar industry stakeholders can coordinate parallel industry resources to support the Solar for All program. EIERA plans to incorporate experiences from each reporting year to adjust financial structures on an ongoing basis. Missouri's Solar for All program is assumed to have a 15% deployment in 2025, 25% in 2026, and 30% in 2027 and 2028, inclusive of both solar and storage across all project types.

Allocation of funds to different regions: As a preliminary proposal, to maximize the geographic coverage across households, the residential portion of funding (single and multifamily) will be distributed across all 13 regions of Missouri in proportion to the share of total population living in CEJST-identified disadvantaged census tracts.

#	Region Name	% of Total Disadvantaged Population	Share of Financial Assistance Funding (not including community solar)
1	St. Louis MSA	19.05%	$27,151,505
2	Kansas City MSA	13.28%	$18,920,389
3	Springfield - Branson	10.69%	$15,228,519
4	Southwest	10.04%	$14,305,894
5	Bootheel	9.64%	$13,732,258
6	Lake Ozark Rolla	6.74%	$9,606,745
7	South Central	6.04%	$8,602,006
8	Lower East Central-Cape	5.96%	$8,487,278
9	West Central	5.01%	$7,139,731
10	Northwest	4.15%	$5,910,824
11	Central	4.08%	$5,815,595

12	Northeast	3.75%	$5,347,211
13	North Central	1.58%	$2,252,046
TOTAL		**100%**	**$142,500,000**

For community solar, EIERA plans to work with investor-owned utilities, municipal utilities, and electric cooperatives to develop community solar farms equitably across the state. However, at present EIERA does not plan to allocate funding for community solar based on the percentages listed in the table above due to the increased complexity of siting considerations, land availability, and the unknown capacity of each solar farm.

Financial upgrades strategy: EIERA plans to develop a strategy for using financial assistance for enabling upgrades to address barriers that reduce the deployment of residential and residential-serving community solar. Upgrades could include (but are not limited to): roof upgrades; energy efficiency; behind-the-meter electrical upgrades; and distribution and transmission infrastructure investments that must be borne by the project and are not rate-based or part of planned capital improvement by a utility. EIERA plans to ensure that financial assistance funds for enabling upgrades are spent judiciously, ensuring that no more than 20% of total financial assistance distributed for the lifetime of the program is used for enabling upgrades, in accordance with the EPA program guidance. EIERA expects there may be a significant need for single-family residents to complete upgrades before installing solar. EIERA also plans to incorporate a compliance and auditing mechanism to ensure that secondary streams of capital for enabling upgrades, provided by non-Solar for All sources, are utilized first before Solar for All funds are expended. Examples could include funds and support from other assistance programs at the federal, state, and local level, the DOE's Weatherization Assistance Program (WAP), or other Missouri programs (e.g., funding from the Delta Area Economic Opportunity Corporation, Regional Planning Commission-funded programs).

Long-term impacts of financial assistance: The program is designed to utilize innovative financial structures, such as a revolving loan fund and forgivable loans to ensure long-term impacts of program financial assistance. During the Planning Period, EIERA will consult with key stakeholders and policy developers from other regional and statewide programs to integrate housing affordability considerations into program operations. Through program design, EIERA will encourage policies that enable the uptake of solar among low-income and disadvantaged families, such as considerations around the affordability of existing housing stock, anti-displacement policies, and policies that prevent rapid cost increases for low-income and disadvantaged households and communities. By creating a revolving loan fund, EIERA will have the capital to finance the long-term investment often needed with solar installations, which may include operations, maintenance, and recycling of assets. This will be especially important since third-party ownership is not permitted in Missouri currently, so building owners and homeowners will largely be responsible for operations and maintenance unless they are leasing or participating in community solar.

Section 1.5 – Project Deployment Technical Assistance Strategy

Workforce Development: A major blocking issue – faced by many states – that has slowed the expansion of solar energy are labor constraints around enough trained workers available to conduct site surveys and perform the actual installation of solar units. By investing in education, training, and career development, EIERA can help create a skilled workforce to meet the growing demand for solar energy in Missouri. EIERA's goal is to maintain a steady labor market equilibrium by calibrating the number of qualified workers to the number of jobs available, with a focus on expanding the workforce from disadvantaged communities and advancing racial equity. EIERA will make sure the solar workforce is robust enough to support the increased demand for solar while ensuring that the labor market does not become oversaturated and drive down wages.

Recruiting and retaining workers from low-income and disadvantaged communities to Missouri's solar workforce will require a comprehensive and coordinated approach. EIERA will focus on four complementary pillars to invest in a skilled, diverse workforce:

1. **Community Engagement:** Outreach and awareness campaigns will be established in disadvantaged communities to highlight the benefits of solar careers, training opportunities, and funding allocated to building the Show-Me State's solar workforce.
2. **Apprenticeship Programs:** Hands-on training and practical experience will ensure that workers acquire the specialized skills needed for solar panel installation and maintenance. These programs also promote safety standards, essential in an industry involving electricity, rooftop placement, and renewable energy technologies. EIERA will support existing apprenticeship and pre-apprenticeship programs throughout the state and identify gaps in accessing such programs (e.g., programs not available in rural communities, programs lacking racial or gender diversity, etc.).
3. **Educational and Training Programs:** EIERA will build upon numerous educational programs that already support Missouri's growing solar workforce. Several community colleges, such as St. Louis Community College and the Missouri University of Science and Technology, prepare students to take various accreditation and certification exams and ultimately secure jobs. EIERA will work with schools as well as programs like Employment Connection to make sure qualified graduates can find high-quality jobs. EIERA will also focus on the continued education of solar workers to stay up to date with the latest solar and storage technologies and best practices to support long-term career opportunities.
4. **Partnerships with Unions:** EIERA will build upon existing partnerships with unions and subsidize apprenticeship or training programs. For example, the International Brotherhood of Electrical Workers (IBEW) #124 serves the greater Kansas City area and requires all electricians to complete a DOL Accredited Apprenticeship Program. Through the 5-year program, students are taught solar installation, battery storage, fundamental electrical engineering, and many other crucial subjects. MARC and Evergy have partnered with IBEW #124 electricians for thousands of solar installations in the Kansas City area alone. EIERA can leverage such local experience to expand partnerships with unions statewide.

