

## **Community Benefits Plan: Job Quality and Equity**

To accompany application titled:  
Beyond AMI to True Grid Intelligence with Distribution Automation  
Concept Paper Identification: TA2-052-E

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### **Topic Area 2: Smart Grid Grants**

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**Applicant Organization:**  
Arkansas Valley Electric Cooperative Corporation (AVECCC)

Project Duration: 60 months  
Project Location: AR-003 and AR-004

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## **1. Community and Labor Engagement**

### **A. Stakeholder Engagement**

As a member owned cooperative, the largest stakeholder of the Arkansas Valley Electric Cooperative Corporation's (AVECC) Smart Grid implementation project is the 62,000+ cooperative members who provide the capital necessary for project completion and rely on the cooperative to provide safe, reliable power for use in their daily lives. AVECC understands the importance of this relationship and has implemented policies and procedures to ensure the cooperative members stay informed of all cooperative resources, activities, goals, and business state. Methods of interaction between cooperative leadership and members include annual reports, mailers, email and text notifications, social media campaigns, podcast, and community involvement.

AVECC will capitalize on the existing methods of communication established between the cooperative and member stakeholders to begin a Smart Grid Awareness and Benefits Campaign aimed at teaching individuals in the cooperative territory about the benefits of Smart Grids and the impact the DOE funding and the project will have on their daily lives. The Smart Grid Campaign will include mailers about the new AMI technology and an introduction/tutorial on the new meter being installed at each member's location, a podcast hosted by a project team member about the project benefits, and a social media campaign introducing the new grid enhancing technologies as they are being installed and how they will benefit individual members. The AVECC podcast, titled "The Next Greatest Thing" is a place where cooperative employees come together with electric experts and dedicated operators to discuss current co-op events, leading-edge technologies, and communicate with AVECC members. Since AVECC believes Smart Grids are "The Next Greatest Thing" in the utility industry and they represent leading-edge technology, it is only fitting that the podcast serves as the main platform for the launch of the Smart Grid Awareness and Benefits Campaign.

### **B. Negotiated Agreements**

If awarded funding, AVECC is entering into a Project Agreement with the National Rural Telecommunications Cooperative (NRTC) to aid in the implementation of a new Advanced Meter Infrastructure (AMI). As experts on AMI deployment, NRTC will provide the production environment setup, application development, field network design, system testing, and technical support for hardware installation as well as extensive training for hardware and software related to AMI technology to all necessary cooperative employees expanding their knowledge of Smart Grid technologies. The agreement between AVECC and NRTC is outlined with clear metrics, timelines, transparency, and reporting.

### **C. Project SMART Goal**

AVECC will maintain stakeholder engagement throughout the life cycle of the project and will complete at a minimum 1 social media campaign and 1 podcast focused on one of the grid enhancing technologies being deployed on the AVECC distribution grid as part of a Smart Grid Awareness and Benefits Campaign per budget period (annually).

## **2. Investing in the American Workforce**

### **A. Overview**

AVECC is committed to the development and promotion of the American workforce within the energy industry and understands an investment in the training, education, and skill development of American workers, especially those in rural and underserved areas, is the cornerstone of energy grid resilience and innovation. To show commitment to the American Workforce, AVECC has implemented workforce policies and practices that supply good, quality jobs, per Economic Development Administration definitions, and prove commitment and loyalty to employees. These policies and practices have placed AVECC as one of the top companies to work for in the rural area served.

The guiding cooperative principles at AVECC create an environment that reduces employee turnover, increases productivity from a committed and engaged workforce, and promotes a nimble, resilient, and stable workforce for the project. This results in a reduced risk of work slowdowns and stoppages and ensures the efficient and effective use of taxpayer dollars. Funding the AVECC Smart Grid Deployment project would be an investment in the rural American workforce by attracting, training, and retaining a skilled, diverse workforce from rural communities. The project would create the need for sub-contract labor pulling their workforce from the surrounding disadvantaged communities creating jobs and economic stimulation throughout these communities. In addition, the project would support AVECC's effort to maintain STEM internship programs with local schools reinforcing the need for STEM careers in the area. The internship program allows members of disadvantaged communities to work within their community and stay local after graduation, investing their knowledge and efforts back into advancing their own community.

