

# SOUTHEAST MULTIFAMILY MARKET ASSESSMENT

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## About the Southeast Energy Efficiency Alliance (SEEA)

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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.

For additional information, visit [www.seealliance.org](http://www.seealliance.org).

## Acknowledgements

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# Executive Summary

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In the southeastern United States, more than seven million housing units, representing nearly a quarter of the region's housing stock, are multifamily construction. Constituting such a sizable share of the region's housing market, multifamily housing presents a clear and significant opportunity to capture energy savings.

To most effectively leverage these energy efficiency opportunities, it is important to understand the current state of the multifamily housing market in the Southeast, and the programs and resources available throughout the region for addressing multifamily building efficiency. The Southeast Energy Efficiency Alliance (SEEA) has prepared this assessment of the Southeast's multifamily sector to better understand the current stock of multifamily units; regional and state multifamily construction trends; utility multifamily energy efficiency programs; and state and local policies and programs focused on the multifamily sector.

## Building Stock and Construction Trends

Of the more than 7.46 million multifamily housing units in the Southeast, 86 percent are located in metropolitan areas. From 2005 to 2015, the number of multifamily building renovations undertaken exceeded new multifamily construction in the majority of southeastern states. However, new construction multifamily projects accounted for most of the total project area. Additionally, while multifamily construction projects only represented six percent of the total number of construction projects undertaken during this time period, they made up the single largest percentage of construction projects based on dollar value, with a total project value of \$97 billion.

## Utility Energy Efficiency Programs

While much progress has been made to address energy efficiency in single-family residential and commercial properties, standalone multifamily energy efficiency programs are just beginning to emerge in the Southeast. Utility programs addressing multifamily housing tend to be most active in dense urban areas. Of the ten largest MSAs in the Southeast – many of which have a high prevalence of multifamily properties – the majority remain unserved by standalone multifamily programs. This indicates a significant opportunity to tap into multifamily housing as a new source of energy savings.

This assessment includes case studies that provide illustrative examples of utility energy efficiency programs focused on multifamily buildings, including Duke Energy's Multifamily Energy Efficiency Program and Memphis Light, Gas and Water's (MLGW) Energy Advantage Apartments Program.



## State and Local Policies and Initiatives

A number of state and local policies and programs can be leveraged to support investment in multifamily energy efficiency programs. These include financing programs such as tax credit allocations, Property Assessed Clean Energy (PACE) and loan programs. Other supporting resources include energy performance benchmarking and voluntary energy savings programs. Additionally, a case study from Florida’s Multifamily Energy Retrofit Program provides an example of how multiple actors can collaboratively design, develop and operate a multifamily program within a state.

## Opportunities

This assessment report is a starting point – one that SEEA hopes will help to inform future research and analysis on the Southeast’s multifamily market. Its conclusions identify areas for potential further assessment, including the efficiency of the Southeast’s multifamily buildings; the scope, design and effectiveness of multifamily energy efficiency programs; financing mechanisms to address energy efficiency in multifamily buildings; and other successful models of collaboration among the multiple actors involved in multifamily energy efficiency efforts.

## Introduction

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Nearly a quarter of the Southeast’s housing stock is classified as multifamily housing, or residences with five or more housing units. Largely concentrated in urban areas, these structures reflect elements of both commercial and residential buildings, and can be quite complex in terms of their ownership, financing structures, and energy usage and billing. For these reasons, the Southeast’s multifamily building stock has remained a largely untapped source of energy savings. In recent years, as the Southeast’s energy efficiency marketplace has continued to mature, interest in better serving the multifamily sector and capturing the significant energy savings opportunity it promises has grown. As a result, utilities, state agencies, NGOs and the private sector continue to expand programming that targets multifamily dwellings.

The purpose of this report is to assess the current stock of multifamily buildings in the Southeast, analyze growth in multifamily construction and major renovation projects, and identify opportunities to tap into the energy savings available within this sector through various programmatic offerings.

This assessment report is a “first step” and is intended as a starting point for further research and discussion.

# Multifamily Construction Market Analysis

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## A. Methodology

To develop a comprehensive picture of the multifamily sector and the current state of energy efficiency programs and initiatives targeting multifamily buildings, SEEA analyzed data in three areas: building stock, utility energy efficiency programs, and state and local policies and initiatives. Based on this analysis, we have highlighted areas with significant opportunity to address energy efficiency in multifamily buildings.

The geographic scope of this assessment is SEEA's eleven-state region, which includes the following states: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia.

This report analyzes the following aspects of the multifamily sector:

### 1. Building Stock

SEEA collected information on multifamily buildings from two sources:

- SEEA utilized data from the U.S. Census American Community Survey to identify the existing multifamily building stock and its characteristics.
- SEEA utilized data from CMD Group to identify multifamily building construction trends from 2005 to 2015.

### 2. Utility Energy Efficiency Programs

SEEA obtained information on utility-administered multifamily programs primarily from public service commission filings, supplemented by aggregated data from E Source's DSM Insights database. In addition, SEEA gathered program-specific information from phone interviews with program administrators.

