

PROGRESS PRODUCTIVITY PROSPERITY





About the Southeast Energy Efficiency Alliance (SEEA)

The Southeast Energy Efficiency Alliance (SEEA) is one of six regional energy efficiency organizations in the United States working to transform the energy efficiency marketplace through collaborative public policy, thought leadership, outreach programs and technical advisory services. SEEA promotes energy efficiency as a catalyst for economic growth, workforce development and energy security across 11 southeastern states. These states include Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia.

Visit SEEA online at www.seealliance.org.

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Energy Pro3: Productivity, Progress and Prosperity for the Southeast

This report is titled "Energy Pro3: Productivity, Progress and Prosperity for the Southeast." It tells the story of the evolving nature of energy efficiency and the promise it holds for our region ("energy productivity"), demonstrates the results the Consortium has achieved to date ("progress") and highlights how the multiple facets of the Consortium's work has paved the way for sustained economic "prosperity" in the Southeast. It also offers an honest assessment of the infrastructure, resources and opportunities that support the deployment of energy efficiency programming, and the approaches that the Consortium has found best suited to the region.



"MAKING OUR BUILDINGS MORE ENERGY EFFICIENT IS ONE OF THE FASTEST, EASIEST AND CHEAPEST WAYS TO SAVE MONEY, COMBAT POLLUTION AND CREATE JOBS RIGHT HERE IN THE UNITED STATES OF AMERICA." - PRESIDENT BARACK **OBAMA** "WE'RE INNOVATING AND TRYING TO IDENTIFY THE BEST APPROACHES." - DANIELLE SASS BYRNETT, BETTER BUILDINGS NEIGHBORHOOD PROGRAM DIRECTOR, U.S. DEPARTMENT OF ENERGY "NOLA WISE IS A TREMENDOUS RESOURCE FOR THE PEOPLE OF NEW ORLEANS, HELPING FAMILIES SAVE MONEY AND ENERGY, TRAINING AND EXPANDING THE LOCAL GREEN WORKFORCE, AND IMPROVING OUR ENVIRONMENT. WITH SUPPORT FROM A DEDICATED NETWORK OF PARTNERS, THE PROGRAM HAS SUCCEEDED IN CHANGING THE CONVERSATION IN OUR CITY, DEMONSTRATING THAT SMART ENERGY USE CAN BUILD A STRONGER, MORE RESILIENT NEW ORLEANS."- NEW ORLEANS MAYOR MITCH LANDRIEU "THE SHINE PROGRAM WILL ASSIST RESIDENTS IN REDUCING ATLANTA'S CARBON FOOTPRINT AND HELP THE CITY REACH THE GOAL OF BECOMING A TOP 10 SUSTAINABLE CITY IN THE UNITED STATES. IT WILL ALSO CREATE A SURGE IN GREEN JOBS, AND MOST IMPORTANTLY, I HOPE THIS WILL SHOW RESIDENTS THE IMPORTANCE OF SUSTAINABLE INITIATIVES AS THEY EXPERIENCE FIRSTHAND THE IMPACT OF IMPROVEMENTS AND COST SAVINGS IN THEIR OWN HOMES." - ATLANTA MAYOR KASIM REED "THROUGH THE ALABAMA WISE PROGRAM, NEXUS ENERGY CENTER HAS TRANSFORMED THE RESIDENTIAL RETROFIT MARKET IN KEY COMMUNITIES STATEWIDE. MORE IMPORTANTLY, THEY'VE BUILT LOCAL CAPACITY TO SUSTAIN THIS KIND OF WORK LONG INTO THE FUTURE, THANKS TO EXTENSIVE WORKFORCE EDUCATION, CONTRACTOR AND REALTOR TRAINING, AN INNOVATIVE SUITE OF FINANCING OPTIONS AND TARGETED CONSUMER OUTREACH." - ELIZABETH GRIMES, ENERGY PROGRAM MANAGER, ALABAMA DEPARTMENT OF ECONOMIC AND COMMUNITY AFFAIRS

CONTENTS

- 6 EXECUTIVE SUMMARY
- 8 Regional Landscape: Energy Efficiency's Critical Role in the Southeast
- **10** Addressing Regional Challenges
- **11** Test Labs For Success
- 12 Consortium Results

13 INTRODUCTION

15 PROGRAM ADMINISTRATION

- 15 Overview
- 16 Consortium Model
- 16 Local Program Administration
- 16 Service Outsourcing
- 17 Consumer Incentive Structures
- **17** Timeline
- 17 Resources and Vendor Management
- 18 Consortium Highlights
- 19 Results and Conclusions

21 FINANCE

- 21 Overview
- 22 Lending Institutions
- 22 Market Assessment
- 22 Contractor Engagement
- 23 Consortium Highlights
- 26 Results and Conclusions

27 MARKETING AND CONSUMER EDUCATION

- 27 Overview
- 28 Target Market Identification
- 28 Marketing Channels
- 28 Contractor Engagement
- 29 Consortium Highlights
- 32 Results and Conclusions

33 WORKFORCE DEVELOPMENT

- 33 Overview
- 34 Workforce Baseline
- 34 New Business Models
- 34 Market Recognition
- **35** Consortium Highlights
- 36 Results and Conclusions

37 UTILITY PARTNERSHIPS

- 37 Overview
- 38 Synergies and Successes
- 38 Partnership Challenges
- **39** Consortium Highlights
- 40 Results and Conclusions

41 CONCLUSION: THE PATH FORWARD

EXECUTIVE SUMMARY

In 2010, the Southeast Energy Efficiency Alliance (SEEA) received more than \$20 million through the U.S. Department of Energy's Better Buildings Neighborhood Program and the Alabama and Virginia State Energy Programs to establish local energy efficiency retrofit initiatives in 16 partner cities.

Together, these cities formed the SEEA Southeast Community Consortium – the largest-ever coordinated effort to implement community-based energy efficiency retrofit programs across the Southeast. From New Orleans to Nashville, Birmingham to Blacksburg, these local "test labs" identified the key elements necessary for deploying successful, sustainable on-the-ground energy efficiency programs in southeastern markets. Facilitated by these new learnings, the programs rose in the national ranks, collectively becoming one of the most productive among DOEfunded retrofit programs nationwide, and providing innovative, locally tailored energy efficiency programming to help their communities grow and thrive.





The SEEA Southeast Consortium

The SEEA Southeast Consortium leveraged support from the U.S. Department of Energy (DOE) through the Energy Efficiency and Conservation Block Grant Program in addition to the Alabama and Virginia State Energy Programs to partner with non-profit organizations, local governments and utilities in eight states and one U.S. territory. This framework encouraged locally tailored programs, but fostered a spirit of collaboration between communities.

Arlington, Virginia Program Name: LEAP NOVA Administrator: Local Energy Alliance Program (LEAP)

Atlanta, Georgia Program Name: Sustainable Home Initiative in the New Economy (SHINE) Administrator: City of Atlanta

Birmingham, Alabama Birmingham WISE (Worthwhile Investments Save Energy) Administrator: Nexus Energy Center

Blacksburg/Roanoke, Virginia Program Name: Community Alliance for Energy Efficiency (CAFE²) Administrator: Community Housing Partners

Carrboro, North Carolina Program Name: Carrboro WISE Administrator: Town of Carrboro

Chapel Hill, North Carolina Program Name: Chapel Hill WISE Administrator: Town of Chapel Hill

Charleston, South Carolina Program Name: Charleston WISE Administrator: The Sustainability Institute

Charlotte, North Carolina Program Name: Commercial Building Energy Efficiency Retrofit Program (CBRetro) Administrator: City of Charlotte

Charlottesville, Virginia Program Name: LEAP Administrator: Local Energy Alliance Program (LEAP) **Decatur, Georgia** Program Name: Decatur WISE Administrator: City of Decatur

Hampton Roads, Virginia Program Name: Hampton Roads Next Step Administrator: Green Jobs Alliance

Huntsville, Alabama Program Name: Huntsville WISE Administrator: Nexus Energy Center

Jacksonville, Florida Program Name: ShopSmart with JEA Administrator: JEA

Nashville, Tennessee Program Name: Nashville Energy Works Administrator: Metropolitan Government of Nashville and Davidson County

New Orleans, Louisiana Program Name: NOLA Wise Administrator: Global Green USA

Richmond, Virginia Program Name: Richmond Region Energy Alliance (RREA) Administrator: Richmond Region Energy Alliance (RREA)

U.S. Virgin Islands Program Name: USVI WISE Administrator: Virgin Islands Energy Office

> Sub-grantees funded through the Energy Efficiency and Conservation Block Grant Program

Sub-grantees funded through the State Energy Program

Sub-grantees funded through both programs

Regional Landscape: Energy Efficiency's Critical Role in the Southeast

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The Southeast is a vibrant region, characterized by remarkable natural beauty, an abundance of unique cultures and an indomitable spirit. However, the region continues to be plagued by persistent problems, including high energy usage, poverty, pollution and water stress. Largescale deployment of energy efficiency has the potential to address each of these issues, catalyzing a cleaner, more prosperous and more resilient Southeast.

High Energy Usage

Once dubbed the "Saudi Arabia of energy efficiency," the Southeast is the region of the U.S. that is newest to energy efficiency but arguably has the most to gain from it. It is the nation's fastest growing region, with Census data showing a nearly 20 percent population increase in the past decade. Since 1990, population growth and energy use per person in this region has outpaced the national average. In addition, the Southeast has among the highest per capita electricity consumption values and a far higher level of energy intensity, the amount of energy consumed to produce one dollar of gross state product. Residential consumption is also significantly higher in the Southeast. In 2009, average monthly residential energy consumption in SEEA's eleven-state region stood at 1176 kWh, compared to the national average of 908 kWh.¹

High energy usage has negative implications, not only for consumers' pocketbooks, but also for energy security. Most of the Southeast's energy is produced by coal-fired power plants, and every year, the region sacrifices significant resources to import outside coal. In 2010, the Union of Concerned Scientists ranked the ten most coal-dependent states, based on their expenditures on net coal imports; five of these states (Georgia, North Carolina, Florida, Alabama and Tennessee) were in the Southeast.² Boosting energy efficiency in the Southeast has the potential to bring about a more productive, more competitive regional economy.

Poverty

As a whole, the Southeast has historically been plagued by high poverty levels. In 2011, an average of 18.5 percent of the residents within SEEA's eleven-state geographic footprint lived in poverty, compared to a national average of 15.9 percent.³ Even as the region recovers from the recession, unemployment rates in more than half of these states are at least two-fifths of a percentage point above the national average.⁴

In 2009, average residential retail prices stood at 9.95 cents per kWh in SEEA's eleven-state footprint, compared to the national average of 11.5 cents. Low rates, however, do not equate to low bills, and due factors like the significant cooling and heating loads associated with seasonal temperature variations in the Southeast, the lack of efficiency measures and utility riders, the region's average utility bills are among the highest in the nation – in the same timeframe, average monthly residential energy bills in the Southeast were \$116.76, compared to the national average of \$104.52.⁵ According to an analysis conducted by the American Council for an Energy-Efficient Economy (ACEEE), four southeastern states – Mississippi, Alabama, Arkansas and South Carolina – fall into the top ten states in the nation for percent of household income spent on energy bills, and nine fall into the top 20.⁶

Pollution

Investments in energy efficiency are an effective means of cutting pollution and reducing greenhouse gas emissions. They are particularly important in a fast-growing region with environmentally sensitive coastal areas and unique ecosystems. Energy production is closely tied to air pollution, which remains a major problem for the Southeast. The Natural Resources Defense Council (NRDC) lists Kentucky, Florida, North Carolina, Tennessee, Virginia, South Carolina, Alabama and Mississippi among its "Toxic 20" states in a 2012 report. These states constitute a disproportionate share of toxic emissions from electricity production. The Southeast is also home to five of 2010's top power plant polluters, based on emissions of toxic air pollutants like mercury and sulfur dioxide.⁷

In 2009, emissions in SEEA's 11 states were characterized as follows:

- 677 million tons of carbon dioxide (28.2 percent of the national total). CO2 contributes to global climate change, which will have adverse impacts on southeastern states, including potential sea level rises in coastal states and salt water intrusion into fresh water drinking supplies in Gulf States.⁸
- 1.7 million tons of sulfur dioxide (27.6 percent of national total). SO2 causes a wide variety of health and environmental impacts because of the way the gas reacts with other substances in the air. SO2 is the main contributor to fine particulate matter air pollution, which contributes to respiratory illnesses, and it also contributes to the formation of acid rain. When fine sulfate particles are breathed, they gather in the lungs and are associated with increased respiratory symptoms and disease, difficulty in breathing, and premature death. Across SEEA's footprint, asthma affects an average of 8.4 percent of adults.⁹
- 553,000 tons of nitrogen oxide (25 percent of national total).¹⁰ Nitrogen oxide causes a wide variety of health and environmental impacts, including the formation of acid rain and ground-level ozone. When inhaled, even at very low levels, ground-level ozone can cause acute respiratory problems, aggravate asthma, inflammation of lung tissue, and lead to hospital admissions and emergency room visits.¹¹

Water Stress

The Southeast is already a water-stressed region, and emerging climate patterns have been marked by increased drought and flooding. These natural conditions, combined with population pressures, necessitate the judicious use of water resources. In a region where more than two-thirds of water withdrawals in the region are accounted for by thermoelectric power plants, energy efficiency has an important role to play, helping to ease strains on the demand side of the equation.¹²

^{1.} U.S. Energy Information Agency (2010), "Table 5A. *Residential* Average Monthly Bill by Census Division, and State," http://www.eia.gov/ electricity/sales_revenue_price/html/table5_a.html.

