

Final Technical Report

Project Title:

“Achieving Regional Energy Efficiency Potential in the Southeast”

Recipient:

Southeast Energy Efficiency Alliance
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DE-EE0005826

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A. Executive Summary:

Included in this report is a summary of the Southeast Energy Efficiency Alliance's (SEEA) major accomplishments under U.S. Department of Energy (DOE) Cooperative Agreement DE-EE0005826: "Achieving Regional Energy Efficiency Potential in the Southeast." Under this project SEEA collaborated with multiple U.S. Department of Energy (DOE) offices under Energy Efficiency and Renewable Energy (EERE) including the Advanced Manufacturing Office (AMO), Building Technology Program (BTP), Office of Strategic Programs (OSP), and Weatherization and Intergovernmental Program (WIP) to further energy efficiency efforts in the Southeast. SEEA also worked in close partnership with other Regional Energy Efficiency Organizations (REEOs) in the Northwest, Northeast, Southwest and Midwest.

The overall objective of this award was to facilitate sharing of DOE resources and best practices as well as provide technical assistance to key stakeholders to support greater compliance with energy efficiency standards and increased energy savings. The outcomes of this award include greater awareness among key stakeholders on energy efficiency topics, increased deployment and utilization of DOE resources, and effective policies and programs to support energy efficiency in the Southeast. Task-level objectives and accomplishments are included in more detail below.

B. Objectives & Accomplishments by Task

Task 1.0 Advanced Manufacturing Office (AMO)

Objective:

Support regional education and outreach to regulatory entities, utilities, rate payer-funded programs and industrial end users on deployment of advanced manufacturing technologies and manufacturing facility best practices.

Accomplishments:

- Hosted, in partnership with Rick Marsh of the **Industrial Energy Efficiency Network (IEEN)**, the southeastern, annual **IEEN Summit**, and presented AMO-specific resources to highlight DOE's Better Plants Program, Strategic Energy Management, and the Industrial Automation and Control Systems.
- Performed outreach to **recruit new Better Plants Partners** by facilitating individual introductions between the AMO Better Plants Program Manager and companies such as Wise Alloys, Cooper Tire, DENSO, Toho Tenax and McKee Foods.
- Co-hosted a **webinar with other REEOs** in November 2014 to promote utility supported Strategic Energy Management programs.
- Provided support to the Mississippi Development Authority and Innovate Mississippi on the execution of their state-level energy efficiency activities, and specifically a **Mississippi CHP Workshop** in December 2014 that was directed at manufacturing end users.
- Developed a briefing document entitled "**As Industrial Energy Managers, Make It Count!**" that features a list of actions industrial energy managers can undertake to maximize energy efficiency opportunities that could be considered as a part of greenhouse gas emission reduction strategies that was widely disseminated through IEEN's newsletter.
- Established a program in partnership with the **Tennessee Valley Public Power Association (TVPPA)** and IEEN to provide **industrial energy management train-the-trainer** classes to TVA's

155 local power companies (LPCs) that will better support LPC management and key accounts teams to better serve and engage their industrial customers.

- Coordinated with ACEEE to submit written comments in response to a request for comment from the Louisiana Public Service Commission on the transition from Phase I energy efficiency rules (Quick Start) to Phase II (Comprehensive). These comments addressed both industrial energy efficiency (opt-out) and **combined heat and power with references to national resources from SEE Action**, ACEEE, the Consortium for Energy Efficiency.
- Conducted **two-day meeting with Louisiana stakeholders interested in combined heat and power (CHP)**. Forty (40) attendees participated in the meeting and the agenda included presentations from the U.S Department of Energy, Louisiana Department of Natural Resources, and other experts to enable stakeholders to better understand the technologies and economics associated with CHP, the current state in Louisiana and the opportunities for additional utilization and deployment of CHP in the state.
- Drafted a **technical assistance memo to the Mississippi Public Service Commission** on implications of exemptions of special utility contracts for large energy users to not participate in industrial energy efficiency programs. Information included implications of opt-out provisions, self-direct programs and rates.