### 3. State and Local Policies and Initiatives

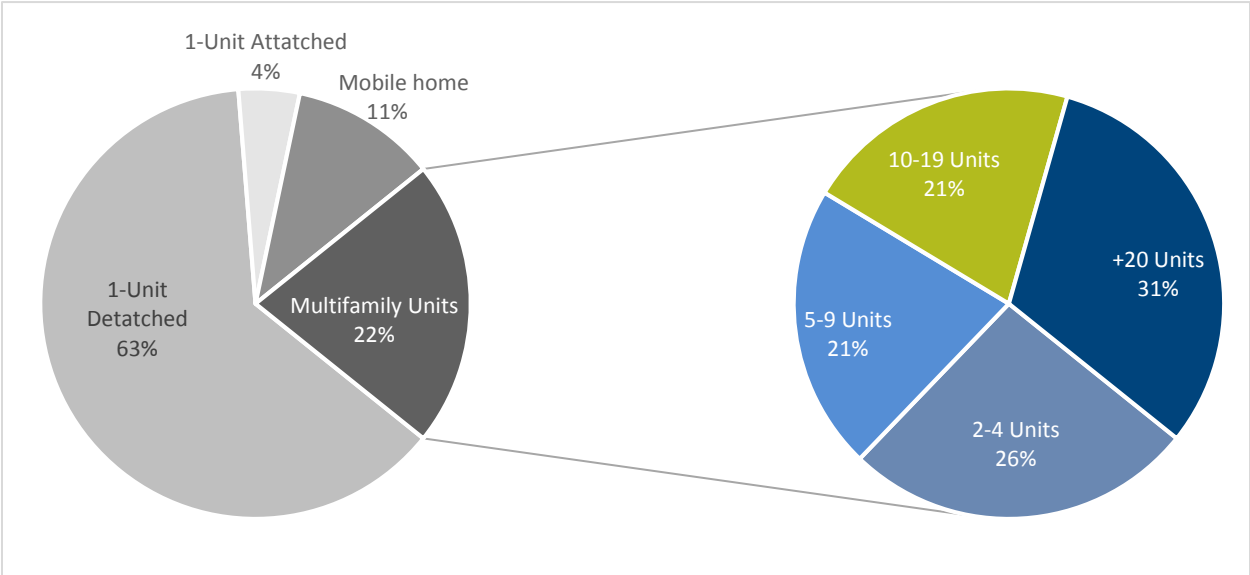
Much of this information was sourced from the SEEA staff who have engaged directly in state and local policy work. SEEA gathered additional detailed information from state agency and program administrator interviews, as well as from existing studies and reports.

The U.S. Department of Housing and Urban Development and the Federal Housing Finance Agency define multifamily housing as a residence consisting of more than four dwelling units (HUD 2016). The definition used by these entities aligns with lending regulations that require residential financing for buildings with one to four units and commercial financing for buildings with five or more units. For the purposes of this assessment, multifamily housing is defined as a building with more than one dwelling unit. Two- to four-unit structures have been broken out separately in this report as a comparison for larger multifamily structures and to differentiate them from one-unit, single-family attached or detached structures.

## B. Multifamily Building Stock Characteristics

Within SEEA’s 11-state region, multifamily dwellings comprise nearly a quarter of the housing stock, as seen below. As Figure 1 illustrates, these multifamily properties are fairly evenly distributed by size, with properties comprised of two to four units constituting 26 percent of the Southeast’s multifamily market; properties with five to nine units constituting 21 percent; properties with 10 to 19 units constituting 21 percent; and properties with 20 or more units constituting 31 percent. In total, nearly 75 percent of the Southeast’s multifamily housing stock are buildings with five or more units.

**Figure 1. Composition of Southeast Housing Market**



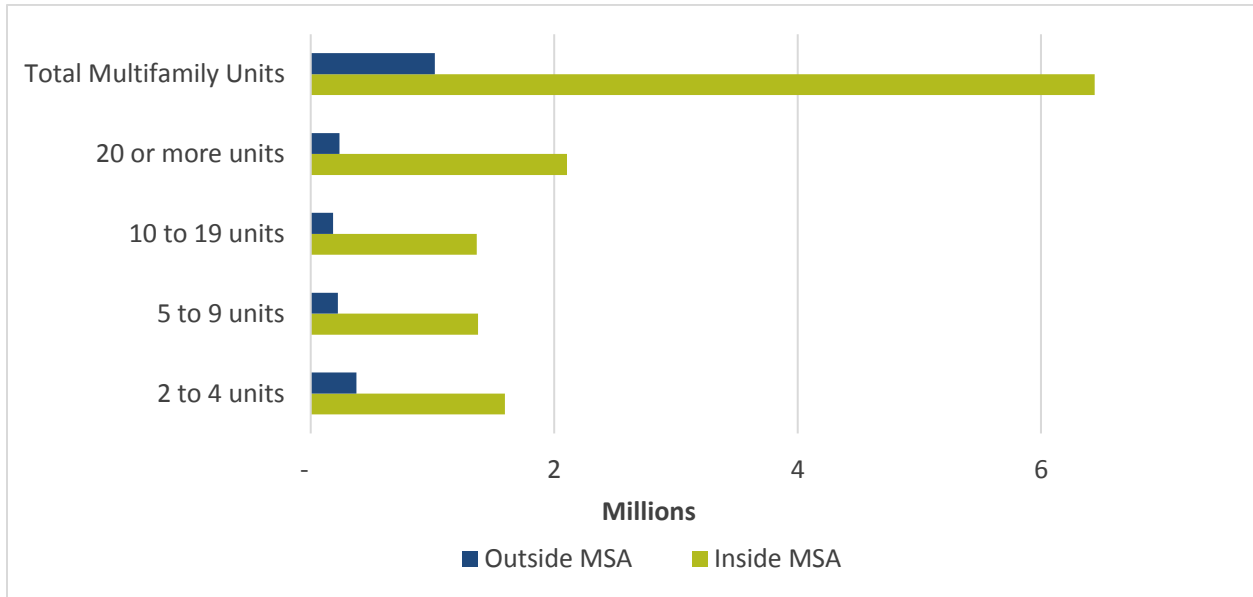
*\* This chart excludes boat, RV and van housing units.  
Source: 2010-2014 American Community Survey 5-Year Estimates*