### **B. Workforce Retention**

#### **i. Wages, Benefits, and Other Worker Supports**

AVECC provides fair, transparent, and equitable compensation for its employees ensuring both internal and external equity factors are considered. AVECC has established pay grades and ranges for both non-exempt (hourly) and exempt (salaried) employees to provide equitable rates of pay for positions requiring varying amounts of responsibility, experience, skills, and knowledge. Employee compensation is verified to be in line with the amount of work and degree of responsibility required in each employee grade. All employees have their wage and salary rate reviewed annually or as deemed necessary by management to ensure pay is on target or exceeds the local average wage for the energy industry.

In addition to competitive pay, using the cooperative principles and model, AVECC offers its employees industry leading benefits that far exceed expectations of the area. AVECC understands employee benefits are a means to invest in the workforce, supply local economic impact, and financially secure the future of its employees and their families. As a result of AVECC's multiple benefits programs, many employees elect an early retirement supporting an increased quality of life in retirement for those individuals as well as opportunity for job creation in the industry and knowledge transfer to a greater number of industry employees.

**ii. Commitment to Workforce Education and Training**

As a cooperative, AVECC is guided by 7 main principles that lay the foundation for all policies, procedures, and visions for the cooperative. One of the seven main principles at the center of all cooperative activities is education, training, and information. AVECC fosters an environment of learning through on-the-job training workshops; institutes; seminars; adult education; college course work, internet-based training, and other programs that are job-related that will increase the knowledge, skills, and value of the employee toward cooperative goals. Supervisors encourage employee initiative, suggestions, and attitudes that will contribute to the personal and professional growth and well-being of the employee and cooperative. AVECC also participates in a tuition reimbursement program supporting the corresponding mobility of workers to advance in their careers. Through these practices, AVECC has fostered elevated levels of employee engagement and positive work performance.

AVECC has a policy of hiring all cooperative workers direct to immediately become part of the cooperative family and never employs individuals from temporary agencies while limiting the use of independent contractors to specialty fields that the cooperative cannot support for full time employment due to the limited work needed in that field. AVECC uses labor contractors to curtail the impact of an ever-changing workload to keep energy costs low for the member owners of the cooperative in rural areas.

AVECC participates in employing students obtaining STEM related degrees while they are enrolled in school through an internship program. The purpose of the internship is to promote the early development of America's workforce in the energy utility industry through mentorships and beyond the classroom learning.

**iii. Employee Engagement in Health, Safety, and Environment**

All employees have the opportunity and responsibility to contribute to a safe work environment by using commonsense rules, safe practices, and by following the safety laws and regulations referenced in the AVECC safety manual.

AVECC operates a Safety Committee made up of employees from all departments and management levels working to foster a safe working environment by ensuring proper policies are in place throughout the organization. Each department has a representative on the safety committee who can speak on behalf of that department/job function in all safety proceeding and discussions. The safety committee brings all employee concerns to the forefront for discussion and resolution.

AVECC fosters open communication regarding all Health, Safety, and Environmental topics. All employees are encouraged to speak up if they have concerns or questions without fear of consequence. Monthly employee safety meetings are held for training purposes, and the meeting agenda includes a placeholder for employees to speak. In addition, AVECC has hazard forms, near miss forms, as well as equipment inspection forms readily accessible to all employees in digital format that are automatically sent to responsible safety management for correction.

### **C. Labor Violations and Unions**

AVECC has had no violations found under the National Labor Relations Act, Fair Labor Standards Act, Occupational Safety and Health Act, Service Contract Act, Davis-Bacon Act, or Title VII of the Civil Rights Act. AVECC is dedicated to compliance with all labor laws and regulations and stays abreast of any policies affecting employees and/or employee rights.

AVECC is a non-union electric cooperative, but no policies exist that keep employees from exercising their right to form or join a union if they choose. As a member owned cooperative, many of the employees are member-owners who have a direct say in the implementation and execution of policies throughout the cooperative, fostering an environment where employees possess and are free to exercise a collective voice.

### **D. Workforce Development**

AVECC has a long-established internal Lineman Apprenticeship Program that trains individuals from the area with little to no power line experience in the construction, maintenance, and operation of distribution level power-delivery systems. The program combines traditional learning with on-the job-training amongst peers to elevate individuals through the lineman classifications, with the goal of the individual becoming a journeyman lineman (top class) who can then pass their knowledge and skills to new apprentices. The lineman apprenticeship program ensures AVECC has the employees with knowledge, skills, and abilities to complete all line work and equipment installation necessary for project achievement of Smart Grid downline device deployment.