Task 2.0 Building Technology Program (BTP)

Subtask 2.1: Coordination and Outreach with National Collaborative

- **Objective:** Work with national and regional partners such as U.S. DOE's Building Energy Codes Program, the Building Codes Assistance Project (BCAP), the National Association for State Energy Officials, REEOs and others to share state input on state needs and priorities and to coordinate work to systematically address those identified needs in an efficient manner.
- **Accomplishments:**
 - Supported the successful execution of **DOE's National Energy Codes Conference** in 2015, 2016 and 2017 including securing southeastern attendees, speakers and hosting southeastern-specific convenings within this forum.
 - Engaged and provided status **updates to national organizations** (National Codes Collaborative (NCC), Responsible Energy Codes Alliance (RECA) and National Association of State Energy Offices (NASEO)) **and regional groups** (REEOs) on monthly update calls and in-person events to promote collaboration, along with sharing lessons learned and best practices.

Subtask 2.2: Adoption Technical Assistance

- **Objective:** Provide technical assistance to regional stakeholders in support of energy code and green building code adoption, through the deployment of Building Technology Program analysis, training, education and other pertinent means.
- **Accomplishments:**
 - Successful **energy code adoption and rollback prevention** of ASHRAE 90.1-2007, ASHRAE 90.1-2010, 2009 IECC and/or 2012 IECC in 10 of SEEA's 11 states—an **over 90% adoption** rate. This supported DOE's goal of 70% adoption by 2014, and the pledges

state governors made when accepting American Recovery and Reinvestment Act (ARRA) funding.

- Provided education and technical assistance to committees to support adoption in Arkansas, Georgia, Florida, Louisiana and Virginia.
- Prevented rollback of performance testing in Florida and North Carolina.
- Formalized the **Southeast Energy Codes Coalition (SECC)**, a stakeholder group committed to the value and importance of implementing building energy codes throughout the southeast region. SECC includes **twenty diverse member organizations**, and annual in-person meetings and bi-monthly conference calls.
- Facilitated a **Mississippi cost-effectiveness study for ASHRAE 90.1-2010** commercial building energy code, in partnership with the Mississippi Development Authority and Pacific Northwest National Laboratory.

Subtask 2.3: Compliance Technical Assistance

- **Objective:** Provide technical assistance on energy codes, green building codes, and Building Energy Codes Program (BEC) tools and services, related to compliance, to all stakeholder groups through web-based user support, analysis, training, education and other pertinent means.
- **Accomplishments:**
 - Facilitated **building energy code compliance trainings** for code official, builders and architects in **ten states:** Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia.
 - Developed **nine comprehensive Energy Codes Success Manuals** as training resource materials for builders, code officials and trades to understand and meet the new code requirements. The manuals include energy code checklists, code references, pictures of good and bad installations, information sheets on common problem areas, and applicable IRC references, broken out by trades and by inspection codes. Checklists are downloadable online, and hard copy books are also available for all developed resources. Link to [Success Manuals](#).
 - Created a **training programs for code compliance in Mississippi and South Carolina** in partnership with state energy offices and utilities.
 - Provided **Florida energy code circuit rider services**, to assess compliance baselines and provide technical assistance to local jurisdictions throughout the state.
 - Developed **Florida residential energy code trainings** for the 2014 Florida Building Code, Energy Conservation on behalf of the Florida Home Builder Association (FHBA) and Building Official Association of Florida (BOAF).
 - Completed and disseminated three whitepapers:
 - **“Construction, Code and Commerce: The Economic Impact of Commercial Energy Codes in the Southeast,”** detailing the economic impact of building energy code adoption and implementation in the Southeast and disproving the myth that enhanced energy codes deter building activity.

- **“Construction, Codes, and Commerce: Residential Construction Data Review,”** providing a southeastern-specific analysis of census data of new single-family home construction and disproving the myth that enhanced energy codes deter building activity. This paper includes new residential construction permit numbers across all 11 states in SEEA’s territory from 2005 through 2015, maps of top counties in each state for new residential construction permits, and comparative code-specific information, including residential energy code status and effective date for each state.
- **“Florida Energy Code Circuit Rider Program”** was launched in Florida in 2014, with the intent of developing a snapshot of code enforcement in the field, and subsequently building a work scope to provide targeted technical assistance to more effective enforcement of Florida’s commercial code. This paper focuses on the Circuit Rider’s initial visits to jurisdictions across the state, which was intended to identify common themes and needs to more appropriately future target technical assistance activities. Subsequent reports may focus on the delivery of technical assistance and resources, as well as the outcomes of these efforts.