## C. Multifamily Building Location

In order to understand the distribution of multifamily units across the region and within individual states, SEEA compared data on multifamily housing located within Metropolitan Statistical Areas (MSAs)<sup>1</sup> and outside of MSAs. Figure 2 shows the results of this analysis, broken out by number of units per building.

<sup>1</sup> A Metropolitan Statistical Area (MSA) as defined by U.S. Census Bureau is a geographic entity that contains a core urban area of 50,000 or more population. A metro area may consist of one or more counties and includes counties containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core.

**Figure 2. Location of Multifamily Housing Units by Number of Units**



Source: 2010-2014 American Community Survey 5-Year Estimates

The vast majority of the Southeast’s multifamily units (86 percent) are situated in metropolitan areas. As the number of units per property increases, this distinction becomes increasingly apparent: properties with more units tend to be found in population-dense urban areas. As a result, on a localized basis, multifamily housing can be a fairly significant component of the building stock. This is reflective of national trends; according to the 2013 American Housing Survey, over 95 percent of multifamily buildings are located in metropolitan areas, while only two percent of households living in buildings with 50 or more units are located outside of metropolitan areas (Ross et al. 2016).

There are several factors that may contribute to the higher number of large multifamily buildings in metropolitan areas, including the availability and cost of land for development, proximity to infrastructure and other businesses, and zoning regulations.

There are 113 MSAs in the Southeast. Table 1 shows the number of total housing units, multifamily units and the percentage of multifamily units for the 25 metropolitan areas in the Southeast with the largest multifamily housing markets.

Data for all metropolitan areas in the Southeast can be found in Table A1 in Appendix A.



**Table 1. Top 25 Southeastern Metropolitan Areas with the Largest Multifamily Housing Markets**

	<b>Geography</b>	<b>Total Housing Units</b>	<b>Multifamily Units</b>	<b>Percent of Multifamily Units</b>
<b>1</b>	Naples-Immokalee-Marco Island, FL Metro Area	199,818	97,253	49%
<b>2</b>	Miami-Fort Lauderdale-West Palm Beach, FL Metro Area	2,475,877	1,137,300	46%
<b>3</b>	Gainesville, FL Metro Area	120,574	41,910	35%
<b>4</b>	Greenville, NC Metro Area	75,844	24,851	33%
<b>5</b>	Panama City, FL Metro Area	109,023	32,474	30%
<b>6</b>	Myrtle Beach-Conway-North Myrtle Beach, SC-NC Metro Area	268,415	77,685	29%
<b>7</b>	Athens-Clarke County, GA Metro Area	82,159	23,581	29%
<b>8</b>	New Orleans-Metairie, LA Metro Area	550,248	154,987	28%
<b>9</b>	Tampa-St. Petersburg-Clearwater, FL Metro Area	1,362,891	380,858	28%
<b>10</b>	Cape Coral-Fort Myers, FL Metro Area	372,769	103,513	28%
<b>11</b>	Orlando-Kissimmee-Sanford, FL Metro Area	955,148	264,851	28%
<b>12</b>	Lexington-Fayette, KY Metro Area	212,020	57,960	27%
<b>13</b>	Durham-Chapel Hill, NC Metro Area	227,389	61,076	27%
<b>14</b>	Crestview-Fort Walton Beach-Destin, FL Metro Area	139,731	37,505	27%
<b>15</b>	Tallahassee, FL Metro Area	164,135	42,243	26%
<b>16</b>	Sebastian-Vero Beach, FL Metro Area	76,786	19,488	25%
<b>17</b>	Tuscaloosa, AL Metro Area	103,348	25,877	25%
<b>18</b>	Virginia Beach-Norfolk-Newport News, VA-NC Metro Area	696,858	173,116	25%
<b>19</b>	Daphne-Fairhope-Foley, AL Metro Area	105,563	26,220	25%
<b>20</b>	Atlanta-Sandy Springs-Roswell, GA Metro Area	2,189,138	542,955	25%
<b>21</b>	North Port-Sarasota-Bradenton, FL Metro Area	404,534	99,469	25%
<b>22</b>	Jacksonville, FL Metro Area	606,085	148,996	25%
<b>23</b>	Columbus, GA-AL Metro Area	130,160	31,844	24%
<b>24</b>	Auburn-Opelika, AL Metro Area	64,258	15,619	24%
<b>25</b>	Port St. Lucie, FL Metro Area	215,521	50,755	24%

