



A Fair and Equitable Clean Energy Transition in Alachua County: Project EMPOWER Final Report

Laura Leddy,¹ Marianne Schmink,² Alexandra Kramer,¹ and Liz Ross¹

1 National Renewable Energy Laboratory

2 Community Weatherization Coalition



Produced for the U.S. Department of Energy by the National Renewable Energy Laboratory (NREL).

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Notice

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List of Abbreviations

BEopt	Building Energy Optimization Tool
BLS	U.S. Bureau of Labor Statistics
CWC	Community Weatherization Coalition
DOE	U.S. Department of Energy
ECJC	NAACP Environmental and Climate Justice Committee
EMPOWER	Energy Modernization for People, Opportunity, Work, Equity, and Renewables
GJAC	Green Jobs Advisory Council
GRU	Gainesville Regional Utilities
HVAC	heating, ventilation, and air conditioning
LEAP	DOE's Local Energy Action Program
NAICS	North American Industry Classification System
NREL	National Renewable Energy Laboratory
PV	photovoltaics
SLOPE	State and Local Planning for Energy
SOC	Standard Occupational Classification
SWAG	Southwest Advocacy Group

Glossary

Term	Definition
Energy burden	The percent of income spent on energy bills.
Energy efficiency jobs	Jobs that deliver goods and services that lower energy use by improving energy efficiency—with a focus on appliances, buildings, data systems, financing, new technologies, and more (E4TheFuture and E2 2023).
Green jobs	Jobs in businesses that produce goods or provide services that benefit the environment or conserve natural resources (U.S. Bureau of Labor Statistics [BLS] n.d.).
Levelized cost of energy	SLOPE metric that combines technology cost and performance parameters, capital expenditures, operations and maintenance costs, and capacity factors (NREL 2024c).
Location quotient	BLS measurement that compares the share of jobs or average wages for a certain industry group (i.e., NAICS code) within the selected geography, compared to the share of jobs or average wages for the entire country.
Solar power	A powerful source of energy that can be used to heat, cool, and light homes and businesses (NREL 2024a).
Weatherization	A term for increasing the energy efficiency of a home by adding insulation, sealing leaks, or installing more efficient appliances or windows to save money on energy costs and make homes more comfortable and resilient to extreme temperatures (DOE 2024b).

Executive Summary

The U.S. Department of Energy (DOE) Communities LEAP (Local Energy Action Program) pilot partners with low-income, energy-burdened communities experiencing either environmental justice challenges or direct economic impacts due to a shift away from historical reliance on fossil fuels. In Alachua County, Florida, Communities LEAP partnered with the community-led Project EMPOWER (Energy Modernization for People, Opportunity, Work, Equity, and Renewables) to provide technical assistance in the areas of community engagement, solar power, weatherization and energy efficiency, green jobs, and fund development. This final report summarizes work accomplished during the Communities LEAP technical assistance and provides potential next steps for the EMPOWER team to consider as it continues pursuing its goal of a fair and equitable clean energy transition for Alachua County.

Highlights of the pilot collaboration between Communities LEAP and Project EMPOWER include:

- **Community Engagement:** Since Project EMPOWER joined the Communities LEAP program in spring 2022, NREL researchers and Communities LEAP subcontractors have supported the coalition's community engagement efforts, including several community meetings focused on green jobs, weatherization, and energy efficiency. Communities LEAP subcontractors also supported the development of a branding package for Project EMPOWER to help facilitate its transition from a short-term project to an established and growing coalition effort.
- **Solar Power:** NREL researchers presented to coalition members on equitable efficiency and decarbonization planning data using the DOE's State and Local Planning for Energy (SLOPE) Platform¹. NREL staff also worked with Project EMPOWER to brainstorm options for community solar and provide information related to commercial, community, floating, and residential solar. For example, solar analysts at NREL provided a draft roadmap to help inform EMPOWER's commercial solar efforts.
- **Weatherization and Energy Efficiency:** Throughout the Communities LEAP collaboration with Project EMPOWER, NREL staff focused on sharing funding opportunities and resources related to home repair, weatherization, and energy efficiency. NREL analysts are also working with Project EMPOWER to identify potential pathways to achieve residential building energy and cost savings through energy efficiency and renewable energy using the Building Energy Optimization Tool (BEopt™), a building energy efficiency model.
- **Green Jobs:** NREL researchers provided a community workforce baseline analysis and training for community stakeholders to learn how to use, understand, and communicate BLS data. Communities LEAP has also facilitated general resource-sharing on clean energy and employment opportunities and impacts.
- **Fund Development:** NREL staff kept Project EMPOWER informed of new funding opportunities related to the team's focus on green jobs, solar, weatherization, and energy efficiency. Elevate Energy, a Communities LEAP subcontractor, provided the EMPOWER team with monthly funding updates and tailored information on funding opportunities relevant to Project EMPOWER, as well as resources on asset mapping and coalition building.

¹ <https://maps.nrel.gov/slope/>

Table of Contents

Introduction	1
About the Communities LEAP Pilot.....	1
Report Context.....	1
Report Objectives and Outline.....	1
Project EMPOWER Overview and Vision	3
Project EMPOWER Design and Objectives.....	3
Project EMPOWER Background and Approach.....	4
Project EMPOWER’s Vision.....	6
Community Engagement	7
Community Engagement Highlights.....	8
Potential Community Engagement Next Steps.....	8
Solar	10
Introduction to Solar.....	10
Project EMPOWER’s Solar Leasing Approach: An Overview.....	10
Solar Highlights.....	12
Potential Solar Next Steps.....	12
Weatherization and Energy Efficiency	13
Introduction to Weatherization and Energy Efficiency.....	13
Project EMPOWER’s Weatherization and Energy Efficiency Goals.....	14
Weatherization and Energy Efficiency Highlights.....	15
Potential Weatherization and Energy Efficiency Next Steps.....	16
Green Jobs	17
Introduction to Green Jobs.....	17
Project EMPOWER’s Green Jobs Goals.....	18
Jobs for the Future Grant.....	19
Green Jobs Highlights.....	20
Potential Green Jobs Next Steps.....	22
Fund Development	24
Conclusion	26
Continued Collaboration.....	26
Future Research Opportunities.....	26
References	27
Appendix A. Weatherization and Energy Efficiency Resources	29

List of Figures

Figure 1. EMPOWER Coalition organizations and roles as of March 2024.....	4
Figure 2. Committees participating in Alachua County’s clean energy transition goals	5
Figure 3. Map of Project EMPOWER communities within the Gainesville metropolitan area.....	7
Figure 4. A solar array on Buchholz High School in Gainesville, Florida	11
Figure 5. Home weatherization strategies and energy efficiency retrofits	13
Figure 6. Clean energy job estimates by technology, Florida, 2020–2030	17
Figure 7. Green Jobs Advisory Council members as of March 2024.....	19

List of Tables

Table 1. Energy Efficiency Job Estimates in Alachua, Bradford, Columbia, Dixie, Gilchrist, and Union Counties (2021)	21
Table 2. Project EMPOWER Awarded Opportunities as of March 2024	25
Table A-1. Weatherization and Energy Efficiency Support Organizations in Alachua County	29

Introduction

About the Communities LEAP Pilot

The U.S. Department of Energy (DOE) Communities LEAP (Local Energy Action Program) pilot² partners with low-income, energy-burdened communities experiencing either environmental justice challenges or direct economic impacts due to a shift away from historical reliance on fossil fuels. Through Communities LEAP, DOE provides customized and high-quality technical assistance to selected communities in support of their clean energy planning and economic development visions. In each community, coalitions of local partners (including at least one local government partner and one community-based organization) contribute to project oversight and delivery. The National Renewable Energy Laboratory (NREL) is the primary technical assistance provider—delivering technical expertise, supporting community engagement, and managing the overall network of Communities LEAP technical assistance providers.

In Alachua County, Florida, Communities LEAP partnered with the community-led Project EMPOWER (Energy Modernization for People, Opportunity, Work, Equity, and Renewables). Alachua County is one of the 24 Communities LEAP pilot communities, and the only selected community in Florida. Project EMPOWER wants to help everyone in Alachua County access clean, reliable, and affordable energy and benefit from the economic opportunities of the renewable energy transition. Through Communities LEAP, NREL researchers helped Project EMPOWER explore how Alachua County can develop green jobs and benefit from investments in weatherization, energy efficiency, and solar power.

Report Context

Project EMPOWER seeks to reduce utility bills and facilitate the transition to clean energy among low-income and energy-burdened communities in Alachua County, Florida. Specific pilot communities include the adjacent neighborhoods of Springhill and Sugarhill, Greater Duval, and those represented by the Southwest Advocacy Group (SWAG).³ NREL staff and Project EMPOWER have developed this report to help identify how Project EMPOWER's priority areas of solar, weatherization and energy efficiency, and green jobs can fit together to advance economic development and energy justice.

