

Enabling EV and DER Adoption Through DERMS, AMI, and Fiber Integration

Community Benefits Plan

Submitted in Response to DE-FOA-0002740
BIL – Grid Resilience and Innovation Partnerships (GRIP)
Assistance Listing Number: 81.254

by

Rappahannock Electric Cooperative (REC)
Open Access Technology International (OATI)
Atlantic Engineering Group (AEG)
Landis + Gyr (L+G)
The Shpigler Group
Smart Electric Power Alliance (SEPA)

Technical Contact:

Dr. Peter Muhoro (Principal Investigator)
Chief Strategy, Technology, and Innovation Officer
P. O. Box 7388, Fredericksburg, VA 22404
Office: 540-891-5817

Business Contact:

Ms. Rebecca Messerle
Director, Accounting and Internal Controls
P. O. Box 7388, Fredericksburg, VA 22404
Office: 540-891-5887

Table of Contents

1. Overview	2
2. Community and Labor Engagement	2
3. Investing in the American Workforce.....	3
4. Technical Qualifications and Resources.....	21

1. OVERVIEW

Located in parts of 22 counties in Virginia, from the Blue Ridge Mountains to the tidal waters of the Chesapeake Bay, Rappahannock Electric Cooperative (REC) is one of the largest electric distribution cooperatives in the U.S. Currently, the co-op serves nearly 180,000 connections covering an area roughly 4,000 square miles with 18,000 miles of line. Uniquely positioned, the co-op's territory is within a major transportation hub with intersections of interstates 95, 66, 81, and 64, and centrally located between Washington, D.C. and Richmond, VA. At REC, we are more than just an electric company. We're dedicated to providing safe, reliable, and affordable electric service. As a member-owned cooperative, unlike other utilities, our consumers are our owners. We're connected to the communities we serve. We're concerned about the environment. We're our consumers' energy experts.

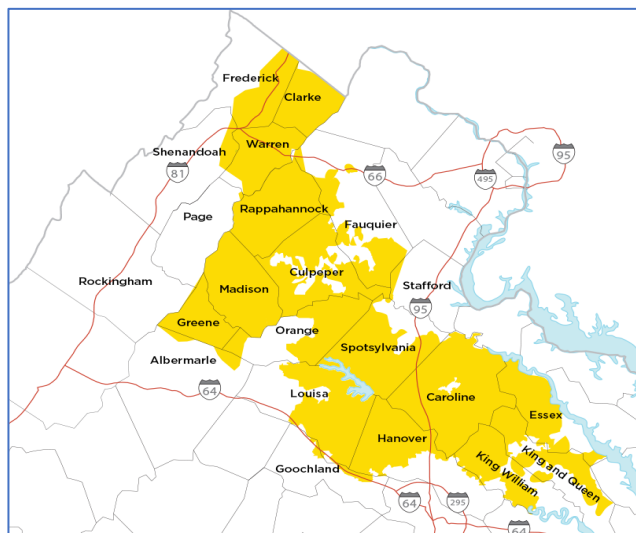


Figure 1: Map of REC Territory

In 2021, we returned over \$10 million in capital credits to our member-owners, another advantage of the cooperative model. In addition, the cooperative awarded \$20,000 in scholarships to support students' educational pursuits and donated nearly \$225,000 to 93 charities and nonprofits through employee and member contributions. As an example of our commitment to the community, as hardships due to the health pandemic persisted, we worked with nearly 20,000 members to create long-term payment plans. When financial aid became available, our teams quickly notified eligible members. Our commitment to our members is evident by how our members ranked us. We ranked sixth for customer care and 16th overall nationwide among 145 ranked utilities in the J.D. Power Residential Survey.

2. COMMUNITY AND LABOR ENGAGEMENT

REC has a long history of community engagement. One of the cooperative's key performance indicators is a measurement of community engagement, and how many events we are involved in. At the minimum, in 2023, REC intends to have 250 community engagements, with a top goal of 350. One of our signature events, Get Connected, usually brings more than 1,000 attendees interested in learning more about the cooperative. In 2022, the cooperative gave away over 500 trees as we continue to dedicate our efforts to taking care of our environment. These trees are unique to our territory, thus resistant to adverse climate, and are low growing that can be planted underneath overhead lines, reducing the need for extensive vegetation management. We plan to continue that effort and grow it over the years.