^{2.} Union of Concerned Scientists (2010), *Burning Coal, Burning Cash*. http://www.ucsusa.org/assets/documents/clean_energy/Burning-Coal-Burning-Co

^{3.} Bishaw, Alemayehu (2012), Poverty: 2010 and 2011, http://www.census.gov/prod/2012pubs/acsbr11-01.pdf.

^{4.} U.S. Bureau of Labor Statistics (2013), "Table 3: Civilian Labor Force and Unemployment by State and Selected Area, Seasonally Adjusted," http://www.bls.gov/news.release/laus.t03.htm.

^{5.} U.S. Energy Information Agency (2010), "Table 5A. Residential Average Monthly Bill by Census Division, and State," http://www.eia.gov/ electricity/sales_revenue_price/html/table5_a.html.

⁶. Neubauer, Max (2013), "Annual Energy Consumption, Expenditures and Income," Email message to Jenah Zweig, May 24, 2013.

^{7.} Natural Resources Defense Council (2012). Toxic Power, http://www.nrdc.org/air/files/toxic-power-presentation.pdf.

^{8.} Renewable Energy Policy Project, *Powering the South: A Clean Affordable Energy Plan for the Southern United States*, January 2002, Washington DC.

American Lung Association (2012), Trends in Asthma Morbidity and Mortality, http://www.lung.org/finding-cures/our-research/trendreports/asthma-trend-report.pdf.

^{10.} U.S. Environmental Protection Agency (2012), "eGRID2-12 Version 1.0," http://www.epa.gov/cleanenergy/documents/egridzips/ eGRID2012V1_0_year09_DATA.xls.

^{11.} U.S. Environmental Protection Agency (1997). Health and Environmental Effects of Ground-Level Ozone, http://www.epa.gov/ttn/oarpg/naaqsfin/o3health.html.

^{12.} Union of Concerned Scientists (2013), Water-Smart Power, http://www.ucsusa.org/assets/documents/clean_energy/Water-Smart-Power-Full-Report.pdf.

PROGRESS PRODUCTIVITY PROSPERITY

Addressing Regional Challenges

Despite its potential as a tool for regional revitalization, energy efficiency has never been widely deployed throughout the Southeast for a variety of reasons. Culturally and politically conservative, the Southeast has prioritized having low electricity rates, and this has stymied conversations about energy conservation. As a result, the region is marked by a relatively weak energy conservation ethic, a dearth of trained energy efficiency professionals, a short supply of energy-efficient products and lower-than-average expenditures on energy-efficiency programs. Within the SEEA territory, states spent a median of 0.23 percent of utility revenues on electric efficiency programs in 2011, compared to a national median of 0.96 percent, and six of the eleven states spent no money on natural gas energy efficiency programs. This low level of investment is the primary reason that realized energy savings continue to lag. In 2010, median savings for states in SEEA's geographic footprint as a percentage of utility retail revenues was only 0.11 percent, compared to the national median of 0.38 percent. The same trend in utility programs largely holds true in other areas.¹³ SEEA's analysis of ENERGY STAR appliance sales figures shows a 20 percent market penetration in the Southeast, versus 31 percent in the Northeast and 30 percent in New York and California.¹⁴

Any nationwide review of successful geographies for energy efficiency penetration in buildings reveals a nexus of high utility prices, low reliance on coal for electricity generation, very little coal mining, progressive utility regulators, robust mandated utility-provided energy efficiency incentives, and strong environmental organizations. The Southeast lacks all of these attributes.

The SEEA Southeast Community Consortium sought to address these challenges and more, finding creative ways to tap into the significant regional opportunity to revitalize a flagging economy presented by energy efficiency market transformation. Their efforts – unprecedented for the region – saved energy; delivered millions in energy cost savings; provided training and jobs for a qualified contractor base; and built momentum for more productive economies throughout the Southeast.

TEST LABS FOR SUCCESS

The simultaneous deployment of funding resources in so many diverse markets created a unique "test lab" environment, allowing SEEA and its 16 subgrantee partners to explore new approaches and best practices for energy efficiency program implementation. This "test lab" approach, together with a diverse Consortium mix, produced a range of results and lessons that hold major implications for the future of energy efficiency and related regional programming. These areas of focus include:







Program Administration

There is no "one size fits all approach" to developing an effective, self-sustaining energy efficiency retrofit program. Management structure, timelines and incentive pools must align with local market scope, resources, needs and opportunities.

Financing

To attract consumer interest, energy efficiency financing products must be streamlined, visible and competitive. Still, no matter how attractive the product, it is unlikely to succeed without an active, engaged lending partner.

Marketing and Consumer Education

In the Southeast, partnering with trusted, third-party groups with deep roots in the community is often one of the most effective ways of reaching customers. Across the Consortium, program information delivered through existing channels, including churches and trusted community groups, met with more success than traditional advertising and promotional approaches.





Workforce Development

In many parts of the region, there is a pronounced lack of credentialed, well-trained individuals to carry out high quality building retrofit work. This is a significant barrier to program delivery, but it also presents an opportunity to align programmatic activities with technical and community colleges, as well as related community development initiatives, including workforce reentry and veteran training programs.

Utility Partnerships

By and large, the regional energy policy environment does not currently support scaled energy efficiency programming because there are few mechanisms in place to incentivize utility investment. Until it makes business sense for utilities to broadly invest in energy efficiency as a least cost resource, the full potential and opportunity of energy efficiency within the Southeast will not be realized. Nearly all Consortium members met with challenges stemming from this fundamental policy misalignment, but the most successful ones were able to bring local utilities to the table by maintaining a constant dialogue and focusing on win-win partnership opportunities.

Consortium Results

Prior to the Consortium's launch, SEEA and its sub-grantees identified key program-related areas essential to the success of local energy efficiency programs. Throughout the grant period, SEEA tracked program outcomes and performance across these areas of focus, resulting in a comprehensive, region-specific set of best practices and lessons learned. This report presents these findings, as well illustrative case studies that present the broader implications for future energy efficiency and demand response programming in the Southeast.

By all evaluation measures — ranging from energy savings metrics to intangibles like community vitality — the efforts of the SEEA Consortium created positive groundswells in each sub-grantee city.



INTRODUCTION

In 2010, the Southeast Energy Efficiency Alliance (SEEA) received more than \$20 million through the U.S. Department of Energy's Better Buildings Neighborhood Program and the Alabama and Virginia State Energy Programs to establish local energy efficiency retrofit initiatives in 16 partner cities. Together, these cities formed the SEEA Southeast Community Consortium – the largest-ever coordinated effort to implement community-based energy efficiency retrofit programs across the Southeast. From New Orleans to Nashville, Birmingham to Blacksburg, these local "test labs" identified the key elements necessary for deploying successful, sustainable on-the-ground energy efficiency programs in southeastern markets. Facilitated by these new learnings, the programs rose in the national ranks, collectively becoming one of the most productive among DOE-funded retrofit programs nationwide, and providing innovative, locally tailored energy efficiency programming to help their communities grow and thrive.

The Southeast has historically been plagued by persistent problems, including high energy usage, poverty, pollution and water stress. Largescale deployment of energy efficiency has the potential to address each of these issues, catalyzing a cleaner, more prosperous and more resilient Southeast. The SEEA Southeast Community Consortium sought to address these challenges and more, finding creative ways to tap into the significant regional opportunity to revitalize a flagging economy presented by energy efficiency market transformation. Their efforts – unprecedented for the region – saved energy; delivered millions in energy cost savings; provided training and jobs for a qualified contractor base; and built momentum for more productive economies throughout the Southeast.

The simultaneous deployment of funding resources in so many diverse markets created a unique "test lab" environment, allowing SEEA and its 16 sub-grantee partners to explore new approaches and best practices for energy efficiency program implementation. Partners concurrently tested tactics and innovations in the areas of program design and administration, retrofit financing, marketing and consumer education, workforce development and utility partnerships. This "test lab" approach, together with a diverse Consortium mix, produced a range of results and lessons that hold major implications for the future of energy efficiency and related regional programming.

This report is titled "Energy Pro3: Productivity, Progress and Prosperity for the Southeast." It tells the story of the evolving nature of energy efficiency and the promise it holds for our region ("energy productivity"), demonstrates the results the Consortium has achieved to date ("progress") and highlights how the multiple facets of the Consortium's work has paved the way for sustained economic "prosperity" in the Southeast. In addition, it highlights the experiences of Consortium programs, their successes driving further investments in energy efficiency improvements and the challenges that hindered their progress. Finally, it details the infrastructure, resources and opportunities that support the deployment of energy efficiency programming, and the approaches that the Consortium has found best suited to the region.

In January 2014, SEEA will release a companion report, which details the job creation and economic growth impacts of the Southeast Consortium. Taken together, these two documents will offer an honest assessment of the energy efficiency progress that has been achieved in the Southeast to date, and a clear path forward to drive the region toward comprehensive energy efficiency market transformation.

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Energy efficiency programs like NOLA Wise and Energy Smart are a smart investment in our community and our economy. Their success has shown that energy efficiency works in the Southeast, and we hope that they will serve as a model for the region.

SUSAN GUIDRY NEW ORLEANS CITY COUNCIL PUBLIC UTILITY COMMITTEE MEMBER



Program Administration

While there is a clear need for energy efficiency programs in the marketplace, very little infrastructure currently exists to administer and oversee them. Even in the Northeast and on the West coast, freestanding energy efficiency marketplaces are still in their infancy, and successful infrastructure is only just beginning to be put in place. This state of affairs is even more pronounced in the Southeast, which lags behind most other regions in the country in terms of energy efficiency uptake. By and large, the 16 programs in SEEA's Southeast Community Consortium were treading new waters. Even as they ramped up, each program had to answer basic questions regarding project pipeline management, staffing, quality assurance, data collection and other day-to-day operational questions.

Consortium Model

Recognizing the relative newness of energy efficiency programming in the region, SEEA established a consortium model – unique among Better Buildings Neighborhood Program (BBNP) grantees nationwide – to provide centralized support while allowing programs to pilot individualized programmatic approaches. SEEA acted as the facilitator and general manager for sub-grantees, who in turn developed programs based on the specific needs of their communities, available resources and unique culture. In turn, SEEA offered centralized support in several key foundational areas, including finance, data management, partnership building and marketing, and assigned dedicated "program managers" to provide expert assistance throughout the entire life cycle of the project. These staff members oversaw coordination between local Consortium members and SEEA, ensured compliance with DOE grant requirements and provided technical assistance to optimize programs, reporting and improve outcomes.

Finally, SEEA secured a diverse team of vendors and partners to assist in both day-to-day program management and local Consortium member support. SEEA sought to provide the following critical elements for the Consortium network:

- A high-quality marketing plan, branding strategy and other promotional resources
- A lending resource to provide financing region-wide or through local partner programs
- An internal communications infrastructure to coordinate all partner cities and enable them to share best practices and lessons learned
- An evaluation, measurement and verification (EM&V) plan to analyze and confirm programmatic data based on customer surveys, detailed interviews and utility usage pre- and post-participation

The consortium model also offered a unique opportunity for local programs to share lessons learned and best practices. Over the course of the grant period, SEEA facilitated intra-consortium communication via a dedicated Groupsite, webinars, phone calls and in-person convenings. Sub-grantees frequently remarked on the usefulness of these resource-sharing opportunities, as well as their enthusiasm for "being part of something bigger," with impacts at the regional and national levels.

Still, on many levels, the consortium model presented its own unique set of challenges. SEEA leadership and Consortium staff spent significant time and budget on the initial Consortium launch, administrative activities and technical assistance. Because each sub-grantee program was different, program managers had to become experts in the specifics of each program, in addition to learning the intricacies of each individual market.

