Partnerships to Address Energy Insecurity in the Southeast

William D. Bryan, Grace Parker, Lily Smith
Southeast Energy Efficiency Alliance (SEEA)

ABSTRACT

Energy insecurity – or difficulty meeting household energy needs – is more prevalent in the South than in any other part of the nation. The impacts of generations of residential segregation and disinvestment, the South's deep poverty and aging housing stock, and the region's warm-humid climate all have contributed to making fourteen million households, nearly 30% of the region, energy insecure. This region, however, could see an estimated $13 billion in annual savings and a 30% reduction in monthly utility bills for the typical low-income family through energy efficiency measures. Historic federal investments in housing and energy have the potential to bring these savings to insecure communities throughout the region. Yet this will depend upon community engagement and stakeholder collaboration to elevate and replicate place-based policy and program models. This paper provides an overview of key approaches to place-based programs to mitigate energy insecurity. It specifically focuses on lessons learned from the development and operation of the Southeast Energy Insecurity Project (SEIP), a regional network of over eighty stakeholder groups developed in 2021 to address energy insecurity in the Southeast through collaboration and collective resourcing. This paper explores the results of these partnerships in the Southeast, including examples from states, local governments, and community-based organizations that are acquiring funding and creating change for energy-insecure households in the Southeast.

Energy Insecurity in the Southeast

Energy insecurity, defined by Hernández (2016) as "an inability to adequately meet basic household energy needs," is widespread in the Southeast. Almost 30% of households in the region – 14 million households – are energy insecure (EIA 2020). Low-income households, people of color, renters, and households with children struggle with energy insecurity at higher rates than other households (Memmott, Carley, and Graff 2021). Energy insecurity often forces people to choose between paying for energy, food, medicine, or other essentials. These tradeoffs can have serious health impacts (Hernández 2016). Ten percent of households in the South have had to leave their home at an unhealthy temperature due to the cost of energy, and seven percent lack functional cooling equipment—putting them at an elevated risk of heat-related illness (EIA 2020). Energy insecurity contributes to an increased risk of asthma and worse respiratory, mental health, and sleep outcomes (Hernández and Siegel 2019; Siegel et al. 2024).

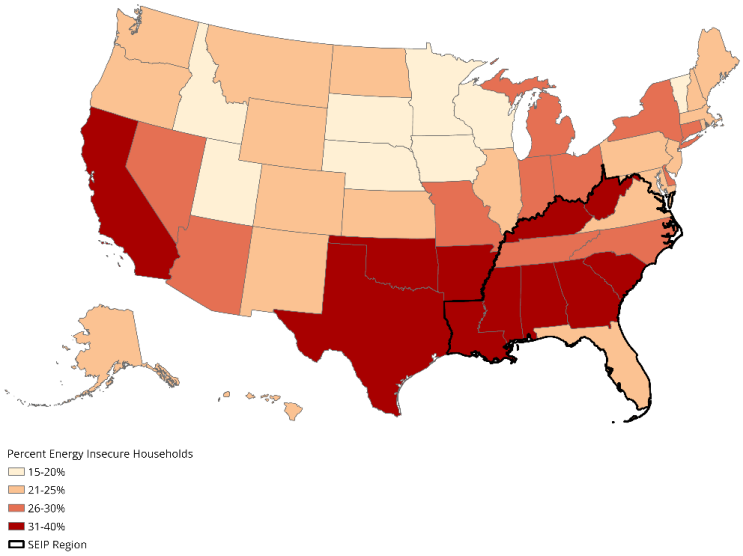

Figure 1. The estimated percentage of households in each state that are energy insecure, with darker shades of red indicating a higher proportion of energy-insecure households. The SEIP region is outlined in black. *Source*: EIA 2020. *Map:* SEEA.

Energy insecurity persists in the Southeast because its roots extend far beyond the energy sector. Jessel, Sawyer, and Hernández (2019) find that energy insecurity is intertwined with a range of intersectional inequities, and is a product of issues that include housing quality challenges resulting from generations of disinvestment and segregation, the limited extent of regional efficiency programs, comparatively low incomes, and less robust social support services, among others (Brown et al. 2020).

The inefficiency of residential buildings in the South includes both new and existing housing. About 36% of all residential buildings in the region were built before the nation's first model energy codes were developed (U.S. Census Bureau 2022). While new construction in most jurisdictions is subject to residential energy code requirements, half of all states in the Southeast use an energy code developed more than a decade ago. Other jurisdictions have no active energy code or allow local governments to opt out of code requirements (SEEA n.d.). In North Carolina, the state legislature overrode a gubernatorial veto in 2023 to ban the state's Council from revising energy codes until 2031. Even states with active residential energy codes face code compliance shortfalls. Residential energy code field studies, funded by the U.S. Department of Energy, demonstrate that Georgia, Alabama, Kentucky, Tennessee, and Virginia have among the highest rates of noncompliance with existing energy code measures for new construction anywhere in the country (Blanding et al. 2022).

Decades of underinvestment in energy efficiency in the Southeast at the utility, state, and federal levels have contributed to an inefficient housing stock. In a study of utility performance, Specian et al. (2023) gave Southeastern utilities the lowest average score for energy efficiency enabling mechanisms, program offerings, and program performance. Federal programs have been designed historically to support households primarily in cold-weather climates, neglecting the needs of Southern states. The U.S. Department of Energy's Low-Income Home Energy Assistance Program (LIHEAP) distributed funding according to a formula that prioritized the energy needs of colder states, overlooking cooling needs and the health impacts of extreme heat,

from 1981 until FY2006 (Perl 2016). The Weatherization Assistance Program (WAP) underinvested in the South from its inception in 1976 until 1995, when DOE revised the formula for distributing funding to states to address the cooling needs of Southern states (Clark and Cunningham 2020).