Figure 2: REC Get Connected Event

Beyond that event, we host several Power Hour events where our consumers have the chance to receive updates from the leadership and the board. It is another opportunity for our members to engage with the cooperative and provide their input on programs we have or will establish. We also engage our membership with surveys on a regular basis. For example, in 2020, we surveyed our membership on what our efforts in the broadband area should be. We received overwhelming responses, indicating a community engaged with its electric utility.

The cooperative's community engagement goes further than that. We are engaged with our local governments, many at times invited to speak at their board meetings with updates. In the last few years, we have established partnerships in 15 counties with fiber leasing agreements and pole attachments to help support communities in their pursuit of broadband. With our partners, we are working to bridge the rural digital divide.

In addition to community engagements, REC has a strong history of labor engagement. REC offers several different apprenticeships which include: Linework, Apparatus, Substation, Metering and Member Services. Those that successfully complete our Member Services Field Representative (MSFR) and Line Worker apprenticeship programs are eligible for an associate degree program. This program is in collaboration with Southside Virginia Community College's (SVCC) Industrial Maintenance Technician Associate's Degree. The participants of the apprenticeship programs may enroll in the Industrial Maintenance Technician program to obtain an associate degree with the completion of only 30 credit hours as opposed to 66 credit hours. The on-the-job training translates to the remaining 36 credit hours.

Throughout the project, REC will hold two community engagement events annually to update the consumers and stakeholders on the project progress and seek input on the next phase of the deployment. These events will include an education component on the benefits of clean energy, DERs and EVs. Each event will be facilitated by REC staff and will also include one of the partners or a guest speaker to share some insights on the energy industry.

3. INVESTING IN THE AMERICAN WORKFORCE

REC recognizes its role as a key stakeholder in economic development and strength in and around its service territory. Its ability to withstand high-impact, low-frequency events with minimal interruption is crucial to attracting investment to the area and ensuring existing businesses avoid downtime and costs associated with outages. The Cooperative is also a member of the Center for Energy Workforce Development, a non-profit consortium of energy companies, contractors, associations, unions, educators, and business partners working together to ensure a skilled, diverse workforce pipeline to meet future industry needs. CEWD's coordinated approach to workforce development has united electric, natural gas, and nuclear firms since 2006. In 2021, in response to the need for expanded collaboration, the Center expanded its umbrella to include the workforce development needs of those working in renewables, electric vehicle infrastructure, and energy storage.

As an employer, REC works with outside compensation and benefits consultants annually to conduct studies to ensure pay and benefits are aligned with the market and pays its 470 employees competitively against the market median. In addition to a great workplace culture, REC offers a wealth of benefits that include paid time off, defined benefit and contribution retirement plans, medical, dental, vision, life insurance, accidental death and dismemberment insurance, long-term disability, employee assistance, 100% tuition reimbursement, and flexible remote work options. REC complies with all federal, state, and local laws including the Family Medical Leave Act and the Americans with Disabilities Act and engages in the interactive process to make reasonable accommodations. REC boasts extremely low voluntary turnover and long tenures which facilitates business continuity as shown in Table 1.

Table 1: REC Five Year Turn Over and Tenure

Year	Turnover	Average Tenure (Years)
2022	2.14%	10.5
2021	2.56%	11
2020	1.18%	12
2021	0.50%	12.4
2018	1.77%	13

REC has made a strong effort to invest in the American workforce. Over the last five years, REC has created nearly 70 new positions to address the growing needs of the cooperative. Many of those positions were filled locally and REC is proud to be a preferred employer in the Commonwealth of Virginia. In 2022, through its existing wholly-owned subsidiary, Rappahannock Electric Communications, the cooperative created a new business line, BrilliT, an information technology, data analytics, and cybersecurity consulting company



Figure 3: Earlier BrilliT Employees

focused on utilities. BrilliT boasts over 30 new employees and continues to grow, projected to double the workforce in the next few years. BrilliT was selected as a Best Place to Work in Virginia.