Sub-grantee programs, in turn, often had to wait for centralized resources – data tracking tools, financial allocations and even program managers' time – to become available. While SEEA worked diligently to ensure timely turnaround, the organization was sometimes slowed by staff turnover, changing guidance from DOE and vendors who were slow to complete required deliverables.

Local Program Administration

The simultaneous deployment of BBNP and State Energy Program (SEP) resources in so many southeastern communities allowed a unique "test lab" environment, which allowed local programs to seek best practices for local energy efficiency market transformation. With SEEA as central administrator, sub-grantee programs were tasked with designing local program models that fit the unique character of their communities. Across the Consortium, programs differed widely in a number of key foundational areas.

As utilities and other energy efficiency sector players contemplate the most effective ways to engage customers and execute program offerings, there are often several options on the table. SEEA's Consortium programs reflected this diversity, with local program administrators falling into one of four categories: a municipal department, nonprofit organization, nonprofit municipal utility, or a for-profit organization. Each of these models presented its own set of challenges and opportunities. Municipal programs were able to leverage their connections, but tended to slow down the programmatic activity because of lengthy approval processes. Nonprofits had much greater flexibility, but were faced with competing priorities like fundraising and supporting other mission-driven activities. JEA, the sole utility program administrator in the Consortium footprint, benefited tremendously from existing infrastructure, but had to adjust to new requirements attached to DOE funding. Finally, for-profit administrators met with both successes and challenges, depending on the resources and infrastructure that were in place for each program.

Service Outsourcing

The simultaneous role of grant administrator and technical resource was crucial to BBNP and SEP program success. But the scope of the project was so vast that it quickly became clear that certain deliverables were better outsourced to a vendor instead of being led in-house by SEEA. The requirement of developing a regional IT solution to track local customer data and results is a prime example of a need that abutted both roles.

Initially, Consortium members developed local tools for tracking customer data and reporting results. In many cases the tools were rudimentary in nature and would limit Consortium member effectiveness. SEEA polled its sub-grantees, identifying to need and tool specifications, and released an RFP. The final candidate was thoroughly vetted and signed an agreement to deliver a data reporting and customer management tool within a set schedule and budget. SEEA and local Consortium members invested significant amounts of time and resources working with the vendor to build the beta version, but the glitches were overwhelming, and a final tool was never delivered.

The process resulted in a rudimentary tool that provided only a portion of the services needed by the local programs. In programs where staff resources were limited, the success of a program relied heavily on the use of a robust IT tool to automate and streamline program processes. When the Consortium-wide tool failed to produce the desired results, SEEA offered additional grant dollars to cities to procure a new tool off the shelf or contract with a vendor of their choice (assuming they meet certain guidelines). SEEA originally tried to shift the administrative burden from the sub-grantees by developing this system but instead, it became a source of frustration. The experience highlighted that the number of vendors able to support a spectrum of energy efficiency program needs is evolving and, in some cases, insufficient.

Consumer Incentive Structures

The Southeast's energy efficiency marketplace is still in its infancy, with low levels of consumer awareness and a largely unestablished track record for retrofit programs. What's more, in a region hard-hit by the recession, consumers often have other short-term financial priorities, and despite the long-term savings of energy efficiency retrofits, getting consumers to make an upfront outlay is a hard sell. SEEA and its sub-grantee programs established a variety of consumer incentive structures as a method of overcoming these participation barriers – laying the groundwork for a future self-sustaining market.

The amount of the rebate did not determine program success or satisfaction with the program. Sub-grantees' residential sector programs differed widely between the level and type of rebate, as well as participants' program experiences. Large rebates above \$1,000 were common but not necessarily a determinant of success; other elements, including marketing efforts, competent program administrators, a solid contractor base and a robust financing program, proved to be greater determinants of participation. For example, Nashville had a flat rebate level of \$200 on top of TVA rebates, and has met its retrofit target. Nashville's program also minimized additional steps for homeowners and contractors, simplifying the participation process. By contrast, incentives available to customers in Atlanta were substantially larger – up to \$4,200 including utility rebates – yet the additional paperwork steps generated complaints from contractors and customers.

Procedures for distributing incentive dollars varied significantly among Consortium members. The rebates were distributed either as a traditional reimbursement to the customer after they had paid the full amount, or as an instant rebate to the contractor. Most programs found that the instant incentives were the most advantageous as they established a system to make the contractors complete their paperwork immediately, and they satisfied the customer who enjoyed knowing they paid less up front.

All of the Consortium programs provided a cash incentive from the beginning, with the sole exception of NOLA Wise.¹ Instead, the program used a loan loss reserve (LLR) administered by the City of New Orleans and capitalized with EECBG funds. The additional layer of complexity introduced by the LLR made retrofits a harder sell to potential customers and depressed early program numbers.

In the grant's final months, many programs altered incentive levels offered, narrowed the scope of their marketing approach, and began to rethink how they worked with contractors, based on their program's maturity and lessons learned during the early part of the grant period. For example, Huntsville staff reported that many participants chose to utilize only the window rebates. In an effort to encourage more whole-house retrofits and increase the overall energy savings achieved per retrofit, Huntsville WISE decreased window rebates. The change only occurred in the last few months, but program staff reported that they believe it is encouraging installation of additional measures.

Timeline

A fixed program duration is often necessary, particularly for grant-funded programs like BBNP and SEP. The set funding timeline in this program posed several challenges for SEEA Consortium partners. First, some sub-grantees were existing organizations while others were brand new, created specifically for this endeavor. For the latter, significant time was required to first build the foundation of these organizations, including developing a brand, recruiting and training staff, establishing critical relationships and gaining traction in the community. All of these important elements were critical for the overall success of the program, but getting them in place limited the remaining time for program optimization and execution. As one SEEA partner said, "we feel like we're finally hitting our stride just as the grant period comes to an end." The programs likely to receive additional local funding from which to build a future upon will benefit greatly from the Consortium experience. For others, the reality is that the good work and momentum built may dissipate as soon as seed funding goes away because a robust energy efficiency marketplace has yet to develop.

Even for existing entities, such as local government partners, program success was limited by the inherent operational constraints ranging from contract approval delays to requirements for a competitive bidding process before selecting the most qualified retrofit professional on every project. Similarly, SEEA itself was running a retrofit program for the first time and took time to find its stride. Key challenges included building a team with the necessary skill sets and striking the right balance between allowing organizations autonomy, providing necessary infrastructure and serving as a liaison for resource and best practice sharing. This resulted in some initial growing pains while encountering and troubleshooting issues for both SEEA and its sub-grantee partners. The experience of the Consortium is a testament to the fact that, given the scarcity of energy efficiency infrastructure in the Southeast, energy efficiency programs in the region require several years to thrive. In this case, the Consortium's three-year time horizon may have put programs at a disadvantage – a reality that should be noted in future program design.

Resources and Vendor Management

The need for additional shared resources and support was one widely-shared "lesson learned" for SEEA and its partners. SEEA in its grant administrator role took the approach of providing local partners with the flexibility and opportunities to customize programs, which in practice posed some challenges for the smaller-staffed organizations. The availability of an existing program playbook, materials and resources would have provided great value by expediting outreach, marketing and program management efforts and ensuring greater consistency and quality control. On the program management side in particular, a more streamlined reporting structure would have also helped a great deal.

SEEA learned a tough lesson with technology – namely, that a small pool of resources and vendors exist with deep expertise in the energy efficiency space and its unique technical needs. SEEA sought to develop a software customer tracking and reporting tool for use by all sub-grantees, but it ultimately proved a greater challenge than expected. All parties also underestimated the costs for designing and implementing an IT tool, particularly in light of evolving programmatic processes, while at the same time finding the level of sophistication they offered to be below expectations. Ultimately, this experience distracted from the ultimate goals of the Consortium and slowed progress towards them, and SEEA and its partners strongly encourage the use of more user-friendly, consistent technologies, data and software for program administration and measurement. It's become clear that cost-effective IT platforms for managing performance and utility data still have a long way to go in the marketplace.

CONSORTIUM HIGHLIGHTS







Municipal Models - Atlanta, Nashville, Charlotte

Municipal departments operated programs in Nashville, Charlotte, Atlanta, Decatur, Chapel Hill and Carrboro. As each of these programs found, being housed in a municipal department presented a unique set of challenges, and limited overall flexibility and opportunities for innovation. Ultimately, many of these programs explored ways to collaborate with other city offices or community nonprofits to expand their range and their impact significantly.

Several municipal programs leveraged existing utility rebate programs with the intention to launch quickly and increase participation, but were held back by other operational details. Atlanta's program, branded the Sustainable Home Initiative in the New Economy (SHINE), was housed within the Mayor's Office of Sustainability – a relatively new office. Time and again, procurement and vendor rules slowed the program down and frustrated the contractor base. In turn, Atlanta's staff was frustrated by the city's inability to process rebates and the difficulty of managing the program page on the city website. Other cities who experienced similar difficulties, such as Carrboro and Chapel Hill, resolved their problems by outsourcing the program management.

For example, the Nashville Mayor's Office, which administered the city's Consortium program, cultivated relationships with community organizations sharing a common vision: providing an energy-efficiency option for every homeowner in the Nashville area, regardless of income. The mayor's office worked with Hands On Nashville, a volunteer management nonprofit organization that already offered a low-income direct-install program, to win competitive grant funding and to market the Nashville Energy Works Program. In parallel, the mayor's office worked with The Housing Fund, a local community development financial institution (CDFI), to develop a loan product for low- and middle-income Nashville residents. As with Hands On Nashville, The Housing Fund goals naturally fit with those of Nashville Energy Works; Hands On Nashville was selected through an RFP process to assume program administration. The city transferred program management and loan marketing responsibilities to Hands On Nashville in May 2013.

The City of Charlotte's Commercial Building Energy Efficiency Retrofit Program (CB Retro) staff reported that complementary funding opportunities offered by other city departments serves as natural partners for the CB Retro grant because they encouraged grant applicants to maximize their energy- and cost-savings opportunities. For example, applicants to the CB Retro program often received funding from the Security Design Grant and Façade Improvement Grant programs, housed within other the City of Charlotte offices. The complementary programs also provided a model for CB Retro to learn from in redesigning its program after BBNP funds are no longer available. Program staff are considering revising the CB Retro program design to more closely match the Security Design Grant, which requires a property audit, during which time an auditor makes recommendations about energy-efficiency and property improvements.



Local Energy Alliance Program (LEAP) – Charlottesville, Virginia

The Local Energy Alliance Program (LEAP) demonstrates a creative, highly flexible program model. A 501(c)3 nonprofit begun by the City of Charlottesville and County of Albemarle, LEAP does not have the stringent operational requirements of a municipality or the competing business priorities of a utility. Because of its origins and active partnerships, it enjoys the benefits and support of municipal government, various local utilities, business leaders and the advocacy community, but operates independently.

Thanks to its laser-sharp focus on energy conservation and flexible infrastructure, LEAP has been able to field test innovative approaches to program design and management, many of which have met with resounding success. To more closely align its program process with existing contractor business models, LEAP pioneered a program called BetterBasics, which allows contractors to offer incentives to customers for one of two less intensive projects, either air sealing and insulation or a new HVAC system with duct sealing. LEAP is also considering another new program that would allow customers to implement a retrofit over months or even years, keeping track of their participation and informing them once they reach a certain savings level.



ShopSmart with JEA – Jacksonville, Florida

As a utility, JEA benefited from a great deal of preexisting implementation infrastructure to lean on, encompassing everything from marketing support to data collection resources. Despite these advantages, JEA struggled to align internal goals with Better Buildings requirements. JEA staff designed Jacksonville's program to serve perceived gaps in their energy-efficiency market by offering audits and financing in order to further the utility's larger goal of driving savings. However, this did not mesh with the Better Buildings goal of achieving retrofits in the short-term. JEA frequently modified Jacksonville's program to satisfy what they perceived as changing requirements, which created an administrative burden that may have detracted from JEA giving attention to the program itself.

Local Energy Alliance Program (LEAP) – Charlottesville, Virginia



On paper, the Local Energy Alliance Program (LEAP) is SEEA's most successful Consortium program, with nearly 1,500 total retrofits. While its success can be attributed to a number of factors, LEAP has, notably, had more time to ramp up than other Consortium members. In 2009, before Better Buildings was even conceived, the City of Charlottesville and County of Albemarle created LEAP through a competitive grant award. In 2010, LEAP launched its Home Performance with ENERGY STAR program, followed by a program for commercial property owners in 2011.By the time the Consortium opportunity became available, LEAP already had program delivery infrastructure in place. When SEP funding was released, LEAP had a strong network in place across the state and was able to expand its service territory into northern Virginia.