The implementation of a Smart Grid brings new technologies to small cooperatives that were previously unknown. In conjunction with the Lineman Apprenticeship Program and the AVECC Safety Program, it is policy to train employees on new hardware, software, and technologies they may encounter on the job. AVECC commits to workforce development by training all employees on new technologies being deployed on the AVECC distribution grid.

### **E. Project SMART Goal**

To ensure workforce development and focus on the training and retaining of employees, AVECC will administer 200 hours per budget period (annually) of training focused on the design, installation, operation, and maintenance of Smart Grid technologies deployed through this project.

### **3. Diversity, Equity, Inclusion, and Accessibility (DEIA)**

#### **A. Overview**

As a member owned cooperative of a rural area in Arkansas, AVECC has committed to advancing equity, civil rights, racial justice, and equal opportunity for all members in the service territory, particularly those in underserved, disadvantaged communities. The seven co-op principles are a guiding philosophy for AVECC. Democratic control and voluntary and open membership are two principles relevant to ensure fair and inclusive treatment of all member owners.

AVECC advances DEIA initiatives through the following ways, described below:

- Equal Opportunity Employment
- Supplier Diversity
- Apprenticeship Programs
- STEM Internship
- Project Team Diversity

#### **B. DEIA Plan**

As a commitment to equity, AVECC provides Equal Employment Opportunities to all employees and applicants for employment without regard to race, color, creed, ancestry, national origin, citizenship, sex or gender (including pregnancy, childbirth, and pregnancy-related conditions), gender identity or expression (including transgender status), sexual orientation, marital status, religion, age, disability, genetic information, service in the military, or any other characteristic protected by applicable federal, state, or local laws and ordinances. AVECC will ensure all subcontractors hired for the project have their own Equal Employment Opportunity policy in place to ensure all participants in the project are employed in a safe, healthy, accessible, and inclusive workplaces with equal opportunity, free from hostility, harassment, and discrimination.

AVECC is also committed to supplier diversity and currently solicits bids from minority business enterprises, minority owned businesses, woman owned businesses, and veteran owned businesses for all labor and material sub-contracts awarded by AVECC. This policy will remain in place for the proposed project and AVECC will partner with businesses owned by historically underrepresented groups whenever feasible and aligned with project goals and milestones.

In addition to employee and supplier diversity, AVECC is committed to project team diversity. AVECC has selected its project team keeping diversity and underrepresented groups in STEM in mind. The AVECC project team is formed of individuals with multiple backgrounds including females in STEM careers. Females in STEM and management roles display the commitment AVECC has made to ensuring not only their cooperative, but also the proposed project is a diverse and inclusive effort supporting the equity advancement priorities of the nation.

#### **C. Project STEM Goal**

As a commitment to the Diversity, Equity, Inclusion, and Accessibility initiatives of the energy utility industry, AVECC will sponsor a minimum of 1 paid summer internship dedicated to the Smart Grid deployment project for students studying STEM in a local university per budget period (annually). This student will have the opportunity to work with a diverse project team, gain leadership and project management skills, and increase their knowledge of Smart Grid technology and the utility industry.

#### 4. Justice40 Initiative

##### A. DAC Benefiting from Project Identification

Forty of the fifty census tracts served by AVECC (80%) are classified as Disadvantaged Communities by the Justice40 Initiative, with much of the area being classified as low-income households. Energy Burden is among the top indicators in several areas with some tracts in the service territory suffering from an energy burden as high as 7%. Other justice factors for disadvantaged tracts served by AVECC include, high energy costs, transportation barriers, higher than average percentage of individuals with less than a high school education, linguistic isolation, agricultural loss from natural hazards, and an increased risk for heart disease.

The AVECC Smart Grid deployment project provides an opportunity to influence rural, disadvantaged communities with DOE funding and partially finance a Smart Grid that would otherwise be unavailable to cooperative members living in this area. A Smart Grid could impact disadvantaged individuals by providing more reliable and efficient power, access to smart devices and smart homes that were previously not compatible with an outdated grid, pave the road for electric vehicles and Distributed Energy Resources (DER), and reduce energy costs.

