Stakeholder Recommendations for Reducing Energy Insecurity in the Southeast United States

Allie Garrett, Stacey Washington, and William D. Bryan

Nicholas Institute for Environmental Policy Solutions nicholasinstitute.duke.edu

Stakeholder Recommendations for Reducing Energy Insecurity in the Southeast United States

CONTENTS

Executive Summary 3
Summary of Recommendations 4
Introduction & Background 7
Southeast Energy Insecurity Stakeholder Initiative Overview and Context 9
- Objectives, Overview, and Geography 9
- Framework and Timeline 9

Southeast Energy Insecurity Stakeholder Initiative Recommendations 12
- Overview 12
- Working Group: Systemic Change 12
- Working Group: Housing 15
- Working Group: Awareness and Community Engagement 18
- Working Group: Data Access and Improvement 20
- Working Group: Programs and Access to Financing 23
- Working Group: Utility Solutions 26

Where Do We Go From Here? 29
Appendix 31
- Stakeholder Participants 31
- Advisory Board 32
- Project Team 32
- Glossary 32

Acknowledgments
The authors would like to thank the energy insecurity stakeholders who participated in the initiative, the advisory board, the project team, and the Merck Family Fund.

Publication Number: NI R 22-04

Duke NICHOLAS INSTITUTE FOR ENVIRONMENTAL POLICY SOLUTIONS
SEEA SOUTHEAST ENERGY EFFICIENCY ALLIANCE
Appalachian Voices
north carolina JUSTICE CENTER

Executive Summary

Energy insecurity—the inability to maintain energy services like heating and cooling—is one of the most pressing issues in the Southeast, where more than one out of every four households face access or affordability challenges.[1] This is more than an energy problem. Paying high energy bills and worrying about utilities being shut off can drain long-term savings, limit economic opportunities, and lead to difficult—and potentially dangerous—decisions to make tradeoffs between energy and other vital services and household items.

Energy insecurity stems from many factors, including income, energy costs, the quality and affordability of housing, historical practices and policies, access to efficient building technologies, and more. Because the causes and effects of energy insecurity are so far-reaching, there is a need for coordinated approaches that cut across sectors to address its many facets, and effective solutions must be responsive to the unique context of the South.

With this goal in mind, Duke University's Nicholas Institute for Environmental Policy Solutions developed the **Southeast Energy Insecurity Stakeholder Initiative** in 2021. The Initiative facilitated broad, collaborative discussions among a range of regional stakeholders to identify opportunities for reducing energy insecurity in the region. Opportunities are outlined in this report, and efforts to address them must take place at different scales and in different venues.

While diverse, recommendations highlight several key themes. First, the Initiative made it clear that there is a lack of regional coordination among the different stakeholders required to address energy insecurity. Moving forward, this Initiative will be the foundation for a regional coordinating committee that can prioritize and identify stakeholders to act on each recommendation. Second, the Initiative identified a lack of detailed information on energy insecure communities and potential solutions. The Initiative recommended the creation of a centralized resource hub and encouraged information sharing and transparency among relevant parties. Third, the Initiative stressed the need for expanding meaningful community engagement in the design, development, and implementation of programs and policies to address energy insecurity. Fourth, the Initiative recognized an opportunity to expand and improve education and training opportunities to widen access to jobs in energy efficiency and clean energy. Lastly, the Initiative stressed the need to understand energy efficiency solutions for both their energy and non-energy benefits.

All recommendations also share an understanding that energy insecurity is a set of entwined issues. While this makes it difficult to address effectively by any one party, it also provides an opportunity. By following the path laid out in this report, we have the potential to build regional networks that level existing network and institutional hierarchies, bring out new voices, and give all communities in the Southeast a say in their energy future.

1. U.S. Energy Information Administration, Table HC11.1 Household Energy Insecurity, 2015 Residential Energy Consumption Survey (RECS). RECS data is from the South Atlantic and East South Central Census Divisions, which consist of the following States: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, the District of Columbia, Alabama, Kentucky, Mississippi, and Tennessee.

SUMMARY OF RECOMMENDATIONS

Working Group	Recommendation
Systemic Change	1 – Develop a **regional coordinating committee** to facilitate cross-sector collaboration among stakeholders working to address energy insecurity.
	2 – Identify and address **health and safety challenges** that prevent access to energy assistance and identify weatherization cost savings.
	3 – Expand community engagement opportunities and **reduce barriers** to representation in energy decision-making processes.
	4 – Create **workforce development plans** to ensure the clean energy transition provides opportunities for energy insecure communities.
Housing	5 – Improve **housing codes** and renter programs to lower energy costs without harmfully raising the costs of affordable housing.
	6 – Increase access to **weatherization and clean technologies** in rental properties through existing home energy programs.
	7 – Utilize existing and encourage new electric **utility appliance programs** to overcome barriers to affording energy efficient appliances.
Awareness and Community Engagement	8 – Develop a public-facing **one-stop shop** that outlines which programs individuals are eligible for, houses a centralized application for aid, and provides collaborative program implementation.
	9 – Develop a **database of programs** addressing energy insecurity in the Southeast.
	10 – Develop one **centralized application for aid** starting with weatherization and urgent repair programs.
	11 – Launch an **awareness campaign** to educate energy insecure individuals and decision makers.
Data Access and Improvement	12 – Require electric and gas utilities to **collect, track, and report detailed data** such as arrearages, late fees, and shut-offs.
	13 – Develop a **"data dictionary"** to facilitate data requests for uses addressing energy insecurity.
	14 – Establish **data sharing** programs and develop a **standard practice** manual to guide/govern how data will be shared, what information can be shared, and how it will be used.
	15 – Develop a **process for community participation** in identifying energy insecurity data needs.
	16 – **Require utility data** collection and disparity gap analysis.
Programs and Access to Financing	17 – Review **existing financial programs** to make recommendations for revising or expanding.
	18 – Follow existing financial program **best practices** to accelerate energy efficiency and security.
	19 – Create programs specifically designed to **help renters** achieve energy security.

Utility Solutions	20 – Implement inclusive energy efficiency **utility investments** with robust consumer protections, such as Pay as You Save (PAYS).
	21 – Implement strong procedural protections, seasonal shutoff moratoria, protections for the socially vulnerable, and payment assistance **programs to prevent disconnection** from essential utility service.
	22 – Explore and implement **Performance Based Regulation** mechanisms that specifically benefit low-income customers.
	23 – Expand and implement **non-energy benefits** in energy efficiency cost effectiveness tests.
	24 – Reduce future capacity needs through aggressive pursuit of **energy efficiency and peak demand reduction**.

Note: This report includes a set of recommendations from the Southeast Energy Insecurity Stakeholder Initiative, reflecting the work of each of the six working groups that met biweekly or monthly between June and November 2021. **The recommendations reflect input from a diverse group of stakeholders but may not necessarily reflect full consensus of all stakeholders.**

ENERGY INSECURITY

INFLUENCES ON THE ACCESS AND AFFORDABILITY OF ENERGY

Age of housing

Older homes are often less efficient and more costly to heat and cool. In the Southeast, more than half of all residential buildings were built before the nation's first energy codes.

Advanced Building Technology

New housing and residential upgrades that include advanced building technologies can reduce energy costs, but are often out of reach to renters and low-income households.

Health

Energy insecure households are more likely to be located closer to transportation corridors, industrial areas, and in urban heat islands, putting them more at risk for exposure to pollutants and higher outdoor temperatures.

Economic

Energy cost burden is calculated by dividing all annual energy costs by a household's annual income. When a household spends 6% or more on energy, they are considered energy burdened and at risk to be energy insecure.

Behavioral

People experiencing energy insecurity may rely on coping mechanisms like using an oven or space heater to stay warm, or go without air conditioning to offset energy costs.

WWW.SEEALLIANCE.ORG/ENERGYINSECURITY

Energy Insecurity: *Sociologist Diana Hernandez defines energy insecurity as "an inability to adequately meet household basic energy needs," including heating, cooling, and lighting. Energy insecurity shows that there are many factors that can result in difficulty maintaining energy services. It also highlights key ways that vulnerable households are impacted by the compounding effects of unaffordable and inaccessible energy.*[2]

Energy insecurity has multiple dimensions. Economic energy insecurity encompasses all financial challenges households face to maintain energy services, especially the disproportionate costs carried by low-income households. Physical energy insecurity considers how the home structure impacts energy access and affordability. Low-income households have limited means to upgrade their home's structure or technology to increase energy savings, which can place them at a higher risk for health problems and high energy costs. Behavioral energy insecurity highlights the ways in which households adapt to meet their energy needs. While certain behaviors can help households cope with high costs and prevent utility shutoffs, strategies to heat or cool the home with nontraditional means—an oven or space heaters, for instance—can put residents at risk of health and safety problems.[3]

2. Diana Hernandez, "Understanding 'Energy Insecurity' and why it matters to health," Social Science Medicine, Vol. 167 (October 2016): 1–10; William D. Bryan and Maggie Kelley Riggins, Energy Insecurity Fundamentals for the South (Atlanta: Southeast Energy Efficiency Alliance, 2021), 6–7.
3. Hernandez, "Understanding 'Energy Insecurity' and why it matters to health," 1–10; Bryan and Kelley Riggins, *Energy Insecurity Fundamentals for the South*, 6–7.