Through discussion with its partners across Missouri, EIERA identified learning opportunities and challenges from existing programs to inform the design of Missouri's statewide program. For example, through Mid-America Regional Council's (MARC) engagement with labor unions, MARC learned that a pitfall of past job training programs, such as the Missouri Works Initiative, is that there is no guarantee that apprentices will be hired at the end of the program. To address this challenge, EIERA will offer incentives for employers to hire graduates of the apprenticeship programs affiliated with Solar for All, as well as incentives for women and minorities to participate in those apprenticeship programs. EIERA will leverage the structure of a U.S. Department of Labor's Apprenticeship Building America (ABA) grant to inform its program funding for apprenticeship and other job training programs, which has been previously successful in Missouri at a local level. The City of Springfield's Department of Workforce Development was one of 39 organizations nationwide to be awarded the ABA grant, which includes apprenticeship programs from renewable energy and construction. Through this program, Springfield engages with traditionally underserved and underrepresented populations in a 10-county region in Southern Missouri. Employers benefit from grant funding which is utilized for training, uniforms, and work materials. Apprentices may also be eligible for supportive services (such as transportation and childcare) so they can access training opportunities without undue hardship, which EIERA may allow as an eligible use of funds through Project-Deployment Technical Assistance.

EIERA will work with its partners not only to connect qualified workers to jobs, but to connect those jobs to solar projects. For example, Building Energy Exchange Kansas City (BE-Ex KC) operates the "Rising Trades Contractor Accelerator" which supports diverse entrepreneurs in green construction in the high-performance buildings industry. Through customized coaching, strategic pairings with professional service providers and mentors, 40 hours of complementary back-office support, and practical education, the Rising Trades Contractor Accelerator provides business counsel and connections to accelerate opportunities for Black, Indigenous Peoples, and people of color as leaders in the sustainable construction industry. Currently serving 15 diverse construction firms, the program can connect Solar for All projects to the program's growing list of contractor alumni. EIERA could scale this type of program to solar statewide and provide outreach and awareness through its proposed Missouri Solar for All website.

EIERA also sees an opportunity to engage with the public school system to create opportunities for K-12 students to learn about solar careers and build interest from a young age. Missouri's Department of Natural Resources established the Missouri Schools Going Solar (MSGS) program to educate K-12 students, teachers, and communities about the importance of electricity as an energy form, the value of renewable solar energy in meeting current and future energy needs, and solar energy technologies. Students receive grade-appropriate interdisciplinary curricular materials and teacher training consistent with the Missouri Department of Elementary and Secondary Education standards. With Solar for All funding, EIERA can work with peer MO government agencies, schools, and other solar workforce stakeholders to build upon existing K-12 education programs.

Interconnection Technical Assistance: Missouri's interconnection processes significantly improved when the Net Metering and Easy Connection Act was passed in 2007. All utilities must offer free grid interconnection to any customer with a system of less than 100 to 150 kW, depending on their utility. As mentioned previously, the law also established a statewide interconnection application to the Public Service Commission (PSC) and specifies timeframes that the PSC must respond within. Based on discussions with partners, some non-regulated utilities impose additional barriers to interconnection for customers, such as insurance requirements, added fees, and duplicative safety regulations. EIERA will work with non-regulated utilities to standardize their processes and remove those barriers, though the success of these efforts may vary based on each utility's appetite for expanding renewable energy.

Acknowledging the unique opportunity Solar for All provides states to address interconnection challenges, EIERA plans to conduct a thorough re-assessment of interconnection barriers during the Planning Year, focusing heavily on stakeholder engagement to gather these inputs. EIERA is interested in participating in the Department of Energy's Interconnection Innovation e-Xchange (i2X) Technical Assistance Program to learn from peer states and leading national agencies about how to overcome interconnection barriers. EIERA is eager to facilitate collaboration between stakeholders on interconnection challenges, including the PSC, Regional Transmission Operators (RTOs), utilities, and the Federal Energy Regulatory Commission (FERC). EIERA will complete the following actions during the Planning Year to enhance its understanding of Missouri's interconnection challenges and provide technical assistance to solar developers and communities.

1. **Needs Assessment:** During the Planning Year, EIERA will conduct a comprehensive needs assessment to identify interconnection challenges faced by developers and communities above and beyond what was described in *Section 1.3, Distributed Solar Power Market Strategy*. The needs assessment will include surveys, interviews, and in-depth research to have a comprehensive understanding of the interconnection challenges in Missouri. EIERA will work with the PSC and other stakeholders to conduct a deep dive into current grid planning and modernization efforts. The DOE's i2X program will play a critical role in data collection, analysis, and strategic roadmap development.
2. **Establish a Technical Assistance Program:** EIERA will create a dedicated technical assistance program focused on the interconnection challenges identified in the needs assessment. This program will be staffed by experts in solar energy and grid interconnection, complemented by the DOE's i2X laboratory expertise.
3. **Gather Existing and Develop New Educational Resources:** EIERA will gather a range of technical resources, including guides, manuals, and online materials that explain the solar interconnection process, Missouri regulations, and best practices from our peers. The i2X program will be EIERA's primary resource for gathering information. EIERA will ensure these resources are accessible to a wide audience.
4. **Training Workshops and Webinars:** EIERA will host or share information about training workshops and webinars to educate solar developers and community stakeholders about the technical aspects of solar interconnection. Topics may include grid compatibility, safety standards, compliance, and The Net Metering and Easy Connection Act. Crucially, these

workshops and webinars will include Q&A sessions with solar energy and grid interconnection experts so that solar developers and communities can ask questions about any project-specific challenges they are experiencing.

5. **Regulatory Assistance:** EIERA and its community partners will work with communities and developers to understand the interconnection process in Missouri. EIERA will also help them engage with their utility to complete PSC's interconnection applications.

General Technical Assistance: To date, technical assistance has not been offered through a centralized, statewide platform which can lead to regional differences in project siting, land use, permitting, building codes, inspection, and quality control. Solar for All provides EIERA with an opportunity to centralize these efforts and expand the successful technical assistance programs that local authorities and regional non-profits have built to ensure projects are efficiently deployed and resilient over the long term. For example, Building Energy Exchange Kansas City (BE-Ex KC) and Building Energy Exchange St. Louis (BE-Ex STL) specialize in connecting commercial building owners to technical and financial tools to improve their energy performance. BE-Ex KC and BE-Ex STL collaborate on educational programming and technical resources and could extend their technical assistance offerings to include solar, serving Missouri's two most populous urban regions. EIERA can leverage BE-Ex KC and BE-Ex STL's well-established connections with commercial building owners as an entry point to further facilitate technical assistance for Solar for All statewide, to ensure solar stakeholders meet broadly accepted building codes and standards.

EIERA will recommend that municipalities, developers, and other relevant stakeholders adopt SolarAPP+ statewide to standardize processes and practices related to planning, permitting, and project tracking. SolarAPP+ is the National Renewable Energy Laboratory's (NREL's) plan review software that runs compliance checks and processes building permit approvals for rooftop solar systems. MARC is already leading regional policy development efforts with local governments and seeks to gain consensus among area communities on SolarApp+ and solar-ready construction requirements to streamline building practices and permitting to enable good quality control processes. EIERA will work with MARC, other regional partners, and local governments to build support for SolarApp+ adoption. EIERA will focus on how SolarApp+ can save state or local governments time reviewing solar permitting applications and subsequently benefit Missouri residents by expediting the process. EIERA plans to use Technical Assistance funding to streamline coordinated efforts across various solar stakeholders to enable a statewide approach to planning and permitting.