Because energy efficiency is so new to the Southeast, existing infrastructure and experience is limited. LEAP's experience underscores the importance of allowing adequate time for programs to ramp up. Even the three-year timeline developed for the BBNP appears to have curtailed the growth of other Consortium programs. As other nonprofit and utility administrators enter the energy efficiency program arena, it will be crucial to keep in mind the time horizon needed for programs to develop legs and reach their full potential.

RESULTS AND CONCLUSIONS

There is no "one size fits all approach" to developing an effective, sustainable energy efficiency retrofit program. Management structures, processes, timelines and incentive pools must align with local market scope, structure, needs and opportunities. Any community-based energy efficiency initiative must have an adequate amount of time to hit its stride, and to arrive at the right mix of programmatic ingredients to best serve its constituency and meet its targets. Still, it should be noted that programmatic elements are not the sole determinant of success; as demonstrated in this report, an external environment must be conducive and open to energy efficiency programs in order to realize its full impact.



PROGRESS PRODUCTIVITY PROSPERITY

Over the past three years, LEAP and the many communitybased partnerships that it has successfully nurtured and developed have established energy efficiency as a key driver of economic development, community engagement and quality of life in Virginia. We congratulate LEAP and its partners on their success to date and will continue to support them in their efforts to promote an economically vibrant, energy-secure future for our state.

AL CHRISTOPHER

ENERGY DIVISION DIRECTOR, VIRGINIA DEPARTMENT OF MINES, MINERALS AND ENERGY

Finance

Driving demand for energy efficiency upgrades is only the first step on the path toward a completed energy efficiency retrofit. Between the moment when a consumer expresses interest in a program and the execution of a scope of work, several barriers can impede progress. Foremost among these is the upfront cost of energy efficiency retrofits; residential and commercial customers must often seek financing to continue on in the process. For this reason, access to capital is a key driver of any energy efficiency retrofit program, and DOE guidance placed a high priority on establishing financing programs throughout the Consortium that were specifically designed to encourage retrofits.

In general, uptake of new financial tools has been slow, but the market has more quickly and deeply adopted other energy efficiency financing mechanisms like interest rate buy downs, which counteract the inordinately high risk profile banking regulators associated with energy efficiency loans and makes borrowing capital more attractive to consumers.¹ As a complement to many of the Consortium programs, SEEA leveraged ARRA funds to create risk reallocation mechanisms, specifically loan loss reserves and interest rate buy downs, to create more competitive interest rates for consumers.

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A number of entities have been tracking and evaluating the performance of energy efficiency finance instruments, but there is still very little reliable information on consumer uptake, especially in the Southeast. As utility interest grows in the energy efficiency financing space, it's clear that more research is needed to determine how various financing instruments function on the ground. With DOE's encouragement, SEEA and its sub-grantee programs became a regional test lab for various energy efficiency financial instruments. Across the Consortium, both the structure and the success of local financing programs varied tremendously. In total, the program participants took out 234 loans, constituting 4.77 percent of completed projects. Despite this low penetration rate, the majority of the loans came from a handful of programs, which in turn financed a much higher percentage of retrofits. Given the three-year program timeline, the number and variety of mechanisms that Consortium partners were able to test was limited, but even within these constraints, each financing program yielded distinct lessons on best practices and overall effectiveness.

1. Nationally, home energy performance loans have very low default rates, averaging between zero and three percent. http://aceee.org/node/3078?id=3931

Lending Institutions

Large commercial banks carry significant influence across the Southeast, and a few of the nation's largest financial institutions are headquartered in the region. A number of these institutions offer energy efficiency retrofit finance products as an add-on when buying a new home (typically the FHA-approved Green Mortgage program). However, few of them provide consumers with access to energy efficiency-specific loan products. SEEA's research identified two main concerns big lenders associate with energy efficiency loan programs. First, there is a perceived risk associated with energy efficiency loans, and banks require that local community partners provide a 100 percent guarantee against default. Second, banks do not believe that the energy efficiency retrofit market is robust enough to justify investment.

Credit unions, community development finance institutions (CDFIs) and community banks maintain a vibrant and ubiquitous presence in the Southeast. Many of these local institutions, which hold "community development" as an integral part of their mission, have begun offering energy efficiency retrofit finance programs. As a result of this community focus, many of these institutions found a natural fit with Consortium members, tailoring loan products to meet local consumer needs.

These institutions are accustomed to working with smaller customers and the associated lending demand, some offering as little as \$500. A small segment of these local lenders can use or modify existing loan tools for energy efficiency retrofits, and their funds can leverage additional sources of capital like state budgets and foundations. In addition, most of these institutions have existing infrastructure for applications and underwriting and are willing to provide capital at very attractive rates and terms. Unlike many of the larger banks, these institutions are amenable to credit enhancement tools, including loan loss reserve funds and interest rate buy downs.

While local lending institutions possess an array of positive attributes for building effective energy efficiency retrofit finance tools, these institutions also come with challenges. Most notably, many consumers are less aware of these institutions and their offerings than those of larger banks. For this reason, additional investment in outreach and engagement is needed to attract consumers' attention and gain their trust. In addition, most of these institutions are geographically limited, which poses a challenge to more regionally focused or cross-market products.

Market Assessment

SEEA worked with Consortium members to better understand their local customers, gauge interest in a financial tool and identify concerns or suggestions for picking and launching an instrument. Nearly 78 percent of local program respondents reported receiving customer feedback that a finance option was necessary. While interest in the loans is high, consensus among Consortium respondents was that only about 20 percent of current and future retrofit customers would meet guidelines for a local loan product.

In addition, SEEA analyzed the potential customer market. Their findings demonstrated that both residential and commercial property owners prefer financing options that are highly accessible, not overly complex and are easy to execute. Property owner action decreases correspondingly with the number of steps or hurdles added to the application and retrofit process.

Property owners and their expectations and needs are as diverse as those in the lending community. Concerns about energy efficiency retrofit costs are common among all groups, even though commercial owners, commercial managers and residential owners have varying interests, incentives and challenges for taking action. Leveraging partners like contractors to alleviate these concerns can provide a significant boost to retrofit uptake.

Contractor Engagement

More than 88 percent of SEEA survey respondents believed they could leverage energy auditors and contractors to promote their financing products. Luckily, the Southeast region has a growing network of energy contractors – thanks in part to Consortium member training, recruitment and market growth – providing a range of services, including auditing, weatherization and system replacements. Local energy efficiency financing mechanisms have the potential to help these contractors grow their businesses by driving market interest and retrofit action.

In light of these attractive incentives, contractors had a tremendous motive to promote financing products, but in many cases, programs and lending partners did not provide adequate training. Those who did, on the other hand, met with positive results. Charlottesville and Jacksonville, the two Consortium cities with the most successful loan programs, engaged the lender to introduce and promote the loan product to the contractor network. In fact, this was considered a fundamental part of the contractors' initial training in services offered through the program.

SEEA and its consultants interviewed a range of contractors and received the following key pieces of feedback about consumer finance interest and local instrument differences, benefits and challenges. The more expensive retrofit proposals, usually those over \$5,000, are more likely to be supported by some form of financing program. Several contractors identified the existence of finance tools that can be completed in less than five minutes and are done at "the kitchen table," limiting delay and consumer rumination.

CONSORTIUM HIGHLIGHTS



ShopSmart with JEA – Jacksonville, Florida

SEEA struck a partnership with Jax Metro Credit Union (JMCU) – a local lending institution focused on the employees and families of the City of Jacksonville government, JEA, all authorities, the Duval County School Board and other contracted personnel – to provide financing services through the ShopSmart with JEA program. The resulting loan program focused on residential properties, and it commenced with the establishment of a \$200,000 loan loss reserve. Through this program, JMCU planned to offer up to \$2,000,000 in loans to qualified applicants. All loans were required to meet a minimum 15 percent energy reduction as part of the efficiency retrofit and lending agreement. Audits were encouraged, but JMCU could approve the loan using deemed savings tables if they were not completed.

JMCU loan marketing and contractor education emphasized completing retrofit measures that bring the most savings to the homeowner. The credit union retained final approval for all measures and line of credit advances. Credit union members selected vendors and submitted a detailed quote to JMCU to consider under their Home Performance Line of Credit (LOC). Each quote was required to fully explain the scope of work, while tying into performance standards set by the JMCU program.

JMCU members were then pre-qualified for a Home Performance LOC to be used for making approved energy upgrades. Loans offered to the approved customer were valid for one year after approval – another critical issue. Customers contemplating retrofits tend to make them in phases, so knowing the available credit line amount and having access for a year might encourage additional action.

The Jax Metro Credit Union loan program was structured as follows:

GREEN MONEY LINE OF CREDIT	TERM RANGE	
\$1,000 - \$4,999	57 – 68 months	
\$5,000 - \$14,999	70 – 85 months	
\$15,000 - \$20,000	72 – 93 months	

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INITEDECT	DATE	CALC	UL ATION
INTEREST	KAIE	CALC	ULATION

CREDIT GRADE	FINAL RATE
A+ (730+)	6 percent
A (690-729)	7 percent
B (640-689)	8 percent
C (600-639)	9 percent
D (550-599)	10 percent
E (549 or less)	11 percent

The JMCU loan program is considered a success against most relevant measures, and it is the most prolific program within the Consortium portfolio. JMCU members completed \$1,256,599 worth of energy upgrades on 183 homes in the community – by far, the most of any Consortium financing program. While less than five percent of projects were financed throughout the Consortium as a whole, JEA and JMCU financed nearly 90 percent of completed retrofits.

Much of the program's success can be attributed to the involvement of JMCU, which has found its unique program to be an effective means of generating new membership for the credit union— one with a remarkably low delinquency rate. Following the lending program's launch, administrators at JMCU honed their efforts in strategic areas to support loan uptake, including building partnerships, training employees, reducing turnaround time and educating homeowners. The effort that JMCU has invested in advancing the program has transformed it into what Vice President of Operations Jay Hogan describes as "a wildly successful niche."

The program's success ultimately enticed JMCU to complete a second phase of member lending. Phase two will be designed to focus more on specific market needs identified in the first initiative. The program will also move quickly to market with the help of a now-established partner network. In addition, JMCU will increase home owner education initiatives to drive further interest. JMCU staff will leverage best practices for Home Energy Saving, a zero net payment system, and continue making quick loan decisions. Effective JMCU and contractor personal client service made a big difference in driving satisfaction and will be instituted again. Finally, JMCU hopes to use phase one results to become trusted advisors for interested members, which will be reinforced by flexible rates, terms, decisions and programs.

Core, specific phase two program elements include offering pre-qualified lines of credit with access to the capital for a year. Audits are encouraged, and successfully completing one will automatically drop interest rates by one percent. JMCU will offer incentive packages based upon the knowledge gained from analyzing customer savings per upgrade. Rates will start at six percent and loans will be available over a 10-year term. Loans will max out at \$20,000, and audit costs can be rolled into the loan price if desired by the customer.



Through ShopSmart with JEA, Jax Metro Credit Union and the energy auditors have helped transformed the residential retrofit market for Jacksonville. In addition, these organizations have collaborated with unprecedented success to create the momentum needed to sustain a local home energy retrofit market, thanks to their development of 'green jobs' workforce training; a suite of sound financial products; and most importantly, customer education on the value of energy efficiency.

- Paul McElroy, CEO and Managing Director, JEA



Local Energy Alliance Program (LEAP) – Charlottesville, Virginia

The Local Energy Alliance Program (LEAP) in Charlottesville, Virginia, was the very first Consortium member to launch a residential financing program. Together with their lender partner, the University of Virginia Community Credit Union (UVA CCU), LEAP has risen in the ranks to become the second-most successful of the Consortium financing programs, with upwards of 150 loans.

Early on, LEAP had several conversations with UVA CCU to explain the benefits of the program and convince credit union staff that the saving potential was real. The program infrastructure—such as eligible measures, a registered contractor network and the quality assurance policy—helped LEAP convince the credit union of the program merit. The credit union moved forward on its own to establish the Green \$ense loan option for participants in the LEAP program. Later, the credit union applied for the PowerSaver loan with assistance from LEAP, but no formal relationship was established.

The PowerSaver program, launched by the U.S. Department of Housing and Urban Development (HUD) in 2011, establishes a model of lending similar to a loan loss reserve in that it allows government funds to leverage private sector capital. However, rather than set up dedicated fund, the PowerSaver program offers a loan guarantee. In both cases, the lender is reimbursed for all or a portion of their loss in the case that the borrower defaults. However, under PowerSaver, no money is set aside; the government simply allocates funds to pay the appropriate portion of the loss when a default event occurs.