The region's incomes, which are lower than the national average, and less robust social services contribute to energy insecurity by increasing the burden that utility costs can have on households. The Economic Policy Institute (2019) found that Southern workers have lower earnings than workers in the rest of the nation, even after adjusting for regional differences in the cost of living. The Southeast also has a less robust array of social services than other regions. Gaines, Hardy, and Schweitzer (2021) found that southern states have, on average, the lowest temporary assistance and unemployment insurance benefits. Using an index to measure inflation-adjusted "generosity," Schmidt, Shore-Sheppard, and Watson (2022) note that 9 of 11 Southeastern states had a cash and food safety net below the national average in 2022. Lower incomes and smaller safety nets make it easier for income-constrained households to become energy insecure, while it is more difficult for these households to access resources that would help alleviate this insecurity.

While not confined to the South, this suggests that energy insecurity has distinct regional dimensions that combine to make Southern communities particularly vulnerable. These issues are by their nature intersectional, and addressing energy insecurity through wide-ranging collaboratives can tap into resources and insights from a range of sectors, enabling energy efficiency work to proceed even within the region's systemic barriers. Regional collaboration is also vital to ultimately devise lasting and systemic solutions to these barriers to efficiency.

Best Practices in Regional Stakeholder Collaboratives

The Southeast Energy Insecurity Project (SEIP) is one such collaborative, and it was born out of the need for regional partnership to address energy insecurity within existing barriers and, in the long term, level these barriers. Many energy initiatives are limited to the state or utility level, such as Drawdown Georgia, a project to reduce greenhouse gas emissions in the state, or the Demand Side Management Working Group associated with the Georgia Public Service Commission. While the Tennessee Valley Authority's (TVA) Valley Pathways study developed strategies for net zero across parts of five states, it was limited to TVA's territory (TVA 2024).

Researchers and policymakers have long recognized the need for multi-state environmental management since environmental issues do not respect political boundaries (Smith 1987; Fetter 1981; Cecil 1975). The energy sector likewise could benefit from regional collaboration, as many utility service areas cross state boundaries and electrons can travel thousands of miles before consumption. For example, Duke Energy, which spans both North and South Carolina, must manage its services in compliance with both states' regulations. The same is true for the investor-owned utilities that are part of the Southern Company system, which spans parts of Alabama, Georgia, Mississippi, Tennessee, and Virginia.

We have drawn on the best practices developed during previous regional environmental initiatives, as outlined below, to develop a collaborative structure to address energy insecurity in the Southeast.

Balance the Structure that Centralization Provides with the Power of Decentralization

Regional environmental management shows that some degree of centralization within a collaborative can provide structure and systems to resolve conflict and ensure progress. A study of environmental management working groups showed that centralization or strong leadership is associated with high group functionality (Kowalski and Jenkins 2015). Arganoff (2007) describes this as softly guiding collective action and coordinating work but without hierarchy or dictation. A literature review of environmental governance networks shows that while strong centralization is useful for solving simple problems, decentralization of power within a collaborative is better at solving more complex problems. Highly centralized collaboratives are vulnerable to dysfunctional or absent actors (Bodin and Crona 2009). Overall, this research suggests that the complexity of energy insecurity necessitates a more decentralized structure, but that greater centralization could be efficient in earlier stages. In developing SEIP, we sought to provide some early centralization through an Advisory Board and Leadership Forum that could develop the initial infrastructure to collaborate effectively, while shifting to more decentralized, stakeholder-driven approaches during the project's working phases.

Cultivate Linked Stakeholders with Room to Strengthen Relationships

Productive working groups should have preexisting network ties with one another. Research shows that the more network ties a collaborative has, the greater the potential for collective action (Bodin and Crona 2009). Network cohesion is the degree to which individuals within a group cannot be further subdivided into distinct groups based on their characteristics, and high network cohesion is associated with more network ties (Bodin and Crona 2009). However, when collaboratives have excessive network ties, the information each actor can contribute is homogenous and resources are used less efficiently (Bodin and Crona 2009). Having multiple subgroups can enhance knowledge development by enabling interaction with diverse stakeholders. Collaboratives should engage stakeholders with significant power and can provide a platform and governance structure so that stakeholders with less power can shape outcomes. They can solve complex challenges by connecting stakeholders that would otherwise not be linked.

Collaboratives like SEIP must find a middle ground between well-connected stakeholders and a diversity of perspectives and skills while investing in long-term efforts to promote cohesion. To this end, the SEIP project team initially recruited stakeholders from the energy sector but has gradually expanded outward to bring in others who also play a key role in addressing energy insecurity.

Document the Scope and Responsibilities of Working Group and Members

Stakeholder collaboratives must be conscious of the resources, capacity, and priorities of their stakeholders. Formalizing the scope of the initiative and the roles of stakeholders is vital to help individuals determine if they have the bandwidth to commit. Regional environmental management efforts suggest that a scoping document, an agreed-upon frequency of communication, and a process by which members volunteer for specific tasks help improve the group's functionality (Kowalski and Jenkins 2015). For best results, collaboratives like SEIP must be up-front about the commitment that the effort will require. In developing SEIP, the

project team formalized a set of responsibilities and shared equity principles to ensure active participation by members.