INTRODUCTION & BACKGROUND

Many in the United States take for granted the energy that powers their lives. But for tens of millions of Americans, paying electric and gas bills each month is a constant struggle. Paying high energy bills and worrying about the utilities being shut off can drain long-term savings, limit economic opportunities, and lead to difficult—and potentially dangerous—decisions to make tradeoffs between energy and other vital services and household items.

These issues are especially pronounced in the Southern states. With over a quarter of households in the region having trouble paying their energy bills, more customers are cost-burdened in the South than in any other part of the country.[4]

> **"I try not to buy things I might need in order to make sure there is enough money to pay the bill."**[5]

These Southerners live in a state of **energy insecurity**, where it is difficult to maintain vital energy services, like heating and cooling. In the Southeast, nearly nine million households pay more than six percent of their gross household income on energy bills, exceeding the affordability threshold used by the U.S. Department of Housing and Urban Development (HUD). Almost five million of these households are considered "severely burdened" because they face energy cost burdens that exceed 10 percent of their household income.[6]

In human terms, a "**highly** burdened" single worker making the federal minimum wage, $7.25 an hour, will spend at least $70 out of their $1,160 gross monthly salary on their energy bills. A "**severely** burdened" single worker making the federal minimum wage would spend at least $116 out of their $1,160 gross monthly salary on their energy bills. These costs can easily be prohibitive even for households well over the poverty line, and the financial impacts of energy insecurity can prevent savings, exacerbate housing instability, and lead people to turn to exploitative payday lenders to cover their bills. Families with high energy burdens often must make decisions between keeping the lights on or spending money on other essential expenses such as food, housing, or healthcare. These issues underline that energy insecurity is much more than a financial problem.

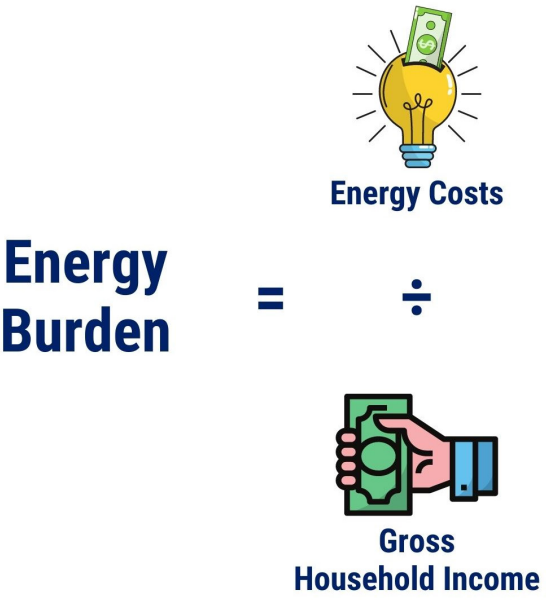
Since the disruptions of the 1970s energy crisis, the federal government along with state and local governments have developed and implemented programs to support people who are experiencing, or vulnerable to, energy insecurity. The federal Low Income Home Energy Assistance Program (LIHEAP), for instance, administered by the U.S. Department of Health and Human Services (HHS), provides income-qualified households with bill assistance and limited funding for efficiency retrofits. The U.S. Department of Energy's Weatherization Assistance Program (WAP) provides federal funds for qualified households to weatherize their homes, improving the efficiency of their living space. Additionally, many utility companies provide their own weatherization or payment plan programs for income-qualified customers designed to mitigate energy insecurity.

---

4. U.S. Energy Information Administration, Table HC11.1 Household Energy Insecurity, 2020 Residential Energy Consumption Survey (RECS). RECS data is from the South Atlantic and East South Central Census Divisions, which consist of the following States: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, the District of Columbia, Alabama, Kentucky, Mississippi, and Tennessee.
5. Quotes throughout this report are taken from responses to a survey that was conducted to support the efforts of the Southeast Energy Insecurity Stakeholder Initiative. See page 9 for more details about the survey.
6. Ariel Drehobl, Lauren Ross, and Roxana Ayala. *How High Are Household Energy Burdens?: An Assessment of National and Metropolitan Energy Burden Across the United States* (Washington, DC: ACEEE, 2020), 52.

Energy Burden: *Energy burden is a measure of the percentage of income required to pay annual utility bills, including electric, gas, and other fuel sources. Six percent of income spent on energy is typically considered to be the threshold for when bills become unaffordable for many households. However, energy burden as a metric is constrained in that it does not fully reflect a household's ability to pay their energy bills. Paying 6 percent of income for a high-earning household is less of a hardship than paying 6 percent of income for a family living at or below the poverty line, and costs can vary a great deal by location and context.*

Energy burden is only one tool to understand the financial dimensions of energy insecurity, but as Will Bryan and Maggie Kelley Riggins note in Energy Insecurity Fundamentals for the South, it "should inform programs and policies in conjunction with an array of other metrics relevant to context and scale to ensure vulnerable communities are fully supported."[7]



Each of these programs are critical, but the benefits fall far short of the need, reaching only a fraction of households that are experiencing or are at risk of energy insecurity. Not enough funds exist to serve all households in need, and providers are too often forced to choose between supporting each household with funding that can address their needs or reaching more qualifying households.[8] Utility programs throughout the region work to fill the gap but also suffer from issues of scale.[9]

While there is variability in benefits and number of people served, even the most robust programs currently fail to meet the need. As this report notes, there is a need for solutions that can address energy insecurity in more robust ways, tackling the complex roots of the issues rather than trying to address the symptoms.

7. Will Bryan and Kelley Riggins, *Energy Insecurity Fundamentals for the South*, 11 - 12.
8. Scott Belcher, "How a Decades-Old Federal Energy Assistance Program Functions in Practice: A Deep Dive into LIHEAP," NI PB 21-01. Durham, NC: Duke University, 2021.
9. Ariel Drehobl and Fernando Castro-Alvarez. *Low-Income Energy Efficiency Programs: A Baseline Assessment of Programs Serving the 51 Largest Cities*. Washington, DC: ACEEE, 2017.

SOUTHEAST ENERGY INSECURITY STAKEHOLDER INITIATIVE OVERVIEW AND CONTEXT

Overview, Objectives, and Geography

The Nicholas Institute for Environmental Policy Solutions at Duke University, in partnership with Appalachian Voices and the North Carolina Justice Center, launched the Southeast Energy Insecurity Stakeholder Initiative in January 2021. The purpose of the Initiative is to facilitate a broad, collaborative discussion among stakeholders to explore opportunities for reducing energy insecurity in the Southeast. Specifically, the objectives of the Initiative are to:

- measure and characterize the causes and impacts of energy burden and insecurity in the Southeast;
- devise sustainable, regional solutions to address energy insecurity; and
- foster collaboration among leaders across sectors to address energy insecurity in the region.

The project was led by a core team of staff from the Nicholas Institute, Appalachian Voices, and the North Carolina Justice Center. Over 60 stakeholders from local, state, regional, and national organizations participated in the stakeholder process. These included representatives from state and federal agencies, community-based organizations, investor-owned utilities, cooperative utilities, academia, consumer groups, environmental nonprofits, financial institutions, regulators, and others.[10]

While initially composed of eight Southeastern states, the Initiative grew to 11 states over the course of the year. The states included in the Initiative are Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia. Beyond the outlined region, the Initiative also had representation from experts nationally, particularly from the District of Columbia and Texas.