Source: 2014 American Community Survey

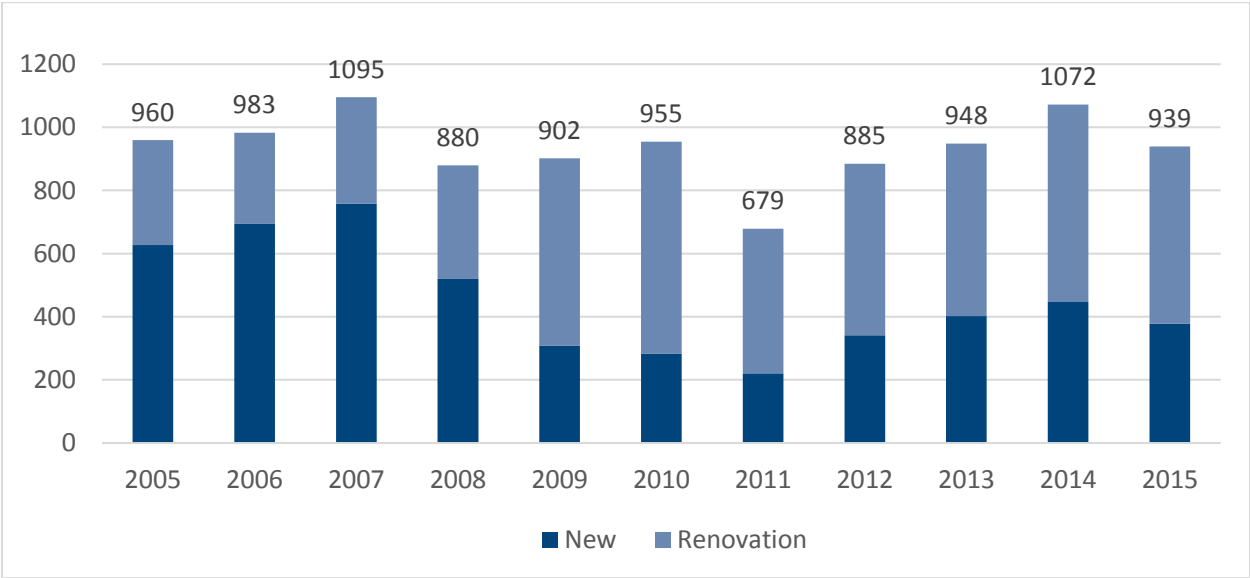
### D. Multifamily Construction Starts

From 2005 to 2015, the number and type of multifamily construction projects in the Southeast fluctuated due to a number of contributing factors. Over this ten-year period, of the 10,298 multifamily construction projects, 48 percent were new construction and 52 percent were renovations. Figure 3 shows the total number of multifamily new construction and renovation projects in all 11 states in the Southeast from 2005 to 2015.<sup>2</sup> From 2005 to 2008, new construction projects outnumbered renovation projects. However, in 2009, the number of new construction projects began to decline and in 2011, both new construction and renovation of multifamily housing reached a ten-year low. As the construction market recovered over the 2011 to 2015 timeframe, the relative percentage of renovations overtook new construction as the dominant force within the multifamily market. In 2005, renovations represented only 35 percent of the multifamily market, while in 2015, this number had risen to 60 percent.

In general, over the ten-year period from 2005 to 2015, most states saw more multifamily renovation projects than new construction. There are exceptions to this, including the high-growth states of Florida, North Carolina and Virginia, which in total experienced more new construction multifamily projects as opposed to renovations.

**Figure 3. Multifamily Building Construction Starts (2005-2015)**

*\*Data labels represent total number of new construction and renovation projects*