REC believes that this project will bring several jobs to the community. For budget period 1 and 2, REC anticipates that for the fiber project, it will need a minimum of 4 two-person crews to finish the build of the fiber. For the meter exchange, REC estimates that 5 FTEs will be required for budget period 1 and ramping to 10 FTEs each year after until the completion of the jobs. With further adoption of DERs and EVs, through REC's Vividly Brighter program, we anticipate that some of the meter changes will convert into long term employees serving as energy auditors, installers, and maintenance staff. REC intends to provide additional training, at least 1-2 FTEs once a year to upskill their expertise and open opportunities for further advancement.

REC has no violations of 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 under the current management team in the last two years. At REC, workers can form and join unions of their choosing, exercising collective voice. Employees' ability to organize, bargain collectively, and participate through labor organizations of their choosing in decisions which affect them, helps build meaningful economic power, safeguard the public interest, contribute to the effective conduct of business, and facilitate amicable settlements of disputes between employees and their employers, thus providing assurances of project efficiency, continuity, and multiple public benefits.

4. ADVANCING DIVERSITY, EQUITY, INCLUSION, AND ACCESSIBILITY

The REC Board of Directors, leadership and staff at REC embrace and believe in the values of Diversity, Equity, and Inclusion (DEI). As a cooperative business and influential community organization, we strive to integrate DEI into the core of our organization through our workforce and its interactions, our community engagement, and the design and access of the programs and services we offer. In 2020, REC began formalizing initiatives to grow our DEI knowledge and programs. Recognizing this is a journey, the leadership team began by listening and bringing in national expert advisors to help coach and guide the workforce forward. The REC Board of Directors were among the first in the electric cooperative network to formally adopt a resolution encouraging the National Rural Electric Cooperative Association to embrace DEI.

REC's DEI plan serves as a roadmap for ALL stakeholders of the Cooperative, including the Board of Directors, every employee, all co-op partners and member-owners. Input and feedback is sought from a broad spectrum of stakeholders who care deeply about fostering a cooperative that is and will be diverse, equitable and inclusive for generations to come. As foundational and guiding principles, REC places an emphasis on creating and building a culture that respects and encourages:

- *Economic Justice* – Ensuring the availability of critical resources and opportunities for everyone.
- *Social Justice* – Providing equal access to goods and services; addressing unfairness caused by unequal access to economic resources and power; protecting the legal, industrial and political rights of all; and expanding opportunities for people to play a role in the decisions that govern their lives.
- *Environmental Justice* – Protecting the fair treatment and meaningful involvement of all people with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

REC's commitment to DEI begins with our core values. In recognition of our SERVICE to a wide geographic range of counties, diverse socio-economic membership, cultures, and communities, we intentionally align the four values to our DEI journey. Our commitment to our DEI plan is anchored in our additional values. CARING is evident in our response to the needs of ALL internal and external stakeholders. This includes our teammates and membership. Our commitment to

INTEGRITY transcends our daily operational responsibilities and considers how we align what we say with what we do as we RESPECT the lived experiences, cultures, and values of every member.

Key strategic outcomes and actions from our DEI plan include the following:

1. *Workforce Development and Diversity* – The organization attracts, retains, promotes, and develops a diverse and dynamic workforce to advance the mission of the cooperative. We maintain a dedication to improving and enhancing the talent acquisition and selection process. Expected actions include:
 - a. Providing DEI training for all employees.
 - b. Enhancing career paths and development models at all levels.
 - c. Encouraging a commitment from all employees to participate in one or more DEI-related professional development activities annually.
 - d. Requiring professional development for HR and hiring teams on recognizing bias.
2. *Creating an Inclusive Workplace Culture* – The cooperative creates a workplace culture that allows employees of the organization to be seen, heard, and supported. This culture creates the foundation for a more engaged workforce, and inspires a stronger sense of inclusiveness, belonging, and contribution. Expected actions include:
 - a. Encouraging all employees to participate in DEI-related, industry workforce, and community organizations based on REC's code of conduct.
 - b. Reporting on DEI Roadmap progress and celebrating the achievements and milestones.
 - c. Engaging in on-going conversations with our community members to identify, discuss, and resolve events that diminish feelings of safety, belonging, and well-being for our member-facing employees.
 - d. Leaders sharing what DEI means to them with all employees.
 - e. Creating a DEI employee advisory group that promotes a sustainable workplace of inclusion.
3. *Dedication to our Members* – The cooperative's commitment to diverse ideas and creative approaches will be extended beyond the cooperative's workforce. We commit to our members that we will engage in intentional actions that improve the experience of our members with REC as a brand and with REC employees as individuals. Expected actions include:
 - a. Encouraging engagement among members and employees in diverse community events.
 - b. Making conscientious choices about who we work with, ensuring that they demonstrate and uphold the cooperative's values.
 - c. Establishing inclusive programs and offerings for the membership that consider the interest in diversity of our membership.
4. *Accountability* – The Cooperative develops practices and strategies to equip leaders with the ability to manage diversity, measure results, and refine approaches while institutionalizing a culture of equity and inclusion. Management, at all levels, is held accountable for executing the DEI Strategic Plan. The organization utilizes both quantitative metrics, such as applicant tracking data, and qualitative metrics, such as