The maps below show the AVECC service territory boundaries outlined with Justice40 communities overlaid in pink.

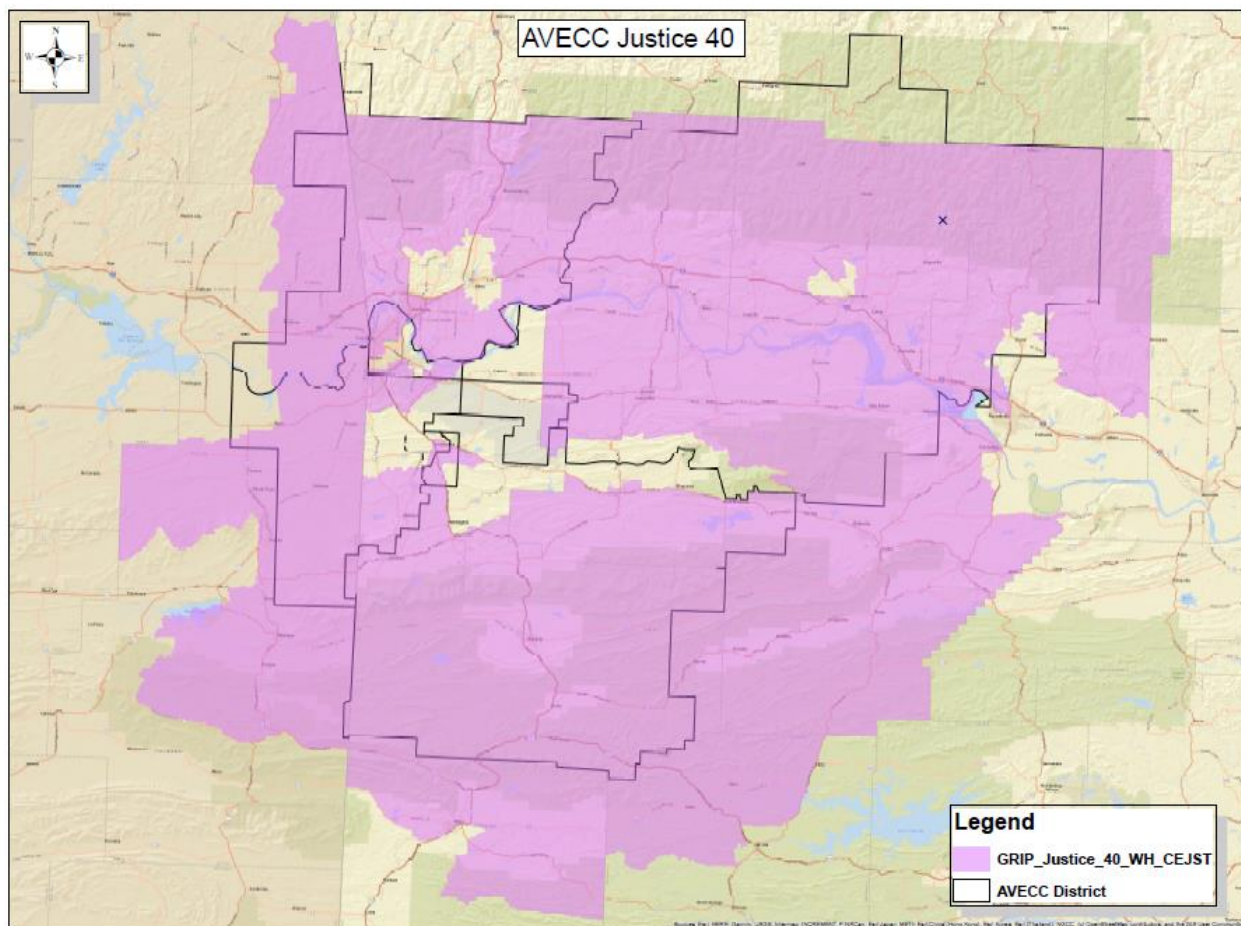


Figure 1: AVECC Justice40 Communities

Disadvantaged Communities identified using the White House Council on Environmental Quality Climate and Economic Justice Screening Tool (EJSCREEN) can be found in the table below.