Project EMPOWER's partnership with Communities LEAP helps support Alachua County's broader climate and clean energy goals as well. For example, the City of Gainesville is committed to achieving net-zero emissions by 2045 (City of Gainesville 2024). Project EMPOWER is working to center Springhill and Sugarhill, Greater Duval, and SWAG in these broader discussions around the clean energy transition.

Report Objectives and Outline

The objective of this report is to capture Communities LEAP highlights and potential next steps for EMPOWER in the areas of community engagement, solar, weatherization and energy efficiency, green jobs, and fund development. The remainder of this report is organized into seven sections. The first section provides an overview of Project EMPOWER's design and vision; the second section

² <https://www.energy.gov/communitiesLEAP/communities-leap>

³ SWAG is both a Gainesville metropolitan area nonprofit and the informal name for certain census tracts in West Gainesville. The SWAG nonprofit serves the neighborhoods of Majestic Oaks, Holly Heights, Harbor Cove, Pine Meadows, Hidden Oaks Mobile Home Park, Gordon Manor, Tower Oaks/Tower Oaks Glen, and Linton Oaks. For more information on the Southwest Advocacy Group, visit their website: <https://swadvocacygroup.org>.

outlines Project EMPOWER's community engagement process; the third, fourth, and fifth sections summarize accomplished work and potential next steps on solar, weatherization and energy efficiency, and green jobs, respectively; and the sixth section describes Project EMPOWER's approach to targeting funding opportunities. The last section offers concluding thoughts. Appendix A provides additional information on key weatherization and energy efficiency support organizations in Alachua County.

Project EMPOWER Overview and Vision

Through Communities LEAP, NREL researchers supported Project EMPOWER in the technical areas of weatherization and energy efficiency, solar, and green jobs. These technical subjects help inform Project EMPOWER's short-term goal of reducing utility bills for energy-burdened households and its long-term goal of helping facilitate an equity-focused clean energy transition. As Project EMPOWER transitions into the EMPOWER Coalition, it is pursuing an institutional solar leasing program to bring solar benefits to historically underserved neighborhoods and promote community governance of solar lease funds.

Project EMPOWER Design and Objectives

Project EMPOWER grew from a 2021 NAACP forum on transitioning to 100% clean energy in Alachua County, Florida. The Alachua County NAACP Environmental and Climate Justice Committee (ECJC) emphasizes the importance of ensuring equity remains at the forefront of all clean energy endeavors. Project EMPOWER represents a broad-based coalition seeking to reduce utility bills in energy-burdened communities and involve everyone in the conversation surrounding the clean energy transition. EMPOWER team members have a multi-decade commitment to advancing energy efficiency, conservation efforts, and the adoption of renewable energy sources.

Project EMPOWER has a collaborative project design, with the NAACP ECJC acting as the coalition facilitator and helping encourage broader community conversations on renewable energy and energy efficiency. These conversations include the need to create more diverse and accessible job and entrepreneurship opportunities in renewables. The EMPOWER team has begun addressing green workforce development by helping host a Green Jobs Roundtable discussion and forming a Green Jobs Advisory Council (GJAC) in 2022. Three key questions for Project EMPOWER are:

- How can renewable energy expansion advance energy equity in Alachua County?
- How can energy projects expand access to quality green jobs by underserved residents?
- How can EMPOWER efforts bring the benefits of energy efficiency and solar energy to energy-burdened households in Alachua County?

Initial Project EMPOWER team members included: 1) the Alachua County Office of Sustainability, Equity, & Economic Development Strategies; 2) the Alachua County NAACP ECJC; 3) the Community Weatherization Coalition (CWC); 4) Gainesville Regional Utilities (GRU); and 5) the Gainesville Community Reinvestment Area. As it looks beyond the Communities LEAP pilot, Project EMPOWER is transitioning from a singular project to a more long-lasting, stand-alone coalition and is asking all coalition partners to sign a formal letter of collaboration to strengthen cooperation moving forward.

What Is Next for EMPOWER?

Coalition Partners and Roles after the Communities LEAP Pilot

Alachua County Board of County Commissioners: provides support to the EMPOWER Coalition and helps explore funding resources to meet EMPOWER goals.

Alachua County Public Schools: co-chairs the GJAC and helps to raise awareness and opportunities for access to quality green jobs in public schools.

Alachua County NAACP ECJC: leads the EMPOWER Coalition, facilitates community engagement efforts, and helps ensure respect for community members.

Alachua County Office of Sustainability, Equity, & Economic Development Strategies (SEEDS): supports grants that require a government partner and implements a weatherization program with tenants and renters.

CareerSource North Central Florida: provides financial support for training and internships for disadvantaged residents.

City of Gainesville, FL: provides support to the EMPOWER Coalition and helps explore funding resources to meet EMPOWER goals.

CWC: supports community engagement efforts and provides direct educational and home energy efficiency services in partnership with Rebuilding Together North Central Florida.

Cultural Arts Coalition: coordinates EMPOWER community outreach and administers a youth environmental internship program.

Gainesville Community Reinvestment Area: funds CWC weatherization programs and provides support for project activities, sharing of grant information, and communications with upper-level City of Gainesville leadership.

Greater Duval Neighborhood Association: helps lead community engagement efforts in Greater Duval.

GRU: provides technical assistance and context on the broader energy system.

Rebuilding Together North Central Florida: provides critical housing repair/rehab work and coordinates follow-up energy efficiency improvements after CWC home tune-ups.

Santa Fe College: co-chairs the GJAC and develops academic and vocational training opportunities for low-income students, helping to raise awareness and create opportunities for access to quality green jobs.

Solar Impact, Inc.: provides technical assistance on solar implementation.

Southwest Advocacy Group: helps lead community engagement efforts in the SWAG neighborhoods.

Springhill Neighborhood Association: helps lead community engagement efforts in Springhill and Sugarhill.

Figure 1. EMPOWER Coalition organizations and roles as of March 2024.

Project EMPOWER Background and Approach

Project EMPOWER's primary focus and priority is reducing utility bills for marginalized populations. The EMPOWER team is committed to working with specific neighborhoods experiencing extreme

energy burden (i.e., the percent of income spent on energy bills) and poverty in the Gainesville metropolitan area—neighborhoods that also contain higher percentages of historically marginalized populations and communities of color. Springhill and Sugarhill (adjacent neighborhoods with a shared past), Greater Duval, and SWAG are unique communities with rich histories, but all share energy-related challenges such as high energy burdens, utility disconnections, and residential solar under-participation. Project EMPOWER focuses on weatherization, energy efficiency, and direct services in historically underserved communities to help address these challenges. The end goal is to bring about tangible transformation for these neighborhoods to have energy burdens more like the rest of Alachua County.

At the same time, Project EMPOWER intends for direct services (like the CWC’s Home Energy Tune-ups)⁴ to lead to broader conversations about climate change and community resilience. A shift to renewables and improvements in energy efficiency offer opportunities not only for reduced utility bills but for a healthier environment and green employment opportunities. Project EMPOWER focused its Communities LEAP technical assistance on solar, weatherization and energy efficiency, and green jobs to help explore these clean energy opportunities. Project EMPOWER has helped start advisory committees on green jobs and weatherization to better coordinate among existing entities and bring in new partners.

Related Committees

Green Jobs Advisory Council: The council formed in October 2022, after the NAACP ECJC and Project EMPOWER hosted a roundtable at Santa Fe College to discuss creating a green jobs pipeline that would include training, internship, and employment opportunities in Alachua County. Representatives from Santa Fe College and Alachua County Public Schools co-chair the GJAC, which has been meeting monthly since December 2022 to advance efforts toward green jobs goals, including the creation of new weatherization certification training programs at Santa Fe College, the purchase of new materials related to green jobs for use in public school curricula, and support for youth internships related to green jobs.

Weatherization Coordination Committee: Formed in response to community member feedback during Project EMPOWER’s Springhill kickoff meeting in February 2023, this informal group has been meeting monthly to develop community-facing information about existing home repair, weatherization, and energy efficiency services in Alachua County. The committee identified the need for additional certified weatherization inspectors and contractors and worked with city and county code enforcement offices and Santa Fe College to develop new training programs.

Figure 2. Committees participating in Alachua County’s clean energy transition goals.

In its monthly team meetings, Project EMPOWER has emphasized a stepwise approach for both its short-term goal (reducing utility bills) and long-term objective (increasing access to quality green jobs and prioritizing an equity-focused clean energy transition). The stepwise approach aims to:

- Expand direct services for small actions people can do immediately to lower their utility bills (education and direct weatherization services).
- Connect people to programs to fund bigger-ticket services residents cannot afford on their own (e.g., attic insulation).