engagement survey results, to assess its DEI performance. Celebrating incremental change as well as major shifts are critical to sustaining the effort. Expected actions include:

- a. Investing in DEI to impact change.
- b. Expanding ways to partner with groups to create more equitable access to energy programs.
- c. Incorporating DEI onto the Balanced Scorecard to plan, execute, and monitor progress against the cooperative's DEI objectives.
- d. Including a DEI performance development program for managers and executives to address the goals of the DEI Strategic Plan.

In its member-facing actions, REC has expanded multi-lingual services for its members, engaged in corporate-sponsored volunteer activities and charitable events, and communicated its role as an advocate for fair and equitable access to utility services. The Cooperative has also established inclusive programs to solicit diverse stakeholder viewpoints.

To date, REC has taken various initiatives to meet those actions included in our DEI plan. For example:

1. REC Vividly Brighter Upgrades for Energy Efficiency – This program is open to all members but specifically targeting those with a high energy burden. In addition, REC took the initiative to recruit contractors from underrepresented minority communities, including recruiting at churches.
2. REC's gender representation is ahead of most utility, boasting 71% male and 29% female. According to the Center for Energy Workforce Development, electric and natural gas companies typically have a 78% male and 22% female representation.
3. With guidelines from our DEI plan, in 2022 REC grew in number of those identifying their race as a person of color more than any other year before. Those indicating their race as a person of color grew by nearly 30%. While REC has nearly 82% that identify as white, these efforts taken will continue to diversify the workforce.

While REC is in the early stages of understanding and measuring our supplier diversity, REC will be intentional to grow our supplier diversity by 5% each year through this project. We will also ask our suppliers to increase their diversity, especially those they hire. REC will also provide DEI training to all employees annually.

5. JUSTICE40 INITIATIVE

Particularly related to this project concept, REC seeks to streamline and provide pathways for consumers to adopt DERs and EVs within and around DACs in its service territory in line with the Justice40 initiative goals. REC recognizes that those in disadvantaged communities often tend to be the last recipients of opportunities to advance their energy use. This project would impact DACs in the counties of Louisa (51109950201), Culpeper (510479300400/0502/0300), Caroline (51033030100), Essex (51057950600/0700) and the Rappahannock Tribal Designated Statistical Area (8700R) as indicated by the Department of Energy's Disadvantaged Communities Reporter.

These areas are all within or adjacent to REC's service territory and have a combined population of 49,560. These areas are shown in Figure 4 overlaying our service territory.