The UVA CCU was the sole awardee of the PowerSaver grant, and neither SEEA nor LEAP was an explicit partner. The UVA CCU PowerSaver program does not require customers to use the LEAP Home Performance with ENERGY STAR program, but it does encourage customers to participate by posting links to the program on the credit union's website, conducting joint marketing with LEAP and verbally referring customers to the LEAP program. To obtain a program loan, UVA CCU simply requires that a homeowner meet HUD's eligibility requirements and be financing a PowerSaver-eligible improvement.

While potential borrowers have never been required to go through LEAP's program, many of them have done so anyway, and historically, if they were enrolled in Home Performance with ENERGY STAR and met a certain threshold of energy savings, they were eligible for zero percent interest. Applicants in Charlottesville's five surrounding counties could choose either zero percent interest on up to \$10,000 or up to a \$1,000 cash rebate. In the City of Charlottesville, customers were eligible for both and could borrow up to \$25,000, thanks to EECBG funding that allowed LEAP to reduce the loan rate for City residents. Later, LEAP was able to open the rate reduction program back up to five surrounding counties, and those using a LEAP-participating contractor were eligible for a zero to 0.99 percent annual percentage rate (APR) for PowerSavereligible improvements.

As partners, LEAP and UVA CCU maintain open lines of communication, but because there is no formal agreement between them relative to funding the program, LEAP does not receive any data on loan activity from UVA CCU. Nevertheless, both parties have been very satisfied with their partnership to date. Said Alison DeTuncq, president and CEO of UVA CCU, "LEAP has proven to be an ideal partner for the Credit Union. We both share the fundamental goal of helping people save money and believe the best path to achieving this goal is through education and providing helpful tools to overcome barriers to take energy efficiency measures." Yet another UVA CCU representative has stated that regardless of whether the PowerSaver grant continues past its current 2014 expiration date, UVA CCU sees potential in energy efficiency lending, and will continue to offer some kind of loan product to target this market.

It should be noted that other Consortium members like Charleston and Chapel Hill also established PowerSaver loan programs. Despite the relative similarity of these financing products, neither ever made a single loan – a fact that program managers attribute to the limited involvement of their lending partners. This pronounced differential points to the critical importance of partnering with an engaged, proactive lending institution that sees value in entering into the energy efficiency market and is willing to put time and resources toward making the product a success.



NOLA Wise - New Orleans, Louisiana

NOLA Wise's experience launching its residential and commercial loan products very clearly demonstrates the newness of energy efficiency financing and the magnitude of the work that must be done to firmly establish it in the marketplace. In the early stages of developing the product, SEEA and Global Green struggled to find a willing lending partner, and it became abundantly clear that energy efficiency lending was not perceived as a value-add. Eventually, Fidelity Homestead Savings Bank agreed to administer the loan products. The lending terms that were put in place were attractive, with below-market-rate residential and commercial loans and lower credit threshold requirements, which the product available to a wider range of customers.

From the start, the NOLA Wise financing program was a tough sell to customers. At this stage in the game, NOLA Wise did not offer any retrofit incentives, which kept initial program participation rates low. Despite assurances that they would market the loan products, Fidelity was unprepared to do the level of outreach and promotion necessary to make them successful, claiming they did not have the resources to dedicate to these efforts. Other than printing a piece of promotional collateral and helping staff outreach events, Fidelity's engagement was limited. Contractors were not trained on selling the product, and in many cases, they were unfamiliar with its terms.

It is likely that Fidelity did not prioritize its energy efficiency loan product because they did not anticipate a lot of volume. What's more, it appears that they underestimated the amount of effort required to sell such a new product. SEEA has since closed out the Fidelity loan program and is seeking an alternate partner to administer the NOLA Wise loan products going forward. In this process, SEEA will make it a priority to ensure that the new partner has realistic expectations and is willing to proactively engage in making the loan program a success.

RESULTS AND CONCLUSIONS

Financing options are a critical element of efficiency deployment and market growth. Energy efficiency financing products provide home and business owners with affordable options for improving the comfort, quality and performance of their homes and buildings. In addition, innovative financing programs generate consumer savings, injecting new jobs and revenue into the local economy.

As noted, because of the fixed duration of DOE funding, the Consortium was only able to experiment with a handful of the most promising energy efficiency financing mechanisms. Toward the end of the Consortium grant horizon, SEEA was able to invest a small sum in the creation of a property assessed clean energy (PACE) district for the City of Atlanta; however, the majority of other programs with financing components utilized loan loss reserves, many of which experienced little uptake. The limited success of Consortium loan loss reserves, except in cases where lending partners provided extensive marketing and consumer engagement support, points to the need to explore other tools. Among these, on-bill payment and PACE financing are two that have risen to prominence – promising options with a low degree of consumer hassle that have not yet been explored at length in the Southeast.



Marketing and Consumer Education

As energy efficiency and demand response become an increasingly important element of utility portfolios, one major question looms: How should program administrators most effectively drive consumer demand for energy efficiency? This question is particularly relevant in the Southeast, where just a few decades ago, policy makers positioned increasing power consumption as an essential element of economic development. This consumer ethic, combined with the historic predominance of low utility rates in the Southeast, has led to a relatively unengaged consumer base. As a result, energy efficiency programs in the region are faced with the challenge of communicating the importance of energy conservation to a public with an extremely low level of energy awareness.

Energy efficiency administrators, managing finite budgets, must spend their marketing dollars where they will generate the highest return in terms of consumer program participation. Strategically targeting marketing efforts through proven, reliable channels can help efficiency programs achieve their goals in a cost-effective manner. Through research, innovation, and trial and error, Consortium programs have refined their marketing tactics, and while specific strategies differ between programs, most have redirected their focus toward grassroots engagement and peer outreach within target markets.

Target Market Identification

Consortium members invested varying levels of staff time and dollars into researching their target markets. Some conducted formal studies of the community to identify key market segments, while others relied on staff members' understanding and experience. Cities using utility add-on programs had the benefit of a general understanding of who participated in the utility program, although the participant base in most areas was small; as a result, all cities with a utility add-on program chose to target the same types of customers who participated in the utility programs, rather than exploring other potential customer segments. Cities not building off of utility programs did not have the luxury of pre-existing customer information. Instead, they tended to rely on staff experience, evaluations of similar programs in other areas and stakeholder feedback to select their target market.

Some cities collected informed opinions about the market from program partners, including utility staff and contractors. NOLA Wise staff had a firm understanding of the reconstruction market in New Orleans following Hurricane Katrina, which made this area much different from other areas in terms of housing stock and income. Charlottesville's Local Energy Alliance Program (LEAP) had an extensive network of stakeholders, including at least one contractor, that provided insight and opinions as it developed its program. LEAP consults this group frequently to update them on current program activity and as they consider new program ideas. Other cities were able to leverage similar in-house knowledge.

With or without market research, most of the cities offering residential programs identified their target market as individuals with a household income above \$75,000 per year, a college education and a home built prior to 1970. Participant data confirms these assumptions and findings. Based on participant surveys, 70 percent of participants own a home built in 1979 or earlier, 70 percent of participants have a household income of \$60,000 or more per year and 83 percent reported having a bachelor's degree or higher.

Marketing Channels

At the outset, many Consortium programs gravitated toward more traditional marketing channels, including signage, print campaigns, and even radio and TV spots. However, it quickly became evident that these efforts were not driving retrofit demand in a cost-effective manner. As a result, Consortium members began taking much more direct, personal and grassroots approaches to reaching their intended audiences, including retrofit customers and contractors. Each Consortium member approached grassroots engagement differently and achieved varying degrees of success – from LEAP, which built significant awareness and retrofit uptake, to NOLA Wise in New Orleans, which built impressive brand equity but had difficulty turning on the customer faucet.

Consortium members deployed a range of marketing tactics, including rallying neighborhood organizations like homeowners associations, churches and schools; garnering earned media from local events or pitches; co-branding with contractors and other partners; and hosting or coordinating local outreach events. A few cities initially invested their grant allocations to retain professional marketing and public relations firms. Atlanta and New Orleans both took this approach, and based upon both the size of budget expenditures and consultant outcomes, SEEA urged both cities to end the contracts and adopt the grassroots tactics that had proven to be successful elsewhere.

Consensus among local stakeholders points to word of mouth being a top driver of program awareness, and ultimately, consumers' decisions to take action. Markets like Nashville, New Orleans and Decatur relied heavily on neighborhood outreach and the benefits associated with "people like me" bringing their peers into the pipeline. Word of mouth regularly cracked the top three ways customers learned about the retrofit program, but participants most regularly point to contractors as the source of their knowledge.

Finally, social media played a minor role in customer and community engagement. Few if any of the Consortium members ran overly-sophisticated social media programs, making it difficult to tell how effective this channel could have been. The world continues to move in this direction, and future programs should consider testing this approach.

Contractor Engagement

Contractors proved a natural and crucial ally for Consortium programs. In many cases, they served as the primary point of customer contact, and for all Consortium members except Charlotte and Nashville, they were also the primary marketing channel. They also proved an extremely inexpensive form of marketing from a programmatic perspective, costing only the time and resources needed to train them. Survey results confirm that contractor marketing was the most effective marketing channel; 21 percent of residential customers surveyed reported learning about the program through a contractor, more than any other source.

The extent to which Consortium members engaged with their contractor base directly impacted how engaged the contractors were in marketing the program to their customers. Most cities provided an orientation session or training to educate contractors about the program services and processes, but from here, the level of regular engagement varied widely. LEAP was particularly effective in maintaining continuous contractor engagement spanning the breadth of the program. Contractors were trained extensively on marketing and sales skills, and auditors attended a bimonthly workshop in which they share, discuss and resolve difficult home assessment situations. LEAP also maintained a contractor-led Technical Advisory Committee (TAC), which provided feedback and commentary on the program and ensures responsiveness to the needs of retrofit contractors and promotes a culture of continuous program improvement.

Both Blacksburg's Community Alliance for Energy Efficiency (CAFE²) and Alabama's Nexus Energy Center were diligent in consistent and regular contractor engagement, making it much easier to introduce program modifications when necessary. When CAFE² decided to revise its incentive structure, weekly contractor check-ins ensured that contractors were well-informed and supportive of the change. Nexus' strong relationship with a window contractor enabled them to increase energy savings by upgrading window requirements under Huntsville's incentive structure. Recognizing that many contractors had no previous experience making direct sales to customers outside of single-measure projects, SEEA provided marketing and sales training to participating contractors in several Consortium cities. In some cases, programs enlisted staff help in facilitating retrofit pitches. In Charleston, prior to sending a contractor out, an on-staff "energy advocate" would provide homeowners a free consultation and initial whole-house assessment, explain priority upgrades, answer questions, identify available rebates, provide a list of qualified contractors and connect them with the contractor they selected. This approach, which was also piloted by the Richmond Region Energy Alliance, gave the program greater control over messaging and baseline consumer education. In addition, it made the contractors' work more streamlined, so that they were able to focus on delivering quality retrofits, rather than making sales pitches. While Charleston WISE identified this as its most successful program model to date, it is not without its drawbacks; keeping a dedicated energy advocate on staff requires a significant resource investment that may not be manageable or cost-effective for all efficiency programs.



The wary consumer is often skeptical of a contractor's recommendation regardless of how unbiased and accurate it may be. Having LEAP as an ally has increased our creditably, leading to a higher closure rate on proposed work with a more comprehensive scope of services. Having been in the insulation business in Central Virginia for over 35 years, we can see without a doubt the positive impact LEAP has made on the market's awareness of the value of energy efficiency. - Gina Sullenberger, Owner, Weatherseal Insulation

CONSORTIUM HIGHLIGHTS



NOLA Wise - New Orleans, Louisiana

NOLA Wise developed a recognizable brand and expansive local presence in large part due to a focus on grassroots outreach, including neighborhood canvassing and community-based events. From the start, NOLA Wise focused on identifying and leveraging local pride and pressure points like traditions and celebrations with the help of a sports teams or personalities that would inspire civic pride, media coverage, investment and participation.

Local city council members and other civic leaders also got behind NOLA Wise and their grassroots campaigns. For instance, prominent businesswoman Phyllis Jordan allowed Global Green to feature her retrofitted home during a neighborhood open house event, as well as in a case study that was leveraged in printed marketing materials. This open house concept –piloted by NOLA Wise and also used in Huntsville – provided an intimate setting for homeowners to engage their friends and neighbors, outlining the personal benefits of taking retrofit action and showing them specific improvements. Of those that attended this inaugural program, which featured contractors who completed work on the home, more than 20 leads were generated.