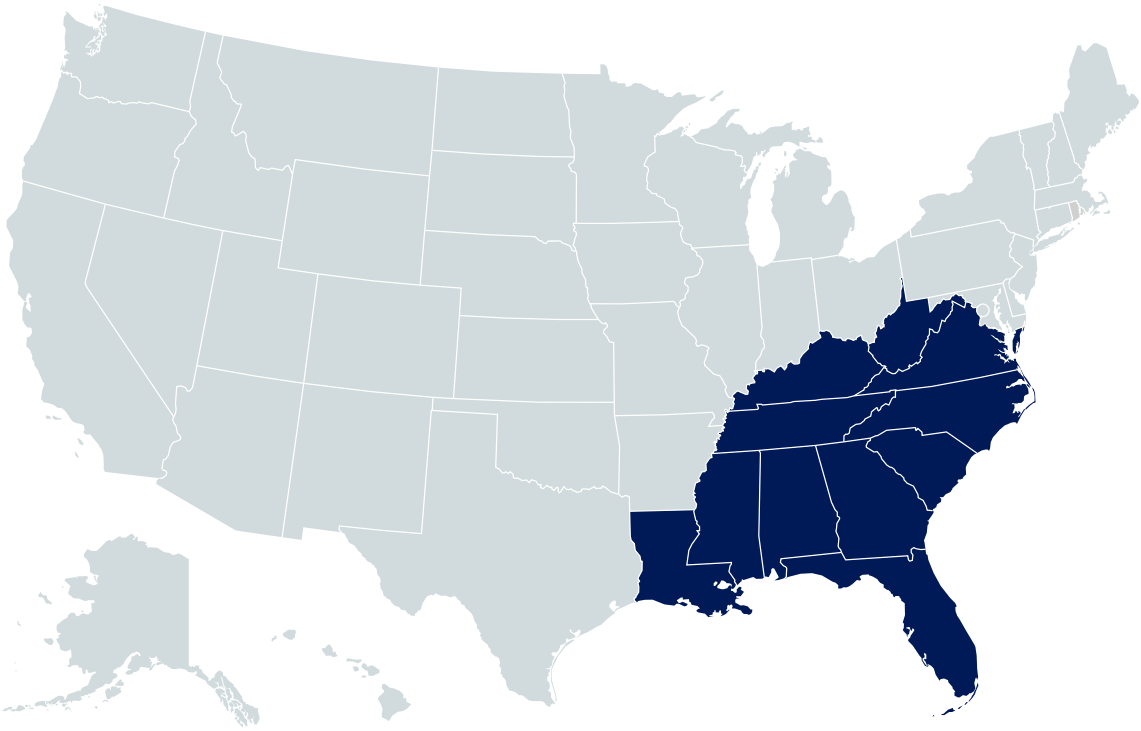
Framework and Timeline

In January 2021, the Nicholas Institute formed the Southeast Energy Insecurity Advisory Board. Composed of energy insecurity experts from across the Southeast, the Advisory Board was charged with guiding the strategic objectives of the project, providing input on project activities, and identifying key stakeholders to participate in working groups. The Advisory Board met monthly between January and December 2021.

Between January and May, the project team coordinated initial research and data analysis. This included qualitative and quantitative research on energy insecurity to baseline the issue:

> **Survey of Southeastern States:** A masters-level student group at Duke University's Nicholas School of the Environment conducted a survey in early 2021 to support the efforts of the Southeast Energy Insecurity Stakeholder Initiative. The survey contributed to the Initiative's work by answering two main research questions:
>
> - What are the most common tradeoffs and behaviors of energy insecure households?
> - What services or support are most helpful to energy insecure households?

10. For a full list of organizations, please reference the Appendix.



The survey was distributed to 97 partner organizations via email and reached 231 respondents.[11] Because the sample size is small and not well-distributed across the region, the project team does not consider these findings to be representative of the region as a whole. However, the survey offered useful insights into the lived experience of individuals facing energy insecurity. As such, quotes from individuals are incorporated throughout this report. Further, the survey's findings were used to inform the first stakeholder workshop.

Energy Burden—Household Analysis: Using the data analytic capabilities of Duke University's Environmental Justice Lab, staff at Duke University compiled data from several sources to determine energy burden at the household level. This work is more granular than existing available data, which maps energy burden to the census tract or zip code level. This compilation of data is complex, requiring significant analysis and refinement to create an accurate, usable tool for the region. As such, this analysis is ongoing. Results will be published upon completion.

The first stakeholder workshop was held on May 27, 2021. The meeting included the Project Team, Advisory Board, and over 100 stakeholders representing a variety of organizations across the region. The meeting had the following objectives:

- Foster a community of stakeholders focused on reducing energy insecurity in the Southeast
- Create a shared understanding of the energy insecurity landscape and establish common terminology
- Begin to identify challenges and solutions
- Introduce working groups

11. 231 responses were recorded. Responses that were not 100% complete were removed, leaving 166 responses. Respondents demonstrating income levels below 200% of the Federal Poverty Level (FPL) were focused on most heavily in data analyses.

At the workshop, presenters defined terminology and discussed the scope of energy insecurity in the Southeast. Participants met in small groups to outline the challenges and opportunities of addressing energy insecurity in the region and identified subject matter experts and additional stakeholders who should be involved. After the workshop, six working groups were developed based on what were identified by stakeholders as the most pressing categories of issues to address energy insecurity.

Between June and November, stakeholders met in the six working groups to outline challenges and develop recommendations to address them. These groups included:

- Awareness and Community Engagement
- Data Access and Improvement
- Housing
- Programs and Access to Financing
- Systemic Change
- Utility Solutions

Working groups consisted of 5–15 regular members and met biweekly or monthly to develop recommendations for achieving energy security in the region. The recommendations below are the product of many hours of deliberation, analysis, and refinement on behalf of committed stakeholders.

Alongside the working groups, the project team hosted three subject matter expert webinars. The webinars aimed to help stakeholders collectively deepen their understanding of issues relevant to working group discussions and decision-making. The topics covered included:

- Understanding Utility Business Models
- Percentage of Income Payment Programs
- Creative Financing Options

The final all-stakeholder workshop was held on December 7, 2021. The workshop served as a platform to review the top recommendations from each of the working groups to integrate feedback from all stakeholders.

SOUTHEAST ENERGY INSECURITY STAKEHOLDER INITIATIVE RECOMMENDATIONS

Overview

The Southeast Energy Insecurity Stakeholder Initiative developed 24 recommendations to achieve energy security in the region. Several recommendations were discussed in more than one working group and in most circumstances, the recommendations were consolidated under one working group. Some recommendations, however, were split off because they were different enough to merit their own recommendation. Recommendations can be further refined as they are adapted across various geographies.

> *"**Energy justice** refers to the goal of achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those historically harmed by the energy system ('frontline communities'). Energy justice explicitly centers the concerns of marginalized communities and aims to make energy more accessible, affordable, and clean and democratically managed for all communities. The practitioner and academic approaches to energy justice emphasize these process-related and distributive justice concerns."*[12]

Because the Southeast is a broad geographic region with varied political and regulatory contexts, the recommendations vary in terms of the level at which they may be adopted. For example, some recommendations require federal action, while others will happen at the state or municipal level. In rare cases, recommendations can be adopted across the entire geographic region. To the best of their ability, each working group outlined tangible next steps and identified the geographic scope of the recommendation. However, it is important to recognize that each recommendation will likely need to be refined and adapted to local context.

Working Group: Systemic Change

Problem Statement

No single issue is the root cause of energy insecurity. Rather, it is a product of, and intersects with, multiple issues, including income, high energy costs, access to broadband internet, linguistic isolation, and inefficient housing, among others. These issues extend beyond the energy and housing sectors. Efforts to address energy insecurity take place at many scales and in many venues, and currently there is no focused initiative to bring together the various interested parties. Solutions rooted in healthcare, energy, housing, and even insurance are all needed to address the roots of energy insecurity, but too often these efforts remain siloed, and stakeholders do not coordinate even where they would benefit from complementary efforts.

Vision Statement

The vision of the Systemic Change working group is to bring together the myriad stakeholders needed to effectively eliminate energy insecurity. Stakeholders will come together to develop shared solutions that address the systemic issues that make households vulnerable to energy access and affordability constraints. This requires developing new forums for cross-sector collaboration. These efforts can benefit from a comprehensive survey of funding and other resources available to address the roots of energy insecurity which might fall outside of the traditional energy and housing sectors. The working group also recognizes enabling greater community participation is vital to the success of any solution.

12. Initiative for Energy Justice: *Section 1—Defining Energy Justice: Connections to Environmental Justice, Climate Justice, and the Just Transition*, by Shalanda Baker, Subin DeVar, and Shiva Prakash. (2019), https://iejusa.org/section-1-defining-energy-justice/

Recommendations

Recommendation 1: Develop a regional coordinating committee to facilitate cross-sector collaboration among stakeholders working to address energy insecurity.