⁴ <https://communityweatherization.org/tune-up-application/>

- Develop a green jobs pipeline to increase awareness and access to quality green jobs—from public school through vocational training and internships to full employment in the expanding green economy.
- Implement an institutional solar leasing program to generate community-managed funds that will support energy efficiency and green jobs efforts over future decades.⁵

Project EMPOWER's Vision

Project EMPOWER has coalesced around the vision of using institutional solar leasing to finance a community fund that can help scale up weatherization services and green jobs availability in Springhill and Sugarhill, Greater Duval, and SWAG. In this manner, Project EMPOWER aims to achieve both its short-term goal of reducing energy burdens and its long-term goal of engaging communities in discussions around the clean energy transition. Equity is the throughline of EMPOWER's work, and engagement with underserved communities is the path to equity; therefore, communities themselves are an essential component of Project EMPOWER's vision and mission.

⁵ NREL has not provided modeling or analysis of Project EMPOWER's institutional solar leasing approach and cannot at this time comment on its technical or financial feasibility. The EMPOWER Coalition plans to request technical assistance on its lease-based approach as part of the second cohort of Communities LEAP: <https://www.energy.gov/communitiesLEAP/communities-leap-cohort-2>.

Community Engagement

The communities of Springhill, Sugarhill, Greater Duval, and SWAG (shown in Figure 3) are partners in Project EMPOWER’s efforts. EMPOWER acknowledges the uniqueness of each community and the fact that the clean energy transition will necessarily look different across different neighborhoods. Given that each neighborhood faces similar energy-related challenges, however, there are also opportunities for collaboration and knowledge-sharing across communities.

- The adjacent neighborhoods of **Springhill and Sugarhill** constitute some of the oldest historically African American neighborhoods in Gainesville. Springhill and Sugarhill are home both to longstanding, multiple-generation families and to newer residents. Project EMPOWER has determined that an older housing stock and high home energy burdens present particular challenges for these communities.⁶ Springhill has an active neighborhood association as well as the Cotton Club Museum and Cultural Center,⁷ which acts as a neighborhood hub.
- The **Greater Duval neighborhood** dates to the 1960s and is one of the largest single-family African American neighborhoods in Gainesville. Challenges facing Greater Duval include a persistent lack of employment, transportation, and affordable housing options; high home energy burdens; and low incomes. Founded in 2013, the Greater Duval Neighborhood Association⁸ supports a variety of ongoing community programs for youth and elders.
- **SWAG**⁹ is a Gainesville-area nonprofit representing the most westerly of Project EMPOWER’s priority neighborhoods. SWAG is a conglomeration of low-income housing blocks with a high proportion of Section 8 housing assistance. Challenges facing SWAG include crime, child maltreatment, family violence, and health disparities. These factors contribute to a lack of youth recreation opportunities and to limited transportation options for accessing outside services. The nonprofit SWAG helps address these needs. SWAG recruited Alachua County assistance in building a family resource center to act as a social services hub.

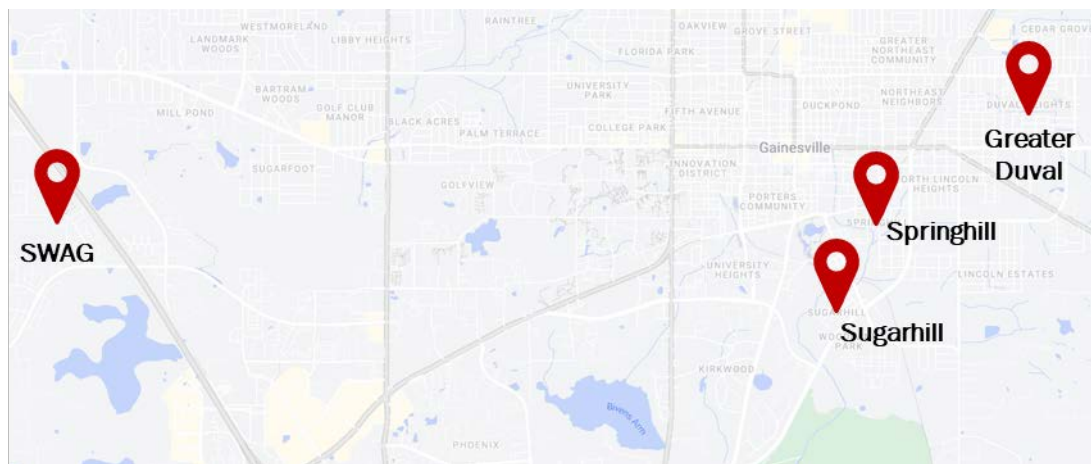


Figure 3. Map of Project EMPOWER communities within the Gainesville metropolitan area (Google Maps 2024).

⁶ Project EMPOWER has made these property determinations in part based on data from Gainesville Green (<http://gainesville-green.com/>) and the Alachua County Property Appraiser (<https://www.acpaf1.org/>).

⁷ <https://www.cottonclubmuseum.com/>

⁸ <https://www.greaterduval.org/>

⁹ <https://swadvocacygroup.org/>

One of Project EMPOWER's overarching goals is to enhance community-wide collaboration and engagement to provide locally developed parameters for renewable energy and energy efficiency projects. EMPOWER members emphasize the need to start from the premise that community members are the only ones who truly know their neighborhoods. The EMPOWER team focuses on building from preexisting relationships, ensuring two-way exchanges of information, and listening to the voices of community members. Project EMPOWER's community engagement model prioritizes 1) engaging community members on equal footing through their representative neighborhood associations and 2) working with neighborhood association leaders to inform other residents of EMPOWER's work. In the future, the EMPOWER team plans to build on its work with Springhill and Sugarhill, Greater Duval, and SWAG to eventually encompass other communities and municipalities in the county and beyond.

Community Engagement Highlights

Since Project EMPOWER joined the Communities LEAP program in spring 2022, NREL researchers and Communities LEAP subcontractors have helped support the coalition's community engagement efforts. Highlights during this period include:

- **Project EMPOWER's Springhill kickoff meeting (February 18, 2023):** NREL researchers supported Project EMPOWER in organizing a kickoff workshop with community members in February 2023 at Springhill's Cotton Club Museum and Cultural Center. Members of Project EMPOWER and NREL staff gave an overview presentation of EMPOWER's work and Communities LEAP; then, workshop attendees broke into three small groups—green jobs, solar, and weatherization—for in-depth discussions. As part of the preparation for this workshop, NREL researchers created an overview fact sheet of Project EMPOWER to share with community members.¹⁰
- **Virtual meeting update with community leaders (August 22, 2023):** Project EMPOWER organized a virtual meeting in summer 2023 with community leaders to discuss how to best use a grant awarded to EMPOWER by Jobs for the Future. Phase One of the Jobs for the Future Quality Green Jobs Regional Challenge awarded Project EMPOWER a \$10,000 participation grant to explore opportunities at the intersection of climate change and workforce development (Jobs for the Future 2023). Meeting participants recommended approaching schools and after-school programs to provide information about Santa Fe College's new weatherization technician curriculum and other opportunities for green jobs.
- **Community engagement meetings focused on green jobs, weatherization, and energy efficiency (February–March 2024):** Building on the Jobs for the Future grant, the EMPOWER team worked directly with the Springhill Neighborhood Association, the Greater Duval Neighborhood Association, and SWAG to plan and implement community meetings to raise resident awareness of green jobs and available weatherization services. Through Communities LEAP, Kearns and West provided subcontractor assistance for these community engagement meetings and developed a community engagement strategy and toolkit focused on participatory activities related to green jobs, weatherization, and energy efficiency. Kearns and West also helped develop a branding package for EMPOWER to support its transition from a short-term project to an established and growing coalition effort.

Potential Community Engagement Next Steps

Following Project EMPOWER's 2024 community engagement meetings, Kearns and West worked with the EMPOWER team to debrief and suggest iterations of the engagement toolkit for future use. For example, one activity within the engagement toolkit was a card with spaces for each of the tabling organizations at the March 2024 community events. Attendees received a stamp for each

¹⁰ <https://www.nrel.gov/docs/fy23osti/85249.pdf>

table they visited, and there was also space on the back of each card for attendees to share questions or input for the EMPOWER team. Project EMPOWER plans to collect and collate attendee feedback to help inform future engagement events.

