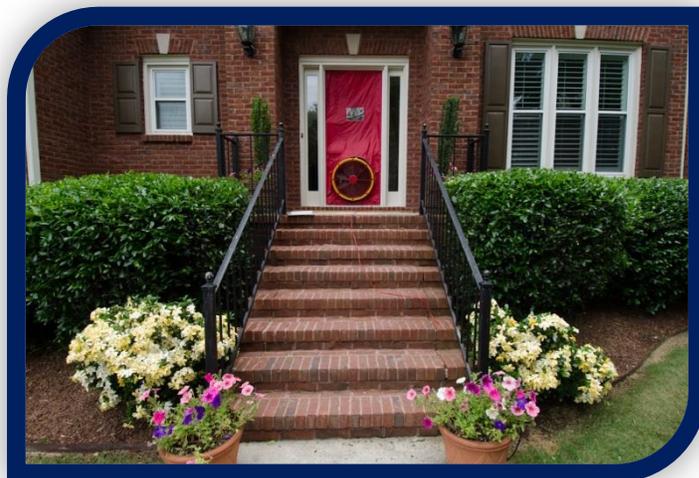


Alabama's Approach to Building a Sustainable Home Energy Efficiency Industry



Blower door test during an energy audit in Birmingham, AL



Prepared by the National Association of State Energy Officials for the Alabama Department of Economic and Community Affairs.

Case Study on AlabamaWISE: A Residential Retrofit Pilot Program

Background on AlabamaWISE

Starting in early 2011, the states of Alabama, Virginia, Washington, and Massachusetts began collaboration on a multi-state project to grow and strengthen the home energy efficiency industry in each state. This three-year project, which was funded by the U.S. Department of Energy (DOE) State Energy Program (SEP), has enabled Alabama to transform the residential retrofit market in key communities, while simultaneously developing a model that can be adopted by other communities throughout the state. By engaging consumers through online tools and home energy scorecards, as well as reaching out to energy auditors and contractors through training and workforce development, Alabama aims to establish a residential retrofit market that will sustain itself long after the DOE funded project is completed.

The Energy Division of the Alabama Department of Economic and Community Affairs (ADECA), in collaboration with its partners, oversaw the Alabama Worthwhile Investments Save Energy (AlabamaWISE) pilot program. The AlabamaWISE program served communities in the Huntsville and Birmingham areas.¹ The program stakeholders created the Nexus Energy Center to operate as the implementer of the Huntsville program with initial funding from DOE's Better Buildings Neighborhood Program. After ADECA received the SEP grant, ADECA and Nexus expanded the AlabamaWISE program to include the Birmingham area.

Through AlabamaWISE, Nexus provided:

- home energy audits;
- home energy performance scorecards;
- rebates for energy efficiency retrofits; and,
- a network of contractors, certified by the Building Performance Institute, Inc. (BPI), qualified to undertake the retrofit work.

Objectives of AlabamaWISE

The key objectives of the Alabama Worthwhile Investments Save Energy, or AlabamaWISE are to:

1. *Use the knowledge and experience of partner states to establish a sustainable retrofit market in Alabama;*
2. *Elevate the State's current retrofit market to build momentum to permanently and sustainably transform the market for home energy improvements;*
3. *Foster the development of community-based, public-private partnerships for program delivery;*
4. *Utilize experience obtained and lessons learned in the Huntsville community (where AlabamaWISE first rolled out) to implement a successful program in Birmingham.*
5. *Use the synergies inherent in a broad, multi-state effort to establish a model that can be applied nationally to increase retrofits, create jobs, save energy, and reduce greenhouse gas emissions.*

¹ In the Huntsville area, the program serves Madison, Lawrence, Limestone, and Morgan Counties. In the Birmingham area, the program serves Jefferson and Shelby Counties.

In addition, Nexus partnered with Abundant Power to offer a low-interest loan with attractive financing for the energy efficiency retrofit work.

Other instrumental project and multi-state partners included Earth Advantage, the National Associations of State Energy Officials, the Southeast Energy Efficiency Alliance, and The Cadmus Group.²



AlabamaWISE, a program of Nexus Energy Center, works in the Huntsville and Birmingham areas to deliver home energy audits and labels, provide an innovative suite of financing options, facilitate retrofit adoption by participating homeowners, train the implementation workforce, measure and verify the results of the installed home retrofit measures, and collaborate with other stakeholders to support and ultimately grow the energy efficiency industry in Alabama. For more information, visit <http://www.alabamawise.org/> or <http://www.nexusenergycenter.org/>.