There are many publicly available, open-source solutions for technical assistance that Missouri communities can be connected with as well. However, disadvantaged communities are likely unaware of these many freely available resources, even though the use of open-source technical assistance sources can provide a cost-efficient option to help accelerate awareness of the benefits of solar energy. For example, NREL's Renewable Energy Potential (reV) model provides detailed spatiotemporal modeling to help developers understand cost, land use, transmission access, and more for each potential project. For housing developers, Energy Star's Renewable

Energy Ready Home (RERH) Solar Site assessment tool helps builders assess whether a new home is physically suited to support the installation of solar energy.

EIERA will also prioritize community resilience and maximize community benefits in its technical assistance approach. For example, there is growing interest in developing community solar on former brownfield sites among EIERA's partners. With Solar for All funding, this type of investment is financially possible and can doubly benefit communities that have historically been subjected to a disproportionate burden of environmental hazards. In line with our commitment to resiliency, EIERA will protect critical pollinator habitats, green spaces, wetlands, productive farmland, and community spaces in project siting. Projects should be designed with a risk management plan around physical climate hazards.

Finally, EIERA will share or develop thorough training sessions for solar installation teams on industry standards and best practices. EIERA will also work with industry experts to develop a comprehensive checklist and reporting system that ensures each step of the solar installation process is documented and reviewed, with a focus on quality control measures such as panel alignment, wiring integrity, and system performance. EIERA will recommend that post-construction inspections are scheduled to identify any issues.

Section 1.6 – Equitable Access and Meaningful Involvement Plan

Strategy to Maximize Program Reach: EIERA is committed to bringing solar to disadvantaged communities across the state. In developing this Solar for All application, EIERA received 44 letters of support from various state agencies, local governments, utilities, non-profits, and more. As explained in *Section 1.3, Distributed Solar Power Market Strategy*, EIERA plans to distribute Solar for All funds for residential solar and storage, excluding community solar, based on the percent of the total population of CEJST-identified disadvantaged census tracts living in each of the 13 regions of Missouri. Meanwhile, community solar development will be diversified amongst investor-owned utilities, municipal utilities, and rural electric cooperatives across the state. In doing so, EIERA will also consider the specific needs of each region to make sure EIERA achieves equitable outcomes statewide.

Our Approach to Statewide Engagement
✓ Bring rooftop and ground-mounted solar to single-family, multifamily, and manufactured homeowners and renters; ✓ Employ a regional approach to ensure that low-income and disadvantaged residents in rural, suburban, and urban can access solar; ✓ Prioritize accessibility in community engagement, including translation and interpretation into Missouri's top languages; ✓ Prioritize households with the highest energy burden; ✓ Diversify community solar development amongst investor-owned utilities, municipal utilities, and rural electric cooperatives

EIERA also recognizes that a one-size-fits-all approach is not optimal. The most acutely disadvantaged populations typically reside in older homes whose building envelope is less

resilient and whose fixtures (e.g., HVAC, appliances) are less energy efficient. As a result, they typically spend more of their disposable household income on energy costs. These households will likely need greater support to transition to new energy sources, and EIERA commits to serving those most in need with additional financing structures as needed.

In Missouri's Solar for All program projections, EIERA assumes that 15% of homes will be manufactured homes. Based on discussions with solar developers in Missouri, EIERA learned that some solar developers receive upwards of 50 calls per week from manufactured home residents interested in ground-mounted solar. This represents an energized, self-organizing, and demand-led pipeline of eligible potential projects that could provide immediate momentum to the program. EIERA plans to work with these solar developers – and others – to help residents living in manufactured homes in disadvantaged communities access solar through Solar for All.

During the Planning Year, EIERA will conduct a thorough needs assessment of Missouri's disadvantaged communities to understand their unique energy needs, economic conditions, and solar preferences. For example, is there a significantly greater interest in leasing than anticipated? How do solar preferences differ across the state? How can EIERA tailor our community engagement, workforce development, and technical assistance strategies to meet each community's needs and prioritize engagement from disadvantaged households? In short, the needs assessment will help EIERA understand the demand for single-family, multifamily, and community solar, and subsequently, how to best deploy Solar for All funds to each community.

After the needs assessment, EIERA will build upon its initial stakeholder mapping in *Attachment D Timeline & Workplan* to identify all relevant stakeholders in each community, including residents, local government officials, utilities, NGOs, non-profits, advocacy organizations, utilities, and solar developers. EIERA will prioritize engaging with trusted organizations of the community and identify the communication channels that have proven successful for engagement. These communication channels may include outreach methods such as webinars, traditional media, and Town Hall events at local community centers, public schools, and libraries. EIERA also plans to engage in more internet-focused and social-media driven channels as well, which may include, but are not limited to, Facebook livestreams, Instagram, and WhatsApp messages. EIERA will employ a blended approach of in-person and virtual events to reach individuals without reliable internet access, or those who wholly lack a smartphone or even a computer. Crucially, each communication must be accessible to every Missouri resident, so EIERA will prioritize translation and interpretation into Missouri's top languages, which include Spanish, Chinese (including Mandarin and Cantonese), German, Vietnamese, Serbo-Croatian, Arabic, French, and American Sign Language.

Participatory Governance Strategy: The needs assessment and stakeholder mapping will lay the foundation for enhancing EIERA's existing Solar for All community working group that will advocate for the unique and shared interests of their communities relating to Solar for All. To develop this Solar for All application and preliminary program design, the community working group has so far included the following entities: (1) Mid-America Regional Council, (2) Building Energy Exchange Kansas City, Building Energy Exchange St. Louis, (4) The Sierra Club, (5) The Nature Conservancy, (6) East-West Gateway Council of Governments, (7) St. Louis

Community Development Administration, (8) St. Louis County Executive, (9) The Kansas City Office of Environmental Quality, (10) The City of Columbia, and (11) The City of Springfield. EIERA will assess what additional organizations should be involved in the community working group. The community working group will continue to serve in the following functions:

1. **Support the Program Design:** The working group will meet weekly or bi-weekly to provide feedback on the design of the Solar for All Program with EIERA during the Planning Year, considering factors like system size, project types, financing options, and locations. Crucially, the working group will provide local context that will help EIERA tailor the program to each community.
2. **Connect EIERA to Other Organizations:** The existing community working group has deep connections with additional CBOs that can further diversify the working group and better represent the communities we aim to serve. EIERA's existing partners can facilitate introductions to CBOs that serve American Indian communities and other historically marginalized communities. Each of our partners will be vital in facilitating trust and connection between the solar program and the communities they serve. Moreover, CBOs will be essential to garner program participation.
3. **Be the Voice of Solar for All in their Community:** The working group will serve as trusted agents of change in their respective local communities, educating the community about Solar for All formally and informally. EIERA will rely on the community working group to spearhead engagement with the public, leveraging their trusted, established voice in their community to share information about Solar for All. Then, the community working group can share the public perspectives with EIERA from engagement opportunities to inform Missouri's Solar for All program design.