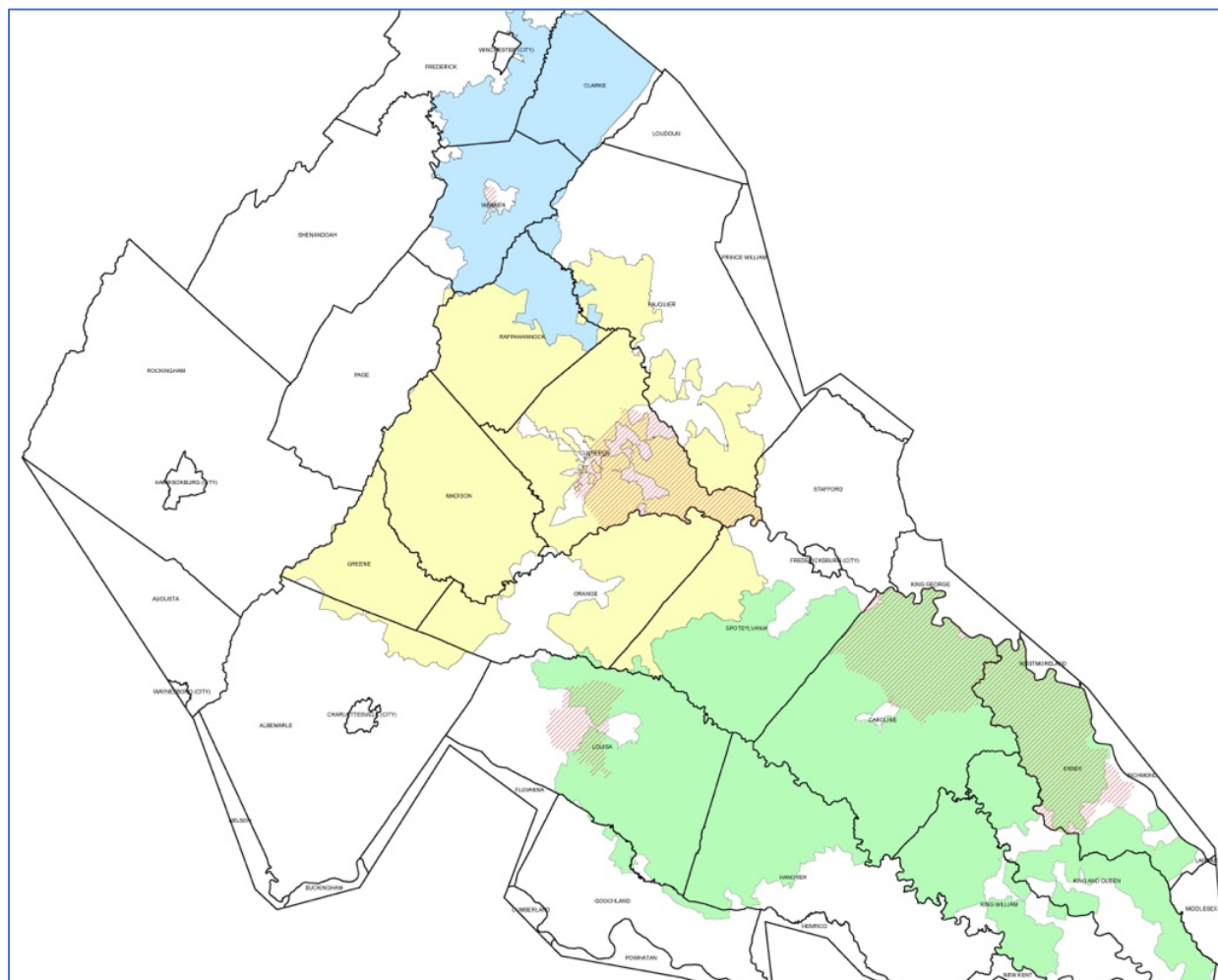


Figure 4: REC Service Territory Showing DACs (red diagonal lines)

While the Justice40 Initiative has a goal that 40 percent of the overall benefits of certain Federal investments flow to disadvantaged communities that are marginalized, underserved, and overburdened by pollution, as a member-owned cooperative, and since this project affects our whole territory, we believe that the benefits of this project will flow even to those who are in disadvantaged communities. REC's consumer average affordability score¹ ranges around 4.5%. As seen in Figure 5, an affordability score that is lower than 4 indicates that the consumer is most

¹ Affordability comprises more than 100 variables ranging from expenditure; outgoings, credit and debt behavior, to household income indicators including levels of discretionary income, gross income and, uniquely, equivalized income. All these key indicators of indebtedness and risk, wealth and disposable income, outgoings and overheads are combined to give unique and comprehensive Affordability rankings. The affordability score ranges from 0-6 and indicates the likelihood a consumer is more likely to take advantage of certain programs and have the means to access them. A score 4 and below indicates a consumer is unlikely to choose a program if no other opportunities are provided to them.

likely one with a higher energy burden and most likely is disadvantaged in finding opportunities such as those proposed in this project. As this is a systemwide deployment, we believe that the benefits will ensure that no one in a disadvantaged community is left behind. Further the proposal enhanced many other programs at REC geared at assisting those with a higher energy burden.