In its monthly team meetings, Project EMPOWER has further identified the potential to build on the momentum of community climate conversations in speaking with residents about solar, weatherization and energy efficiency, and green jobs. For example, organizations in Alachua County held two climate change summits in 2023. Alachua County hosted a climate summit with the intent to start developing a countywide climate action plan in May 2023,¹¹ and the NAACP and United Church of Gainesville partnered to host a community-focused climate change summit in September 2023.¹² The EMPOWER team is exploring opportunities to speak on energy issues at future community climate events (including a climate summit planned for September 2024 in the City of Hawthorne, Florida) and to interweave energy-focused and climate-focused community engagement efforts.

¹¹ <https://alachuacounty.us/News/Article/Pages/Alachua-County-Hosts-Countywide-Climate-Fair-at-Camp-Cuscowilla.aspx>

¹² <https://my.lvv.org/florida/alachua/event/alachua-county-naacp-climate-change-summit>

Solar

Introduction to Solar

Solar energy can help power homes and businesses. More energy from the sun falls on the earth in one hour than is used by everyone in the world in one year (NREL 2024a). A variety of technologies convert sunlight to usable energy for buildings. The most commonly used solar technologies for homes and businesses are solar photovoltaics (PV) for electricity, passive solar design for space heating and cooling, and solar water heating (NREL 2024a).

Rooftop solar power is increasingly affordable, and in 2022 Florida deployed the second highest amount of residential solar capacity in the United States (Davis et al. 2022). In addition to rooftop solar, community solar gives customers an option to subscribe to part of a larger, off-site solar system. The DOE defines community solar as any solar project or purchasing program within a geographic area in which the benefits of a solar project flow to multiple customers such as individuals, businesses, nonprofits, and other groups (DOE 2024a).

Alachua County already hosts utility-scale solar systems. Florida Power & Light manages a 74.5-megawatt solar PV installation that straddles Alachua and Putnam Counties,¹³ and there are other pending large-scale solar installations. While utility-scale systems help meet broader climate change policy goals, utility-scale PV does not typically provide substantial financial benefits to underserved communities (Heeter and Reames 2022). To shift the focus to underserved communities, Project EMPOWER has coalesced around an approach for community solar based on a solar leasing model.

Project EMPOWER's Solar Leasing Approach: An Overview¹⁴

During the Communities LEAP technical assistance scoping process and initial team meetings, Project EMPOWER focused on solar as a means to help reduce utility bills and begin the shift to renewable energy. The EMPOWER team also wanted to help Alachua County's most vulnerable populations understand their solar options as solar technologies become more accessible. In thinking through how to pursue community solar, Project EMPOWER devised the idea of using institutional solar leasing to generate funds for weatherization services and green workforce initiatives in Springhill and Sugarhill, Greater Duval, and SWAG. The EMPOWER team views solar as the umbrella for distributing immediate services and longer-term benefits in these communities.

According to Project EMPOWER, its lease-based approach would function through a partnership that connects institutional solar leases with the energy-burdened communities of Springhill and Sugarhill, Greater Duval, and SWAG. At a high level, the EMPOWER team plans to place solar panels on municipal and educational buildings (a form of commercial solar) via institutional lease agreements. Figure 4 shows an example of a current solar array on a high school in Gainesville, Florida. Project EMPOWER opted for a lease-based approach to bypass local restrictions on conventional community solar installations. Leasing meets local utility requirements for single-meter net metering (a requirement that prevents neighborhood ownership of solar in Alachua County), and the annual dollars generated through the lease agreements would create a sustained fund managed by the county and earmarked for cost-effective energy conservation and efficiency improvements to reduce resident energy burdens.

¹³ <https://www.fpl.com/energy-my-way/solar/energy-centers.html>

¹⁴ Project EMPOWER provided the description of the solar leasing approach in this section. The EMPOWER Coalition plans to request technical assistance on its lease-based approach as part of the second cohort of Communities LEAP.



Figure 4. A solar array on Buchholz High School in Gainesville, Florida. Photo from Solar Impact, Inc.

EMPOWER’s lease fund could provide energy-burden relief in a more equitable manner than residential rooftop solar programs. Residential rooftop solar is disproportionately accessible to high- or moderate-income residents—homeowners who have built equity and are able to access reasonable lines of credit to install upgrades. Once the panels are installed, these high- and moderate-income residents receive 100% of the benefits and no benefits reach low-income homeowners and renters.

Placing solar on large municipal and educational buildings may be an alternative mechanism for generating funds to support weatherization and energy efficiency improvements, regardless of homeowner status or income. The EMPOWER lease fund would aim to provide a steady stream of funding earmarked for reducing community energy burdens over the next several decades, benefitting both current and future residents. The EMPOWER team is redefining *community solar* to meet broad beneficial outcomes: reducing utility costs, improving access to job training and employment opportunities, maintaining heat resilience in tree-lined neighborhoods, and reducing the carbon footprint of communities through solar deployment. Neighborhood leaders will drive decisions on solar-funded services. Springhill and Sugarhill, Greater Duval, and SWAG will be collaborative partners in the design and implementation of the project and help manage the community fund.

Some unique opportunities of community solar leases could include:

- The potential for a stable and predictable revenue stream to support programs to reduce energy burden. Institutional partners such as schools, hospitals, and local governments are typically financially stable and able to make commitments over multiple decades.
- The potential to fund programs to reduce energy burden in communities that may not be suitable for individual solar installations. For example, roofs on low-income housing projects may be too small, shaded, or in inadequate condition to support solar panels. Institutional solar leases that pay into a dedicated fund could allow residents of these neighborhoods to benefit broadly from solar energy without installing solar panels on their homes.
- The potential to extend benefits to more households over a longer period.

EMPOWER’s solar leasing approach has the potential to make a significant impact on the lives of residents in Springhill and Sugarhill, Greater Duval, and SWAG. Community solar leases could help reduce energy costs and indoor air pollution, create high-quality jobs and entrepreneurship opportunities, build climate resilience, and enhance meaningful involvement by community members

in decision-making about environmental and climate mitigation. Structuring the community fund to emphasize participatory governance will be a focal point of the EMPOWER Coalition moving forward.

Solar Highlights

As part of the Communities LEAP engagement with Project EMPOWER, NREL researchers presented to coalition members on equitable efficiency and decarbonization planning data from the DOE's State and Local Planning for Energy (SLOPE) Platform.¹⁵ SLOPE delivers jurisdictionally resolved data to support state and local energy and decarbonization planning. According to SLOPE data, the levelized cost of many renewable technologies (including residential and commercial rooftop PV) is expected to decrease through 2050 in Alachua County. Levelized cost of energy is a metric that combines technology cost and performance parameters, capital expenditures, operations and maintenance costs, and capacity factors (NREL 2024c).

Solar analysts at NREL also worked with Project EMPOWER to brainstorm options for community solar and provide information related to commercial, community, floating, and residential solar. NREL staff connected the EMPOWER team with representatives from the National Community Solar Partnership, which offers free technical assistance in the areas of 1) policy, legislation, and regulation research; 2) project financing analysis; 3) outreach and engagement strategies; 4) program design; and 5) technical issues. Another option for free technical assistance on solar is through the DOE's Clean Energy to Communities Program, which provides Expert Match—free, short-term technical assistance to address near-term clean energy challenges and questions.¹⁶

Potential Solar Next Steps

The EMPOWER team is currently working to secure funding for its solar leasing proposal and put together an inventory of potential rooftop and ground-mount leasing sites. EMPOWER is also interested in further community discussions surrounding needs assessments, community ownership, planning, and design. Exploring detailed techno-economic analysis for the solar leasing project through technical assistance from the National Community Solar Partnership and Clean Energy to Communities Program could be a next step as well. The EMPOWER Coalition does plan to request technical assistance on its lease-based approach as part of the second cohort of Communities LEAP.

Solar analysts at NREL also provided Project EMPOWER with a draft roadmap to inform EMPOWER's commercial solar efforts. This roadmap included distinct steps for installing commercial solar, from initial goal determination to operations, maintenance, and decommissioning. As Project EMPOWER advances its solar leasing proposal, items to consider from the roadmap could include:

- Developing procedural details for leasing solar on institutional buildings—including considerations related to leasing, financing, and consumer protection.¹⁷
- Deciding which solar PV configuration works best for specific locations (e.g., rooftop solar, ground-mount solar, solar parking canopy or carport).
- Conducting building audits to make sure selected buildings are ready for solar (possibly in partnership with GRU).
- Developing a management plan for operations and maintenance and decommissioning.

¹⁵ <https://maps.nrel.gov/slope/>

¹⁶ <https://www.nrel.gov/state-local-tribal/c2c-expert-match.html>

¹⁷ The Solar Energy Industries Association maintains a webpage with more information and resources related to consumer protection: <https://www.seia.org/initiatives/consumer-protection>.