Summary	Individuals working to address energy insecurity come from a wide range of organizations across many sectors. Given the diversity of stakeholders, efforts to achieve energy security in the region would benefit from a regional coordinating committee that will facilitate cross-sector approaches and work to ensure efforts are aligned and complementary. The regional coordinating committee will be focused on guiding and advising the implementation of recommendations for achieving energy security for all communities in the Southeast. It should be comprised of individuals who are or have been impacted by energy insecurity, as well as the various entities who work to address the issue, including, but not limited to: nongovernmental organizations (NGOs); public and private utilities; housing authorities; government officials; food banks; religious institutions; health centers; and more.
Intended Outcome(s)	As the Southeast Energy Insecurity Stakeholder Initiative moves into the implementation phase, this group will serve as key advisors to help move recommendations forward through engagement with decision makers.
Feasibility	**High.** Requires staff time for coordination. The working group should be housed at and facilitated by a neutral convener. Solutions would require funding from government and other stakeholders.
Next Steps	Determine leaders who will serve on the committee; determine convener. Create a framework to show the broad impacts of energy insecurity, including broadband access; charging infrastructure; community solar; heir's property; health; COVID-19; microgrids; and more.

Recommendation 2: Identify and address health and safety challenges that prevent access to energy assistance and identify weatherization cost savings.

Summary	It is necessary to take a holistic approach to close the pre-weatherization gap. This may include supporting community-led weatherization efforts; expanding eligibility for federal weatherization programs to include health and safety repairs; leveraging additional federal funding sources like the Children's Health Insurance Program (CHIP) to support programs that will make essential repairs; and incentivizing landlords to make repairs. This is a recommendation to create and scale inclusive financing programs that have robust consumer protections to close this gap, as well as identify cost savings associated with home improvements and weatherization. All programs must have robust consumer protections.
Intended Outcome(s)	• Reduce pre-weatherization deferrals • Holistically meet the needs of low- and moderate-income households who are unable to weatherize their homes due to health and safety concerns • Account for avoided costs provided by energy efficiency solutions
Feasibility	**Medium.** This is a longstanding, systemic issue. Some state-level and local solutions have been successful in addressing the pre-weatherization gap. Roanoke Electric Cooperative's SolarShare program represents a potential model that addresses these issues in a comprehensive way and focuses on serving low- and moderate-income homeowners.
Next Steps	The next step will likely be state-specific. This recommendation should be built out by the regional coordinating committee.

Recommendation 3: Expand community engagement opportunities and reduce barriers to representation in the energy decision-making processes.

Summary	It is necessary to create pathways for community engagement while also engaging in structural reform to level barriers to representation in energy regulation and decision-making bodies. Options may include: • Launching a bidirectional training program pilot to 1) increase thought leadership and participation from underrepresented groups in Public Utilities Commissions (PUCs) proceedings; 2) facilitate engagement between underrepresented groups, commissioners, and public staff; and 3) develop an accessible primer program to educate interested parties on the role and importance of PUCs in the Southeast. • Launching an intervenor compensation program. • Where utility commissions are elected, pursuing electoral reform to ensure that voting for commissioners allows for input from all residents. • Beyond PUCs, expand opportunities for member-owners to be more involved in decision-making within local cooperative utilities.
Intended Outcome(s)	Increase ability for individuals to participate in energy regulation and decision-making.
Feasibility	**Medium.**
Next Steps	The next step will likely be state-specific. This recommendation should be built out by the regional coordinating committee.

Recommendation 4: Create workforce development plans to ensure the clean energy transition provides opportunities for energy insecure communities.

Summary	A comprehensive workforce development plan is needed to equitably scale energy efficiency, electrification, solar, and pre-weatherization upgrades in the region. Although these are fast-growing job sectors, they do not necessarily benefit communities impacted by energy insecurity due to the geographic distribution of clean energy and energy efficiency jobs and a lack of training opportunities to participate in these sectors.[13] It is necessary to identify, support, and develop new workforce development and training opportunities that can ensure a more equitable distribution of jobs in the clean energy economy. Creating state-level workforce development plans specifically to address energy insecurity promotes economic development and can increase income while addressing environmental health issues. Plans would be tailored to each state and complement existing plans.
Intended Outcome(s)	• Ensure an equitable distribution of jobs in the clean energy economy • Ensure states can meet the needs of the fast-growing clean energy sectors
Feasibility	**Medium.** Ample research exists on the topic of "green" workforce development, but extensive coordination is required to create actionable plans.
Next Steps	The next step will be state-specific, but generally includes building on existing workforce development plans to fully include efficiency, electrification, and renewables.

Working Group: Housing

Problem Statement

Many housing-related factors contribute to energy insecurity. First, whether a home is rented or owned impacts the availability of financing and assistance programs. About half of low-income homeowners may qualify for utility efficiency programs but are unable to participate in the program because they are unable to pay for repairing the health and safety issues with their home that exist alongside inadequate weatherization.[14] Renters face the particular challenge of misaligned, or "split," incentives, where tenants pay high energy bills that could be lessened by investments in efficiency improvements, but landlords do not have enough of an incentive to improve the condition of the home. At a more systemic level, there are various issues related to housing that can impact energy insecurity. For example, lax or nonexistent building codes in some municipalities enable inefficient housing stock to remain unaddressed, and existing programs and tax incentives can disincentivize energy efficiency investments.

> **"If you have a cut off notice you're at risk of getting evicted. What about the ones that's already gotten evicted and light bill has been turned over to collections? Now you can't rent from anyone because no one trust you paying your bills. Now me and my 25-year-old son are staying in a one room motel. Money can't be saved due to paying $58 a night and eating on the go."**

13. The most recent U.S. Solar Industry Diversity Study, published in 2019 by the Solar Foundation and Solar Energy Industries Association (SEIA), found that 67% of the solar energy workforce was white. *U.S. Solar Industry* Diversity Study 2019, The Solar Foundation. Available at https://irecusa.org/resources/2019-solar-diversity-study-3/.
14. Advanced Energy, Duke Energy, Lockheed Martin, North Carolina Community Action Association: *Evaluation of Duke Energy's helping home fund*. (2017), https://www.nccaa.net/_files/ugd/ae395b_03927a9829bc4ff2a70e19cba01955df.pdf?index=true

Vision Statement

Procedural and distributive justice are fundamental to energy justice. To reduce energy burden, equity must be centered in participation, decision-making, distribution of resources, monitoring, and evaluation frameworks. The following guiding principles emerged through the development of recommendations in the Housing working group:

- Intentionally address racial health and wealth disparities through transformative energy and housing justice actions
- Must have meaningful diversity in defining the issues, designing solutions, developing programs, and tracking of outcomes
- Commit to community-driven strategies that proactively identify and engage organizations and change leaders to produce insights and outcomes important to individuals and neighborhoods experiencing disparate outcomes in energy insecurity
- Authentically engage community members most affected by energy insecurity on why housing matters and how they can participate in securing energy security, including legal mechanisms
- Apply human rights-based approaches (HBRA) to policy and practice—instead of focusing only on costs/resources—to better address energy insecurity within the frame of the right to adequate housing, energy, and water

Recommendations

Recommendation 5: Improve housing codes and renter programs to lower energy costs without harmfully raising the costs of affordable housing.

Summary	Improvements in residential building energy codes that lower energy costs without harmfully raising the costs of affordable housing should be adopted. States should improve energy efficiency provisions in Qualified Allocation Plans (QAPs) to ensure that new housing developments remain affordable. Code enhancements should be accompanied by adequate funding and support for capacity building around development, operationalizing, and enforcing new codes. Existing housing stock warranties of habitability for renters should also be enhanced and enforced.
Intended Outcome(s)	• Lower energy costs and lifecycle building costs, improving affordability for building occupants. • Enhance quality and safety of rental housing by improving local and state warranties of habitability informed by energy efficiency standards. • The existing affordable housing stock will be preserved by reducing housing cost burdens.
Feasibility	**Medium.** Southern states maintain structures for regularly reviewing and enhancing building codes. Advocacy opportunities will vary by state. Opportunities for improving warranties of habitability will also vary by state.
Next Steps	State and local leaders and advocates should begin evaluating current building codes and warranties of habitability to look for cost effective enhancements that will lower energy costs and burden and improve energy security.

Recommendation 6: Increase access to weatherization and clean technologies in rental properties through existing home energy programs.