Education, Outreach, and Community Involvement Strategy: In addition, education will be a cornerstone of Missouri's Solar for All program. EIERA will design culturally appropriate educational materials that resonate with each community, ensuring translations in multiple languages to accommodate those with limited English proficiency. EIERA anticipates that the educational outreach will encourage additional benefits, such as promoting workforce development and creating opportunities for some citizens to receive training and gainful employment in the growing solar sector on a part-time or full-time basis.

Mid-America Regional Council's Perspective on Solar for All Education Strategies
Many low-income residents may already be familiar with solar but may not see it as a viable option for their home. One risk we are working to address is that, by offering unprecedented levels of financial support, Solar for All may be perceived as being "too good to be true." It will be important for EIERA to work with existing neighborhood, faith-based, and community-based organizations that have fostered residents' trust to share program information. These organizations can overcome language barriers and have the cultural competency to garner resident's participation in the program. Additionally, real-life success stories from residents who have benefited from solar programs will be shared during outreach. Multifamily building owners experience similar barriers in education to single-family, but the outreach strategies will differ. For smaller apartments with local landlords, community-based

organizations can also provide effective education. For larger apartments or in collaboration with landlords who own multiple properties, educational outlets will likely be industry-based. For example, in Kansas City, Building Energy Exchange Kansas City (Climate Action KC) can leverage existing partnerships with real-estate trade organizations and Chambers of Commerce to communicate Missouri's Solar for All program, answer questions, and follow up with direct technical assistance for those parties that express interest. Municipal permitting offices and utility bill inserts are also an opportunity to promote the program and provide contact information to technical assistance providers.

As mentioned previously, members of the community working group will be essential to facilitate broader engagement with their local communities. EIERA will work with the community working group members to establish an engagement cadence with the public that provides a consistent feedback loop on program design. But EIERA's community engagement will extend beyond information sharing. Based on our experience, EIERA has found the most valuable feedback in designing effective programs in Missouri is to develop strong feedback loop mechanisms for two-way communication which thoughtfully integrates feedback into program design. During the Planning Year, EIERA anticipates publishing a discussion paper via an online portal through which EIERA will actively seek comments and feedback on program design from residents. This will help EIERA source local perspectives and concerns such that EIERA is better equipped to shape a solar program that better meets the unique needs of local communities. Through these collaborative efforts, EIERA will create an equitable Solar for All program that truly reflects and benefits all Missouri constituencies and communities, fostering a sustainable and inclusive energy future for everyone.

Customer Acquisition and Management Strategy: EIERA is committed to helping Missouri residents access solar capabilities, especially for residents who live in disadvantaged communities. However, a strategy is pointless without a successful execution. For Missouri's Solar for All program to be successful, EIERA will need to generate interest from potential customers statewide – from renters to owners, from rural communities to urban, and from multifamily buildings to manufactured homes. Acquiring customers from disadvantaged communities requires a targeted approach that considers their specific needs and constraints. That approach also needs to be thoughtful, empathetic, and forthright, and it must be grounded in a commitment to build trust with communities that may have a natural skepticism around brand-new technologies being provided through financial support structures they have not experienced before. EIERA may use the following strategies to acquire Solar for All program participants:

1. **Community Outreach:** EIERA and the community working group will leverage existing networks of CBOs and other organizations (e.g., unions, faith-based organizations) that already serve low-income customers. These organizations will play a key role in spreading the word and building trust within these communities.
2. **Targeted Marketing:** EIERA will use outreach campaigns that focus on the financial benefits of solar, such as reduced energy bills and long-term savings, coupled with the financial incentives EIERA is offering (e.g., sub-grants and loans).

3. **Customer Support:** EIERA will provide exceptional customer support to address questions and concerns, inclusive of "higher touch" interactions for those customers who may have greater reservations, may have more natural skepticism, or may require additional assistance.

Crucially, EIERA will work with our statewide and local partners who provide funding to low-income and disadvantaged communities to introduce Solar for All funding. For example, many cities across Missouri, including St. Louis, already offer funding for low-income households to upgrade their home's infrastructure. In Kansas City alone, Solar for All eligible projects could leverage dollars and infrastructure through Kansas City's Housing Trust Fund, Minor Home Repair Programs, utility incentives, related federal programs (e.g., WAP, LIHEAP, PACE, NCIF, CCIA), and various other local economic development tools. However, these efforts are often locally focused and regional in scale and scope. EIERA will work with these cities as an entry point for potential customers who could further benefit from Solar for All.

EIERA and the Missouri Housing Development Commission (MHDC) see Solar for All as a unique opportunity to collaborate on energy efficient homes and healthy communities. MHDC provides funding to qualified non-profit organizations and for-profit developers for the acquisition and rehabilitation of existing homes as well as new construction of affordable rental housing. MHDC funds these projects with a combination of Low-Income Housing Tax Credits (LIHTC) and other U.S. Housing and Urban Development (HUD) programs. Crucially, the LIHTC program requires MHDC to develop a Qualified Allocation Plan (QAP) that sets out the state's eligibility priorities. Energy efficiency is one of MHDC's priorities, especially among low- to moderate-income homes. MHDC can connect housing developers and other key stakeholders with Solar for All funds through its QAP process, targeting increased solar deployment in multifamily and senior affordable housing developments. EIERA and MHDC's partnership will allow Missouri to hit the ground running with a robust pipeline of solar projects.

In addition to existing need-based financial resources, EIERA recognizes that the National Clean Investment Fund (NCIF) and Clean Communities Investment Accelerator (CCIA) opportunities under the Greenhouse Gas Reduction Fund (GGRF) provide opportunities for further cross-program coordination. For example, a housing developer could use NCIF funds to improve the energy efficiency of an affordable housing multifamily building in Kansas City by installing a heat pump and improving insulation. Then, Missouri can leverage additional GGRF funding received under its Solar for All program to work with that same housing developer to install rooftop solar and ensure benefits are passed to the building's tenants. This type of collaboration will ensure the benefits and impact of Solar for All are maximized alongside other funding streams from GGRF or in conjunction with other municipal, statewide, or private capital sources.