Best Practices on Intersectional Collaboration

Many partnerships have recognized the benefits of addressing energy insecurity and provide valuable models for intersectional collaboration on a regional scale. Stakeholders from the medical, legal, and affordable housing sectors have partnered with energy stakeholders to achieve shared goals around healthy and affordable housing. The following partnerships – all intended to address energy insecurity – highlight the importance of a common vision, systems thinking, and engaging a broad array of stakeholders. They have also provided further best practices used to develop the SEIP collaborative to mitigate energy insecurity.

Medical-Legal Partnership for Energy Insecurity

Pediatricians and attorneys in Philadelphia formed a medical-legal partnership to protect vulnerable patients from energy insecurity. The attorneys trained pediatricians on legal protections against utility service shutoffs and developed a screening process to identify patients who are experiencing, or are vulnerable to, energy insecurity. The program aimed to protect energy-insecure patients who had asthma, chronic medical conditions, special needs, or acute conditions, experienced weight decreases during colder months, or were under two years old. Following this initiative, the number of families identified as energy insecure nearly doubled, and the approval rate for utility shutoff protection applications showed a statistically significant increase from 52% to 86%. Energy insecure families received resources about emergency funds, weatherization, grants, and how to prevent utility shutoffs (Taylor et al. 2015).

This initiative shows the importance of a common vision for successful cross-sectional partnerships. It might seem obvious, but stakeholders can often have different motivations for performing the same actions, such as compliance with regulations or improving public perception. In this program, both the attorneys and pediatricians were working to protect patients' health. The success of a partnership is dependent on aligning interests within the project and knowing where stakeholder interests diverge. Through SEIP, the project team engages a wide range of stakeholders with different needs. SEIP has developed mechanisms to facilitate a common vision across these partnerships, including aligning around a set of equity principles that can promote a common vision across the membership.

Energy-Legal Partnership for Reaching Renters

The Atlanta Volunteer Lawyers Foundation (AVLF) worked with the Southeast Energy Efficiency Alliance (SEEA) and SK Collaborative, a green building consulting firm, to support renters in Atlanta who were experiencing poor housing quality and/or health issues. Tenants connected with AVLF to resolve housing deficiency disputes with their landlords, and SK Collaborative conducted energy and healthy housing audits. This information was used to engage with landlords and secure home fixes or find tenants a better living situation. This partnership addressed the insufficiency of housing quality data at granular scales for informing policy and programs in Atlanta. It also provided one of the few approaches for delivering energy and housing quality assistance to tenants that could get around the split-incentive barriers to assistance faced by renters (Bird and Hernández 2012). Notably, 60% of participating

households utilized these reports to halt impending home evictions, obtain home repairs, or self-advocate in their eviction case. The remaining 40% of households have open cases.

This partnership shows how a systems-thinking approach can lead to a successful collaboration. While none of these organizations alone have a mission to support healthy housing, they each have a stake in better understanding and supporting the most pressing housing and energy needs of tenants in Atlanta. Analyzing the broader system can help understand the need for, and benefits of, multi-stakeholder collaboration. Recommendations for systemic change developed by SEIP stakeholders in the first phase of the project continue to inform the collaborative and drive change at the local level.

Medical-Housing Partnerships for Affordable, High-Quality Housing

A partnership between a children's hospital, community development institutions, faith-based organizations, workforce development programs, youth-serving nonprofits, and public schools launched the Healthy Neighborhoods Healthy Families program in 2008 to improve housing conditions in specific neighborhoods (Kelleher, Reece, and Sandel 2018). Since then, the program has impacted more than 730 homes through full renovations, new affordable and efficient housing construction, and home repair grants (Nationwide Children's n.d.). The program provides affordable housing while also tackling energy insecurity and health.

This program's success shows the value of having a diverse array of stakeholders. Each partner benefits from an economy of scale that would not be possible if each entity engaged in this project alone. From finance and capital to healthcare, the knowledge and resources of each partner complement the others while addressing different manifestations of energy insecurity.

The program reflects the broader understanding that housing is a social determinant of health, a framework for understanding the intersectional nature of energy insecurity and building effective stakeholder collaboratives. A study of 57 health systems that committed funding to programs that address social determinants of health found that housing was the largest area for investments. The strategies of these programs include building affordable housing, eviction prevention, and housing stabilization programs (Horwitz et al. 2020). There is significant room for expansion of these programs, however. A study of all North Carolina tax-exempt hospitals found that only 0.7% of the $2.6 billion in expenses was for community benefit investments such as affordable housing, economic development, and environmental improvements. Most hospitals took a traditional approach to community benefit spending, with 85% of expenses going to financial assistance for patient care, prioritizing treatment rather than prevention (Fos et al. 2019). Screening is a common method of understanding social determinants of health, but health organizations often do not go further in addressing these factors. Although 88% of 300 hospitals and health systems in a 2017 survey reported screening patients for social needs, only 30% reported having a formal relationship with partners that aim to address these needs for their entire service population (Lupien 2020).

Through SEIP, the project team has engaged more than 90 organizations across the Southeast from many sectors. This provides both economies of scale and enables the collaborative to pursue solutions that can braid funding and resources from these multiple sectors to develop innovative approaches to mitigating energy insecurity.