Weatherization and Energy Efficiency

Introduction to Weatherization and Energy Efficiency

Weatherization is a term for increasing the energy efficiency of a home by adding insulation, sealing leaks, or installing more efficient appliances, doors, or windows to save money on energy costs and make homes more comfortable and resilient to extreme temperatures (DOE 2024b). Energy-efficient homes and buildings use less energy for heating, cooling, and running appliances and electronics. See Figure 5 for more information on improving home energy efficiency (NREL 2023a).

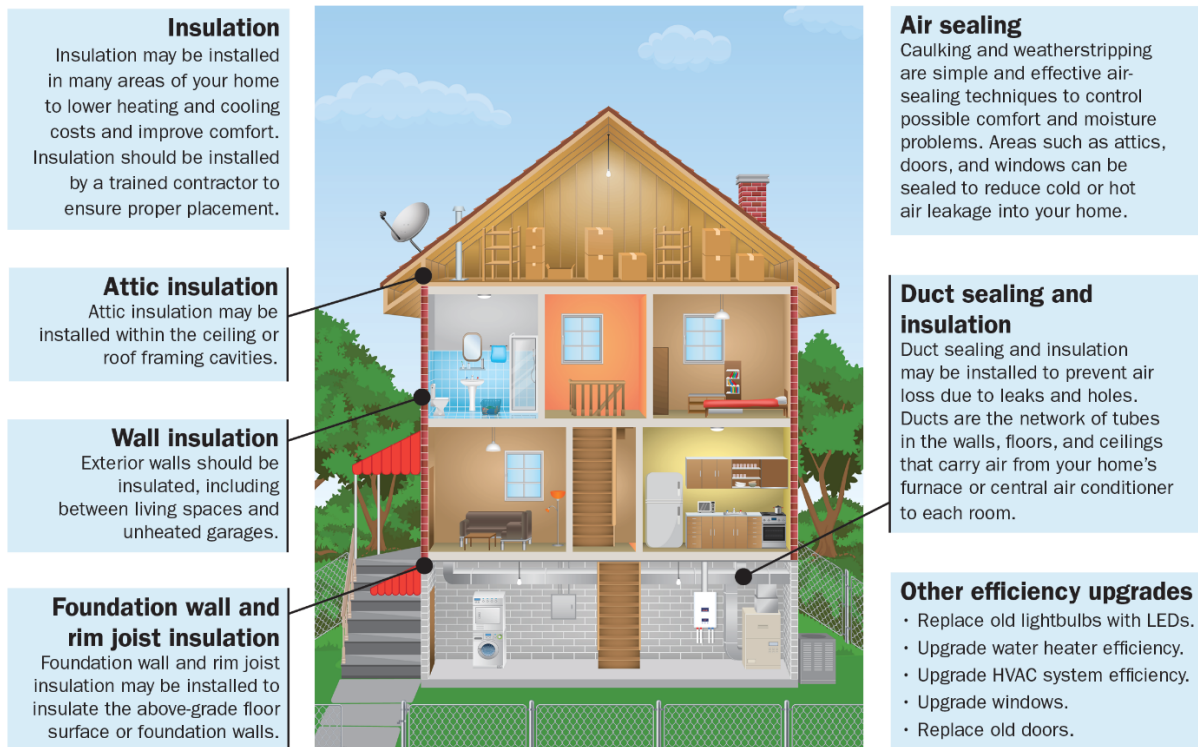


Figure 5. Home weatherization strategies and energy efficiency retrofits. *Illustration by Besiki Kazaishvili, NREL*

Project EMPOWER is building on the work of other programs in Alachua County that already help with weatherization and energy efficiency. These programs include **GRU's LEEP+ program**,¹⁸ which helps low- and moderate-income families make home improvements that lower their energy use, and the **CWC's Home Energy Tune-up Program**, which gives free energy checkups to homeowners and renters (NREL 2023b). CWC partners with Rebuilding Together North Central Florida to help both homeowners and renters improve energy and water efficiency to save money on utility bills. Alachua County also maintains a grant program dedicated to improving energy efficiency in rental units.¹⁹ See

¹⁸ <https://www.gru.com/MyHome/LowerMyBill/SaveEnergy/Low-incomeEnergyEfficiencyProgramPlus.aspx>; temporarily not accepting applications as of August 1, 2023.

¹⁹ <https://alachuacounty.us/news/Article/Pages/Energy-Efficiency-and-Weatherization-of-Affordable-Housing-Grant-Program.aspx>

Appendix A, Table A-1 for more details on these home energy efficiency and weatherization support organizations.

According to a study conducted on 312 households in Alachua County serviced by the CWC between 2016 and 2019, CWC home energy tune-ups generally helped save around 0.2% to 0.5% of each household's annual income in low-income and minority communities (Chau et al. 2023). Project EMPOWER works with community members to conduct outreach about available weatherization services and to prioritize the homes that most need these services. For example, representatives from Alachua County, the CWC, and Rebuilding Together North Central Florida hosted informational tables at Project EMPOWER's spring 2024 community engagement meetings to help notify community residents about available home repair, weatherization, and energy efficiency programs.

Project EMPOWER's Weatherization and Energy Efficiency Goals

Project EMPOWER's number-one weatherization goal is to reduce energy use and lower utility bills in Springhill and Sugarhill, Greater Duval, and SWAG. The older housing stock in Alachua County's marginalized communities lends itself to Project EMPOWER's focus on home repair, weatherization, energy efficiency, and resident education. The goal of scaling up existing home repair and weatherization activities to reach more homes is intended to 1) reduce the inequitable energy burdens of vulnerable households in Alachua County; 2) improve indoor comfort, air quality, health, and safety; and 3) upgrade homes for existing residents to help stabilize communities and avoid gentrification. Related EMPOWER goals include renter and homeowner education, enhanced coordination among existing weatherization entities in Alachua County, and using weatherization and energy efficiency services as the foundation for the broader clean energy transition.

Education

Resident education can help community members understand their monthly bills (including where both energy and non-energy charges come from) and make changes to reduce costs. CWC staff and volunteers work together with households to 1) inspect the inside and outside of the home; 2) examine major appliances and plumbing; 3) clean refrigerator coils and heating, ventilating, and air-conditioning (HVAC) filters; 4) adjust temperature settings for thermostats and water heaters; and 5) install energy-efficient light bulbs, water-saving aerators and showerheads, carbon monoxide detectors, air conditioning and water heater pipe insulation, and draft stoppers. The CWC starts its work in each household by looking through utility bills with residents to help point out and explain garbage, water, gas, and fuel adjustment charges.

Project EMPOWER also focuses on resident education during its community engagement events. For example, Kearns and West's community engagement toolkit includes a spinning wheel activity that provides attendees an opportunity to learn more about home weatherization and energy efficiency. Attendees spin the wheel and land on a question relating to green jobs, home weatherization, or energy efficiency. If the attendee answers the question correctly, they receive a small prize. The spinning wheel activity is meant to help community residents learn more about Project EMPOWER's priority topic areas of weatherization and energy efficiency, green jobs, and solar power.

GRU's smart meter rollout presents an additional opportunity for customers to better control their electric bills. Smart meters (or advanced meters) add to or replace a typical gas, electric, or water meter (fitting in the same footprint). Most smart meters are computerized and allow for remote data collection through periodic (e.g., 15-minute, hourly, daily) communication to the utility. In this way, utilities can gather information on energy use (Doris and Peterson 2011).

Coordination

One of Project EMPOWER's goals is to improve coordination among existing weatherization and energy efficiency entities in Alachua County. The EMPOWER team started a weatherization

coordination subcommittee, which meets monthly to develop community-facing information about existing home repair, weatherization, and energy efficiency services. The committee has also identified the need for additional certified weatherization inspectors and contractors and has worked with city and county code enforcement offices and Santa Fe College to develop new training programs. Table A-1 in the appendix provides a non-exhaustive list of organizations offering home repair and weatherization support in Alachua County.

Foundation for the Clean Energy Transition

Project EMPOWER views weatherization and conservation as a stepping stone to the greater adoption of renewables in Springhill and Sugarhill, Greater Duval, and SWAG. The secondary goal of weatherization activities is to begin electrifying residential energy use previously served by the direct use of fossil fuels. Project EMPOWER considers home repair, weatherization, energy efficiency, and electrification as important elements in the transition to clean energy and climate resilience for the communities of Springhill, Sugarhill, Greater Duval, and SWAG.

Weatherization and Energy Efficiency Highlights

Throughout the Communities LEAP collaboration with Project EMPOWER, NREL staff focused on sharing funding opportunities and resources related to home repair, weatherization, and energy efficiency. These include the DOE Weatherization Assistance Program's Enhancement & Innovation grant opportunity,²⁰ DOE resources on scaling up weatherization efforts, and information on organizations that support aging-in-place work. NREL analysts are also working with Project EMPOWER to identify potential pathways to achieve residential building energy and cost savings through energy efficiency and renewable energy using the Building Energy Optimization Tool (BEopt™) building energy efficiency model.