Census tract 2010 ID	County Name	State/ Territory		Census tract 2010 ID	County Name	State/ Territory	
05033020100	Crawford County	Arkansas		05083950600	Logan County	Arkansas	
05033020201	Crawford County	Arkansas	*	05087960400	Madison County	Arkansas	
05033020203	Crawford County	Arkansas	*	05101180200	Newton County	Arkansas	
05033020302	Crawford County	Arkansas	*	05115950700	Pope County	Arkansas	
05033020401	Crawford County	Arkansas		05115950800	Pope County	Arkansas	
05033020402	Crawford County	Arkansas		05127950100	Scott County	Arkansas	*
05033020501	Crawford County	Arkansas		05127950200	Scott County	Arkansas	
05033020502	Crawford County	Arkansas		05127950300	Scott County	Arkansas	*
05047950100	Franklin County	Arkansas		05131001202	Sebastian County	Arkansas	*
05047950200	Franklin County	Arkansas		05131001302	Sebastian County	Arkansas	
05047950300	Franklin County	Arkansas		05131010302	Sebastian County	Arkansas	*
05071951700	Johnson County	Arkansas		05143011004	Washington County	Arkansas	*
05071951800	Johnson County	Arkansas		05149952401	Yell County	Arkansas	
05071952000	Johnson County	Arkansas		05149952500	Yell County	Arkansas	
05071952100	Johnson County	Arkansas		40001377000	Adair County	Oklahoma	*
05071952200	Johnson County	Arkansas		40079040102	Le Flore County	Oklahoma	*
05083950100	Logan County	Arkansas		40079040303	Le Flore County	Oklahoma	*
05083950200	Logan County	Arkansas		40135030103	Sequoyah County	Oklahoma	*
05083950300	Logan County	Arkansas		40135030104	Sequoyah County	Oklahoma	*
05083950500	Logan County	Arkansas		40135030402	Sequoyah County	Oklahoma	*

\*Denotes Tribal Areas within Census Tract (Cherokee and/or Choctaw)

## B. Applicable Benefits to DAC

As part of its core values, AVECC works tirelessly to bring innovative electrical solutions to the communities it serves, and that initiative does not falter with the proposed project. The project proposed aligns with the Justice40 initiative by furthering the clean energy infrastructure policy priorities of:

- decreasing the energy burden,
- reducing outage events
- minimizing outage durations
- increasing job creation
- supplying access to added job training in disadvantaged areas

Utilizing the DOE funding opportunity, the energy burden in the AVECC service territory will be decreased by increasing the dollars saved in energy expenditure due to technology adoption via reduced maintenance costs with innovative technology. The current technology installed



throughout the AVECC power grid requires maintenance every three years, including the removal and addition of new oil. This maintenance not only creates waste oil requiring disposal but also costs the member owners of AVECC unnecessary expenses. The proposed technology requires maintenance at about every 10 years, which does not include the creation of any waste oil. This decreases the maintenance expenditure burdened by the member owners by about \$0.5 million per year and eliminates approximately 2,600 gallons of waste oil per year.

The energy burden is also decreased by implementing technology to save energy (MWh) during peak load times with conservative voltage reduction. The funding will supply the hardware to complete the conservative voltage reduction project which will reduce the actual energy consumed during peak loading periods. This results in a direct savings to the member owners of the cooperative since the AVECC energy costs per year are set based on the peak usage.

The deployment of AMI and edge computing will supply every member of a disadvantaged community in the service territory with in-depth data of their energy usage that can be reviewed to understand and improve their individual energy habits.

The technology proposed will work together to reduce outage quantities for members overall but will also reduce the outage duration when they do occur. This is achieved via improved coordination between downline devices isolating outages to the fewest number of people necessary to isolate the fault. Communications between the AMI system and the dispatch centers will allow for immediate outage notification so prompt action can be taken. Modeling software will be used via fiber communication with downline devices to form accurate and precise predictions so crews can be dispatched to the exact location of a fault, wasting no time in searching.

Lastly, the DOE funding will create labor requirements within disadvantaged communities leading to job creation via contract work to deploy the equipment necessary to realize AVECC's smart grid goals. In addition to the job creation, AVECC employees and specialized linemen will have the opportunity to enhance their industry skills through training on smart grid technologies and infrastructure.