Summary	Existing home energy programs (e.g., weatherization) are encouraged to integrate new, smart, and clean technologies (e.g., smart thermostats, heat pump water heaters) into their energy efficiency work with a focus on single-family and multifamily rental properties. Strategies would: • Include landlord (and other stakeholder) engagement initiatives to educate on the multiple benefits of energy efficiency and to discover pathways that work for all stakeholders; and • Expand workforce and economic development opportunities for impacted communities through expanding installation of energy efficiency and clean energy technologies.
Intended Outcome(s)	• Reduce energy burden in rental properties and improve housing conditions for a population dependent on property owners to take action. • Facilitate negotiated protections for tenants while reducing risk of gentrification.
Feasibility	**Medium.** Weatherization and clean energy technologies are accessible to rental properties, but barriers exist for it to be completed at a greater scale.
Next Steps	Work within federal, state, local, and administrative bodies to enhance weatherization and other energy efficiency/clean energy programs. Work with economic empowerment agencies to design strategies for meaningful community participation.

Recommendation 7: Utilize existing and encourage new electric utility appliance programs to overcome barriers to energy efficient appliances.

Summary	New and smart technologies that help reduce energy costs are too often not accessible to low and moderate-income households and communities experiencing high energy burdens and energy insecurity. Rental programs, such as those available in South Carolina with an electric co-op (Fairfield Electric), as well as in Canada with Energie New Brunswick Power's Water Heater Rental Program, offer residential ratepayers access to the most efficient water heaters with an affordable monthly rental payment that is easily covered by energy savings of the appliance. Process evaluations that include participant and community feedback will be included to better understand how these programs work, barriers to adoption, public perception, and distribution of benefits and risks.
Intended Outcome(s)	• Provide access to energy efficient appliances that immediately save utility costs and reduce energy burden. • Develop a process that includes customer protections, such as tracking of monthly net savings of pilots and future programs to ensure expected outcomes are achieved.
Feasibility	**Medium.** Can be implemented in all Southern states.
Next Steps	Work together with private and public partnerships to design, pilot, and administer rental programs.

Working Group: Awareness and Community Engagement

Problem Statement

> **"The applications are long and most of the time are not accessible."**

Many low-income households are not aware of the energy programs that are available to them. If someone has a high electric or gas bill, where can they turn? Does the utility provide assistance? Does the government provide assistance? Are there any actions that can be taken to reduce energy consumption? What is a Community Action Agency? Do I need to take out a loan? All of these questions and more come to mind when faced with limited awareness. Further, elected officials and decision makers are sometimes not aware of the true extent of how energy insecurity impacts residents.

Vision Statement

The vision of the Awareness and Community Engagement working group is to help low-income households find the information that can reduce electric and gas bills. The recommendations encompass two main ideas: a one-stop shop of information and resources, and marketing/outreach to increase awareness of the resources.

The marketing/outreach will use existing initiatives and provide additional information and lift up these existing avenues to help increase awareness. The one-stop shop will be the place where low-income households can turn to answer the questions above and reduce some of the barriers to participation.

Recommendations

Recommendation 8: Develop a public-facing one-stop shop that outlines which programs individuals are eligible for, houses a centralized application for aid, and provides collaborative program implementation.

Summary	Develop a public-facing one-stop shop that outlines which programs individuals are eligible for and houses a centralized application for aid. Communication materials developed should be nontechnical, culturally relevant, and translated into commonly spoken languages. To reach individuals living in areas that do not have access to high-speed broadband, all information on the site will be easily printable and will be shared with local agencies who serve as a conduit to individuals.
Intended Outcome(s)	• Reduce barriers to accessing aid and allow for higher program utilization • Provide access to information, education, and resource connectivity for low- and moderate- income families seeking assistance
Feasibility	**Medium.** Implementing a one-stop shop requires extensive coordination among agencies, as well as funding to create the site and keep all information up-to-date.
Next Steps	Determine implementing organization(s); seek funding

Recommendation 9: Develop a database of programs addressing energy insecurity in the Southeast.

Summary	Develop a comprehensive database of all programs that address energy insecurity in the Southeast. The database should include federal, state, local, and utility-sponsored programs and should provide all possible information on eligibility.
Intended Outcome(s)	• Clarify eligibility gaps • Have comprehensive data for the one-stop shop
Feasibility	**High.** Information is publicly available. Requires staff time and will need to be kept up to date.
Next Steps	Work is underway at the Nicholas Institute. Once developed, needs to be coordinated with one-stop shop (Recommendation 8).

Recommendation 10: Develop one centralized application for aid starting with weatherization and urgent repair programs.

Summary	One application for common aid programs should be developed and accepted by implementing agencies. Coordination could start with weatherization, urgent repair, and initiatives to age in place; however, it is hoped that this is a model that could scale to aid programs more broadly.
Intended Outcome(s)	• Reduce the burden of applying by using one centralized application for individuals seeking aid • Increase coordination among organizations providing aid • Reduce waitlist time and optimize program funding
Feasibility	**Medium-High.** NC Justice Center runs a program in NC; SC is interested in launching a pilot program.
Next Steps	This recommendation will need to be implemented at the local or state level, unless action is taken at the federal level. Funding is required. Once developed, needs to be coordinated with one-stop shop (Recommendation 8).

Recommendation 11: Launch an awareness campaign to educate energy insecure individuals and decision makers.

Summary	Launch an awareness campaign to address two issues: 1) individuals who are impacted by energy insecurity are not always aware that assistance exists, what they may qualify for, and how to apply for aid; and 2) decision makers are not always aware of the extent of the problem, its impacts on residents, and how constituents may benefit from expanded interventions.
Intended Outcome(s)	• Prioritize communities' voices in educating decision makers (elected, appointed, or otherwise) • Ensure those in need of aid are aware of existing programs
Feasibility	**Medium-High.** Awareness campaigns need to be fully informed by those who are impacted and tailored to local context. Many organizations do this work already and may need increased funding. In other cases, implementing organizations need to be named.
Next Steps	Determine which programs already exist, lift up existing programs, and seek funding to build out the campaign.

Working Group: Data Access and Improvement

Problem Statement

There is a lack of publicly available energy usage data at the community and household levels, which obscures the true impacts of energy insecurity. Without this data it is difficult to determine who exactly is experiencing energy insecurity, what energy insecurity looks like in different contexts, how many people have experienced or are experiencing some aspect of insecurity, and why. As a result, it is more difficult to develop appropriate, effective, and sustainable solutions for specific communities or the region that will effectively increase energy efficiency, reduce costs, and address the root causes of energy insecurity.

Vision Statement

The vision of the Data Access and Improvement working group focuses on ensuring that relevant data is made available to practitioners and community members through regulatory reform and the development of data sharing networks among relevant stakeholders. Recognizing the complexity of energy data, the working group also recommends developing and distributing resources that will help understand and use energy data. Necessary data goes beyond energy usage to encompass lived experiences from community members, and there is a need for equitably giving communities themselves a say in the data sharing process, while ensuring that underrepresented communities are included.

Recommendations

Recommendation 12: Require electric and gas utilities to collect, track, and report detailed data such as arrearages, late fees, and shutoffs.

Summary	Require electric and gas utilities to collect and track detailed data on arrearages, late fees, shutoffs (and amount owed), the length of disconnection, reconnection fees, security deposits, and to report this data monthly by service area and census tract (or ideally, zip code). Also, to support smaller utilities in meeting this requirement, states and representative utility associations should develop and offer technical assistance and capacity building resources.
Intended Outcome(s)	Improved public understanding of household energy insecurity as it pertains to being at risk of disconnection, the amount of debt customers face, the frequency of disconnections, and the compounding impacts of the cost of reconnection. This data will also help with identifying and responding to disparate impacts across race and geography.
Feasibility	**Medium.** Utility resistance, utility capacity, and customer privacy concerns pose significant but not insurmountable barriers. Community input is required to identify data and analytical needs relative to lived experiences. Legislative, regulatory, and budgetary action are likely required.
Next Steps	Identify case studies, best practices, and relevant examples of legislation and/or rulemaking where detailed reporting is required in other states. Develop a data dictionary (Recommendation 13) to detail the need, use, and impact of data.

Recommendation 13: Develop a "data dictionary" to facilitate data requests for uses addressing energy insecurity.

Summary	Develop a "data dictionary" to effectively engage utilities, service agencies, local government agencies, and others on the need for and use/benefit of public access to customer-related data. The data dictionary would: 1) provide a clear list of data points related to the customer, dwelling, energy use and billing, etc.; 2) clearly make a case about what could be accomplished if the data were readily available; 3) clarify which data are needed from utilities and which data can be obtained through other public or private sources; and 4) be combined with a standard practice manual providing rules and guidance on the use and sharing of the data.
Intended Outcome(s)	• Define problems that need to be solved to develop appropriate and effective solutions at the scale necessary to meet the needs of energy insecure households • Eliminate the "analysis paralysis" experienced by so many researchers by providing specific questions to ask and recommendations for how the data could be used to address the questions
Feasibility	**High.** Creating the data dictionary is highly feasible. The impact depends on how it is used. This resource is intended to support efforts in obtaining needed data to analyze impacts.
Next Steps	Create an interdisciplinary collaborative. Gather community and stakeholder input on what should be included. Raise awareness of the tool to partners/stakeholders to bolster efforts in data collection and to maximize use/impact of the tool. This effort should be managed by the regional coordinating committee.