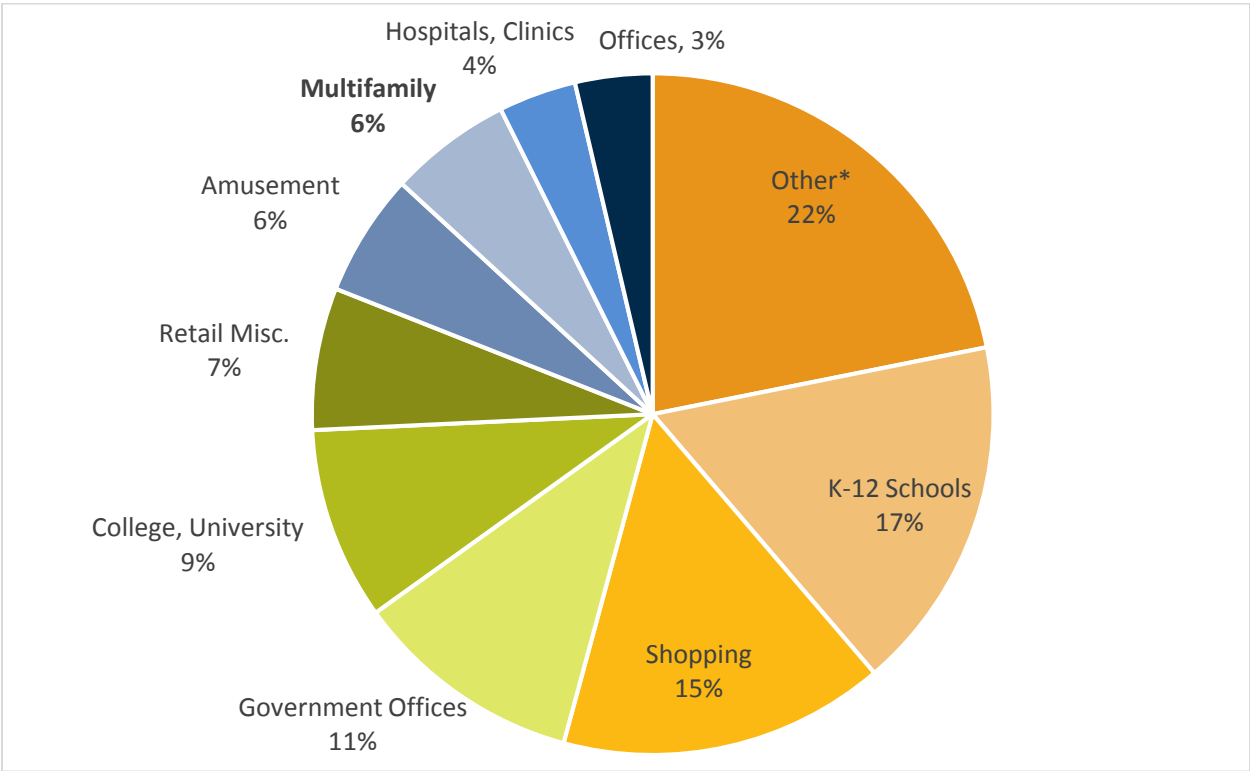
Source: Construction Market Data Group LLC

<sup>2</sup> For purposes of this paper, SEEA defines “the Southeast” as the states of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia.

On a state-by-state level, multifamily construction tends to loosely reflect both population and population density trends, with a heavier presence of multifamily construction in more populous and population-dense states. For a comparison of multifamily project starts to state population density see Table A2 in Appendix A.

Finally, when comparing the total number of construction starts to all other construction starts from 2005 to 2015, multifamily projects make up a relatively small portion (six percent) of projects, as illustrated in Figure 4. However, as described in the section that follows, the relative scale of these projects is quite significant.

**Figure 4. Southeastern Construction Starts by Building Type (2005 – 2015)**



Source: Construction Market Data Group LLC

\*Other category includes building sectors with project values less than three percent of the total construction starts. This includes: Warehouses, Religious, Fire and Police Stations, Military, Medical Misc. Libraries, Museums, Transportation Terminals, Prisons, Special, Vocational, Hotels, Courthouses, Nursing, Homes, Sports Arenas, Convention Centers, Parking Garages, Laboratory, Manufacturing.

### E. Size of Multifamily Projects

From 2005 to 2015, the more than ten thousand multifamily projects in the Southeast accounted for nearly 830 million square feet of project space. The average southeastern multifamily project during this period was 152,010.52 sq. ft.

Table 2 shows the breakdown of project area by renovation and new construction projects. The total project area of multifamily construction projects is 829.52 million square feet. New construction projects account for 98 percent of the total project area, at 818.17 million square feet. The average area of new multifamily projects is 164,342.32 square feet, and the average area of multifamily renovation projects is 22,621.02 square feet. This indicates that new construction multifamily projects are typically much larger than renovation projects in terms of project area.

**Table 2. Multifamily Construction Project Area (2005-2015)**

<b>Construction Type</b>	<b>Total Project Area (million sq. ft.)</b>	<b>Total Number of Construction Starts</b>	<b>Average Project Area (sq. ft.)</b>
New	818.71	4,980	164,342.32
Renovation	10.81	5,318	22,621.02
<b>Grand Total</b>	<b>829.52</b>	<b>10,298</b>	<b>152,010.52</b>

*Source: Construction Market Data Group LLC*

*\*Project area data is only available for half of all projects completed during this time period. The average project area is the average of those projects that have reported project area values and not of the total number of projects.*

Table 3 shows the top five building types with the highest total project area from 2005 to 2015, including both new construction and renovation projects. New multifamily construction projects make up the majority of that total project area. As noted in the previous section, multifamily projects make up a relatively small number of projects overall; however, these projects tend to be large in size.