A State-Based Collaborative for Energy Insecurity Data

In March of 2021 the North Carolina Utility Commission (NCUC) ordered Duke Energy Carolinas, Duke Energy Progress, and NCUC Public Staff to convene a statewide "Low-Income Affordability Collaborative" that would review energy affordability for low-income customers. The order stipulated that the collaborative would provide recommendations for new energy efficiency or demand side management program pilots that could be deployed by Duke Energy in the state to improve energy affordability (NCUC 2022). The Collaborative consisted of representatives of more than thirty entities, including state agencies, municipal and utility staff, advocates, and others. Working together, the LIAC established a set of key metrics for evaluating affordability challenges and secured data from Duke Energy and other sources to carry out a wide-ranging analysis of customer needs. Based on this, the LIAC concluded that high energy burdens were a predictor of customers who were in arrears and potentially faced disconnections. The collaborative estimated potential energy burden reductions from a slate of weatherization and appliance efficiency measures and worked with Duke Energy and Commission staff to propose and advance new program proposals and models – including an income-qualified weatherization program, identifying and supporting customers with high energy usage, establishing a rental program for hot water heater replacements, and developing carve-outs for low-income households to participate in market energy efficiency programs funded by ratepayers – that could address affordability challenges (NCUC 2022).

This collaboration underlines the need for wide-ranging partnerships that include decision-makers and regulators. It also reiterates how these groups should meaningfully engage impacted communities and community-based organizations in a structured way to develop and implement workable solutions to energy insecurity. SEIP has sought to engage key decision-makers at the local, state, and utility levels, while developing structures like policy working groups to bring the insights of local communities to these decision-makers.

These programs are helpful models for intersectional collaboration to address energy insecurity, though none are regional in scale. Yet these best practices can be scaled to meet regional needs, and we have drawn on them to develop the SEIP, as we discuss below.

A Case Study of Regional Collaboration: The Southeast Energy Insecurity Project (SEIP)

The Southeast Energy Insecurity Project (SEIP) is the successor to the Southeast Energy Insecurity Stakeholder Initiative, established by the Nicholas Institute for Environmental Policy Solutions at Duke University in partnership with Appalachian Voices and the North Carolina Justice Center as a regional collaborative to advance energy security across the Southeast. Though the Initiative started in 2021 by focusing on eight states, interest from regional stakeholders led to an expanded focus on eleven states, as indicated in Figure 1.[1]

The Initiative is an example of the ways that regional and intersectional partnerships can drive policy change related to energy insecurity and shows how best practices on intersectional collaboration can be effectively scaled at a regional level. Specifically, the Initiative was founded

[1] The Nicholas Institute's definition of the Southeast for the purpose of the Stakeholder Initiative varies slightly from SEEA's territory for the purpose of SEIP. The Nicholas Initiative focused on the following states: Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, West Virginia, and Virginia. SEEA's territory includes each of those states as well as Arkansas.

to provide a balance between centralized structure and insights from stakeholders working on energy insecurity issues throughout the region, while uniting each of these disparate groups behind a common vision and set of recommendations that addressed systemic issues contributing to energy insecurity. In forming the collaborative, the project team first identified already linked stakeholders in the energy sector – including key decision makers – but also drew on diverse and cross-sector networks to build a more expansive collaborative over time. In this way, the project was based on insights from previous regional environmental management efforts but was directed to addressing energy insecurity.

Duke's Stakeholder Initiative had three initial goals. The first was to better understand the ways that energy insecurity in the Southeast was impacting communities and what factors were most important in driving it. The second was to co-develop place-based solutions that could address energy insecurity in the Southeast. The third was to promote collaboration and build an expansive intersectional stakeholder network from which to address energy insecurity (Garrett, Washington, and Bryan 2022).

Stakeholder engagement was foundational to each of these goals, and the Nicholas Institute took steps to provide initial leadership through a centralized structure while ensuring that the content of the Initiative would be driven by a diverse array of regional stakeholders, starting within the energy sector and over time expanding outward to include other sectors. Drawing on best practices outlined above, the Initiative relied on a central group of advisors to co-develop the initial framework and project aims, while moving to an increasingly decentralized model over the course of the project. In this way, the project team facilitated unity and efficient decision-making earlier in the process, while later working groups provided more flexibility and local knowledge to facilitate innovative problem-solving.

To this end, The Nicholas Institute convened an Advisory Board of fourteen stakeholders both within and outside the energy sector. These included representatives of advocacy organizations, government officials, researchers, investor-owned and electric cooperative utility decision-makers, and leaders of community development financial institutions (CDFIs). The Advisory Board also represented geographic and sociodemographic diversity and spanned eight of the Initiative's eleven states. Building on the best practices outlined above, the Advisory Board provided input on the project scope and the structure of the Initiative, developed the foundational research questions and a meeting cadence, and identified stakeholders to engage.

With the Advisory Board, the Nicholas Institute also developed decentralized processes to identify regional needs and solutions from a diverse set of stakeholders across multiple industries. This included developing mechanisms to gather information on energy insecurity and map stakeholders to engage. In January of 2021 the Nicholas Institute launched a research phase founded on a landscape analysis of the prevalence and impact of energy insecurity on Southeastern communities. Working through 97 partner organizations, staff, and advisory board members carried out a survey of energy-insecure households to assess how insecurity impacts household decision-making and what resources households can access. The survey asked about what tradeoffs residents made to pay their utility bills, how much income they devoted to energy bills, the experience of being disconnected, and solicited input on useful assistance. While not statistically representative – the survey received 231 non-public responses – insights offered valuable first-hand knowledge about the landscape of energy insecurity and informed the stakeholder process. The Environmental Justice Lab at Duke initiated a parallel energy burden analysis at the household level to better understand the financial implications of energy

insecurity in granular detail, though this work is still underway (Garrett, Washington, and Bryan 2022).