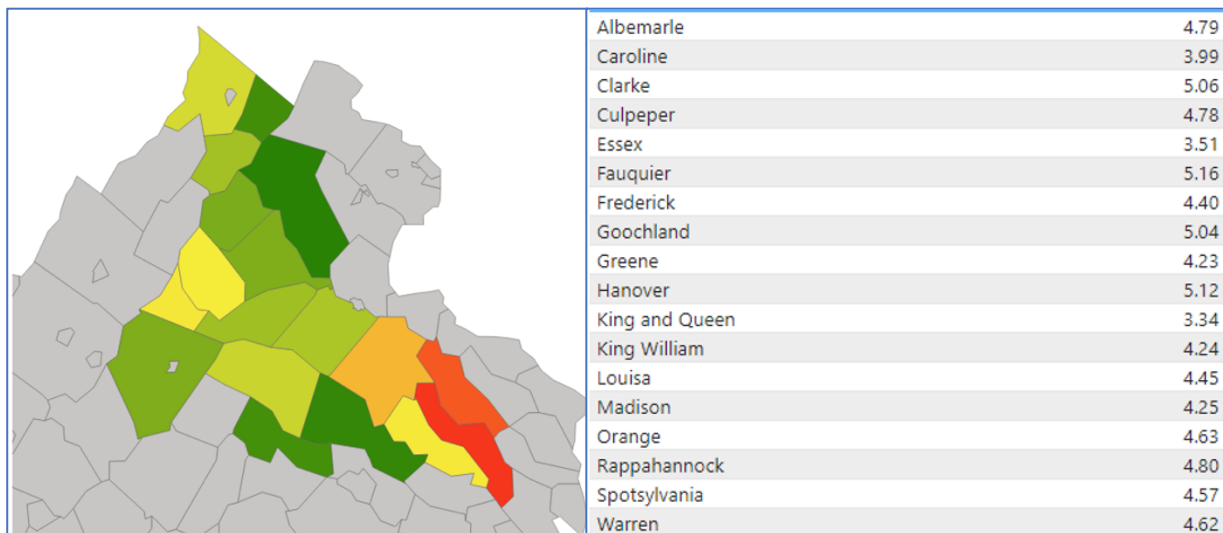


Figure 5: Affordability Score by Counties REC Serves

Further, over 50% of REC's consumers tend to be on a fixed income due to their age. We believe the benefits from this project will encourage many of them to consider the advantages of EVs and DERs, making it easier for them to access those benefits and lowering their energy burden. REC's consumer age and income distribution shows the need for the proposed project system wide as the benefits will flow to those who need it the most.