Subtask 2.4: Commercial and Residential Tool Deployment

- **Objective:** Support commercial and residential policy analysis and data sharing through the deployment of tools and guidelines including but not limited to Building Asset Scoring, Building Performance Database, Advanced Energy Design Guides and Retrofit Guides, Organizational Energy Management (ISO 5001) etc.
- **Accomplishments:**
 - Completed a **benchmarking “readiness” assessment** and leveraged it as a starting point for conversations with key southeastern stakeholders, including the state energy offices in Georgia, South Carolina, and Arkansas to assess and support current activities related to benchmarking.
 - Provided public comment and supported the successful adoption of **Atlanta City Council Ordinance 15-O-1101, Efficient Use of Energy within the Commercial Sector**, which creates a **water and energy benchmarking program** for a subset of Atlanta’s large commercial buildings. Atlanta was the first City Energy Project awardee in the country to successfully pass its benchmarking ordinance, a major milestone of the project.
 - Sustained engagement with cities of **Atlanta and Orlando** to support **City Energy Project** activities and share the results of these efforts with other southeastern stakeholders.
 - Engaged with the **City of Fayetteville, Arkansas** to explore integrating **benchmarking** activities into their city sustainability efforts, by leveraging their PACE program.
 - Engaged with stakeholders in **Chattanooga, Tennessee** to provide resources and background information on the spectrum of **building information transparency** policies and programs currently being deployed across the country.
 - Participated in **DOE’s Commercial Asset Score Pilot**, recruiting pilot participants, and providing input during the beta-phase.
 - Performed outreach and secured datasets for four institutional buildings to be added to **DOE’s Building Performance Database**.
 - Regularly promoted **DOE commercial building tools** and resources in monthly SEEA Bulletin email blasts.

Task 3.0 Office of Strategic Programs (OSP)

- **Objective:**
 - Work toward a larger strategy to increase the demand for energy efficiency and renewable energy projects within the Southeast.
- **Accomplishments:**
 - No funding was authorized to support deliverables under this task during the project period.

Task 4.0 Weatherization and Intergovernmental Program (WIP)**Subtask 4.1 Expanding On-Bill Financing Programs through Southeastern Electric Cooperatives**

- **Objective:** Work with Southeastern electric membership cooperatives (EMCs) and community stakeholders to provide the resources needed to establish on-bill financing programs for their ratepayers and expand access to energy efficiency at a statewide level.
- **Accomplishments:**
 - Worked with local organizations to form the **North Carolina On-Bill Finance Network**, a collaborative partnership between SEEA, University of North Carolina Environmental Finance Center (EFC), Appalachian Voices (AV) and the Environmental Defense Fund (EDF), the Southern Environmental Law Center (SELC) and the Southern Alliance for Clean Energy (SACE). Working together, these groups will support energy efficiency programs in North Carolina that target **rural communities** and cooperative utilities by implementing a streamlined, state-wide on-bill financing program.
 - Created the **Inclusive Financing Learning Circle Webinar Series**, an eight-part webinar series that detailed the process, options and implications of establishing an on-bill financing program.

Subtask 4.2: Expanding Clean Energy and Efficiency Financing Through Special Districts, Related NGO's, and the Community Reinvestment Act

- **Objective:** Provide strategic technical assistance services to municipalities or states in the region that will move energy efficiency high-priority implementation activities forward which could include financing mechanisms and access to outreach capabilities to leverage work with local governments.
- **Accomplishments:**
 - Created the **Southeast Energy Efficiency Finance Network**, a joint initiative of SEEA and the Environmental Finance Center at the University of North Carolina (Chapel Hill) and supported related activities.
 - The goal of the Finance Network is to engage a multitude of energy efficiency participants in the Southeast, offering them robust educational opportunities, case studies, best practices and the support system needed to build a profitable region-wide base of energy efficiency financing programs.
 - The Network welcomed the participation of regional banks, community development financial institutions (CDFIs), credit unions, utilities, contractors, nonprofits, trade associations and government agencies.