Pilot Project Highlights and Lessons Learned

Alabama's approach to AlabamaWISE built on the initial successful efforts in Huntsville community and expanded to Birmingham area with a focus on comprehensive retrofits and deep energy savings. Following the initial period of organizational development, the Birmingham component launched in mid-2011, with the Huntsville component further ramping-up services. Collectively, AlabamaWISE has completed over 500 home retrofits with a very successful 82% audit-to-retrofit conversion rate, along with slightly exceeding their initial average home energy savings target of 20%. The impact of AlabamaWISE is illustrated in the following table.

² EARTH ADVANTAGE: Earth Advantage collaborated with regional, state, and local partners to incorporate the homeowner engagement tools and home energy rating and labeling process. For AlabamaWISE, auditors/contractors used the EPS software tool to evaluate the estimated energy use of the home and generate an EPS label and report, which they then provided the homeowner. The EPS label is synonymous with a MPG rating for cars. The EPS report provides information on suggested energy efficiency improvements to the house and the expected energy savings that would result. The EPS allows for comparisons of one home's energy use to another, without the influence of varying occupant behavior. Homeowners can also use the label and report to compare the typical energy use of the house in its current state versus what it could be like after energy upgrades." For more information about EPS see: <http://www.energy-performance-score.com/>. This EPS software tool is now available to the market in an updated version known as [CakeSystems](http://cakesystems.com/) (<http://cakesystems.com/>). The CakeSystems software can produce an EPS label and report, as well as other energy labels and reports.

NATIONAL ASSOCIATION OF STATE ENERGY OFFICIALS (NASEO): NASEO coordinated the Steering Committee's management of the multi-state collaboration of Alabama, Massachusetts, Virginia, and Washington, helping to build on the synergies inherent in a broad, multi-state effort. NASEO also managed the process evaluation activities across the four states.

SOUTHEAST ENERGY EFFICIENCY ALLIANCE (SEEA): SEEA assisted the Virginia REA's with planning and strategy development, budgeting, and implementing contractor trainings.

THE CADMUS GROUP: Cadmus was contracted by the four states to conduct a process evaluation of their pilot projects in order to identify strengths and opportunities for improvement regarding program design, homeowner and contractor engagement, and marketing.

Audit and Retrofit Impacts of Alabama’s Pilot Project (through February 2014)

Alabama Program	Cumulative Total of Completed Energy Audits	Cumulative Total of Completed Retrofits	Audit-to-Retrofit Conversion Rate	Portfolio Average Home Energy Savings	Average Retrofit Costs
TOTAL	859	711	82%	+20%	+\$8,500

An audit-to-retrofit conversion rate of 82% is extremely strong for residential energy efficiency programs. Survey findings from Cadmus indicated that the high conversion rate was partly due to the screening of customers that contractors often initiated. If a contractor believed that a customer had a high likelihood of achieving the required 20% energy savings, the contractor would encourage the customer to participate in the AlabamaWISE program. While this might have prevented some homeowners from looking into AlabamaWISE, it increased the efficiency and effectiveness of the program for those homeowners that did sign up.

In addition to audit and retrofit impacts, the Nexus tracks broader economic impacts, such as total homeowner leverage and jobs created. According to data collected by the Nexus staff, AlabamaWISE:

- created over 30 direct jobs as calculated from job hours created by retrofits;
- produced over \$1 million in cumulative energy savings; and
- resulted in over \$8.5 million of homeowner investment in energy efficiency upgrades.

AlabamaWISE provided a number of important program elements to encourage homeowners to undertake energy efficiency retrofit projects. These included broad consumer awareness, unique homeowner outreach strategies, workforce training and quality assurance, financial incentives, linkages with local partner resources, facilitating service delivery, information sharing, and planning for ongoing operations as noted below:

- **Consumer Awareness:** Nexus tested various strategies for increasing consumer awareness, including e-newsletter campaigns, linking with other planned neighborhood events, and other community-based social marketing efforts. Homeowner survey results from Cadmus showed that AlabamaWISE developed creative, locally-focused marketing and outreach campaigns, especially given the challenges of operating on a limited budget in two distinct areas of the state.
- **Homeowner Outreach and Engagement Strategies:** AlabamaWISE was designed to supply objective information about the home’s performance through online tools and energy labeling. This information was designed to help the homeowner make decisions on the financial merits of moving forward with an energy efficiency retrofit. A key component of this strategy was providing homeowners an Energy Performance Score (EPS) label and report during the energy audit. The EPS label provides a standardized estimate of a home’s energy use and associated carbon emissions and is synonymous with a MPG rating for cars. The EPS report also provides



A Nexus staff member explains the AlabamaWISE program to an interested homeowner as part of Nexus’ outreach initiatives.

information on suggested energy efficiency improvements for the house and the expected energy savings that would result. Homes with poor EPS ratings would be encouraged to pursue upgrades. Earth Advantage and Nexus staff trained energy auditors to generate EPS labels and reports through EPS software, and also created a system for delivering EPS results to homeowners. The AlabamaWISE program also provided education to the local real estate and appraiser community on the value of energy-efficient home features.