**Table 3. Top 5 Building Types with Highest Total Project Area (2005-2015)**

<b>Building Types</b>	<b>New Construction Total Project Area (millions sq. ft.)</b>	<b>Renovation Total Project Area (millions sq. ft.)</b>	<b>Total Project Area (millions sq. ft.)</b>
<b>Multi-Family</b>	818.71	10.81	829.52
<b>Shopping</b>	482.91	17.01	499.92
<b>Manufacturing</b>	254.52	5.40	259.92
<b>Offices</b>	254.42	8.71	263.13
<b>Warehouses</b>	232.15	10.38	242.53

*Source: Construction Market Data Group LLC*

## F. Value of Multifamily Projects

Project value is a combination of numerous inputs, including the of cost of materials installed or erected, construction labor, equipment rental, architectural and engineering work, contractor overhead, and interest and taxes paid during construction. Table 4 shows the breakdown of project value for multifamily renovation and new construction projects. The average project value per project of new multifamily projects is \$18.08 million, and the average value per project of multifamily renovation projects is \$4.10 million. In total, the project value of new construction projects is more than 12 times greater than the total project value of renovation projects. In fact, of the more than \$97 billion in project value generated by multifamily construction projects, new construction projects account for 92 percent, while renovations account for only eight percent.

These numbers indicate that renovations have a lower average project value, tend to be smaller than new construction and generate lower total project values. New construction multifamily projects have a higher average project value, tend to be much larger and generate higher total project values when compared with renovation projects.

**Table 4. Multifamily Project Value (2005 – 2015)**

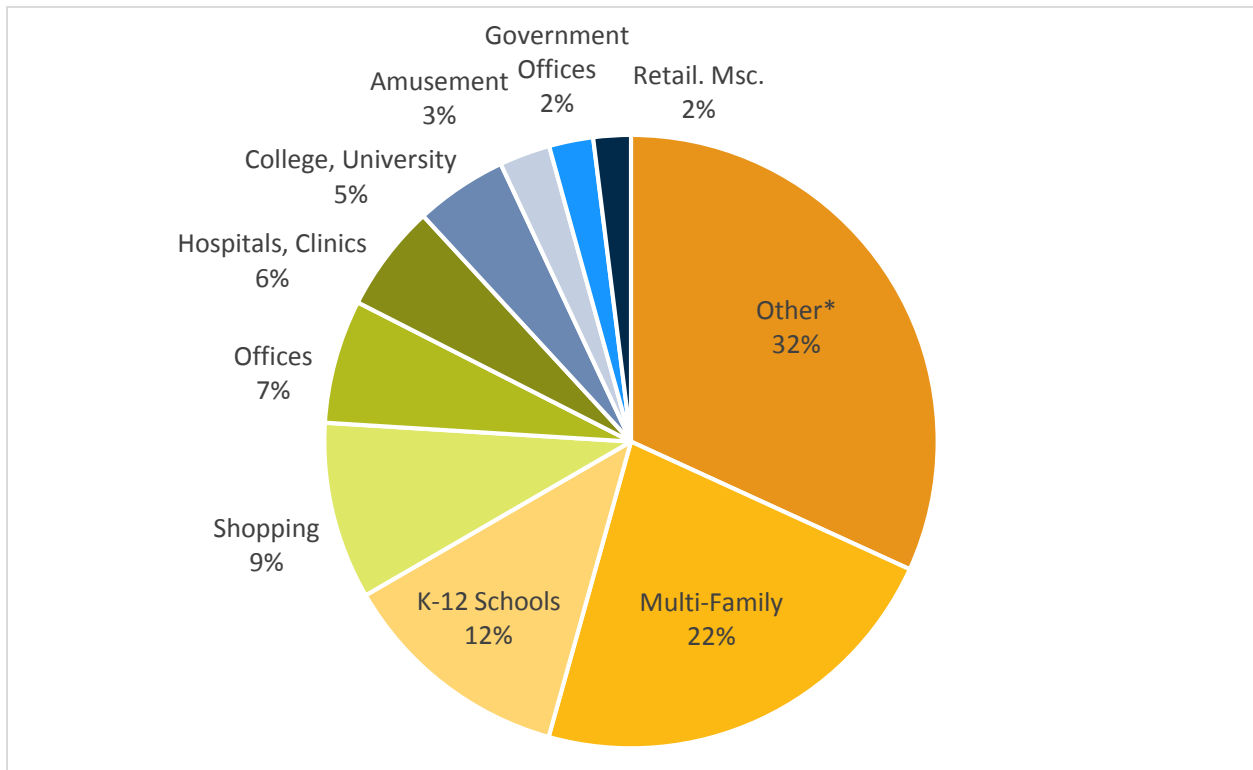
<b>Project Type</b>	<b>Total Project Area (millions sq. ft.)</b>	<b>Total Number of Projects</b>	<b>Total Project Value (millions of \$)</b>	<b>Average Project Value Per Project (millions of \$)</b>
New	818.71	4,980	\$90.04	\$18.08
Renovation	10.81	5,318	\$7.37	\$4.10
<b>Grand Total</b>	<b>829.52</b>	<b>10,298</b>	<b>\$97.41</b>	<b>\$16.86</b>

*Source: Construction Market Data Group LLC*

*\*Project area data is only available for half of all projects completed during this time period. The average project area is the average of those projects that have reported project area values and not of the total number of projects.*

Recognizing that the majority of project value for multifamily projects comes from new construction, SEEA analyzed how new construction multifamily project values compare to new construction projects within other building types. Figure 5 shows the total value of new construction projects from 2005 to 2015. Multifamily projects in the Southeast represent the largest percentage (22 percent) of total project value compared to other building types. This is significant in terms of the impact that multifamily new construction can have on the overall construction market in the Southeast.