Richmond Region Energy

Richmond Region Energy Alliance (RREA) – Richmond, Virginia

Richmond Region Energy Alliance (RREA) approached the faith community to drive energy efficiency awareness and retrofit uptake. RREA is currently under contract with Virginia Interfaith Power and Light and Virginia Interfaith Center to lead "faith community outreach for RREA's Home Energy Assessment program." This includes partnership building and identification of faith leaders who can spread RREA's message and arrange small group presentations to recruit support.

By way of example, RREA partnered with Virginia Interfaith Power and Light to host a home energy savings party at a faith leader's home in November 2012. And the partnership created and promoted a 2013 Richmond-area Earth Day church contest where local parishes competed to enroll the most home owners in energy assessment programs. The winner received a free energy assessment for the church funded by Dominion Power (a grant worth up to \$2,500). The partnership gained media attention, built trust and a platform for future collaboration.

Local Energy Alliance Program (LEAP) – Charlottesville, Virginia

Each Consortium member experimented with local contests to drive program participation, but all met with varying degrees of success. The Local Energy Alliance Program, or LEAP, pioneered the Home Energy Makeover Contest that offered Virginia residents to win an energy efficiency makeover worth up to \$10,000. This program was supported by Better Buildings and State Energy Program incentive dollars and the local power provider.

More than 1,500 Virginia residents entered the 2012 Home Energy Makeover Contest, rallying around energy efficiency and the concept of improving the comfort, affordability, and health and safety of their homes. The contest, sponsored in part by The Dominion Foundation and Dominion Virginia Power, helped increase homeowner awareness by educating them on the ways their homes use energy.

LEAP leveraged the contest and selected winners' experiences to generate newspaper and TV coverage and customer interest. Following their second annual Home Energy Makeover Contest, LEAP estimated that they converted 10 to 12 percent of contest entrants to retrofit participants. The contest also helped elevate awareness of both LEAP's brand and program, which provided the ideal platform to approach partners and engage contractors.

This program is a prime example of SEEA's role in amplifying and replicating best practices across the Consortium. SEEA adopted the Home Energy Makeover Contest concept and completed an RFP to secure a consultant to help introduce the program to other Consortium members. Ultimately, this concept failed to garner the same level of visibility and success in other markets as it did in Virginia. Consortium members experienced with the selected vendor – and other local community variances – that took large amounts of staff time to resolve or that resulted in contractor or contest participant dissatisfaction. Despite this, most sub-grantees liked the concept and expressed an interest in replicating it down the road.





local energy alliance program



Nashville Energy Works – Nashville, TN

Through innovative partnerships and grassroots marketing, the Metropolitan Government of Nashville and Davidson County created a thriving, successful program that exceeded its retrofit targets and achieved more audits than anywhere else in the Consortium. Throughout its lifecycle, the city-led Nashville Energy Works (NEW) tapped into community-level initiatives – foremost among them, the Go Green Nashville (GGN) campaign. Go Green Nashville is a focused-initiative designed to produce measurable results in Nashville's urban neighborhoods. In November 2009, the campaign was launched in Nashville Council District 18. A year of grassroots marketing led to more than 250 registrants for local power provider, Nashville Electric Service (NES) In-Home Energy Evaluations, which previously experience poor uptake. This success is a testament to both the ability to partner with various organizations and initiatives and the importance of grassroots marketing through volunteer organizing, door-to-door canvassing and community energy workshops.

This neighborhood prototype proved so successful that Go Green-founding Councilmember Kristine LaLonde challenged Nashville Council Districts 6, 7, 17, 19, 24, 25 and 34 to join the campaign, which they did. NEW then co-branded its efforts with GGN and has successfully worked through the initiative's pre-existing outreach infrastructure to drive program participation. Over the past several years, NEW has used the GGN framework to pilot a series of community-based outreach strategies, including a homeowner team system and a "NEW Ambassadors" program to create energy champions for individual neighborhoods.

It's worth noting that there are drawbacks to this grassroots, multi-organizational, multi-brand campaign approach. Per NEW program director Luke Gebhard, "We are blessed with a tremendous amount of community partners and stakeholders. The drawback to this, however, is ensuring that each partner's objectives and goals are met while ensuring that we move forward with our [own NEW] programs."

Several members of Nashville Council volunteered their time to conduct outreach for NEW vis-à-vis their neighborhood associations and listservs. Other programs attempted to work through neighborhood associations in the past, but they generally met with less success, proving the importance of having local "champions" to take up your cause.

The office of Mayor Karl Dean is currently operating the Mayor's Neighborhood Challenge, which represents a residential complement to the existing Mayor's Workplace Challenge initiative. Under this initiative, neighborhood associations earn points for embracing sustainability projects in their communities, such as beautification efforts and recycling. Energy will also be a key topic, and the Challenge will be used to promote the NEW program, with neighborhoods receiving points based on the percentage of households that participate. The mayor's staff believes this new collaboration will increase participation in NEW – especially the loan program – by 20 percent in the first year alone.





Southeast Consortium – The WISE Brand

Initially, SEEA sought to create a unified regional brand for use across the Consortium that built a strong local identity but tied all sub-grantee efforts to broader impacts. As programs began to ramp up, SEEA contracted with a national PR agency to develop the brand concept and accompanying materials. In 2011, the Worthwhile Investments Save Energy, or "WISE," brand was born.

The concept centered on the idea that energy efficiency was "the elephant in the room," an important conversation for home and building owners to have, but one that is generally ignored. Campaign collateral featured everyday situations in a home of office building, such as a family sitting on the couch, or a person reading in bed, with an elephant inserted into the picture. Accompanying messaging focused on comfort, savings and convenience.

While SEEA was developing the WISE campaign, Consortium programs were only just staffing up, and most did not have the time or resources to weigh in on content. Once the development phase was complete, SEEA provided basic elements associated with the WISE brand – design elements, shell marketing materials and guidelines for use. However, SEEA did not instill rigid usage guidelines or rules of use associated with most corporate branding, nor did it hold Consortium members accountable for how the brand was implemented in marketing materials or referenced externally.

When the campaign was rolled out, only about half of the sub-grantees adopted the brand, and very few opted to use the collateral and accompanying resources that SEEA provided. Several programs expressed that campaign messaging was not sufficiently direct, or that it did not mesh well with local culture. In the end, WISE remained a localized brand, rather than a comprehensive regional effort. Whether or not more widespread brand deployment would have increased retrofit uptake, SEEA and its Consortium members learned a valuable lesson on the necessity of tailoring marketing efforts to local tastes and attitudes.

RESULTS AND CONCLUSIONS

Survey results conducted by the Cadmus Group on behalf of SEEA showed that Consortium efforts had a significant impact on energy efficiency awareness in each community, in addition to driving audit and retrofit number. Nearly 55 percent of program participants reported being very knowledgeable about energy efficiency, and an additional 45 percent said they were somewhat knowledgeable. Exactly 90 percent of this group reported that their energy efficiency knowledge increased directly because of Consortium programs.

Consortium members' marketing and outreach efforts have left behind a new framework for engaging consumers, and even more significantly, they have paved the way for more targeted, more impactful future outreach strategies. For utilities and other entities with a stake in generating increased consumer interest in energy efficiency, the lessons learned through the Consortium's efforts are particularly telling. Big-ticket items like branded ad campaigns, billboards and bus wraps, which are frequently used to advertise utility efficiency programs, proved largely ineffective. Instead, the key determinant of marketing success for Consortium programs was the support of a local – even-neighborhood-specific – champion with a strong foothold in the local community and a robust network. In many cases, this was a trusted local nonprofit, an influential community leader or even a local contractor. Drawing from these lessons, program administrators should, at a minimum, consider a community-based marketing strategy that actively engages program participants and networks.

Given the importance of personal connections and one-on-one conversations in converting leads, it is critical to ensure that the individual making the sales pitch has the appropriate personality and skill set. The energy advocate model holds great promise for driving results; however, this model must be evaluated based on its cost-effectiveness. In light of this balance, program administrators may benefit from recruiting participants on the basis of their sales skills, and then training them on building science and programmatic nuances. In the end, the market will require this kind of contractor talent mix to continue to grow and thrive.





As the country continues to recover from the recession, job creation and workforce development remain a top priority in rebuilding the economy. Home energy efficiency retrofits have proven a viable source of well-paying, lasting local jobs. According to a national survey conducted by the Harvard Joint Center for Housing Studies, the number of contractors reporting that they worked on projects eligible for federal energy tax credits jumped from less than 40 percent in mid-2009 to almost 69 percent in mid-2010. Over the next five years, spending on remodeling is expected to grow 3.5 percent annually.¹

The rising demand for energy efficiency retrofits means there is also a growing need for skilled professionals in the retrofit industry. According to the Center for American Progress, retrofitting just 40 percent of the nation's residential and commercial building stock would create more than 600,000 sustained, full-time jobs within the course of a decade.²

Energy efficiency programming holds great promise as an economic development and workforce training tool. Building assessments and retrofits, program administration and quality assurance all require skilled labor and a strong, local workforce to maintain volume and production. In contrast, fossil fuel-driven energy production is much less labor-intense. In this sense, energy efficiency can serve as a multi-faceted tool for addressing complex socio-economic problems like unemployment.

When the SEEA Southeast Consortium launched, unemployment rates were high and local economic growth was lagging across much of the programmatic footprint. Recognizing the close connection between the Consortium's objectives and those of other workforce initiatives, SEEA and its partners teamed up with local community colleges, workforce development agencies or private vendors to deliver trainings and place qualified technicians with the right contractors.

Job creation was the primary objective of the Recovery Act, and Consortium partners maintained a strong focus on workforce development throughout the performance period. According to an IMPLAN-modeled analysis conducted by the Cadmus Group, their efforts collectively created 349 FTE jobs.³ In addition to these impacts, the programs "primed the pump" for future growth in this area, incubating the skills and the infrastructure necessary to sustain a robust energy efficiency workforce in the future.

 Baker, K et al. (2011). A New Decade of Growth for Remodeling, Joint Center for Housing Studies. Harvard University http://www.jchs.harvard.edu/research/publications/new-decade-growth-remodeling
Hendricks, B & Madrid, J. (2011). A Star Turn for Energy Efficiency Jobs, Center for American Progress http://www.americanprogress.org/issues/green/report/2011/09/07/10332/a-star-turn-for-energy-efficiency-jobs/
The full results of this analysis and a detailed review of the methodo new used will be published in a companion report in early 2014.

Workforce Baseline

Convening and educating a credentialed, skilled energy efficiency workforce in a region that is relatively new to the concept does not come without its challenges. Efficiency and green building practices are largely void from standard training and certification courses in the Southeast. Within some markets, sub-grantees had the benefit of a well-trained and consistent workforce that mainly needed a support system to comply with reporting and quality assurance requirements, but in other cases like New Orleans and Charleston, there were no BPIcredentialed contractors in the entire program footprint. These sub-grantees had to provide the initial baseline level of training before they could begin to admit contractors into their program.

New Business Models

The BBNP and SEP reporting and compliance requirements often varied drastically from the average independent contractor's business process and thus required support and guidance for the typically lean-operating, self-employed contractor. A noteworthy percentage of contractors that partnered with local Consortium members are small businesses or sole proprietors, making the prescriptive program management and reporting requirements a significant hurdle. Complying with the additional requirements was challenging for many of these organizations given a lack of support staff. In a few instances, contractors chose to end their participation due to the compliance requirements being a greater investment than their business could bear or they expected when agreeing to participate.

In addition, contractor business models often center on single-measure installations, rather than comprehensive, "whole-house" retrofits favored in energy efficiency work and supported by Consortium program scope. As a result, Consortium members had to actively educate contractors about the benefits to consumers and their business. On top of this fundamental difference in perspective, retrofit reporting and compliance often varied drastically from the average independent contractor's business process and thus required support and guidance for the typically lean-operating, self-employed contractor.

In other regions, trained professionals were not located near the program base and required significant travel, impacting the quantity of assessments and retrofits that could be performed. For some sub-grantees, workforce development and training became a greater focus of their program than achieving retrofit targets because the participating energy professionals lacked ideal customer service skills and/or a grasp of building sciences.

Market Recognition

At the same time as Consortium members trained and certified their contractor base, they struggled to ensure that the value of their contractors' work would be recognized in the marketplace, securing their pipelines long-term. Numerous Consortium members completed realtor trainings centered on the value of energy efficiency homes and buildings, and continuously sought partnership opportunities or future synergies. Most Consortium members never got past the conversation stage; however, the Local Energy Alliance Program (LEAP) successfully was able to convince the realtor community to list Home Performance with Energy Star certification listed on the MLS.

The importance of consumer and workforce education cannot be understated. Though the education efforts undertaken by the organizations highlighted in this report merely skim the surface from the broader need for improved awareness and knowledge, there is much to learn from the process.