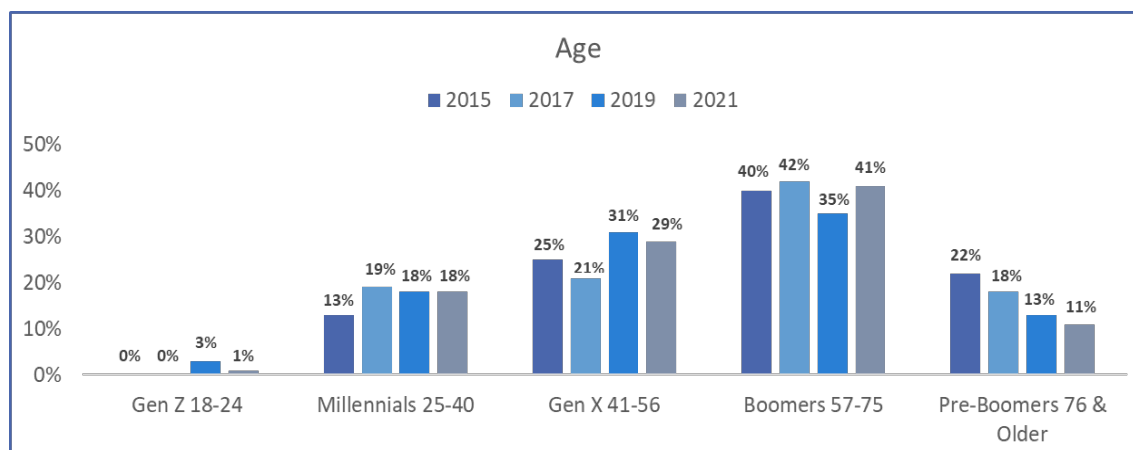


Figure 6: REC Consumer Age Distribution

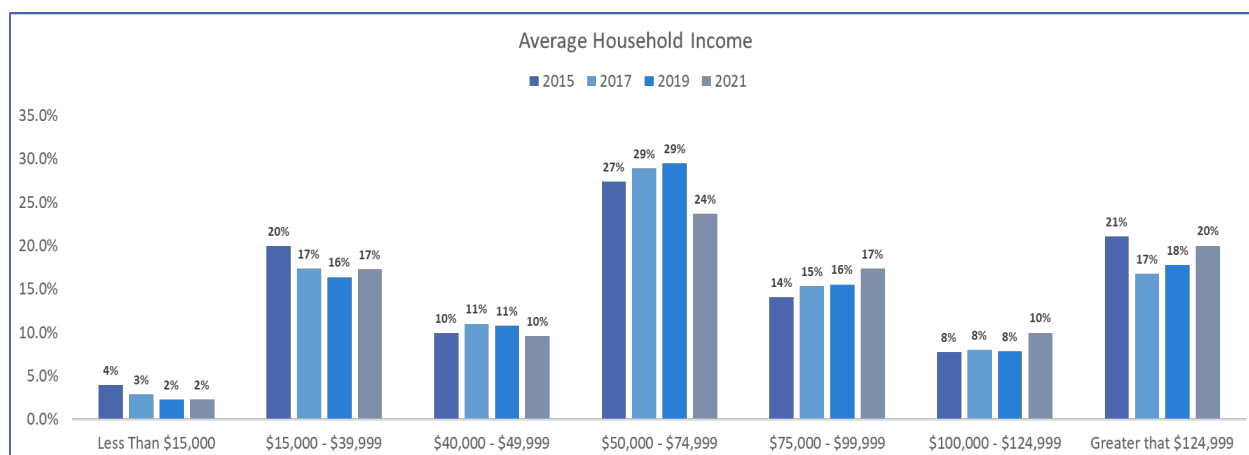


Figure 7: REC Consumer Income Distribution

We believe by providing this capability to all our consumers, we can address goals that Justice40 Initiative would be interested in seeing. Specifically:

1. As we design and plan for our metering changeout, REC will evaluate the feasibility of addressing some of the disadvantaged communities earlier in the rollout.
2. We believe that with a system wide rollout, and a 15.6% internal rate of return (IRR) that is beneficial to all REC consumers, the benefits will indeed lower the energy burden for all, not leaving the disadvantaged communities behind.
3. REC is currently taking advantage of the USDA RUS Rural Energy Savings Program (RESP) that allows REC to borrow at 0% interest rate and relend to our consumers for programs such as Vividly Brighter Upgrades for Energy Efficiency. We intend to build on this program we are currently running to offer such opportunities to our consumers for other DERs and EV charging equipment.
4. Not only will REC use local contractors, we have a brighter vision, Vividly Brighter – a suite of innovative products and services designed to improve lives and strengthen communities. These programs will increase the clean energy enterprise addressing training, job creation, use of minority-owned and local contractors, extending opportunities for community ownership, and democratizing energy.
5. The increase in clean energy technologies will grow rapidly as more technologies become available and at lower costs. The capability to control those devices and work with our consumers to give them the best solution will rapidly increase clean energy adoption.
6. We believe that the capability to manage all the DERs will allow the utility to make sure that all the resources needed are available. As shown in the technical volume, REC believes there will be less outage time which means a stronger resilient system that if down, can bounce back faster. Technologies such as solar and storage at the home will layer on another level of resiliency of the system.

Through this project, REC will measure and report the increase in DERs and the impact on wholesale energy. In addition, those measure that provide demand side management, REC will measure the demand and energy reduction through the capability of proposed technology, showing the impacts of the project. The cooperative will also measure the number of additional electric vehicles in our service territory, including measuring the energy.