In engaging with stakeholders, emphasis was placed on creating guardrails to guide discussion and serving as facilitators but allowing participating stakeholders to drive content. This was necessary given that the stakeholder network encompassed more than 90 organizations from across the South, including investor-owned utilities, electric cooperatives, grassroots, government agencies, academic researchers, service providers, and social support organizations, among others. During multiple stakeholder calls, the emphasis was on gathering information through facilitated small group discussion, and the project team used the information gathered to tailor overall goals and strategies. For instance, based on feedback about the intersectional nature of energy insecurity from early discussions, staff worked with the Advisory Board to identify six working group topics that could structure the engagement process. These included: systemic change, housing, awareness and community engagement, data access and improvement, programs and access to financing, and utility solutions (Garrett, Washington, and Bryan).

With the Advisory Board, Nicholas Institute staff also developed a facilitation framework to guide small working groups in identifying a problem statement and vision for each topic, along with settling on a set of recommendations to achieve this vision. Each working group had between 5 and 15 volunteer members who met regularly, and their work culminated in the development of a set of recommendations for each topic area. These included identifying key stakeholders and implementors for each recommendation, who it would impact, unintended consequences of implementation, capital needs and funding opportunities, and the timeframe for implementation. All working group members used the same evaluation criteria to assess the feasibility and impact of all recommendations and prioritize them accordingly. This matrix weighed the feasibility of each recommendation based on tangible impact, catalytic impact, and the likelihood of being implemented. The matrix provided room for each working group to develop their own evaluation criteria to capture group-specific goals. In December 2021, staff at the Nicholas Institute convened all working groups to review recommendations and align on those that would be included in the final report (Garrett, Washington and Bryan, 2022).

The final report established a vision for addressing energy insecurity through regional and intersectional partnerships. The report offered 24 recommendations for improving the energy security of Southern communities in the hopes of uniting regional efforts behind a common vision for this work. Stakeholders made it clear that "energy insecurity is a set of entwined issues" that would benefit from regional collaboration (Garrett, Washington, and Bryan 2022). There were several key themes that speak to the need for intersectional collaboration:

- There is a lack of regional collaboration on energy insecurity which inhibits the ability to address this set of issues.
- There is a need to break down silos across industries to coordinate resources, implement solutions, and engage communities.
- Decision-makers and communities often do not have robust information on energy insecurity and successful place-based solutions that can be used to address it.
- Programs and/or policies intended to address the root causes of energy insecurity must be founded on robust community engagement.
- Programs and/or policies intended to address energy insecurity must be evaluated for both their energy and non-energy benefits.

Ultimately, the final report of the Duke Stakeholder Initiative made a case for cross-sectional approaches that would engage new regional networks, even suggesting that human-rights-based approaches were necessary for understanding how energy insecurity transcends the energy sector and which stakeholders are necessary to engage for successful solutions (Garrett, Washington, and Bryan 2022).

The Southeast Energy Insecurity Project (SEIP)

In December of 2021 the Nicholas Institute transitioned the Energy Insecurity Stakeholder Initiative to the Southeast Energy Efficiency Alliance (SEEA). The initiative was rebranded as the Southeast Energy Insecurity Project (SEIP), building on SEEA's deep experience working on energy insecurity, convening stakeholders, and providing technical assistance to decision-makers and communities.

SEEA was tasked with implementing the 24 recommendations published in the final report on Duke's Stakeholder Initiative. This has presented several key challenges. First, the scope of the recommendations ranges from localized solutions to systemic and policy-complex solutions. Some recommendations focus on advancing specific policies, like tariffed-on-bill program models or percentage of income payment plans (PIPP), while others focus on system-level fixes, like democratizing access to energy decision-making and developing clean energy job pathways (Garrett, Washington, and Bryan 2022). Additionally, the South is a diverse region – culturally, politically, and demographically – and there is variety in the feasibility of implementing each recommendation across these diverse communities. In short, SEEA had to determine how to advance a slate of recommendations that covered many topics and were more or less feasible depending on location.

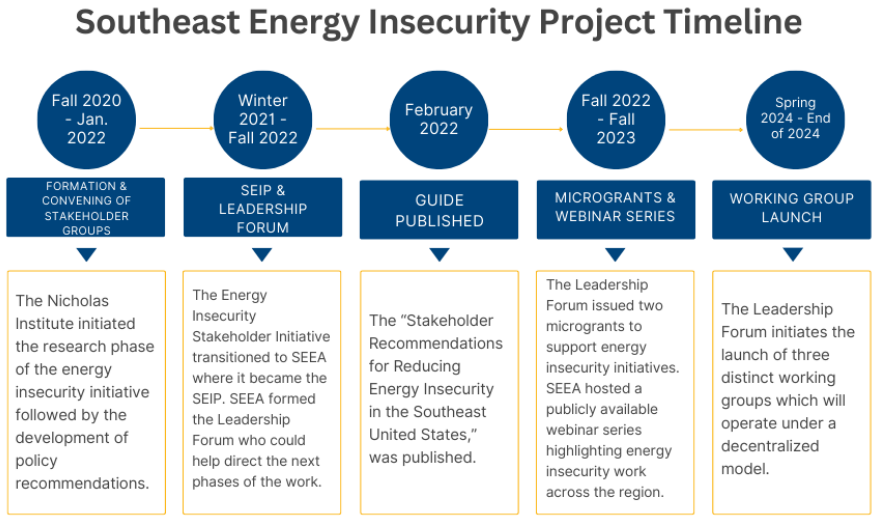

Figure 2. A timeline of key milestones for the Southeast Energy Insecurity Project (SEIP). *Source*: SEEA.

To address these challenges, SEEA staff drew on the lessons from successful collaborations to develop a model that addressed the diverse needs of Southern communities and

the varying recommendations offered by stakeholders. This multi-prong approach is intended to build alignment and advance the recommendations in resonance with the needs of communities.