CONSORTIUM HIGHLIGHTS



Huntsville WISE – Huntsville, AL

Huntsville provides an example of partnering with a non-traditional ally to implement Better Buildings Neighborhood Program and State Energy Program, and ultimately push EE retrofits. Historically, Huntsville's population and economic growth was intertwined with aerospace and military technology. This, combined with the heavy military veteran presence in the area, guided local Consortium member Nexus to advance its work by partnering with these unique stakeholders.

Nexus Energy Center worked to expand the trained energy efficiency workforce by partnering with Still Serving Veterans through a grant from the Alabama Department of Economic and Community Affairs (ADECA). The funding allowed Nexus to offer Renewable Energy Institute (REI) certification to a qualified pool of returning veterans, and local and low-income residents interested in pursuing a career in the rapidly expanding energy field. The REI is a green skills training program for students at Drake State Technical College that focuses on both renewables and energy efficiency installations. Nexus connected institute graduates with potential employers and job opportunities by establishing partnerships with regional businesses. To date, more than 100 students have been interviewed by professionals in the energy field at almost 30 companies in Alabama.



Charleston WISE – Charleston, South Carolina

For Charleston WISE – a program led by the established Sustainability Institute in partnership with the City of Charleston — training a "green workforce" is a key mission. Early in the process of executing its BBP grant requirements, the organization knew an insufficient number of home performance professionals were serving the Charleston market. The problem was compounded by an insufficient number of trainers to prepare the volume of energy contractors necessary to meet residential and commercial retrofit demand. As a result, it became clear that Charleston WISE had to expend significant human and financial resources to educate new energy trainers and contractors if the BBP grant requirements were to be met.

The program's approach to workforce education not only focused on improving the practices, consistency, quality and reliability of existing energy professionals, but on bettering the local community. The organization partnered with two existing workforce development programs, the Sustainability Institute's Energy Conservation Corps (ECC) and the Pathways to a Green Economy (P2GE), to train and secure jobs for dislocated and displaced workers, veterans, at-risk youth and underemployed individuals as BPI weatherization technicians.

J.R. Daniels is just one of the many individuals whose life and future changed for the better thanks to these programs. A South Carolina man previously incarcerated for mistakes in his youth, J.R. was intent on starting over but struggled to find work and a new chance in a stressed economy. Daniels successfully transitioned to full-time employment as a weatherization technician for a local energy retrofit business after participating in the Sustainability Institute's workforce development program and acquiring countless new skills.

J.R. accounts his desire to learn as a key component of his success, and eagerly set out to acquire as much knowledge as possible – from planning, job estimating and building a small business, to gaining proficiency with energy performance testing equipment and working with professional energy auditors. Daniels is not letting his drive or desire to apply his knowledge and skills stop there. He is in the process of starting a weatherization business to help low-income families and church communities, "paying-it-forward" by hiring future Energy Conservation Corps graduates. J.R.'s life changed for the better, and he continues to apply his knowledge by giving back to his community and helping countless families live in a more comfortable, energy and cost-saving home. A future brightened by Charleston WISE workforce development efforts.



Huntsville WISE – Huntsville, Alabama

Sheila Stewart joined the army straight out of high school was honorably discharged after three years of service. Education quickly became a priority and Sheila earned an Associate's Degree and spent several years working for the Tennessee Valley Authority (TVA).

But the pull of entrepreneurship drew Sheila from TVA to start her own business, Synergy Spa and Supplies, a personal care store in Madison, Alabama. Unfortunately her work ethic and vision couldn't fight off the ravages of a down economy and she closed the store not long after opening. Meaningful employment was hard to find, no matter the effort she out into the search.

Sheila contacted Still Serving Veterans on a whim, and in short order received information about the Renewable Energy Institute, a training program run by Nexus Energy Center (a SEEA Consortium member) and Drake State Technical College. She jumped at the opportunity, "understanding that energy is the next big wave of careers... there's lots of opportunity in energy jobwise." She graduated at the top of her class with a BPI Building Analyst certification and shortly thereafter attended a job fair coordinated by Nexus, who ended up hiring her as business administrator.

Sheila continues to work for Nexus, while at the same time pursuing a bachelor's degree in business communications. She intends to remain in the energy sector upon graduation and is confident about her prospects, saying, "my training is going to afford me a lot of opportunities in the future." And as a veteran, Sheila sees EE a bit differently, "This is America, we've got to reshape our thinking about energy."



ShopSmart with JEA – Jacksonville, Florida

Like other Consortium members, JEA, the Northeast Florida community-owned utility, recognized the importance of directly educating consumers to motivate them to spend time and money making efficiency improvements. JEA's ShopSmart energy conservation program, in partnership with the Northeast Florida Builders Association, formed E-Council, a program to educate industry professionals and community members about efficient, sustainable building and remodeling practices. The E-Council helped improve energy learning across the region by deploying trainings, workshops and a web-based, one-stop-shop for homeowners and industry professionals alike.



Local Energy Alliance Program (LEAP) - Charlottesville, Virginia

Twelve AmeriCorps members were retained by LEAP to add energy education and outreach "boots on the ground." The AmeriCorps team was deployed for direct consumer engagement, like neighborhood canvassing, which expanded their own energy knowledge while also helping residents receive free home energy reviews, access available retrofit funding assistance and realize energy savings and comfort improvements. Nearby community organization and Consortium member CAFE² in Blacksburg, Virginia, also partnered with AmeriCorps to help execute its State Energy program grant while educating the volunteers in the management and performance of home energy retrofitting.

RESULTS AND CONCLUSIONS

Consortium members and partners helped facilitate the creation of new jobs for local economies and the training of skilled laborers that will aid countless families far beyond the duration of the grant period. Beyond direct job creation, these programs helped to enhance the baseline level of consumer energy education, driving demand for qualified energy professionals rose as consumer awareness increased. Consortium cities moved aggressively to strengthen the local training infrastructure to support job opportunities and energy upgrades over the long-term. Finally, the intangible benefits achieved — improving small business performance, creating long-lasting jobs and bettering communities — are arguably among the greatest achievements and legacy of the SEEA Consortium and the Better Buildings Neighborhood Program and State Energy Program grants.


Despite the region's untapped energy efficiency potential, relatively few robust utility-run energy efficiency programs currently operate in the Southeast. Explanations for this phenomenon vary widely, but frequently cited factors include the region's coal-based economy, low energy prices, lack of incentives, the weak presence of the environmental community in the Southeast and widespread consumer indifference. While the leadership in some states has begun to take steps toward broader investment in energy efficiency, the region as a whole still has a long way to go. Within the SEEA footprint, spending on utility energy efficiency programs is significantly below the national average, and only two states have mandatory utility energy-savings targets.

Without clear directives to implement energy efficiency programming and policies that allow them to recoup their investment, utilities have a disincentive to do so. Their reservations are understandable from a business perspective; in general, most utility profits are tied to their sales volume, so without the appropriate regulatory infrastructure, a reduction in demand resulting from effective energy efficiency programs can erode their bottom line. However, despite the lack of regulatory incentives for energy efficiency in many states across the Southeast, in many cases Consortium programs and utilities were able to overcome this barrier and foster mutually beneficial partnerships.

Synergies and Successes

Utility regulatory frameworks vary by state, and although some Consortium members faced difficulty cultivating meaningful utility relations, others empowered utilities as a key partner in local energy efficiency initiatives. Consortium members who worked with utilities were able to obtain savings estimates, tap into contractor networks and piggyback on existing quality assurance services for several programs.

The most successful Consortium programs effectively leveraged the utility infrastructure and resources already in place, rather than starting from scratch or imposing a different model. This ability to "speak the language" of the environment they were operating within was essential for showing they could effectively meet the established utility priorities, like increasing consumer satisfaction or supporting their bottom line.

Existing utility rebate programs were among the most important factors in establishing relationships with utilities, since Consortium programs brought additional incentives to the table that could enhance existing rebate program benefits and marketing, increasing overall customer participation. In turn, added utility incentives sweetened the deal for Consortium customers and helped grow Consortium programs' pipelines. Perhaps most significantly, Consortium programs were able to help utilities pilot programmatic approaches and marketing tactics. Additionally, they offered valuable insights into building consumer trust, which was a fundamental element of all Consortium programs.

Where relationships worked well, utilities described communications with Consortium members as "excellent" and, at a minimum, a Memorandum of Understanding (MOU) guided the relationship. Consortium members interviewed in North Carolina and Tennessee cited the importance of taking the time to document each party's role. Though agreements were often simple MOUs, and not necessarily binding, they effectively set expectations for both parties.

Partnership Challenges

Where relationships did not work well, utilities noted that Consortium program staff exhibited poor understanding of their needs, a lack of patience and poor communication. In cases where energy efficiency programs were relatively new to them, utilities desired an explicit framework for collaboration, which was not always available as programs ramped up and DOE guidance shifted. Compounding the problem, communication with utilities was not always seen as a priority for Consortium programs, given their aggressive retrofit targets and finite timeline. Rather than focusing on synergies and mutually beneficial opportunities, many programs understandably focused on meeting retrofit targets during their conversations with utilities, rather than building a long-term partnership.

Data disclosure was often another point of misalignment; for many utilities, this service is not currently a part of their business models. Several utilities also noted that the reporting requirements presented a particular challenge: "We had a way to track [activity], [but the program] kept on asking additional questions. We had to produce multiple reports with different filtering, and then cross-check to make sure they were accurate Tracking back specifically was difficult."

Fostering effective working relationships takes time, and the Consortium programs did not have the luxury of building up an opportunity organically with utilities. Because they had to begin producing retrofits quickly, they were not well-positioned to build strong, strategic partnerships with utilities. Again, utility engagement was not always a strong focus of program staff – it was one of many priorities to be balanced with other pressing programmatic needs. As a result, effective utility relationships simply took a long time to establish. New Orleans provided one of the best examples of this. Over the course of several months, New Orleans WISE staff managed to transform an initially cool relationship with the area's major electricity provider in the area, Entergy New Orleans. Working closely with Entergy, a city council member and SEEA, NOLA Wise redesigned its program to complement Entergy's model rather than state tax credits, and offered additional incentives, such as residential and commercial loans.



CONSORTIUM HIGHLIGHTS



LEAP and Rappahannock Electric Cooperative – Central and Northern Virginia

The Local Energy Alliance Program (LEAP) found natural synergies with Rappahannock Electric Cooperative (REC), resulting in a pilot energy efficiency program for REC members in target counties. A relatively small-scale operation, Rappahannock has an inherent interest in reducing its peak demand, which lowers costs system-wide, and in the continued satisfaction of its customers. The Consortium pilot program effectively addressed both of these priorities, while also helping REC advance its mission, "Enhanc[ing] the lives of the members and communities we serve by providing safe, reliable and affordable electric service as good stewards of the environment."

Through the Consortium pilot program, REC targeted their highest energy users with a suite of incentives designed to reduce those members' usage. The program included an offer of a free energy assessments and rebates for specific energy-saving measures (heat pump tune-ups, duct sealing, air sealing, and/or insulation). LEAP, in turn, assisted with marketing and outreach; technical assistance and support; back-shop support (such as client management and follow-up); and quality assurance. REC members were then eligible for custom incentives to lower the cost of applicable improvements made through LEAP's Home Performance with ENERGY STAR program.

REC selected just over 17,000 (17,046) high-bill members for inclusion in marketing and outreach efforts. As of August 2013, 439 on-line selfaudits had been completed, 240 in-house reviews had been requested, 191 in-house reviews completed and 39 home improvements were either in progress or completed. This successful partnership speaks to the importance of finding common grounds and synergistic, win-win opportunities for collaboration, in order to advance energy efficiency in the region.



Huntsville WISE and Huntsville Utilities - Huntsville, Alabama

The Huntsville WISE and Huntsville Utilities collaboration is a prime example of scrambled lines of communication. Early on, the two entities established a partnership that included the utility offering free audits to customers with the expectation of reimbursement by Nexus. The two never formalized a contract for this deal, so the correct level of reimbursement was never clear to either party.

This set of circumstances ultimately created a strained relationship with Huntsville Utilities and their power provider, the Tennessee Valley Authority, and at one time Huntsville Utilities stated they have no desire to work in the future with Nexus Energy Center or similar organizations in the market. While the relationship between Huntsville Utilities and Nexus has since improved, thanks to the goodwill and persistence of both parties, the incident underscored the importance of proactive communication with partners and documenting all agreements in writing.