The BEopt software provides capabilities to evaluate residential building designs and identify cost-optimal efficiency packages at various levels of whole-house energy savings.²¹ NREL researchers are using BEopt to analyze two homes that participated in the CWC's Home Energy Tune-up Program. The BEopt energy models rely on the current characteristics and performance of the home collected through the Home Energy Tune-ups. However, the CWC and GRU LEEP+ programs do not typically perform tests to quantify envelope air leakage and duct leakage. NREL staff analysis will supplement the available home data with typical air leakage and duct leakage rates of homes that are similar in terms of vintage, geographic location, and building typology. BEopt analysis results, including analysis of the potential benefits of different retrofit measures, will be provided to project partners following this report.

SLOPE data for Alachua County also demonstrate several challenges and opportunities related to weatherization and energy efficiency services. Cooling degree days (which reflect annual frequency and magnitude of cooling needs in buildings) are expected to increase in the county through 2050 (NREL 2024d). This means buildings in Alachua County will likely need to use more energy to maintain comfortable temperatures, possibly exacerbating existing energy burden issues unless Alachua County prioritizes mitigation solutions.

Using data from the DOE's Low-Income Energy Affordability Data Tool,²² NREL researchers found that more than 25,000 households in Alachua County have high energy burdens (defined as an energy burden of 6% or greater). Census tracts with the highest average energy burdens in the county also tend to be socioeconomically vulnerable and have lower average incomes—which could mean these households need financial support to make efficiency upgrades. SLOPE modeling estimates that

²⁰ <https://www.energy.gov/scep/wap/weatherization-innovation>

²¹ <https://www.nrel.gov/buildings/beopt.html>

²² <https://www.energy.gov/scep/slsc/low-income-energy-affordability-data-lead-tool>

maximizing cost-effective energy efficiency upgrade packages could lower electricity bills by almost \$600 per year on average for low-to-moderate income households in Alachua County (NREL 2024e).

Potential Weatherization and Energy Efficiency Next Steps

Project EMPOWER has decided its immediate next step is to identify additional funding opportunities to expand existing home repair, weatherization, and energy efficiency services to reach more homes. The City of Gainesville and Alachua County have used American Rescue Plan Act funding to expand services in recent years, but GRU, Alachua County, Rebuilding Together North Central Florida, and the CWC need more funding to scale up current weatherization and efficiency offerings in partnership with the communities they serve. The EMPOWER team plans to use institutional solar leasing funds to help support the expansion of its weatherization work.

During data collection for the BEopt modeling and analysis, NREL researchers noticed gaps in data availability that could also help inform next steps for EMPOWER on weatherization and energy efficiency. Specifically, NREL researchers noted data gaps related to the quantification of home envelope air leakage and duct leakage. Performing tests to quantify these leakages could help EMPOWER conduct more in-depth analyses of the potential energy savings of weatherization and retrofit measures.

Green Jobs

Introduction to Green Jobs

Green jobs are jobs in businesses that produce goods or provide services that benefit the environment or conserve natural resources (U.S. Bureau of Labor Statistics [BLS] n.d.). As Figure 6 demonstrates, the state of Florida is projected to add thousands of clean energy jobs by 2030—especially utility energy efficiency jobs and solar PV jobs. Project EMPOWER wants Alachua County’s energy transition to create more green jobs in underserved areas that have not historically had access to economic development opportunities (NREL 2023b).

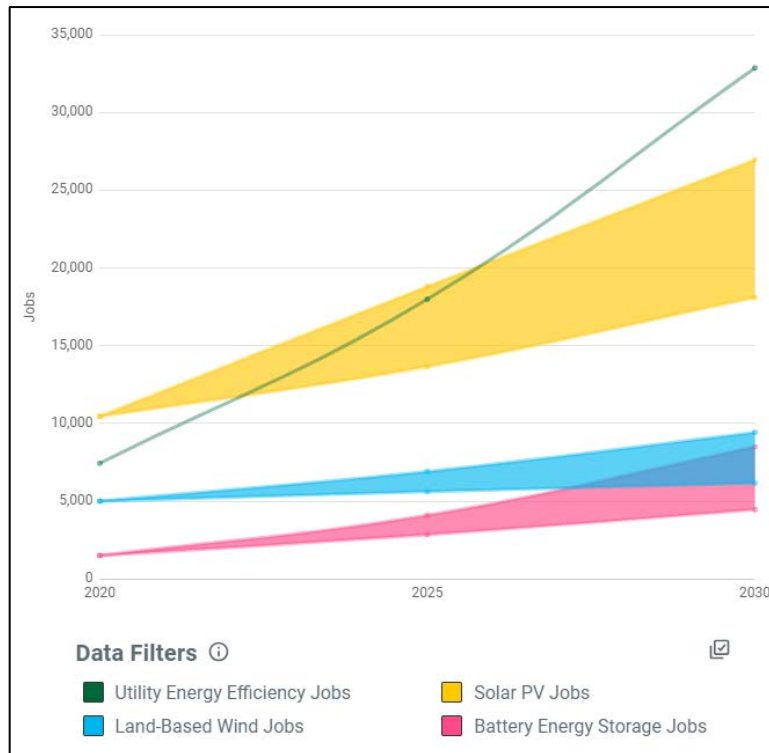


Figure 6. Clean energy job estimates by technology, Florida, 2020–2030 (NREL 2024b).

In October 2022, the NAACP ECJC and Project EMPOWER hosted a roundtable at Santa Fe College to discuss creating a green jobs pipeline that would include training, internship, and employment opportunities in Alachua County. Following the roundtable, Project EMPOWER helped create the GJAC to continue working toward this goal. In its draft 2023 annual report, the GJAC defines green jobs in a broad sense to include:

- Jobs working toward zero carbon emissions and that promote renewable energy, including farming and trade jobs.
- Jobs that contribute to sustainability in energy, water, materials, food, and stewardship of natural resources.
- Parts of jobs that consider issues like sustainability and decarbonization.
- Jobs that can provide net benefits to the environment through a high skill and livable wage employment opportunity, improving over time to approach sustainability.

Project EMPOWER's Green Jobs Goals

During the Communities LEAP technical assistance scoping process, Project EMPOWER established the green jobs goals of 1) pursuing green workforce development and youth internships in tandem with solar and weatherization objectives and 2) expanding access by underemployed residents to opportunities in the growing green economy. Solar, weatherization and energy efficiency, and green workforce development are inherently linked for Project EMPOWER—for example, Santa Fe College created a new weatherization technician training curriculum that can help foster employment opportunities and address the need for certified weatherization home inspectors in Alachua County. Project EMPOWER wants to build on the potential to train individuals in career opportunities that revolve around the implementation of energy-efficient improvements within marginalized communities. Santa Fe College's Center for Innovation and Economic Development²³ could also help offer business opportunities to people in historically underserved communities.

In GJAC meetings and during community engagement events, the EMPOWER team has worked with green jobs partners and community residents to identify challenges to address via the development of a green jobs pipeline. The first challenge is a lack of visibility for green jobs, which are often hidden inside other professions and trades—especially in terms of how the U.S. Department of Labor captures and reports data. For example, HVAC workers may also install high-efficiency heat pumps, and home energy retrofit workers may work for renovation or general construction companies. Encouraging educators or employment navigators to share career maps²⁴ with job seekers could help develop a pipeline of future workers, as could using marketing initiatives to increase awareness of job opportunities. For example, GRU has dozens of open jobs and is exploring how to better market them as green employment opportunities.

Another challenge Project EMPOWER has identified is a lack of coordination among groups at different stages of the green jobs pipeline. The Green Jobs Pipeline Roundtable in October 2022 began addressing this challenge by bringing together over 50 attendees from a diverse set of workforce partners. The work of the GJAC is meant to continue this spirit of collaboration in forging a path forward on green jobs.

Green Jobs Advisory Council

The GJAC has met monthly since December 2022. GJAC objectives include compiling a list of green employers in Alachua County, hosting job fair events to showcase and recruit for green jobs, and helping organize and promote green internship opportunities. Highlights from the first year of the GJAC range from the creation of the new weatherization technician certification program at Santa Fe College to winning a \$10,000 grant from Jobs for the Future to start creating a regional workforce development pipeline for disadvantaged communities. An integral component of the pipeline development process is to enhance neighborhood education about climate change impacts and employment opportunities related to the clean energy transition.