Recommendation 14: Establish data sharing programs and develop a standard practice manual to guide/govern how data will be shared, what information can be shared, and how it will be used.

Summary	Establish broad data sharing programs among a network of utilities, government agencies, service agencies/organizations and other appropriate entities, and develop a standard practice manual to guide/govern how data will be shared, what information can be shared, and how it will be used.
Intended Outcome(s)	To bring programs to scale, and effectively target those most in need, data sharing networks must be established among all relevant entities/stakeholders. This will help allocate and utilize resources more effectively in identifying, targeting, and generating maximum impact/benefit for the most vulnerable, energy insecure households.
Feasibility	**Medium.** Need to overcome utility resistance and privacy concerns. May require legislative, regulatory, and/or voluntary action.
Next Steps	Identify key agencies and stakeholders that could inform and lead the effort. Explore best practices, including examples of existing agreement/partnership models.

Recommendation 15: Develop a process for community participation in identifying energy insecurity data needs.

Summary	Develop a process, requirements, and/or guidelines for community participation in identifying energy insecurity data needs, determine ownership and translation of data collected, and decide for what purpose the data is to be used. This involves investing in community (and research/academic) capacity building around research methods and tools for implementing authentic community-driven research on topics related to energy insecurity and justice. Communities must also be included in policy design, direction, funding, and monitoring of solutions.
Intended Outcome(s)	• Advance procedural and distributive justice toward achieving energy justice • Build capacity of communities to identify, collect and analyze data and information that meets their needs • Incorporate lived experiences and community-driven research to ensure appropriate and equitable solutions
Feasibility	**Medium-High.** Substantial time and effort are required to engage with community groups about data and how it could be used or impact them, to collect and organize input alongside the community, and to build the technical capacity of communities for storage and access of owned data, if necessary. Funding for community participation is also required.
Next Steps	Evaluation of existing models (in the U.S. and abroad) and previous successes and failures of community-led research driving change. Local research on what is already being done/available and what is needed to affect meaningful change.

Recommendation 16: Require utility data collection and disparity gap analysis.

Summary	Require utilities to conduct ongoing disparity gap analyses of customer arrearages, late fees, disconnections, pre-pay programs, utility bill assistance and enrollment in low-income weatherization/energy efficiency/distributed energy resource and financial assistance programs, with a focus on communities impacted by environmental injustices. Require utilities to respond appropriately to disparities and inequities discovered. Enable communities to respond, with tools, resources and guidance made available to help communities hold utilities accountable.
Intended Outcome(s)	The purpose of such analyses should be to determine whether disparities exist in outcomes and make necessary systematic changes within a utility program or practice, and for such changes/actions to be informed and/or enforced by stakeholders from impacted communities.
Feasibility	**Medium.** There must first be community interest and need along with capacity to collect and store data in communities. Training, community trust, and a commitment to the effort from all stakeholders is also required. Pandemic-related challenges must also be addressed. Also, utilities need to have the data necessary to conduct the required analyses.
Next Steps	• Garner commitment from utilities, communities, and other stakeholders. • Compile resources and technical assistance to conduct the analyses and communicate results • Identify and catalog all potential pathways and approaches for complaints and redress.

Working Group: Programs and Access to Financing

Problem Statement

Funding to address energy insecurity is available in the form of grants and loans at the federal, state, and municipal levels. However, there are several challenges to utilizing existing funds. Convoluted eligibility and application processes can negate the many positive impacts of existing programs. Some families face particularly high barriers based on their individual circumstances:

"My energy bill is the highest bill I pay of my household expenses."

"We are constantly on the lookout for downed trees to supplement our winter heating bills."

- Many families are unable to access assistance to weatherize their homes because homes do not meet certain health and safety criteria
- Renters are often unable to access upgrades despite experiencing extreme energy burden because landlords lack incentives for improving the home
- Individuals who are marginally above the Federal Poverty Line (greater than 200% of the FPL) are often unable to afford costly upgrades with discretionary income, but are left out of federal and many state programs

Further, existing programs and regulations lack support for electrification and making available highly beneficial technologies, such as heat pumps. It is necessary to creatively revamp programs to increase resiliency and reduce peak demand while meeting the needs of residents experiencing insecurity.

Vision Statement

Existing and future programs to address energy insecurity need to be viewed holistically, centering the needs of the end user. Grant and loan programs should be used in concert with one another, utilizing existing infrastructure to buy down cost and amplify impact. Inclusive financing solutions merit prioritization, and program accessibility—the mechanics of how an individual learns about, applies for, and receives aid—should be given top consideration.

Recommendations

Recommendation 17: Review existing financial programs to make recommendations for revising or expanding.

Summary	Review existing federal and state assistance programs and non-governmental finance programs to make recommendations for revising or expanding. Examples may include encouraging the Low-Income Home Energy Assistance Program (LIHEAP) to include electrification; encouraging the Weatherization Assistance Program (WAP) to expand pre-weatherization health and safety improvements; and making heat pumps more accessible. Additionally, researchers should review how existing sources of funding may be used to support energy security (Housing and Urban Development, Community Development Block Grants, Medicaid/Medicare, Cares Act, etc.).
Intended Outcome(s)	• Utilize existing program infrastructure • Buy down costs; multiply the potential of grant dollars • Utilize nontraditional sources of federal funding to meet the need for pre-weatherization upgrades • Have programs expand resources to include pre-weatherization upgrades
Feasibility	**Reviewing programs: High.** Requires funding for staff time. **Implementing solutions: Low/Medium.** Requires extensive coordination beyond partners in the Southeast, including federal coordination.
Next Steps	Determine the organization who will review existing programs.

Recommendation 18: Follow existing financial program best practices to accelerate energy efficiency and security.

Summary	Several existing programs and policies stand out as best practices to achieve energy efficiency and security. Examples include: • Pay as You Save (PAYS) models • Percentage of Income Payment (PIPP) Programs • Clean energy loan funds (green banks) • Direct Pay instead of federal tax credits and rebates • Equity-centered tariffed on-bill financing programs • Ending utility disconnects, late fees and disconnect/reconnect fees As entities work to achieve energy security in the Southeast, these inclusive solutions should be given highest priority.
Intended Outcome(s)	• Centering low- and moderate-income families in program design • Ensuring that programs have adequate consumer protection mechanisms • Prioritizing access to energy as a human right • Ending disconnects for nonpayment
Feasibility	**Medium.** Solutions are going to be place-based. Various forms of the example programs exist across the region and each state has specific abilities and barriers with regards to achieving energy security for its residents.
Next Steps	Best practices need to be more fully agreed-upon, which may be a role of the regional coordinating committee.

Recommendation 19: Create programs specifically designed to help renters achieve energy security.

Summary	Low- and moderate-income renters often do not have control over efficiency improvements in their home but pay high utility bills as a result of living in inefficient housing. To address this problem, programs need to be designed specifically to address the needs of this population, including working with landlords to develop and scale solutions.
Intended Outcome(s)	• Ensure that efficiency improvements are fully available to households who rent • Develop incentives for landlords while ensuring robust and enforceable protections for tenants
Feasibility	**Medium.** Difficult to achieve at scale, but extensive resources exist, and the recommendation may be highly feasible at the local level.
Next Steps	Work with partners across the region to scale existing work; for example, the Atlanta Housing—SELF SEER (Sustainable Energy Efficiency Rental) Loan program.

Working Group: Utility Solutions

Problem Statement

Low-income communities, communities of color, and vulnerable persons, including people who are elderly, pay the highest proportion of their incomes to energy and are most vulnerable to shutoffs. Electric, water, and gas utilities provide essential services without which people cannot live healthy and productive lives. Yet every year, even during a global pandemic, millions of people are disconnected for failure to pay. Utilities have stated that without the threat of disconnection, many people, even those with means, would not pay their monthly bill leading to a loss of revenue for the utility. To help reduce energy use, qualifying low-income energy efficiency upgrades are essential. However, the scope and scale of efficiency upgrade measures has exceeded the funding available for decades. Additionally, utilities in the Southeast region have been slow to implement energy efficiency programs.