However, EIERA understands that market development requires more than simply conducting outreach and generating interest among a customer base. Once customers express interest in the Solar for All program, EIERA must verify their eligibility. Balancing income verification accuracy with minimizing household burden requires a thoughtful yet flexible approach that considers the unique needs and circumstances of the residents being verified. The process also needs to ensure the sensitive handling of and appropriate protections around the collection,

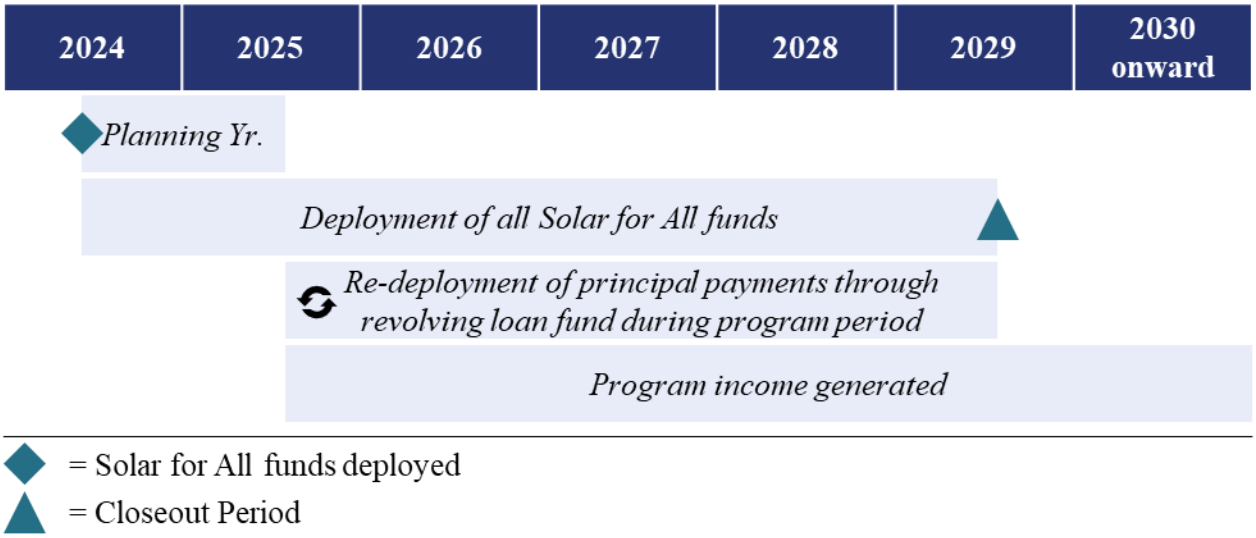
treatment, and assessment of any personally identifiable information. EIERA will employ the following approach to reduce risk from fraud and waste:

1. **Develop Clear Eligibility Criteria:** EIERA will establish clear eligibility criteria for participants in its Solar for All program, which will vary across installation types (e.g., residential rooftop solar vs. residential-serving community solar).
2. **Robust Application and Verification Process:** EIERA will implement a simple application process that requires documentation to prove eligibility. For example, to validate a resident's income, EIERA may ask for a copy of one of the following: pay stubs, tax returns, or bank statements. EIERA will likely use a third party for verification. This process will include appropriate controls (including cybersecurity protocols or other technical controls) for the protection of applicant information. The process will also adhere to all statewide and federal statutes regarding the collection of personally identifiable information, such as income, residency, or other tax information.
3. **Regular Audits and Inspections:** EIERA will conduct regular audits of program participants – including residents, utilities, developers, etc. – to ensure compliance with program requirements. For example, EIERA will want to make sure that multifamily housing owners are passing the savings of rooftop solar onto their tenants in alignment with Solar for All requirements and ensure costs are correctly identified for different categories such as building upgrades, solar installation, and storage.
4. **Transparency and Reporting:** EIERA will publish program data and spending information for different project types on a regular basis to promote transparency. This will allow the public to scrutinize program expenditures and outcomes. EIERA will also ensure transparency for the use of interest income from loans and trace the dispatch of funding.
5. **Education and Outreach:** EIERA will educate program participants about Missouri's Solar for All program financial guidelines to reduce unintentional misuse of funds.

Leveraging best practices from the U.S. Department of Treasury Homeowner's Assistance Fund (HAF), EIERA will offer alternative methods for residents to provide income documentation, such as through community partners who can assist them with completing their application. Community partners will be especially helpful in supporting residents with limited English proficiency or without reliable internet access. EIERA may establish an online platform for residents to upload their documents so that they do not need access to a printer. EIERA will also avoid collecting and storing information about residents beyond what is required by the EPA for reporting purposes. EIERA will establish data privacy and security requirements, ensuring these standards minimize PII collected.

Section 1.7 – Program Planning Timeline and Workplan Narrative

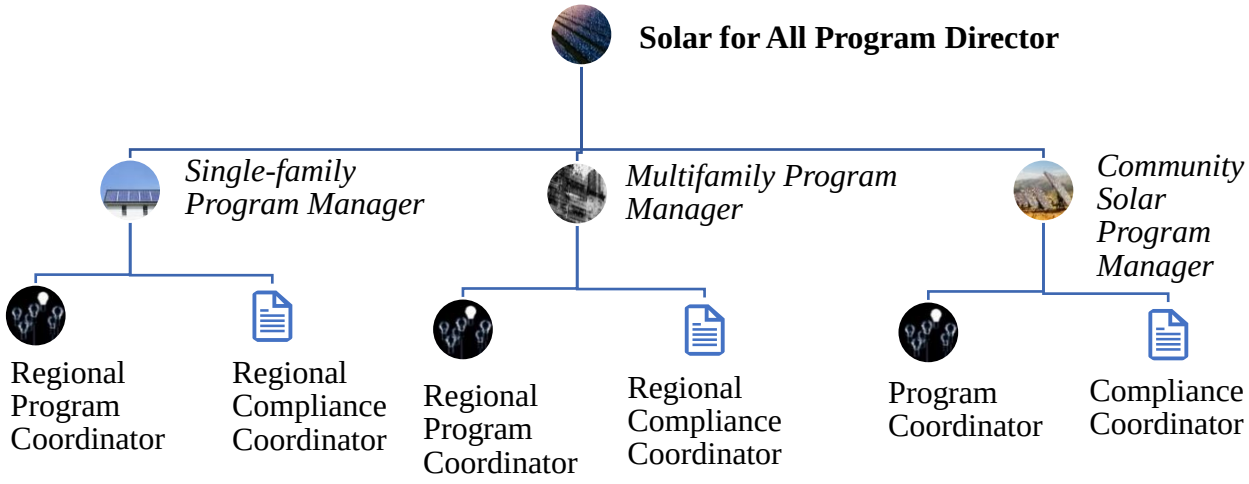
As demonstrated in Sections 1.1 to 1.6, Missouri has a tremendous opportunity to tap into statewide potential across stakeholders, industries, and communities to deploy a successful Solar for All program for the residents of Missouri. EIERA is confident that should the EPA award the requested $250 million funding for the solar and storage deployment, it will accelerate a secure and sustainable energy future for low-income and disadvantaged communities in Missouri. The overall program period timeline and activities are illustrated in the chart below.