**Figure 5. Southeast New Construction Project Value by Building Type (2005 – 2015)**



Source: Construction Market Data Group LLC

\*Other category includes building sectors with project values less than three percent of the total project value. This includes: transportation terminals, miscellaneous retail, religious, miscellaneous medical, nursing homes, sports arena/convention centers, libraries/museums, prisons, parking garages, fire and police stations, courthouses, vocational, and industrial/school laboratories.

## G. Regional Multifamily Trends and Opportunities

The data currently available on the building stock and construction activity in the multifamily sector can help to articulate both trends and opportunities going forward. A variety of stakeholders, including state and local governments agencies, nonprofit organizations, utilities and energy efficiency program administrators can use this information to inform their activities in the multifamily sector in the Southeast.

### Trends

- **Size of Multifamily Housing Market**
  - Multifamily dwellings account for nearly a quarter of the total housing market in the Southeast.
- **Location of Multifamily Buildings**
  - The majority of multifamily buildings tend to be concentrated in the Southeast’s major metropolitan areas.



- In metropolitan areas, multifamily buildings with 20 or more units are the most common multifamily building type.
- **Number of Multifamily Construction Projects**
  - Compared to other building types, multifamily building projects make up six percent of overall commercial building construction projects from 2005 to 2015.
  - In most southeastern states and the region overall, there have been more total multifamily renovation projects than new construction projects. Exceptions include Florida, North Carolina and Virginia, in which there have been more new construction multifamily projects than renovations.
- **Size of Multifamily Construction Projects**
  - Despite making up a small percentage of overall projects, multifamily buildings are large in size and account for the largest percentage of overall project area generated from commercial building construction projects from 2005 to 2015.
  - On average, new construction multifamily projects are larger than multifamily renovations and account for the majority of construction area addressed from 2005 to 2015.
- **Project Value of Multifamily Construction Projects**
  - Multifamily construction projects have generated the highest percentage of total project value compared to all other commercial building types.
  - New construction multifamily projects have generated more than 90 percent of the total project value for multifamily projects from 2005 to 2015.

## Opportunities

- **Utilities and Program Administrators**
  - New construction multifamily projects offer an opportunity to promote the inclusion of specific energy-efficient technologies and measures or going beyond the requirements of the standard building energy code.
  - Existing civic and industry infrastructure in major cities can simplify the program marketing and outreach process for multifamily energy efficiency programs.
  - Interacting with multifamily owners and developers within a property's lifecycle can ensure that owners and developers are engaged when making renovation decisions.

- **State and Local Government Agencies and Other Organizations**
  - Resources and incentives can be helpful in addressing energy efficiency in multifamily buildings. Focusing on metropolitan areas will provide the greatest opportunity and highest concentration of multifamily buildings.

The section that follows builds from this analysis, providing an overview of the programs and resources that exist to support energy efficiency in the Southeast’s multifamily building stock.

## Utility Multifamily Energy Efficiency Programs

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### A. Unique Challenges within the Multifamily Housing Sector

Southeastern utilities have historically targeted single-family residences in developing programmatic offerings for their residential customers. While multifamily housing represents 22 percent of housing in the region, as noted above, there are a number of unique structural, financial and technical factors that have contributed to the scarcity of programs targeting multifamily properties, including the following:

- The dual nature of multifamily housing, which embodies characteristics of both commercial and residential buildings;
- The “split incentive” issue in which building owners and managers pay the costs of energy efficiency upgrades, while tenants largely reap the utility bill savings;
- Lack of publicly accessible whole-building data on tenant energy use and savings; and
- Complex building ownership and management structures.

An additional complicating factor is the diverse composition of the multifamily market, which encompasses rental units and owned units, as well as market-rate, subsidized and public housing. Policies supporting energy efficiency within each of these sub-sectors may vary, be structured differently and involve different market actors.

Given the fragmented nature of the multifamily housing sector and the variability of local market conditions, utility-administered multifamily programs vary significantly. Research by the American Council for an Energy-Efficient Economy (ACEEE) has distilled this spectrum down to a handful of program types, as described below.

- **Direct installation** of no-cost energy efficiency measures such as lighting, weather stripping, and faucet aerators;
- **Equipment and product rebates** or incentives for the purchase and installation of energy-efficient equipment such as HVAC systems, appliances, insulation and water heating systems;
- **Whole building programs** for new construction and comprehensive retrofits—often involving additional work beyond energy upgrades—that provide incentives for all cost-effective energy efficiency measures identified by energy audits or modeling (Johnson and Mackres 2013).