The first stage was enlisting expert guidance from stakeholders who represent multiple sectors and different parts of the region as part of a Leadership Forum. Rather than identifying stakeholders to join, SEEA invited applications to participate to engage a wider range of participants. This Forum consists of compensated experts from research, government, advocacy, social support, and community-based organizations who work regularly on issues related to energy insecurity. The members guide the strategic direction of SEIP and serve as conveners across multiple industries. The Leadership Forum, through a centralized model, was intended to satisfy the first recommendation in the report, to "develop a regional coordinating committee to facilitate cross-sector collaboration among stakeholders working to address energy insecurity" (Garrett, Washington, and Bryan 2022). Although the Leadership Forum centralized some aspects of decision-making, the goal of the Forum was to facilitate collaboration and encourage energy insecurity mitigation work at the local and state levels, and inviting applications for membership helped to ensure that membership was not overly influenced by SEEA.

Besides expert engagement, SEIP has focused on three key areas expressed by stakeholders during the Duke Stakeholder process and in SEEA's engagement with stakeholders.

Resources and Technical Assistance Rooted in the South

One of the clearest takeaways from stakeholders in Duke's Stakeholder Initiative and the literature on energy insecurity is that decision-makers and communities often lack information that can support policies and programs designed to mitigate energy insecurity. To this end, SEIP has focused on serving as a resource guide for participants. In 2022, for instance, SEEA launched a year-long energy insecurity webinar series, which provided a forum for stakeholders who are successfully addressing energy insecurity in their communities to highlight their program and/or policy models for the full SEIP stakeholder collaborative and a wider audience of stakeholders vested in addressing energy insecurity in their communities. Webinars included discussions of how to leverage data to support equitable energy transition, how utilities can invest in solutions that reduce energy insecurity, how clean energy upgrades can be financed for renter households, and how to address energy insecurity through engagement in the Gullah-Geechee communities of the Carolinas, among others. Presenters included organizations who are already doing this kind of work, including Suma Consulting, the Gullah Geechee Chamber of Commerce, the Solar Energy Loan Fun (SELF), Duke Energy, the Clean Energy Group, the North Carolina Sustainable Energy Association (NCSEA), the People's Economic & Environmental Resiliency Group (P.E.E.R.), the Atlanta Volunteer Lawyers Foundation (AVLF), the Savannah Office of Sustainability, the Athens-Clarke County Sustainability Office, and the Sustainability Institute. The webinars provided opportunities to learn first-hand about successful initiatives and best practices that have improved energy security, and to engage with SEIP participants and develop regional plans for applying successful models in other places. The publicly and freely available recorded webinars are housed on SEEA's website and will be part of a future resource hub, alongside all other energy insecurity research and reports developed as part of this initiative.

SEEA's engagement with SEIP members also made it clear that a key priority should be developing and disseminating resources that can prepare energy insecure communities for federal investments. This includes supporting communities so they can apply for, and deploy, funding from the Inflation Reduction Act (IRA) and Bipartisan Infrastructure Law (BIL), among others. To this end, SEEA has developed a series of data dashboards and whitepapers to help

communities in the South understand where federal money has been awarded and for what projects.[2] With the Texas Energy Poverty Research Institute (TEPRI), SEEA has also developed a geospatial tool, the Energy Equity Explorer, to provide a deep dive into equity-related metrics. We are currently working to launch this resource so that community leaders can better understand the impacts of clean energy investments on their communities. Finally, SEEA has developed successful asset-based development approaches that leverage SEEA's research capacity and SEIP's membership to support communities who are seeking federal investments to mitigate energy insecurity. Through this work, we provide communities with technical assistance to identify their needs, develop or replicate successful program/policy models, and secure relevant funding. This initiative has supported the deployment of more than $50M in federal funding into underserved communities in South Carolina, Georgia, and Alabama.

Building Community Through Education

Both the Stakeholder Initiative and SEEA's initial survey of participants indicated that regional partners need education and informational resources to advance policies and programs that can mitigate energy insecurity. To this end, our effort has focused on building a SEIP community through education. At an in-person event in Atlanta in 2023, for instance, SEIP convened partners and other critical regional stakeholders for a discussion of strategies for addressing energy insecurity through the unprecedented funding available from the federal government, utilities, and private philanthropies. This strategy session provided participants with a chance to engage subject matter experts in discussions of addressing energy insecurity through federal Justice40 priorities, community benefit plans, opportunities for regional collaboration, and more. More than that, it provided a way to learn about the priorities of SEIP and how to get involved in the first energy insecurity policy working groups. SEEA is planning a 2024 follow-up session, co-sponsored by SEIP, for local governments and community-based organizations in Atlanta, Georgia, to share best practices and models for stacking IRA and BIL funds with other available sources. Inviting a targeted cross-section of SEIP members to these events enhanced network cohesion while cultivating the diversity needed to achieve complex change, and these events invited insights from partners working across the region about what approaches have been successful in their communities.

Elevating Successful Local Solutions Through Direct Funding

The most successful solutions to energy insecurity are place-based, rooted in the needs and assets of local communities (Hossain, Loring, and Marski 2016; Garrett, Washington, and Bryan 2022). SEIP works to elevate successful local solutions, both by supporting communities who are implementing recommendations on the ground while raising the profile of these efforts for other Southern communities seeking solutions.