NOLA Wise and Entergy New Orleans - New Orleans, Louisiana

The New Orleans-based NOLA Wise, administered by nonprofit Global Green, initially had a very good relationship with Entergy New Orleans. However, Entergy launched its Energy Smart program around the same time that Global Green rolled out NOLA Wise, and this apparent duplication of incentive offerings and education programs led to some tension between the two entities, in addition to confusion in the marketplace. Now, thanks in part to long-term mediation facilitated by New Orleans Councilwoman Susan Guidry and SEEA, Entergy has recognized the value of NOLA Wise, particularly their extensive outreach and marketing efforts. They also demonstrated an appreciation for the value of NOLA Wise's consumer energy efficiency retrofit loan product. As a result of this open communication and willingness to engage, Global Green and NOLA Wise began discussions with Entergy and Councilwoman Guidry toward the end of the grant period, outlining a potential merger between NOLA Wise and Energy Smart in 2014.

NOLA Wise's attention to genuinely fostering a mutually beneficial partnership required a significant amount of time and energy, diverting resources away from other programmatic activities. As a result, NOLA Wise's programmatic ramp-up took longer, negatively affecting their ability to meet competitive retrofit targets. However, when considering the lasting sustainability of energy efficiency infrastructure and impact, NOLA Wise is arguably one of the most successful programs in the Consortium.



birmingham wis

Charleston WISE and South Carolina Electric and Gas – Charleston, South Carolina

Charleston also leveraged utility rebates from South Carolina Electric and Gas (SCE&G), educating consumers about the range of incentives available in the market; however, they did not prioritize coordination with a specific utility program. By the close of the grant period, Charleston WISE had not met their targets, and while there are many reasons for this, it is likely that one of the principal factors is their lack of coordination with their utility. SCE&G has a popular suite of energy efficiency programs that it markets to consumers, and Charleston WISE failed to capitalize on a substantial opportunity to leverage existing infrastructure, including rebates. Charleston's experience speaks to the absolute necessity of engaging the local utility early and often.

Birmingham WISE and Alabama Power and Alagasco - Birmingham, Alabama

Birmingham WISE successfully built relationships with multiple utilities, including Alabama Power and Alagasco, both of which were willing to actively engage customers on behalf of WISE. Initially, Alabama Power leveraged social media to promote the WISE initiative and later began to make direct referrals to WISE. Alabama Power even agreed to distribute WISE fliers and make connections to WISE contractors, leading to the expansion of their client pipeline. As Birmingham WISE continued to develop a relationship with Alabama Power, the utility invited the Birmingham program manager to engage with its HVAC contractor network, sharing information about WISE and generating leads for the program.

Birmingham WISE also reached out to natural gas provider Alagasco, which was an early champion of the rebate and contractor program. Of note, Alagasco actively promoted Eco Three, WISE's most active contractor, through shared marketing efforts. Most notably, Alagasco included information about Eco Three and their offerings in a February bill that went more than 400,000 customers.

While Alabama has a voluntary utility resource planning process and no mandates or incentive for utility sponsored energy efficiency programs, Birmingham's success illustrates that skillfully managed relationships can achieve some forward movement in an area not known for energy efficiency programming.

RESULTS AND CONCLUSIONS

Though regulatory frameworks and incentives vary among states and localities, Consortium programs generally found that the policy landscape impacted the receptivity of local utilities to supporting their efforts, ultimately playing a role in the success of the program and its ability to reach retrofit targets. Where incentives were not aligned with program goals, Consortium partners struggled; still, even in the most difficult policy environments, patience, dialogue and a clear set of expectations allowed for some level of success.

Where utilities saw direct benefits, meaningful partnerships came about more easily. In many cases, Consortium programs were able to help utilities increase participation in existing rebate programs by offering valuable insights into customer receptivity and grassroots marketing, as well as additional incentive dollars. However, in areas where efficiency was not advocated at a regulatory level, utilities had little incentive to participate, and even small tasks like collecting energy usage data from them became burdensome to Consortium programs. To leverage the untapped energy efficiency opportunities in the Southeast, regulators must make energy efficiency a priority, adjusting incentives to better align utility business models and customer interests. In the short term, particularly in areas where energy efficiency programs have not yet been established, cooperatives may be a more reliable ally; however, as energy efficiency is increasingly encouraged by policy makers, utilities have much to gain from incorporating the best practices that emerged from Consortium programs into future energy efficiency initiatives.



Conclusion: The Path Forward

The establishment of the SEEA Southeast Consortium, with support from the U.S. Department of Energy and the States of Alabama and Virginia, represented an unprecedented investment in the region's energy efficiency infrastructure and a deliberate prioritization of energy efficiency as a tool to advance long-term regional economic growth. As the Consortium's performance period draws to a close, it is clear that the activities undertaken by the Consortium have yielded real benefits. These include:

- 1. Positive and encouraging economic impacts that have rippled through the local economies of the 16 participant cities;
- 2. The achievement of over 6,100 building retrofits, more than 36 million kWh of energy savings, annual consumer utility bill savings of nearly \$3 million, incremental contractor revenue of nearly \$40 million and 349 jobs created;
- 3. The development of new local partnerships and organizations throughout the Southeast that have begun the challenging work of addressing the barriers that constrain energy efficiency in the region;
- 4. The beginnings of a new attitude toward, and understanding of, the economic opportunity presented by energy efficiency, especially among the banks, credit unions, utilities and municipalities that embraced the Consortium opportunity and have worked through program challenges to achieve tangible financial successes;
- 5. The creation of a small corps of professionally trained energy efficiency experts across the region;
- 6. A baseline level of consumer energy efficiency knowledge; and
- 7. Increased recognition by regional utilities and policy makers of energy efficiency as a resource.













However, while significant progress has been made in the past three years, a robust energy efficiency marketplace has not yet fully developed in the Southeast, and DOE's goal of strengthening the region's energy efficiency infrastructure to provide long-term economic benefits has not yet been fully realized. The Southeast continues to lag the rest of the country in energy efficiency innovation and uptake, and although progress has been made, it is still several years away from enacting comprehensive policies that fully engage the utility and financial sectors in a transformational effort.

What's more, as previously noted in this report, many Consortium programs must now face the reality that the momentum they've created are in danger of dissipating as soon as their seed money goes away. While the vast majority of the Consortium programs will continue on in some capacity, there are a handful without a clear path forward in the near-term. Even as these programs ramp down or transition into a new space, there is still a pressing need for more research, further investigation, new programs and additional organizational support to continue the progress and momentum of the Consortium effort, that is, in many cases, just starting to take effect.

To prompt the dialogue needed to address this reality, SEEA has identified several follow-on research, programs and activities that if pursued and funded, could bring substantial benefit to the region as it strives to catch up with the rest of the country, harnessing the momentum generated by the Consortium's efforts. Recommended initiatives, based on the findings listed in each section of the Energy Pro3 Report, are outlined in the following section.

AREA OF FOCUS:



The Southeast is relatively new to energy efficiency, making initial program design and ramp-up both challenging and time-consuming. THE PROBLEM Consortium partners spent a significant amount of time creating and building their programs - in many cases, from scratch - and CONSORTIUM EXPERIENCE developing their outreach, marketing and program management strategies. This time-intensive ramp-up shortened the amount of time available for active retrofit production. Develop a comprehensive program playbook of best practices to serve cities or other entities considering launching energy efficiency THE FOLLOW-ON OPPORTUNITY retrofit programs to expedite the development and rollout process, and to promote the implementation of demonstrated best practices. THE PROBLEM Currently, there is no flexible, easy-to-use tool for tracking pipeline and customer data over the course of an energy efficiency program. Through the Consortium's work, SEEA found there was a distinct lack of user-friendly technology available for program administration and CONSORTIUM EXPERIENCE measurement. This was a significant issue for both SEEA and its sub-grantees as they tried to collaborate on program implementation and reporting. Conduct a study that identifies existing gaps in program management technology and potential solutions for sound pipeline tracking and THE FOLLOW-ON OPPORTUNITY reporting.

Program Design and Administration

RECOMMENDATIONS FOR FOLLOW-ON WORK



AREA OF FOCUS: Finance



RECOMMENDATIONS FOR FOLLOW-ON WORK



AREA OF FOCUS: Finance

	THE PROBLEM	Few large commercial banks in the Southeast provide consumers with access to energy-efficiency-specific loan products, thereby limiting the opportunity for home retrofits.
	CONSORTIUM EXPERIENCE	SEEA had difficulty identifying lending partners for Consortium financing programs, due to a general unfamiliarity with energy efficiency lending products.
3	THE FOLLOW-ON OPPORTUNITY	Develop toolkits for lending institutions that will help them to build, launch and evaluate successful loan programs.
	THE PROBLEM	By and large, energy efficiency lending is not been recognized as a priority in the Southeast.
	CONSORTIUM EXPERIENCE	While some Consortium lending partners were proactive and supportive, others fell short, which severely curtailed many financing programs' success.
	THE FOLLOW-ON OPPORTUNITY	Research, develop and deliver a regional financing program that leverages economies of scale and provides a credible, effective product and supporting services, thus avoiding many of the challenges brought on by a shortage of qualified lending partners.



AREA OF FOCUS: Marketing and Consumer Education

	THE PROBLEM	Because energy efficiency program administrators may not have extensive marketing experience, let alone experience developing marketing programs for energy efficiency products and services, there is a need to identify and further test the drivers of consumer behavior in this area to ensure the effectiveness of future efforts.
	CONSORTIUM EXPERIENCE	Over the past three years, many programs struggled to identify marketing approaches and incentives that would lead to strong consumer uptake. This approach led to resource-intensive experimentation with marketing campaigns and incentive programs.
1	THE FOLLOW-ON OPPORTUNITY	Conduct a follow-up research effort to better understand the drivers of consumer interest in energy efficiency products and services, and to document the most effective tools and approaches to this task in the Southeast.
	THE PROBLEM	Educated and engaged local contractors are vital to the success of energy efficiency programs, yet limited resources exist to provide them with the training and certifications they need to be effective marketers and advocates for energy efficiency in the field. Throughout the region, there are limited market actors who possess the diverse skill set needed to effectively sell whole-building retrofits.
	CONSORTIUM EXPERIENCE	LEAP identified and addressed this issue effectively by training its contractors extensively on marketing and sales skills; providing a bimonthly workshop to discuss and resolve difficult home assessment situations; and offering a contractor-led Technical Advisory Committee that provided input to their retrofit program, ensuring its responsiveness to needs of contractors and encouraging continuous program improvement.
2	THE FOLLOW-ON OPPORTUNITY	Develop a region-wide capability or program to assist contractors, and to incent them to learn the skills they need to ensure energy efficiency becomes a base-level consideration in home retrofits.
	THE PROBLEM	In general, contractors have limited experience selling whole-building retrofits.
	CONSORTIUM EXPERIENCE	Several Consortium programs initially struggled with low conversion rates stemming from inadequate contractor marketing.
3	THE FOLLOW-ON OPPORTUNITY	Develop and administer a training program that focuses on sales and customer relations skills that are critical to the success of home performance contractors.



AREA OF FOCUS: Workforce Development

	THE PROBLEM	Many contractors, especially in the Southeast, speak Spanish, not English.
	CONSORTIUM EXPERIENCE	Trainings and materials for contractors need to be made available in Spanish to accommodate a large segment of the contractor population that is currently only marginally engaged in energy efficiency retrofit opportunities.
1	THE FOLLOW-ON OPPORTUNITY	Translate contractor collateral and trainings into Spanish, and develop a Spanish-speaking contractors association to better involve these stakeholders in energy efficiency work.
	THE PROBLEM	Energy efficiency work offers the promise of "good-paying green jobs," but there exists no means of tracking contractor trainees to ensure they have continued to find work that uses their new skills.
	CONSORTIUM EXPERIENCE	LEAP and CAFE ² brought in AmeriCorps members; Huntsville WISE partnered with a local technical college; Nexus partnered with Still Serving Veterans. Atlanta trained contractors in weatherization for its state energy assistance organizations.
2	THE FOLLOW-ON OPPORTUNITY	Conduct a follow-up study of employment outcomes for trained contractors, and how they are now using their skills, post-retrofit program.
	THE PROBLEM	The Department of Energy has made an unprecedented investment in energy efficiency through the Better Buildings Neighborhood Program and dedicated funds made available through State Energy Programs. An in-depth analysis is needed to assess effectiveness in reaching workforce goals and to guide future investments.
	CONSORTIUM EXPERIENCE	By and large, grantees have not conducted the type of in-depth modeling analysis needed to accurately assess economic and workforce impacts.
3	THE FOLLOW-ON OPPORTUNITY	Conduct a multi-pronged study at the local, regional and national levels to determine workforce impacts and gauge the effectiveness of specific programmatic approaches in creating jobs and producing real economic benefits.



AREA OF FOCUS: Utility Partnerships