EIERA recognizes that timely planning will be one of the most critical phases of the program to ensure that most of the planning is completed in the first year and the program is able to spend the funds within the first five years from the date of the award. To ensure that, EIERA plans to utilize all existing tools and partnerships and use the Planning Year to structure how the program will be implemented efficiently and effectively to achieve program objectives and impact targets. This section focuses on the timeline and specific efforts that will be undertaken during the Program Planning Period (the first year) and the associated Workplan.

Cross-sectoral working group with partners: After submitting this Solar for All application on October 12th, 2023, EIERA will continue to engage with its partners (i.e., the community working group) who have provided letters of support and are eager to engage in program planning discussions by continuing with existing ongoing weekly meetings. These ongoing stakeholder meetings have occurred for months already, and they will serve as a springboard for EIERA as the agency switches posture from application crafting to Solar for All program pre-planning. The meetings will be a forum to identify additional partners on a continuous basis and initiate preliminary discussions on roles and responsibilities, program mechanics planning, and formalize a stakeholder engagement plan for program implementation. EIERA will utilize the time between the award announcement in March 2024 and funds distribution to work with partners to streamline roles and responsibilities, formalize the governance structure for the program, and develop a stakeholder engagement plan.

Building a Solar for All Team at EIERA: To support the planning and implementation of a statewide Solar for All program, one of the first steps for EIERA will be to build a skilled team that will manage the program's administration and implementation. As an initial proposal, there will be one Program Director for Solar for All, and three program managers for each of the major project categories (single-family, multifamily, community solar). The Program Director and three Program Managers will be full-time EIERA staff, while the other six staff listed in the org chart will be provided through contractual or consulting services for the five-year program period.



Contractual Partnership with a leading public sector consulting firm: To continue with its legacy of delivering a successful program and to create an impactful Solar for All program with lasting impact, EIERA will look at options to establish a contractual partnership with a leading consulting firm with public sector and solar expertise. While working closely with EIERA's current leadership and new program staff, the procured consulting firm can provide a solid support structure during the program planning phase and can provide further support for program administration, training, implementation, and reporting. EIERA will conduct market research and execute a procurement strategy to source a contractor partner with extensive experience in federal grant programs, federal financial management, and internal controls, as well as optional additional experience with sustainable project finance, benefits management, oversight, compliance, and reporting. The selection of a consulting firm should involve a rigorous review of qualifications provided by candidate firms to manage and administer previous such plans and will conform to state procurement guidance as well as requirements consistent with the EPA program and federal grants law (e.g., 2 CFR 200), as applicable.

Leverage existing tools for planning: During the planning phase, EIERA will review existing federal, academic, and philanthropic platforms, tools, and resources (e.g., DOE's i2X Technical Assistance Program, SolarAPP+) and leverage them to support program planning and implementation by working closely with its partners. EIERA will continue to review the list of reports and resources provided by the EPA to create a detailed list of program design questions as well as program planning resources and tools. This will help to develop a more efficient design of the program and will demonstrate EIERA's commitment to adopting residential rooftop and residential-serving community solar best practices. Some examples of existing tools and partnerships include (but are not limited to) DOE's States Collaborative, DOE's National Community Solar Partnership's direct technical expertise, and other capacity-building services.

Continue alignment with EPA guidelines: EIERA plans to follow existing and new EPA guidelines on various fronts during the planning and implementation phase. For example, EIERA plans to invest in program planning capacity to incorporate forthcoming EPA guidance on how and when to apply Build America, Buy America and Davis-Bacon Act prevailing wage

requirements to Solar for All program operations. EIERA expects that the specific requirements of the Solar for All program will be a topic of coordinated discussion with the EPA during the final award negotiation phase.

Alignment with other GGRF programs: During the planning phase and beyond, EIERA will focus on opportunities to learn from other GGRF programs where possible to ensure that these programs complement each other to maximize benefits across all GGRF funds.

The high-level Program Planning Timeline and Workplan and specific details on different activities across each of the five plans and strategies in the Program Strategy Narrative are included in the Excel Workbook *Attachment D: Program Planning Timeline and Workplan*. The five tabs in the Excel template focus on detailed activities and timelines for the (1) *Meaningful Benefits Plan*, (2) *Distributed Solar Power Market Strategy*, (3) *Financial Assistance Strategy*, (4) *Project-Deployment Technical Assistance Strategy*, and (5) *Equitable Access and Meaningful Involvement Plan*. Each tab demonstrates how EIERA plans to engage with relevant stakeholders during the program planning stage and program planning services EIERA anticipates using during the planning period. Finally, the program planning milestones are summarized below.

Activity	Activity	Timeline
Recruitment and onboarding of new team with EIERA	Program Administration	*July to Sept '24*
Onset of contract with consulting firm	Program Administration	*July '24*
Stakeholder Engagement	Program Administration	*July '24 to June '25*
Release discussion paper for program design	Program Administration	*Sept '24*
What we heard: Incorporate feedback from stakeholders	Program Administration	*Oct '24 to Jan '25*
Final program design for Solar for All	Program Administration	*Feb '25*
Governor approval	Program Administration	*March '25*
Launch of the program through a statewide platform	Program Administration	*April/May '25*

Section 2.1 – Budget Narrative

EIERA is submitting this application for consideration under award option #1. As described in Section 1.4, *Financial Assistance Strategy*, of the requested $250 million, EIERA will make $187.5 million (75% of the total) available as *financial assistance* for solar and storage deployment, including a maximum of 20% for enabling upgrades. As shown in the Budget Table in attachment E, the 75% of funds allocated to financial assistance costs will include both direct costs and the indirect costs associated with financial assistance activities in accordance with 2 CFR Part 200. Out of the remaining 25% of the funds ($62.5 million), approximately $37.5 million (15%) will go toward *Project-Deployment Technical Assistance* and $25 million (10%) for *Program Administration Activities*. Project-Deployment Technical Assistance would include components such as community engagement, customer acquisition support, management and verification requirements, and support for solar market stakeholders. Program administration

activities may include hiring contract and/or full-time staff for EIERA to manage the program, covering expenses around tools, technology support, and contract services. The funds allocated for project deployment and program administration are necessary to develop the workforce and establish the appropriate financial controls and oversight to effectively administer the program and achieve the successful outcomes of the program.

Demonstration of efficient budget: As explained in Section 3 of the application (Attachment F), EIERA has over fifty years of experience in providing financing for water, wastewater, solid waste, and other pollution control projects. Additionally, EIERA has successfully administrated several EPA grants (e.g., Brownfield Revolving Loan Fund, Solid Waste Recycling Infrastructure grant) while meeting all reporting and compliance requirements. The EIERA leadership team has demonstrable experience running successful grant programs across the entire grants management lifecycle, and the team has already begun the work to prepare an efficient, reasonable budget for the Solar for All program. To prepare the budget, EIERA has followed indirect cost and budget detail requirements provided by the EPA. Costs are broken down by appropriate budget categories for each proposed activity for which funding is being requested; details are provided in the detailed Budget Table as Attachment E. For example, costs for solar installations are assumed based on published industry data (e.g., SEIA), factoring in consultation with current vendors in Missouri to understand the current cost environment specific to the state. Funds for single-family and multifamily projects will be made available based on the share of the disadvantaged population in a county based on the CEJST data outputs, as shown in Section 1.4. Projected salaries for staff at EIERA are based on the prevailing market rates.