- **Incentives and Financing:** AlabamaWISE provided partial retrofit rebate funding to make it easier for homeowners to complete the home energy upgrades. While participants learned about the program through contractors, local organizations, and friends and family, the follow-up evaluation indicated that they ultimately chose to participate in the retrofits due to the rebates. To further assist homeowners with reducing the first-costs of the retrofits, a loan financing component—offered by Abundant Power—has recently been added to the program.
- **Training and Quality Assurance for the Residential Market Place:** AlabamaWISE provided workforce training and quality control/quality assurance processes for a network of home raters, energy auditors, contractors, remodelers, and equipment installers. The program conducted on-site quality assurance for 10% of completed retrofits to check for quality installation, ensure the recommended upgrades were appropriate, and conduct homeowner exit interviews. Quality assurance findings help inform future training opportunities for auditors and contractors. Nexus hosted STAR (Sustainability Training for Accredited Real Estate Professionals) training, conducted by Earth Advantage, for appraisers and the real estate community about the features and benefits of new and existing high performance homes and the advantages of energy efficiency and energy savings. Earth Advantage also developed online curriculum for STAR to allow Nexus to continue providing quality training to the real estate community.
- **Developing a Sophisticated Contractor Network:** The AlabamaWISE program focused on working with the budding contractor network in Huntsville and Birmingham. AlabamaWISE organized a variety of training opportunities for contractors, including sales training and targeted training on the EPS software and audit tools. Moving forward, AlabamaWISE will continue to engage contractors through providing customer leads and facilitating low-interest loan opportunities.
- **Linkages with Local Partners to Leverage Resources:** As the AlabamaWISE implementer, Nexus successfully leveraged its status as a local nonprofit to establish credibility with local community networks in Huntsville and Birmingham, develop new program services, and generate new partners. For example, Energy Huntsville, an initiative of Mayor Tommy Battle that organizes monthly meetings of energy industry professionals, allowed Nexus to meet potential partners, such as The Comfort Project, which delivers services to low-



Nexus, ADECA, and Huntsville Mayor Tommy Battle are honored by the Southeast Energy Efficiency Alliance for the success of the AlabamaWISE program.

income residents. Nexus and The Comfort Project are currently developing a multifamily energy efficiency retrofit program, which program stakeholders hope will not only reach a population underserved by the program, but will also open up potential new funding opportunities.

- **Facilitating Service Delivery**: AlabamaWISE— with its “one-stop-shop” approach—has attempted to simplify and streamline the process of retrofits for homeowners, with easy access to energy audits, trained contractors, and financial incentives. When homeowners conduct deep retrofits, this is an important decision, as they are remodeling their home in a significant way.
- **Peer-to-Peer Information Exchange**: AlabamaWISE included efforts for sharing information and lessons learned among the Huntsville and Birmingham areas, as well as sharing strategies and approaches with the other states in the multi-state project. The four-state SEP pilot project included a Steering Committee, which oversaw a process evaluation conducted by Cadmus. The process evaluation examined the effectiveness of the programs’ design and implementation and identified best practices across the four state collaborative effort. Additionally, the Southeast Energy Efficiency Alliance fostered exchange through various residential energy efficiency programs operating in other states throughout the Southeast.

The Future of Residential Energy Efficiency in Alabama

Having local, community-based partners is a key to effectively gaining attention and deploying energy-efficiency retrofit services in the residential sector. AlabamaWISE has shown to be adaptive regarding program marketing and deployment, while building a trained workforce of qualified contractors for home retrofits. Moving forward, AlabamaWISE is transitioning from heavy reliance on grant funding to private-public partnerships that will be market-based enterprises.

Anticipating the completion of the SEP-funded pilot in early 2014, AlabamaWISE and its partners are developing various strategies to cultivate additional local partnerships, such as the Comfort Project and local governments, and are aggressively pursuing new funding opportunities from private- and public-sector sources at the local, regional, and national levels. Additionally, AlabamaWISE continues to pursue relationships with utilities as the program moves forward in 2014 and beyond.

Help Expand and Spread the Successful AlabamaWISE Program

In order to build on the success of the AlabamaWISE program to date, ADECA and Nexus are identifying partners in local government or private organizations that can help spread the positive impact of the AlabamaWISE program to other communities across the state. If you are interested in partnering with AlabamaWISE or would like more information on partnership opportunities, please contact Elizabeth Grimes, Energy Division, Alabama Department of Economic & Community Affairs, at 334-353-3004 or elizabeth.grimes@adeca.alabama.gov.