### **C. Negative and Cumulative Impacts on DAC**

The proposed project contains no new construction and all infrastructure upgrades to be performed will take place on existing right of way land leading to minimal community and individual impact. As a result, AVECC anticipates no negative impact to result from the proposed smart grid project completion.

AVECC serves areas with significant natural hazard risks, as defined by the Federal Emergency Management Agency (FEMA) National Risk Index. Wildfire risk is present within the territory with a relatively moderate rating, which is amplified by a combined drought risk index of relatively high and a heat wave index of relatively high. The frequency of severe storms, including ice storms and tornados, is also a concern with the FEMA designated risk as relatively high. The winter storm risk index in the area is very high.

The entire territory served is considered low income, over 50 percentiles per EJSscreen tools, with portions of the territory seeing low-income levels in the 95-100 percentile. Unemployment rates in several areas of the territory have elevated to the 95-100 percentile. The area is

considered medically underserved coupled with 95-100 percentile for heart disease. As a result of the economic and living conditions in the service territory, many of the cooperative members rely on federal programs such as LIHEAP (Low Income Home Energy Assistance Program) to help offset energy bills.

In the spirit of “changing the communities we serve,” the proposed project aims to reduce environmental impacts throughout the AVECC territory. To combat the effects of storm risks, proper coordination obtained by the installation of smart grid equipment aims to reduce the number of outages experienced by each member while the real time data acquisition will aid in outage recovery and reduce outage times for members. The entirety of the smart grid equipment and communications proposed in the project will reduce the impact of storms in the area.

Many of the AVECC members rely on electric heat in the winter and air conditioning in the summertime, particularly during regularly occurring heat wave and drought conditions. Real-time load management will ensure system operators have full access to view and manipulate energy loads throughout the system to prevent disruptions during extreme heat or extreme freezing conditions. Conservative Voltage Reduction can lower peak demands for members during heat wave conditions or freezing conditions ensuring members can remain healthy and well during weather events.

Control capabilities allowing for a change in protection strategy at the touch of a button in the dispatch room on all system devices allow for adaptive protection technology. If a storm is predicted for the area, the system operator can change the normal operations protection scheme to a storm mode protection scheme on all devices in the storm path. This ability prevents outages and minimizes visible power flickers caused by storms without the consumer even realizing there was an interruption. This strategy allows the cooperative to be proactive to natural events rather than reactive, improving the resiliency of the distribution grid overall.

The territory served by AVECC is situated in a rural location in a river valley between two mountain ranges containing a portion of the Ozark-St. Francis National Forest, a portion of the Ouachita National Forest, the Arkansas River, and several state parks. Since the AVECC territory houses multiple protected National Forest lands, a major river used for nationwide shipping and trading, and State Park lands vulnerable to environmental impacts, it is important that AVECC improve their electric system and eliminate environmental hazards. The current protection strategy of AVECC utilizes oil filled reclosers which inevitably have a risk of oil spills and ground contamination. Reclosers are often positioned throughout the electric grid and can be placed on forest land, in the yard of a family home, near schools, near rivers and streams, and any other location with an electric pole so the severity of oil spills can be high. The proposed project replaces the oil reclosers allowing AVECC to remove 7,600+ gallons of oil with spill potential from the line. This would allow AVECC to operate more environmentally friendly throughout disadvantaged communities.

#### **D. Project Benefit Delivery Schedule**

The AVECC territory is broken down into substations and distribution feeders exiting that substation. The workplan for the proposed project follows a substation / feeder hierarchy and aims to complete the smart grid implementation by connecting every device on a feeder level as a unit. Once a feeder has had the necessary equipment installed and all devices have been

programmed and connected to the SCADA (Supervisory Control and Data Acquisition) system, the members in disadvantaged communities will immediately start seeing results of the project in the form of proper coordination and improved reliability. Within a year of the completion of the feeder that served them, after a few storms have passed through the area, there should be improvement in reported reliability numbers. System reliability is reviewed and reported annually to the Arkansas Public Service Commission and Oklahoma Public Utility Division to ensure compliance.

**E. Project SMART Goal**

Reducing the environmental impact of the electric grid on rural disadvantaged communities, AVECC will utilize the Smart Grid implementation project to remove a minimum of 1,500 gallons of oil from the electric grid per budget period (annually) starting in year 2 of the project.