Procedures and controls for use of awarded grant funds: EIERA will use its experience in grants management to ensure that proper procedures and controls are developed early during the Planning Year. EIERA will also ensure that grant funds are properly deployed within the five-year program period. These procedures and controls include, but are not limited to the following:

- Ensure allowability: EIERA will ensure that program funds follow the guidance regarding allowable and unallowable expenses as described in the NOFO application.
- Maintain accountability and record: EIERA will make sure that every transaction is invoiced and properly categorized under the correct budget activity to allow tracking of funds in accordance with best accounting practices and reflected in required monthly reporting.
- Ensure transparency in the procurement process: To procure any service, EIERA will follow state regulations and federal regulations for competitive procurement practices and use of Requests for Proposals (RFP) to ensure price competition and accessibility to any qualified firms that meet the eligibility and requirement criteria.
- Follow high standards for due diligence: EIERA will introduce due diligence procedures in evaluating multiple candidates/options to ensure that provided services are cost-effective, reliable, efficient, and aligned with the general EPA guidelines and requirements.
- Seek additional clarity from EPA: During the final award negotiation phase and planning period, EIERA will seek clarity from the EPA on approval of eligible activities that funds can cover in Missouri and seek clarification around any potential ambiguities related to eligible activities and expenses.

- Ensure external, independent audit: EIERA will work with an independent audit firm on an annual basis to ensure that expenses follow guidelines provided by the EPA, in accordance with all applicable federal grant laws (e.g., 2 CFR § 200), and are properly documented.
- Perform corrective actions under non-compliance: EIERA will develop a procedure for remediation and corrective action in case of non-compliant activities and perform account reconciliation as needed.

EIERA will implement appropriate internal controls, oversight, and compliance activities regarding the expenditure of program funds. EIERA will work closely with its partners, contract staff, and contractual services to conduct oversight activities and ensure program beneficiaries use funds in a manner consistent with their intended purpose and in compliance with state and federal regulatory requirements.

Section 2.2 – Fiscal Stewardship Plan

EIERA's fiscal stewardship plan is a comprehensive approach aimed at safeguarding individuals from unscrupulous or predatory practices. In EIERA's more than 50-year history, the Authority has earned a reputation as a trusted, reliable, and responsible financer. EIERA will comply with any forthcoming EPA guidance regarding fiscal stewardship and consumer protection, as well as the Federal Trade Commission Act (15 U.S.C. § 45), the Consumer Financial Protection Act (12 U.S.C. § 5536), the Fair Debt Collection Practices Act (15 U.S. Code § 1692e), Regulation Z (12 CFR § 1026), and the financial management practices and internal controls of the Uniform Guidance for the management of federal awards (2 CFR § 200). During the Planning Year, EIERA will define plans and policies for program oversight including confidential reporting and managing conflicts of interest to reduce waste, fraud, and abuse.

Since EIERA will be operating a revolving loan fund, several parameters will be established during the Planning Year to manage program income. EIERA will regularly review and adjust interest rates, terms, and eligibility criteria based on the performance of the revolving loan fund while maximizing equitable access to financing. EIERA will ensure proper use of program income by seeking approval from the EPA in terms of any activities funded through program income during the program period, as well as during and beyond the close-out period.

EIERA's commitment to financial transparency and fiscal stewardship will guide the Authority's work to promote a solar energy market where residents can confidently embrace sustainable solutions without falling victim to predatory lending practices. To protect consumers, EIERA will implement the following practices, which may include but are not limited to:

- EIERA will provide written materials (available on Missouri's forthcoming Solar for All website) to program partners and entities that directly interact with, transact with, or contract with consumers. These materials will contain detailed expectations for those partners' and entities' compliance with applicable consumer protection laws in the jurisdictions served by the program, fair lending laws, and federal consumer protection and consumer financial laws. This will cover laws that prohibit unfair, deceptive, and abusive practices, and Regulation Z (12 CFR § 1026) which requires the disclosure of terms and cost of consumer credit and offers substantive protections to people who use consumer credit.

- EIERA will reduce fraud, waste, and abuse using the approach outlined in Section 1.6.
- EIERA will make sure all in-person and telephone marketing by entities that directly interact, transact, or contract with consumers as part of the program is conducted using language readily understood by consumers and in compliance with Executive Order 13166.
- EIERA will have a dedicated team to address consumer complaints that may be received from consumers' interactions, transactions, or contracts with program entities.
- EIERA will engage third-party vendors to conduct site visits, audits, or other reviews of electric bills to incorporate guardrails which will ensure that the minimum of 20% of household savings materializes for program beneficiaries.
- EIERA will disclose details regarding consumer complaints and subsequent disciplinary actions in an annual report which will be available on the Missouri Solar for All website.
- EIERA will adopt policies and practices for entities that directly interact, transact, or contract with consumers as part of the program to (1) provide written disclosures to consumers containing information in clear and understandable language regarding the purchasing, leasing, or financing, and other costs associated with a consumer's solar project; the impact of the solar project on the consumer's ability to sell or refinance their home; the recording of any liens on the home; consumer rights; contact information for the solar project provider; and the complaint procedures available to the consumer if they have a problem with the solar project or sales process; (2) submit for review documents relating to the entities' interactions with consumers including, for example, sales and marketing materials, training materials, policies and procedures, consumer finance contracts, and consumer contracts for solar products or services, and (3) have a meaningful process for handling consumer complaints that includes receiving, tracking, monitoring, investigating, and resolving such complaints.

Section 2.3 – Reporting Plan

Program reporting is vital for accountability, transparency, compliance, and measuring program performance against anticipated objectives and benefits. EIERA will adhere to the EPA's forthcoming reporting requirements as well as 2 CFR 200.329 to track and report on outputs and outcomes that align with the three GGRF program objectives. EIERA anticipates that the program performance reporting requirements during the period of performance will be established in the grant's terms and conditions, and reporting requirements after the period of performance will be established in the Closeout Agreement. EIERA will also comply with any federal statutes, including (but not limited to) the Freedom of Information Act (FOIA), disclosure requests from EPA's Inspector General, the Government Accountability Office, or other authorities as deemed applicable and appropriate.