- Developed a list of **regional and national lender conferences and trainings** to engage regional lenders on energy efficiency financing opportunities and bolster state level lender interest and current activities in energy efficiency finance.
- Completed outreach and education to **14 regional financial institutions** on energy efficiency lending as a compliance pathway under the Community Reinvestment Act (CRA).
- Developed a briefing document for **Arkansas' investor owned utility working group**, the Parties Working Collaboratively, to advise on options and a path forward to develop a **statewide energy efficiency finance offering**.
- Initiated a planning process with local stakeholders (Georgia Environmental Finance Authority, University of Georgia Carl Vinson Institute of Government, Georgia Municipal Association, Oglethorpe Electric and Jackson Electric Membership Cooperation) to design and deliver **training** content on the **Rural Utilities Service (RUS) Energy Efficiency and Conservation Loan Program (EECLP)** and application process.
- Hosted a policy-focused event entitled **"Catalyzing Clean Energy Markets through Green Banks"** with presentations by Bryan Garcia, President and CEO of the Connecticut Green Bank and Jeff Hughes, Director, Environmental Finance Center at UNC Chapel Hill.
- Established the Southeast Energy Efficiency Finance Fund and provided oversight to **four innovative finance demonstration site projects** across the Southeast that represent a broad diversity of energy efficiency financing offerings that engage end consumers through private lenders, utilities, state agencies and collaborative entities. The outcome of these demonstration projects included standardized **data sets of energy efficiency loan performance** and comparative data on **energy efficiency financing models, marketing and delivery mechanisms, and management structures** in the Southeast.
 - The demonstration programs are as follows:
 - Sunstate Federal Credit Union in **Gainesville, Florida**,
 - Kentucky Housing Corporation (KHC) in **Frankfurt, Kentucky**,
 - Mountain Association for Community Economic Development (MACED) in **Berea, Kentucky**, and
 - Warehouse for Energy Efficiency Loans (WHEEL)'s deployment of capital in **Virginia, Florida and North Carolina**.

C. Publications

- **Reports:**
 - [Florida Circuit Rider Commercial Compliance Needs Assessment \(July 2015\)](#)
 - [Construction, Codes and Commerce: Residential Construction Data Review \(2005-2015\)](#)
 - [Construction, Code and Commerce: The Economic Impact of Commercial Energy Codes in the Southeast \(2005-2013\)](#)
 - [Construction, Codes, and Commerce: Residential Construction Data Review \(2005-2013\)](#)
 - [Energy Efficiency Goal Setting in the Southeast \(May 2015\)](#)
 - [Energy Efficiency Quick Start Programs: A Guide to Best Practices \(April 2014\)](#)
 - [Quarterly Policy Highlights](#)
- **Webinars:**
 - **Inclusive Financing Learning Circle Series**

- [Inclusive Financing Learning Circle Series: Jobs: Workforce Development in Rapidly Expanding EE Markets](#)
- [Inclusive Financing Learning Circle Series: Sourcing Capital for Inclusive Financing Programs](#)
- [Inclusive Financing Learning Circle Series: Establishing a Reserve Fund for Tariffed On-Bill Financing](#)
- [Inclusive Financing Learning Circle Series: Options for Program Operator Services in an Inclusive Financing Program](#)
- [Inclusive Financing Learning Circle Series: Due Diligence with the Decision Tool for Utility Managers](#)
- [Inclusive Financing Learning Circle Series: Consumer Protections in Inclusive Financing](#)
- [Inclusive Financing Learning Circle Series: Update on Inclusive Financing Programs in the South](#)
- [Inclusive Financing Learning Circle Series: Introduction to Inclusive Financing for Energy Efficiency](#)
- **Other Webinars**
 - [Introduction to Roanoke Electric's Upgrade to Save Program with CEO Curtis Wynn](#)
 - [Construction, Codes and Commerce: The Economic Impact of Commercial Energy in the Southeast](#)
 - [All About Qualified Energy Conservation Bonds](#)
 - [Key Decision Points to Consider when Creating an Utility On-Bill Program](#)
 - [Achieving Large Energy Savings with Industrial Energy Efficiency Programs](#)
 - [Energy Efficiency Programs and Community Reinvestment Act: Bringing Them Together](#)