Vision Statement

The recommendations from the Utility Solutions working group strive to establish policies that protect the well-being of all utility customers, and the eventual elimination of utility disconnections due to nonpayment and arrearages. This bold vision can be realized by better aligning utility incentives through well-designed performance-based regulation as opposed to the traditional cost of service approach. This can result in downward pressure on rates and reduce future capacity needs through aggressively pursuing energy efficiency and smooth grid utilization. Expanding access to energy efficiency programs through non-energy benefits and tariff on-bill financing are additional program enhancements. Additionally, programs providing strong procedural protections, seasonal shutoff moratoria, protections for the socially vulnerable, and payment assistance programs to prevent disconnection from utility service are essential. These policies should be implemented in coordination with programs to address pre-weatherization issues.

Recommendations

Recommendation 20: Implement inclusive energy efficiency utility investments with robust consumer protections, such as Pay as You Save (PAYS).

Summary	Utilities should offer inclusive tariff on-bill programs to finance energy efficiency and weatherization projects in residential customer's homes. We recommend the PAYS model specifically as a method for gaining access to energy upgrades that has a demonstrated record of delivering cash flow positive energy efficiency to low-income residents and renters, while minimizing potential harms to all stakeholders through detailed consumer protection program requirements.
Intended Outcome(s)	Customers will have universal access to energy efficiency upgrades that will reduce high energy use and make energy costs more affordable, after first applying taxpayer/ratepayer funded program benefits.
Feasibility	**High/Medium.** There is a track record of successful programs run by co-ops. Billing system upgrades, securing capital at a low interest rate, and regulatory approval all may be required to implement successfully.
Next Steps	• Continue to collect data from existing PAYS programs to gather best practices. • Work with the few investor-owned utilities (IOUs) implementing tariffed on-bill (TOB) pilot programs to learn what IOUs need to launch a successful TOB/PAYS program and demonstrate effectiveness. • Continue to expand awareness of and access to TOB models for electric cooperatives.

Recommendation 21: Implement strong procedural protections, seasonal shutoff moratorium, protections for the socially vulnerable, and payment assistance programs to prevent disconnection from essential utility service.

Summary	We endorse the 18 policies and recommendations in the NAACP's "Lights Out in the Cold" report that call for utilities to implement strong procedural protections, seasonal protections, payment assistance, and protections for the socially vulnerable.
Intended Outcome(s)	• Protect the well-being of all utility customers and move to eventually eliminate utility disconnections due to nonpayment and arrearages. • Implement these policies alongside a robust Percentage of Income Payment Program (PIPP) or Customer Assistance Program, programs to address pre-weatherization issues, and targeted energy efficiency/demand side management (EE/DSM) programs to lower energy burden.
Feasibility	**Low.** These policies may/will shift costs to other customers and approval will need to come from utility commissions, public staff and even state legislatures. There are many prerequisites including a robust PIPP or CAP program, programs to address pre-weatherization issues, and targeted energy efficiency/demand-side management programs needed to make these recommendations truly effective.
Next Steps	Identify organizations and regulatory opportunities at the state and utility level

Recommendation 22: Explore and implement Performance Based Regulation mechanisms that specifically benefit low-income customers.

Summary	Performance-Based Regulation (PBR) mechanisms are a tool to align utility shareholder interests with policy goals and key outcomes such as energy equity, environmental impacts, and other societal benefits. PBR should be used to drive utility investment to hard-to-reach customers, including low-income households, and should not lead to undue rate impacts for the general public. We recommend studying how PBR can benefit low-income customers and what design elements could be harmful, as well as recommendations for stakeholder engagement best practices regulators can use if/when they look to adopt PBR.
Intended Outcome(s)	• Redesign the rate-making process to drive utility investment towards low-income customers via PBR mechanisms while not harming them. • Realign utility incentives in the utility business model to be dependent on achieving policy goals rather than building new capital assets such as power plants.
Feasibility	**High.** To create the report **Low.** To implement PBR, an overhaul of the rate-making process is needed. The rate-making process is complex and often not well understood even by regulators and advocates. This recommendation will likely require legislative approvals and lengthy rulemaking at utility commissions.
Next Steps	Identify organization(s) to develop the report. Identify regulatory opportunities at the state and utility level

"I can pay off credit card debt quickly, but the unexpected high bill was tough."

Recommendation 23: Expand and implement non-energy benefits in energy efficiency cost effectiveness tests.

Summary	We recommend all utilities who have not already done so study and include non-energy benefits in energy efficiency and demand-side management cost effectiveness tests. Non-energy benefits (NEBs) are the wider socioeconomic outcomes that arise from investments in energy efficiency. We do not recommend using Ratepayer Impact Measure as the cost test for any program. We also recommend additional Commission education about energy efficiency as a utility system resource.
Intended Outcome(s)	• Expand the energy efficiency program and measure offerings by valuing health, environment, jobs, and other quantifiable NEBs in the cost benefit analysis
Feasibility	**Medium.** NEBs are in place in many utility programs across the country. To implement, reliable local data and regulatory support is needed. This recommendation may be challenging for utilities whose business models do not incentivize energy efficiency. Some legislatures mandate what can be included in cost analysis and commissions may not feel or be empowered to change the methodology.
Next Steps	Identify regulatory opportunities to engage at the state and utility level

Recommendation 24: Reduce future capacity needs through aggressive pursuit of energy efficiency and peak demand reduction.

Summary	While energy efficiency and demand response are already proven to reduce peak demand, utilities are not taking full advantage of these resources. Therefore, we recommend utilities still without Advanced Metering Infrastructure to adopt it. Additionally, we recommend that all utilities invest in information technology and data science resources to enable load shifting through behavior-based mechanisms like time varying rates, and technology-based mechanisms like smart thermostats and grid-interactive water heaters. These approaches should be implemented provided there are strict regulations from either the utility commission or legislature to protect consumer data from abuse.
Intended Outcome(s)	• Reducing peaks through energy efficiency and load shifting, thus reducing the need to build new, underutilized infrastructure, creating significant savings for customers. • Increase energy efficiency/demand-side management program participation and use detailed analytics and interval data to target rebate and program opportunities more effectively to different customers. This could be particularly beneficial for programs like Pay as You Save (PAYS), which are best suited for users with a high potential for savings.
Feasibility	**Medium.** Dependent on integrating new technologies, Commission approval of new programs and rate designs, and non-energy benefits. Programs will not necessarily address barriers for customers with the greatest need.
Next Steps	• Develop effective time-of-use rates that actually shift load without harming vulnerable customers that can't shift their consumption. • Utilize federal funding for electric vehicle chargers, develop heat pump water heaters as an efficient load management resource.

"No options for renewable energy or energy efficiency programs."

WHERE DO WE GO FROM HERE?

As this report outlines, there are many issues that must be addressed to effectively improve energy security for millions of people in the Southeast. These issues range from enacting more stringent housing codes to altering the way that we value the benefits of energy efficiency programs and policies. These will require different approaches, will occur at different levels of government, communities, and the private sector, and will engage different groups of stakeholders. Yet there are several key elements that span the Initiative's recommendations, as outlined below:

- There is a need for effective coordination that crosses sectors and breaks down silos between the many stakeholders required to address the roots of energy insecurity.
- There is a need to focus efforts on leveling barriers that prevent the most vulnerable from accessing assistance that could mitigate energy insecurity, while also improving base-level protections for these same households.
- There is a need to raise awareness. There are available resources that are not being used, which should be harnessed to address aspects of energy insecurity. It is also critical to seek new funding sources to better support and scale existing programs.
- There is a need for better information about the causes, effects, and communities that are impacted by energy insecurity and the effectiveness of existing aid.
- It is critical to expand meaningful community engagement in decision-making.
- Incorporating human rights-based approaches to policy and practice provides a way of reorienting energy insecurity solutions.

The Initiative's range of solutions reflects one of the key strengths of this effort: the diversity of participants. The participants in this effort come from investor-owned utilities, cooperative utilities, grassroots organizations, government agencies, academia, and service providers, among others. These stakeholders span multiple sectors, including energy, housing, healthcare, and social justice. We recognize that solutions are stronger when they are built on meaningful community engagement and collaborative problem solving. Keeping, and expanding, the diverse range of voices will be a key priority in the next phase of this work and is crucial to long-term success.

In the next phase of this project, the Duke team will ensure a successful transition of the Initiative to the Southeast Energy Efficiency Alliance (SEEA), a regional energy efficiency organization serving 11 states, including Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia. SEEA works to enhance quality of life in this region by advancing effective state, local and utility policies, supporting the implementation of strong building energy codes, expanding availability and access to resources to address energy efficiency in buildings, and supporting equitable engagement in energy planning processes across all communities.