SEIP's service as a regional resource hub on energy insecurity is key to disseminating place-based best practices and program/policy models. In 2022, the Leadership Forum decided to move beyond these efforts to directly support initiatives that were underway by releasing funding for a series of competitive microgrants. SEEA developed an RFP for the Southeast Energy Insecurity Project Implementation Awards, which provided grants between $10,000 and $15,000 to support applicants who were advancing one or more of the Duke Initiative's recommendations

[2] Available at: https://www.seealliance.org/initiatives/regional-investment/

in their community. Projects were required to be in the Southeast, and the award had minimal reporting to lower barriers to participation. All applications were vetted by the Leadership Forum based on project design, immediate and long-term impact, and the level of involvement for underrepresented or at-risk communities.

SEIP provided awards to three communities to advance and learn from efforts that were already underway. The City of Savannah, Georgia and Athens-Clarke County, Georgia implemented initiatives to expand access to, and participation in, Georgia Power's Energy Assistance for Savings and Efficiency (EASE) program, which provides free energy efficiency upgrades for income-qualified households. Both municipalities had low levels of participation from their residents and used this funding to host educational sessions and serve as case managers for households in applying for, and navigating, the assistance process. Each municipality gathered information from residents on participation barriers and shared these findings with the Georgia Public Service Commission's Demand Side Management Working Group, which advises both the Commission and Georgia Power on existing and future programs. The Sustainability Institute in Charleston, South Carolina, used the award to convene community stakeholders and build a program model that would identify and address homes that need urgent repairs before they would be eligible for weatherization, while also providing community education on weatherization opportunities.

SEIP's next phase will be an expanded effort to identify and elevate place-based models for implementing the recommendations through a series of policy working groups. Knowing that decentralized efforts are often better at tackling complex change, these working groups will bring in voices from stakeholders throughout the region who are working to advance key recommendations in their communities. Through this collaboration, we will consider how to scale these approaches to the system level and what resourcing SEIP can provide to support this effort. The Leadership Forum elected to focus on three topic areas: data access and improvement, community engagement, and utility solutions. In this way, SEIP will give each working group both a common vision that is focused on advancing a set of linked recommendations and the flexibility to address these challenges in ways that resonate with their own experience.

SEIP is working to balance the need for decentralized models with enough structure to keep these working groups productive. To this end, the Leadership Forum established a set of energy and environmental justice principles that working group members will agree to abide by and a clear set of expectations for participants, documented in a participation agreement signed by all members. Beyond these guardrails, we intend that each working group can refine their respective recommendations, identify relevant (and successful) place-based program or policy models, and engage with communities where these models can be implemented.

In this way, SEIP had gone beyond the scope of literature showing the importance of aligning around the terms of the commitment itself. Instead, SEIP is working to ensure that each participant is aligned on the key principles and that each working group has a common vision, so that decentralized efforts remain focused on energy insecurity mitigation.

Conclusion

It is clear that communities in the Southeast experience energy insecurity at disproportionate rates due to unique housing, policy/programmatic, sociodemographic, and climatic conditions. As the first regional collaborative dedicated to addressing energy insecurity in the United States, SEIP draws on best practices from environmental management efforts and research to create a collaborative that:

- Decentralizes work for stakeholder input and direction but with a common set of principles and participant expectations.
- Engages a diverse array of stakeholders from different sectors, who each hold key pieces of energy insecurity solutions.
- Clearly identifies the scope and responsibilities of members and partners.
- Focuses on changing systems by starting locally with place-based solutions that have proven successful in the South.

Ultimately, this effort has demonstrated that place-based solutions enacted at the local level are key to changing systems that contribute to energy insecurity. This must be a deliberate process – one that requires time and the creation of infrastructure and engagement processes that provide direction to stakeholders while allowing them to drive the content. It has also affirmed that energy insecurity is an intersectional issue that can only be addressed by engaging a wide range of stakeholders from multiple sectors. By addressing each of these issues within a unique Southeastern regional context, SEIP offers a path for other communities to scale place-based and intersectional approaches to addressing energy insecurity.

References

Arganoff, R. 2007. *Managing within networks: adding value to public organizations*. Washington, DC: Georgetown University Press.

Bird, S., Hernández, D. 2012. "Policy options for the split incentive: Increasing energy efficiency for low-income renters." *Energy Policy* 48: 506-514.

Blanding, I., Bartlett, R., Halverson, M., Xie, Y., Williams, J. 2022. *Residential Energy Code Field Studies: Assessing Implementation in Seven States*. Richland, WA: Pacific Northwest National Laboratory.

Bodin, Ö., and Crona, B. I. 2009. "The role of social networks in natural resource governance: What relational patterns make a difference?" *Global Environmental Change*, 19(3): 366–374. doi.org/10.1016/j.gloenvcha.2009.05.002

Brown, M. A., Soni, A., Lapsa, M. V., Southworth, K., and Cox, M. 2020. "High energy burden and low-income energy affordability: conclusions from a literature review." *Progress in Energy* 2(4): 1-35.

Cecil. 1975. "Implementation of Interstate Water Quality Plan." *Journal of the Hydraulics Division* 101(3): 495–509.

Census Bureau. 2022. *5-Year American Community Survey Physical Housing Characteristics for Occupied Housing Units.* data.census.gov.

Clark, C. and Cunningham, L. 2020. *The Weatherization Assistance Program Formula*. Washington, DC: Congressional Research Service.