²³ <https://www.sfcollege.edu/incubators/>

²⁴ <https://www.energy.gov/eere/jobs/map-career-clean-energy>

Current Green Jobs Advisory Council (GJAC) Members

Alachua County Public Schools (co-chair)	Gainesville Community Reinvestment Area
Santa Fe College (co-chair)	GRU
Alachua County Office of Sustainability, Equity, & Economic Development Strategies (SEEDS)	NAACP ECJC
CareerSource North Central Florida	The Repurpose Project
CWC	Sierra Club, Suwannee St. Johns Group of the Florida Chapter
Florida Nurseries, Growers and Landscape Association	Solar Impact, Inc.
International Brotherhood of Electrical Workers, Local 1205	

Figure 7. Green Jobs Advisory Council members as of March 2024.

Jobs for the Future Grant

In July 2023, Project EMPOWER was one of 20 groups in the country (and the only group in Florida) selected by Jobs for the Future for a \$10,000 grant through the Quality Green Jobs Regional Challenge. The intent of the grant was to help EMPOWER work on community climate education and develop green jobs training and employment programs for minority and low-income populations. CareerSource North Central Florida led this effort, and Project EMPOWER and the GJAC worked closely with community members in Springhill and Sugarhill, Greater Duval, and SWAG to determine how to best use the grant.

Community Engagement

In August 2023, Project EMPOWER hosted a virtual meeting to discuss the Jobs for the Future grant with neighborhood residents. Discussions included green jobs presentations hosted by neighborhoods, paid internships with mentorship for teens, and opportunities to participate in summer vocational training classes at Santa Fe College. There are already substantial existing funds from CareerSource North Central Florida to support vocational training and internships (or apprenticeships) for working-age candidates, and the neighborhood associations will be valuable partners in connecting Project EMPOWER with residents interested in using these funds for professional advancement in green jobs.

Community members were especially interested in green jobs events and in making connections with after-school programs. Project EMPOWER used some grant funds for community engagement events in Springhill and Sugarhill, Greater Duval, and SWAG (in partnership with each neighborhood association) in February and March 2024. Some grant funds will also be used to purchase science/environment-related materials for underserved public elementary and middle schools in Alachua County.

Green Jobs Highlights

Through Communities LEAP, NREL researchers provided a community workforce baseline analysis and training for community stakeholders on how to use, understand, and communicate BLS data. Communities LEAP has also facilitated general resource-sharing on clean energy and employment opportunities and impacts. Communities LEAP further supported Project EMPOWER and the GJAC in thinking through 1) how all the disparate pieces of the green jobs pipeline might come together and 2) how community members access information about the pipeline.

BLS Data Training

Communities LEAP technical assistance included BLS data training to help inform green workforce development priorities. The BLS data training reviewed tools on the BLS website for occupation and wage data using both North American Industry Classification System (NAICS) and Standard Occupational Classification (SOC) codes. NAICS and SOC are both classification systems, with NAICS focused on industry classifications and SOC focused on occupational classifications. NAICS is based on a production-oriented concept, meaning it groups establishments into industries according to similarity in the processes used to produce goods or services (U.S. Census Bureau 2024a). SOC classifies workers into one of 867 detailed occupations according to their occupational definition. Detailed occupations in the SOC with similar job duties (and in some cases skills, education, and/or training) are grouped together (BLS 2024). In the interactive BLS data training, participants applied what they learned by conducting an analysis of electrical contractors in Alachua County.

Workforce Baseline Analysis

The workforce baseline analysis provided data on employment in key industries for six counties in north central Florida and for the state. The six counties were selected because they fall under the purview of CareerSource North Central Florida, a key partner in the GJAC. Employment data are 2022 annual averages (private ownership) from the BLS Quarterly Census of Employment and Wages, Employment and Wages Data Viewer²⁵ and are organized by industry using the NAICS code system. Data included number of establishments (businesses), number of workers, total wages for all workers, and average wages per worker.

BLS data also provided location quotients for wages and employment. Location quotients compare the share of jobs or average wages for a certain industry group (i.e., NAICS code) within the selected geography, compared to the share of jobs or average wages for the entire country. For example, a jobs location quotient of more than 1 indicates the industry group has a higher share of all employment in its geographic area than it does in the nation. A wage location quotient of less than 1 indicates that the industry group has lower average wages across all employment in its geographic area than it does in the nation.

In general, the wages (location quotient: 0.77) and levels of employment (location quotient: 0.87) for all industries in Alachua County in 2022 were lower than for the United States overall. Based on EMPOWER team interest, the workforce baseline analysis then narrowed in on buildings- and construction-related industries with available data. The four relevant industries with the highest wages and employment densities in Alachua County compared to the U.S. were:

1. Residential plumbing and HVAC contractors (wage location quotient: 1.35; employment location quotient: 1.35)
2. All other residential trade contractors (wage location quotient: 1.12; employment location quotient: 1.22)
3. Both residential and nonresidential finish carpentry contractors (wage location quotient: 1.08; employment location quotient: 1.15)

²⁵ https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables

- Both residential and nonresidential plumbing and HVAC contractors (wage location quotient: 1.07; employment location quotient: 1.17).

The three relevant industries with the lowest wages and employment densities in Alachua County compared to the U.S. were:

- Power and communication line and related structures construction (wage location quotient: 0.05; employment location quotient: 0.08)
- Residential masonry contractors (wage location quotient: 0.16; employment location quotient: 0.14)
- Nonresidential painting contractors (wage location quotient: 0.14; employment location quotient: 0.19).

Using 2021 data from E4TheFuture, E2, and the U.S. Census Bureau, the workforce baseline analysis also estimated the number of energy efficiency jobs in Alachua County and the neighboring counties of Bradford, Columbia, Dixie, Gilchrist, and Union. The most recent E4TheFuture and E2 county-level data on green jobs estimates are from 2021 (see Table 1). Alachua County led the region in energy efficiency jobs per capita in 2021, and the EMPOWER team could use these energy efficiency job estimates as a benchmark against which to measure future progress in creating more diverse and accessible opportunities for green jobs.

Table 1. Energy Efficiency Job Estimates in Alachua, Bradford, Columbia, Dixie, Gilchrist, and Union Counties (2021)^a

County	Energy Efficiency Job Estimates (2021)	Population Estimate as of July 1, 2021	Energy Efficiency Jobs as Percent of Population
Alachua County	1,199	281,889	0.43
Bradford County	38	28,050	0.14
Columbia County	198	69,932	0.28
Dixie County	16	16,933	0.09
Gilchrist County	36	18,316	0.20
Union County	37	15,850	0.23

^a Energy efficiency jobs data from E4TheFuture and E2 (2022), population estimates from U.S. Census Bureau (2024b)

E4TheFuture and E2 define energy efficiency jobs as “jobs that deliver goods and services that lower energy use by improving energy efficiency—with a focus on appliances, buildings, data systems, financing, new technologies, and more” (E4TheFuture and E2 2023). Energy efficiency is the largest energy sector in Florida, with almost 119,000 jobs in 2022. Employment related to ENERGY STAR® appliances and efficient lighting constituted the highest number of energy efficiency jobs in Florida in 2022, followed by employment related to HVAC (of higher than standard efficiency/renewable heating and cooling), building materials and insulation, and other (including energy audits, building certifications, and software services) (E4TheFuture and E2 2023).

Communities LEAP also provided targeted community engagement support and expertise on the topic of green jobs. Kearns and West, a Communities LEAP subcontractor, supported Project EMPOWER and the neighborhood associations in hosting community meetings with green jobs components in Springhill and Sugarhill, Greater Duval, and SWAG. Kearns and West helped develop

a stakeholder and community involvement framework across these neighborhoods, as well as an engagement toolkit to support outreach for neighborhood-specific events.

Potential Green Jobs Next Steps

Potential next steps on green workforce development for Project EMPOWER and the GJAC fall into three general categories: 1) expanding community engagement initiatives focused on green jobs; 2) growing GJAC's network of potential connections and resources; and 3) conducting data-driven green jobs analyses.

Community Engagement

Project EMPOWER's 2023 and 2024 community meetings provide a foundation for further partnerships with neighborhood associations and residents on the topic of green jobs. For example, representatives of Santa Fe College, CareerSource North Central Florida, and the Cultural Arts Coalition hosted informational tables at Project EMPOWER's 2024 community meetings to help alert residents about existing educational, vocational, and internship opportunities related to green jobs. Kearns and West supported the EMPOWER team in thinking through how to best reach students and parents to make them more knowledgeable about the potential for green jobs in their communities. Kearns and West also prepared a community engagement strategy and toolkit that can help inform future EMPOWER efforts. Resident feedback during Project EMPOWER's community meetings points to the need to better communicate what green jobs are and how students can go about moving through green career paths.