SEEA will work to implement solutions identified in this report by convening diverse stakeholders across the Southeast, by serving as a repository for information on best practices and regional data, and by identifying opportunities to advance policies and programs. SEEA will first convene a regional coordinating committee composed of members of this effort, who will guide the process of moving from planning and stakeholder engagement to implementation.

Energy insecurity is a set of entwined issues. While this makes it difficult to address effectively by any one party, it also provides an opportunity. By following the path laid out in this report, we have the potential to build regional networks that level existing network and institutional hierarchies, bring out new voices, and give all communities in the Southeast a say in their energy future.

APPENDIX

Stakeholder Participants

Thank you to the following stakeholders who worked to develop the Southeast Energy Insecurity Stakeholder Initiative Recommendations:

Alliance for Affordable Energy
American Council for an Energy-Efficient Economy
Appalachian Citizens' Law Center
Appalachian Voices
Charlotte-Mecklenburg NAACP
City of Savannah
Clean Energy Works
Clean Virginia
CleanAIRE NC
Climate Action Alliance of the Valley
Coastal Conservation League
Community Climate Collaborative
Community Housing Partners
Conservation Voters of South Carolina
Dominion Energy South Carolina
Duke Energy
Energy Efficiency Study Institute
Energy Foundation
Georgia Advancing Communities Together
Good Solar
Gullah/Geechee Sea Island Coalition
Mountain Association
National Rural Electric Cooperative Association
NC WARN
North Carolina Justice Center
North Carolina State University
North Carolina Sustainable Energy Association
P.E.E.R. Group, Inc.
S.C. Department of Health and Environmental Control
S.C. Office of Regulatory Staff
SC Housing
Sierra Club
Solar Energy Loan Fund
South-central Partnership for Energy Efficiency as a Resource
Southeast Climate and Energy Network
Southeast Energy Efficiency Alliance
Southern Alliance for Clean Energy
Southern Company
Sustaining Way
Tennessee Interfaith Power and Light
The Cornerstone Collective
The Electric Cooperatives of South Carolina
The Imani Group Inc
U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy
U.S. Environmental Protection Agency
University of Florida
University of South Carolina
Vote Solar

Note: This report includes a set of recommendations from the Southeast Energy Insecurity Stakeholder Initiative, reflecting the work of each of the six working groups that met biweekly or monthly between June and November 2021. **The recommendations reflect input from a diverse group of stakeholders but may not necessarily reflect full consensus of all stakeholders.**

Southeast Energy Insecurity Stakeholder Initiative Advisory Board

Duanne Andrade, *Chief Financial Officer, Florida Green Bank, Solar and Energy Loan Fund (SELF)*

William Barber III, *Founder and CEO, The Rural Beacon Initiative*

Carmen Bingham, *Coordinator for the Affordable Clean Energy Project, Virginia Poverty Law Center*

Marilyn Brown, *Professor of Sustainable Systems in the School of Public Policy, Georgia Tech*

William Bryan, *Director of Research, Southeast Energy Efficiency Alliance (SEEA)*

Cicely Garrett, *Interim Just Energy Director, Partnership for Southern Equity*

Therese Griffin, *Manager, Energy Efficiency and Demand Side Management, Dominion Energy South Carolina*

Louise Mack, *President/CEO, Prosperity Unlimited*

Erin Rose, *Co-Founder and Vice President of Social Equity, Three Cubed*

Michael Smith, *VP, Business and Technology Strategy, Electric Cooperatives of South Carolina*

Stacey Washington, *Senior Energy Specialist, South Carolina Office of Regulatory Staff Energy Office*

Chris Woolery, *Residential Energy Coordinator, Mountain Association*

Southeast Energy Insecurity Stakeholder Initiative Project Team

Allie Garrett, *Policy Associate, Nicholas Institute for Environmental Policy Solutions at Duke University*

Rory McIlmoil, *Senior Energy Analyst, Appalachian Voices*

Al Ripley, *Director of Consumer, Housing and Energy Project, NC Justice Center*

Jen Weiss, *Nicholas Institute for Environmental Policy Solutions at Duke University (formerly)*

Claire Williamson, *Energy Policy Advocate, NC Justice Center*

Glossary

Weatherization: Weatherization refers to interventions that make a home safer and more affordable by insulating against extreme heat and cold. Interventions may include:

- Installing or repairing heating and air systems
- Installing insulation and energy efficient light bulbs
- Sealing leaky windows and other air infiltration sites

Pre-Weatherization Gap: When individuals are seeking assistance through federal and state programs to weatherize their homes, there may be health and safety problems beyond what can be fixed through standard energy efficiency improvements. Examples of "health and safety" problems are:

- Lead and asbestos abatement
- Mold remediation
- Major repairs, such as roof and floor replacement

The pre-weatherization gap refers to households who are unable to access weatherization assistance (such as the Weatherization Assistance Program) due to health and safety problems in their home.

Implied Warranty of Habitability: "An implied warranty of habitability is an unstated guarantee that a rental property meets basic living and safety standards before occupation and will continue to meet them for the duration of the occupancy."[15]

Qualified Allocation Plan: "The federal Low Income Housing Tax Credit program requires each state agency that allocates tax credits, generally called a housing finance agency, to have a Qualified Allocation Plan (QAP). The QAP sets out the state's eligibility priorities and criteria for awarding federal tax credits to housing properties. In some states, the QAP also sets out threshold criteria for noncompetitive 4% tax credits and any state low-income housing tax credits."[16]

Building Codes: Building codes are a "collection of regulations adopted by a city to govern the construction of buildings."[19]

Non-Energy Benefits: Non-energy benefits are the wider socioeconomic outcomes that arise from investments in energy efficiency. Examples include:

- Reduced emissions
- Comfort and productivity improvements
- Local economic development
- Reduced risk of utility service disruptions or price spike[19]

Time-of-Use Rates: Time-of-use rates refer to rate structures that shift power consumption away from peak demand, the goal of which is to save money for both customers and utilities.[19]

15. "Implied Warranty of Habitability." Investopedia. 2022. Last modified February 6, 2022. https://www.investopedia.com/terms/i/iwoh.asp
16. "Qualified Allocation Plan." Ed Gramlich, N.D. https://nlihc.org/sites/default/files/2014AG-259.pdf
17. "Building Code." Merriam Webster, ND. https://www.merriam-webster.com/dictionary/building%20code
18. "Berkeley Lab: Electricity Markets & Policy." Schiller, Steven, Lisa Skumatz, Juan Pablo Carvallo, Jessica Burdette, and Matt Klucher. December 2016. https://emp.lbl.gov/publications/evaluating-and-quantifying-non-energy#:~:text=While%20these%20impacts%20can%20be,service%20disruptions%20or%20price%20spikes.
19. "An emerging push for time-of-use rates sparks new debates about customer and grid impacts." Herman K. Trabish, January 28, 2019, https://www.utilitydive.com/news/an-emerging-push-for-time-of-use-rates-sparks-new-debates-about-customer-an/545009/

Author Affiliations

Allie Garrett, Policy Associate, Nicholas Institute for Environmental Policy Solutions; Project Lead, Southeast Energy Insecurity Stakeholder Initiative

Stacey Washington, Energy Office, SC Office of Regulatory Staff; Advisory Board Member, Southeast Energy Insecurity Stakeholder Initiative

William D. Bryan, Director of Research, Southeast Energy Efficiency Alliance; Advisory Board Member, Southeast Energy Insecurity Stakeholder Initiative

Citation

Garrett, A., S. Washington, and W. Bryan. 2022. "Stakeholder Recommendations for Reducing Energy Insecurity in the Southeast United States." NI R 22-04. Durham, NC: Duke University.

Publication Number: NI R 22-04

Nicholas Institute for Environmental Policy Solutions

The Nicholas Institute for Environmental Policy Solutions at Duke University is a nonpartisan institute founded in 2005 to help decision makers in government, the private sector, and the nonprofit community address critical environmental challenges. The Nicholas Institute responds to the demand for high-quality and timely data and acts as an "honest broker" in policy debates by convening and fostering open, ongoing dialogue between stakeholders on all sides of the issues and providing policy-relevant analysis based on academic research. The Nicholas Institute's leadership and staff leverage the broad expertise of Duke University as well as public and private partners worldwide. Since its inception, the Nicholas Institute has earned a distinguished reputation for its innovative approach to developing multilateral, nonpartisan, and economically viable solutions to pressing environmental challenges.

Contact

Nicholas Institute
Duke University
P.O. Box 90335
Durham, NC 27708

1201 Pennsylvania
Avenue NW
Suite 500
Washington, DC 20004

919.613.8709
nicholasinstitute@duke.edu