EIA (U.S. Energy Information Administration) 2020. Independent Statistics and Analysis. www.eia.gov/consumption/residential/data/2020/index.php?view=state#hc

Fetter, C. W. 1981. Interstate Conflict Over Ground Water: Wisconsin-Illinois. *Ground Water*, 19(2): 201–213. doi.org/10.1111/j.1745-6584.1981.tb03459.x

Fos, E. B., Thompson, M. E., Elnitsky, C. A., Platonova, E. A. July/August 2019. "Community Benefit Spending Among North Carolina's Tax-Exempt Hospitals After Performing Community Health Needs Assessments." *Journal of Public Health Management and Practice* 25(4): E1-E8, 10.1097/PHH.0000000000000921

Gaines, A. C., Hardy, B., and Schweitzer, J. 2021, September 22. *How Weak Safety Net Policies Exacerbate Regional and Racial Inequality*. Center for American Progress. www.americanprogress.org/article/weak-safety-net-policies-exacerbate-regional-racial-inequality/

Garrett, A., Washington, S., and Bryan, W.D. 2022. *Stakeholder Recommendations for Reducing Energy Insecurity in the Southeast United States*. Durham, NC: Nicholas Institute for Environmental Policy Solutions. https://nicholasinstitute.duke.edu/sites/default/files/publications/Stakeholder-Recommendations-for-Reducing-Energy-Insecurity-in-the-Southeast-United-States.pdf

Hernández, D. 2016. "Understanding 'energy insecurity' and why it matters to health." *Soc Sci Med* 2016 Oct (167):1-10. 10.1016/j.socscimed.2016.08.029.

Hernández, D., and Siegel, E. 2019. "Energy insecurity and its ill health effects: A community perspective on the energy-health nexus in New York City." *Energy research & social science* 47: 78–83. doi.org/10.1016/j.erss.2018.08.011

Horwitz, L. I., Chang, C., Arcilla, H. N., and Knickman, J. R. 2020. "Quantifying Health Systems' Investment In Social Determinants Of Health, By Sector, 2017–19." *Health Affairs* 39(2): 192–198. doi.org/10.1377/hlthaff.2019.01246

Hossain, Y., Loring, P., and Marsik, T. 2016. "Defining energy security in the rural North—Historical and contemporary perspectives from Alaska." *Energy Research & Social Science* 16: 89-97.

Jessel, S., Sawyer, S. and Hernández, D. 2019. "Energy, Poverty, and Health in Climate Change: A Comprehensive Review of an Emerging Literature." *Front. Public Health* 7:357. doi: 10.3389/fpubh.2019.00357

Kellerher, K., Reece, J., and Sandel, M. 2018. "The Healthy Neighborhood, Healthy Families Initiative." *Pediatrics* 142(3): e20180261.

Kowalski, A. A., and Jenkins, L. D. 2015. "The role of bridging organizations in environmental management: examining social networks in working groups." *Ecology and Society* 20(2). doi.org/10.5751/es-07541-200216

Lupien, J. 2020. Executive Summary. *Asia Pacific Journal of Clinical Nutrition* 11(1), S97–S97. doi.org/10.1046/j.1440-6047.11.s.6.6.x

Memmott, T., Carley, S., Graff, M., and D. Konisky. 2021. "Sociodemographic disparities in energy insecurity among low-income households before and during the COVID-19 pandemic." *Nat Energy* 6:186–193. doi.org/10.1038/s41560-020-00763-9

Nationwide Children's. n.d. *Affordable Housing*. www.nationwidechildrens.org/about-us/population-health-and-wellness/healthy-neighborhoods-healthy-families/affordable-housing

NCUC (North Carolina Utility Commission). 2022. *Final Report and Recommendations of the North Carolina Low-Income Affordability Collaborative*. Docket Nos. E-7, Sub 1213; E-7, Sub 1214; E-7, Sub 1187; E-2, Sub 1219; E-2, Sub 1193.

Perl, L. 2016. *The LIHEAP Formula*. Washington, DC: Congressional Research Service. https://liheapch.acf.hhs.gov/sites/default/files/webfiles/docs/2016LIHEAPFormula.pdf

Schmidt, L., Shore-Sheppard, L., and Watson, T., 2022. *State Safety Net Database version 1.1 [Cash and Food Safety Net Index Over Time]*. Washington, D.C: Brookings Institute.

Siegel, E., Lane, K., Yuan, A., Smalls-Mantey, L. A., Laird, J., Olson, C., and Hernández, D. 2024. "Energy Insecurity Indicators Associated With Increased Odds Of Respiratory, Mental Health, And Cardiovascular Conditions." *Health Affairs* 43(2): 260–268. healthaffairs.org/doi/10.1377/hlthaff.2023.01052.

Smith, Z. A. 1987. "Interstate and International Competition for Water Resources." *Journal of the American Water Resources Association* 23(5): 873–877. doi.org/10.1111/j.1752-1688.1987.tb02965.x

Southeast Energy Efficiency Alliance (SEEA). n.d. *Energy Code Status by State*. Accessed March, 2024. www.seealliance.org/initiatives/built-environment/building-energy-codes/energy-code-status-by-state/

Specian, M., Berg, W., Subramanian, S., and Campbell, K. 2023. *2023 Utility Energy Efficiency Scorecard*. Washington, DC: American Council for an Energy-Efficient Economy. www.aceee.org/sites/default/files/pdfs/U2304.pdf

Taylor, D.R., Bernstein, B.A., Carroll, E., Oquendo, E., Peyton, L., and Pachter, L.M. 2015. "Keeping the Heat on for Children's Health: A Successful Medical–Legal Partnership Initiative to Prevent Utility Shutoffs in Vulnerable Children." *Journal of Health Care for the Poor and Underserved* 26(3): 676-685. doi.org/10.1353/hpu.2015.0074

Tennessee Valley Authority (TVA). 2024. *The Valley Pathways Study: Building a Competitive, Clean Economy*. TVA and the University of Tennessee Baker School of Public Policy & Public Affairs. https://www.tva.com/environment/valley-pathways-study