Growing the GJAC Network

During its monthly meetings, the GJAC has discussed the need to connect with additional university partners and federal opportunities. Santa Fe College is an institute of higher education co-leading the GJAC, and representatives from the University of Florida have recently joined GJAC meetings as well. On the federal side, the GJAC has expressed interest in connecting with AmeriCorps and potentially the Civilian Conservation Corps when more information is available.

There are also resources available to help inform the green jobs initiatives of specific GJAC members. For example, the National Science Foundation sponsors the Building Efficiency for a Sustainable Tomorrow Center.²⁶ Founded in 2012, this center supports publicly funded two- and four-year colleges with programs in heating, ventilation, HVAC and refrigeration, controls, building automation, and energy/facilities management. NREL researchers identified the Building Efficiency for a Sustainable Tomorrow Center as a potential resource to support Santa Fe College with its new weatherization technician training curriculum.

Data-Driven Green Jobs Analyses

Through the Communities LEAP engagement with Project EMPOWER, NREL staff identified common workforce tasks that could help inform future GJAC green jobs efforts. For example, one common task is conducting a landscape analysis—i.e., understanding the different employers, training programs, and students that make up Alachua County's green jobs pipeline. CareerSource North Central Florida already collects and maintains much of this information, but it might be helpful to collate these data into a more consolidated format that helps the GJAC more easily identify gaps in workforce and education providers in the region.

NREL researchers also identified potential opportunities to build on the workforce baseline analysis completed during the Communities LEAP pilot. The workforce baseline analysis helped quantify county-level employment and wage estimates for buildings- and construction-related industries with available data, as well as county-level energy efficiency jobs estimates. Future analyses could focus

²⁶ <https://bestctr.org/>

on better understanding the quality of jobs in terms of wages, as well as quantifying the broader economic impacts of green jobs.

Fund Development

Project EMPOWER views fund development as an integral component of its work. In pursuing funding and technical assistance opportunities, Project EMPOWER is emphasizing its approach of using solar leases to generate community-managed funds for weatherization services and green workforce initiatives. Grant applications are part of Project EMPOWER's planning process, and they also help broadcast EMPOWER's work to both community members and potential new coalition partners. With each application it submits, Project EMPOWER is building expertise to better enable the team to pursue future opportunities. Table 2 provides an overview of the funding and technical assistance opportunities Project EMPOWER has been awarded as of March 2024.

During the Communities LEAP pilot, NREL staff worked to keep Project EMPOWER informed of new funding opportunities related to the team's focus on green jobs, solar, weatherization, and energy efficiency. A subcontract with Elevate Energy provided the EMPOWER team with monthly funding updates and tailored information on funding opportunities relevant to Project EMPOWER. Elevate Energy also created a fund development plan to support the coalition with asset mapping and coalition building. The plan identified funding opportunities especially relevant to Project EMPOWER's goals and provided best practices for federal grant applications.

Table 2. Project EMPOWER Awarded Opportunities as of March 2024

Funding/Technical Assistance Opportunity	Funding Amount	Date Awarded	Description
Quality Green Jobs Regional Challenge, Phase 1 (Jobs for the Future)	\$10,000	July 2023	During Phase I of the Quality Green Jobs Regional Challenge, 20 selected regions received \$10,000 participation grants and formed a national learning community to deepen understanding of regional needs, risks, and opportunities at the intersection of climate change and workforce development (Jobs for the Future 2023).
Energy Equity for Renters (American Council for an Energy-Efficient Economy)	No-cost technical assistance	January 2024	Technical assistance for local governments and community-based organizations seeking to improve rental home energy efficiency while also preserving and/or expanding housing affordability. ²⁷
Energy Efficiency and Conservation Block Grant Program (DOE, Office of State and Community Energy Programs)	\$189,820	February 2024	Formula award for the City of Gainesville, which plans to use the award to provide rebates to 25–30 low-income households for energy efficiency upgrades through the city-owned utility's Low Income Energy Efficiency Program. ²⁸
Communities LEAP (Local Energy Action Program) Cohort 2	No-cost technical assistance and opportunity to receive up to \$50,000 for services rendered to help implement the technical assistance ²⁹	March 2024	In the second cohort of Communities LEAP, DOE is working with its national laboratories and other experts to provide technical assistance to 30 communities to support their clean-energy-related economic development efforts. ³⁰

²⁷ <https://www.aceee.org/energy-equity-for-renters>

²⁸ <https://www.energy.gov/scep/energy-efficiency-and-conservation-block-grant-program-awards>

²⁹ <https://www.energy.gov/communitiesLEAP/articles/doe-invests-more-18-million-continue-empowering-low-income-energy-burdened>

³⁰ <https://www.energy.gov/communitiesLEAP/communities-leap-cohort-2>

Conclusion

Since June 2022, Communities LEAP has supported Project EMPOWER in pursuing its short-term goal of reducing utility bills for energy-burdened households and its long-term objective of a fair and equitable clean energy transition for Alachua County. NREL staff and Communities LEAP subcontractors provided technical assistance to Project EMPOWER in the areas of community engagement, solar, weatherization and energy efficiency, green workforce development, and federal fund development. The buildings modeling work and workforce baseline analysis accomplished during the Communities LEAP pilot help set the stage for similar data-driven efforts in the future.

Continued Collaboration

As EMPOWER transitions from project to coalition, it is emphasizing the importance of continued collaboration. Team members understand how critical it is to maintain cooperation among a diverse set of organizations as EMPOWER pursues funding and technical assistance opportunities for its solar leasing approach. EMPOWER is also exploring ways to bring in new members and deepen existing partnerships. For example, following an EMPOWER presentation at a joint meeting in January 2024, the Alachua County Board of County Commissioners and the City Commission of Gainesville both passed motions directing commission staff to provide support to the EMPOWER Coalition and explore funding resources to help meet EMPOWER goals.³¹

Continued collaboration includes sustained engagement with Springhill and Sugarhill, Greater Duval, and SWAG as well. The neighborhood associations will be critical partners in the EMPOWER Coalition, and the coalition can work to maintain momentum from the series of community meetings in February and March 2024. In the future, the EMPOWER team plans to build on its work with these neighborhoods to encompass other communities and municipalities in Alachua County and beyond.

Future Research Opportunities

As the EMPOWER Coalition continues to grow and expand, opportunities for future research or technical assistance could include deeper dives into energy efficiency, electrification, and resilience hubs. Baseline or gap analyses could help provide a more solid foundation for future work as well. Such analyses could include more robust mapping efforts to better understand both coalition and community capabilities. Analyses could also include more neighborhoods to help the EMPOWER team better understand how to implement home repair, weatherization, and energy efficiency services at scale. Project EMPOWER's ultimate goal is to help Alachua County move toward using 100% renewable energy in a way that includes everyone in the benefits of the clean energy transition.

³¹ <https://pub-alachuacounty.escribemeetings.com/Meeting.aspx?Id=d7477ee8-a0cd-469b-9240-343ff94eeff0&Agenda=Agenda&lang=English>

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Appendix A. Weatherization and Energy Efficiency Resources

Table A-1 provides a non-exhaustive overview of key weatherization and energy efficiency support organizations in Alachua County, Florida. The table is current as of March 2024, and information is subject to change in the future.

Table A-1. Weatherization and Energy Efficiency Support Organizations in Alachua County

Organization	Key Services	Key Programs	Contact Information
Alachua County	Energy efficiency for rental units	Energy Efficiency and Weatherization of Affordable Housing Grant Program	<p>Phone: (352) 756-1403</p> <p>Address: 12 SE 1st Street Gainesville, FL 32601</p> <p>Email: briley@alachuacounty.us</p>
Community Weatherization Coalition	In-home service operations, utility bill review	Home Energy Tune-up Program	<p>Phone: (352) 450-4965</p> <p>Address: 633 NW 8th AV, Suite B Gainesville, FL 32601</p> <p>Email: info@communityweatherization.org</p>
Rebuilding Together North Central Florida	Safe and healthy housing, community redevelopment	<p>Critical Home Repair Program</p> <p>Emergency Home Repair Program</p> <p>Safe at Home Program</p>	<p>Phone: (352) 373-2573</p> <p>Address: 4550 SW 41st Boulevard, Ste. 2 Gainesville, FL 32608</p> <p>Email: mail@rebuildingtogetherncf.org</p>
Gainesville Regional Utilities	Energy efficiency for homeowners	Low-Income Energy Efficiency Program Plus (LEEP+) ³²	<p>Phone: (352) 393-1460</p> <p>Address: 633 NW 8th Ave Gainesville, FL 32601</p>

³² Temporarily not accepting applications as of August 1, 2023.



For more information about
Communities LEAP, visit:
energy.gov/CommunitiesLEAP

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