Solar for All Outputs and Outcomes: To build reporting capacity for Missouri's Solar for All program, EIERA anticipates hiring a contractor (in alignment with state procurement guidance as well as requirements consistent with the EPA program and 2 CFR 200) who brings experience in reporting on large-scale, federally funded government programs. The contractor should have experience with the tools necessary to track and report on each output and outcome metric identified by the EPA (e.g., AVERT) and suggest additional metrics that ought to be tracked based on Missouri's Solar for All program objectives and goals. The contractor will report on the

underlying methodologies, technologies, inputs, assumptions, and other analytical choices used to calculate the program's outputs and outcomes. EIERA, along with the contractor, will follow EPA's guidance on the preferred standardized methodology for measuring and estimating output and outcome metrics. A summary of the EPA's initial required outcomes and outputs are summarized below. This reporting strategy will be updated after the EPA's Compliance and Reporting Requirements are published for the Solar for All program.

Category	Solar for All Outputs	Solar for All Outcomes
Climate and Air Pollution Benefits	• **Number of projects financed** by geography and type of project (residential rooftop and ground-mounted solar, residential-serving community solar) (#) • **Solar capacity installed** by geography and type of project (MW) • **Storage capacity installed** by geography, type of project (MWh)	• **Clean energy generation** by geography, type of project, and technology (MWh) • **Greenhouse gas emissions reduced and avoided** by geography and type of project (tons CO_2e) • **Other air pollution reduced and avoided** by geography and type of project (tons other air pollutants such as particulate matter, nitrogen dioxide, ozone,etc.)
Equity and CommunityBenefits	• **Number of households benefitting** from projects by geography and type of project(#) • **Amount of household savings delivered** by geography and typeof project ($) • **Workers trained by workforce development programs** by geography (#) and their starting wages and benefits ($) • **Projects executed using tools to promote good jobs and community benefits** (e.g., Community Workforce Agreement, Community BenefitsAgreement, Project Labor Agreement) by geography, project-type (#) • **Investments in or in partnership with women- and minority-owned businesses** by geography, type of engagement (e.g., investment in a business, partnership on a deal, procurement of services), type of project (# of businesses engaged) ($ of procurement costs)	• **Number of households with resiliency benefits** by geography(#) • **Clean energy capacity owned by communities** in direct ownership models by geography,type of project, type of community owner (household, community-based organization) and technology (MW, MWh) • **Number of solar jobs created** by geography (#) • **Reduced disparities in energy burden between low-income and non-low-income households** by geography ($) • **Increased wages for individuals working in solar energy** by geography (%)

Market Transformation Benefits	• **Grant funds deployed** by typeof cost (financial assistance, technical assistance, program administration) ($) • **Financial assistance deployed**by geography, type of cost (solar, storage, and enabling upgrades), type of financial assistance (e.g., subsidy, loans),type of project, type of technology ($) • **Total private sector financing mobilized**, alongside projects funded directly by Solar for All by geography, type of project ($) • **Number of community-based organizations engaged by Solarfor All services** (e.g., technical assistance programs for solar deployment, education programs) by geography (#) • **Financial assistance deployed to consumers with limited credit history** by geography, type of financial assistance, type of project, type of technology ($)	• **Changes in net metering caps** by geography by type of project (MW, %) • **Changes in interconnection timelines** by geography (days) • **Changes in Solar Renewable Energy Credit (SREC) values**by geography ($) • **Distributed clean energy capacity deployed benefitting communities** not directly financed by Solar for All by geography, type of project, type of technology, and recipient-type (households, community-serving institutions), type of community (low-income and disadvantaged communities, other communities) (MW, MWh) • **Capital deployed to finance distributed clean energy capacity** not directly financed bySolar for All by geography, type of project, type of technology, and recipient type (households, community-serving institutions),type of community (low-income and disadvantaged communities, other communities) ($)

Reporting Frequency: EIERA will work with the contractor to submit annual reports throughout the lifetime of the program, within 30 days of the end of each reporting period, as well as a final program report, within 120 days after the end of the project period. EIERA will also publish periodic reports for the public on the Missouri Solar for All website to promote transparency and share program progress with Missourians. These reports will also provide an opportunity to report progress, highlight major success stories, and educate the public using case studies. After the program period ends, EIERA will also report on how program income and the revolving loan fund will be used beyond the initial project period.

Program Evaluation: EIERA and the contractor will also integrate program evaluation activities into the reporting plan, including assessing the effectiveness and efficiency in achieving outputs and outcomes in accordance with EPA Order 1000.33, U.S. Environmental Protection Agency Policy for Evaluations, and Other Evidence-Building Activities. Specifically, EIERA and the contractor will follow the EPA's policy for evaluations and other evidence-building activities, which includes the following principles: (1) relevance and utility, (2) rigor,

(3) independence and objectivity, (4) transparency, (5) ethics, and (6) equity. Generally, EIERA will complete the following steps to carry out program evaluation:

- **Impact Evaluation:** Assesses the causal impact of a program by estimating and comparing the outcomes with and without the program.
- **Output and Outcome Evaluation:** Measures the extent to which a program has achieved its intended output(s) and outcome(s) to assess program effectiveness.
- **Implementation Evaluation:** Assesses how the program or service is delivered relative to its intended theory of change.

In addition, EIERA will comply with several administrative reporting requirements, which will be included in the grant's terms and conditions. These requirements will include, but not be limited to, the following:

- **Federal Financial Report:** Federal Financial Report must be submitted at least annually and no more frequently than quarterly.
- **Single Audit:** Obtain a single audit from an independent auditor, if EIERA expends $750,000 or more in total federal funds. EIERA will submit the SF-SAC form and a Single Audit Report Package within nine months of the end of EIERA's fiscal year or 30 days after receiving the report from an independent auditor.
- **Financial Records Retention:** Retain financial records, supporting documents, statistical records, and all other non-federal entity records pertinent to the grant award for three years from the date of submission of the final expenditure report.
- **MBE/WBE Utilization:** Complete and submit an "MBE/WBE Utilization Under Federal Grants and Cooperative Agreements" report on an annual basis.
- **Real Property Status Report:** Submit a "Real Property Status Report" to report real property status or request agency instructions on real property that will be provided as Government Furnished Property (GFP) or acquired (i.e., purchased or constructed) in whole or in part under the federal financial assistance award.

EIERA will adjust its approach to program reporting based on forthcoming EPA guidance, such as Compliance and Reporting Requirements. During the Planning Year, EIERA will begin internal planning (e.g., procure a contractor, assess internal reporting capabilities, gaps in existing data, etc.) to execute successful program reporting to the EPA and Missourians.

Section 3.0 – Programmatic Capabilities and Environmental Results Past Performance

EIERA has a long history of managing federal and state funds that help Missourians and the environment thrive through finance, research, and technical assistance to preserve and foster the responsible management of air, land, water, and energy resources. EIERA has assisted Missouri communities, organizations, and businesses by providing more than $6.0 billion in bonds and more than $30 million in project financing which have supported infrastructure upgrades, energy efficiency, pollution prevention, technical assistance, research, and environmental education since 1972. For example, EIERA has managed a Brownfield Revolving Loan Fund administered by the EPA within the last three years. EIERA's qualifications, organizational capabilities, and staff experience are included in Attachment F.