In addition to the diversity in program type, utility energy efficiency programs may be focused on one or multiple sub-sectors within the multifamily market. For instance, some may focus on buildings that house low-income residents.

## **B. Program Growth: Driving Forces**

A 2013 ACEEE assessment of the 50 metropolitan statistical areas (MSAs) with the largest multifamily housing markets reported that of the southeastern MSAs included (Miami, Cape Coral-Fort Myers, Jacksonville, Orlando, Tampa, Louisville, Richmond, Virginia Beach, Charlotte, Memphis, Nashville, Raleigh and Atlanta), only Raleigh and Charlotte were served by a standalone utility program targeting the multifamily sector (Johnson and Mackres 2013). In this assessment, SEEA revisited ACEEE's analysis, finding that utility interest in the savings potential of the region's multifamily building stock has grown in the intervening year. In 2016, of these cities, multifamily program offerings were available in Orlando, Charlotte, Memphis and Raleigh.

In general, this expansion reflects the increase in multifamily housing activity discussed above, as well as the ramp up of energy efficiency as a resource within southeastern utility portfolios. Over the past decade, utilities in the Southeast have committed \$611 million in ratepayer dollars to energy efficiency programs – an increase of 279 percent (SEEA 2015). As this trend continues, multifamily housing represents an important and largely untapped source of cost-effective savings.

In addition, there is a growing recognition throughout the region of the need to make programs accessible to all customer classes, including those that have been traditionally underserved. The multifamily market represents an opportunity to reach these customers. In general, rental properties tend to touch lower income or housing cost-burdened individuals. In 2013, nearly half of renters had housing cost burdens, spending at least 30 percent of their income on housing, with more than a quarter of the renters spending more than 50 percent of their income on housing (JCHS 2015). In addition, from 2007 to 2011, 45 percent of rentals in the nation's largest cities were located in low-income neighborhoods (JCHS 2013). These statistics indicate that multifamily energy-efficiency programs may have a significant role to play in addressing accessibility of energy efficiency programs to low-income residents.

## **C. Program Service**

In general, southeastern utility programs addressing multifamily housing tend to be most active in denser urban areas. Of the ten largest MSAs in the Southeast – many of which have a high prevalence of multifamily properties – the majority remain unserved by multifamily programs. This indicates a significant opportunity to tap into new sources of energy savings through the multifamily market.

**Table 8. Utility-Administered Multifamily Programs Serving Southeastern MSAs**

<b>Southeast Rank (Size)</b>	<b>Metro Area Geography</b>	<b>Percent of Total Multifamily Housing Units</b>	<b>Utility Serving MSA</b>	<b>Standalone Multifamily Program?</b>
<b>1</b>	Miami-Fort Lauderdale-West Palm Beach, FL	46%	Florida Power and Light, TECO, People’s Gas	No
<b>2</b>	Atlanta-Sandy Springs-Roswell, GA	25%	Georgia Power, various gas companies	No <sup>3</sup>
<b>3</b>	Tampa-St. Petersburg-Clearwater, FL	28%	TECO, People’s Gas, Duke Energy Florida	No
<b>4</b>	Orlando-Kissimmee-Sanford, FL	28%	Orlando Utilities Commission, Kissimmee Utility Authority, Duke Energy Florida	No
<b>5</b>	Charlotte-Concord-Gastonia, NC-SC	20%	Duke Energy Carolinas, Piedmont Natural Gas	Yes
<b>6</b>	Nashville-Davidson--Murfreesboro--Franklin, TN	23%	Nashville Electric Service, Atmos Energy	No
<b>7</b>	Virginia Beach-Norfolk-Newport News, VA-NC	25%	Dominion, Virginia Natural Gas	No
<b>8</b>	Jacksonville, FL	25%	JEA, TECO, People’s Gas	No
<b>9</b>	Memphis, TN-MS-AR	23%	Memphis Light, Gas and Water; Entergy Mississippi	Yes
<b>10</b>	New Orleans-Metairie, LA	28%	Entergy New Orleans, Energy Louisiana, Atmos Energy	Yes

*Source: 2014 American Community Survey*

<sup>3</sup> As noted above, Georgia Power does not offer a standalone multifamily program; however, both the Home Energy Improvement Program EarthCents New Home Program offer multifamily tracks.

## D. Characterization of Southeastern, Utility-Administered Multifamily Energy Efficiency Programs

SEEA limited the scope of this assessment to multifamily offerings filed as standalone programs in both program planning and reporting. However, as discussed below, some multifamily efforts administered as “tiers” within other programs provide at least some level of service to MSAs with high concentrations of multifamily housing stock.

SEEA’s research identified the following utility-administered multifamily programs operating across the Southeast in 2016:

**Table 9. Utility-Administered Multifamily Energy Efficiency Programs**

State	Utility	Program	Program Type	Year Program Began	Measures
Arkansas	Entergy Arkansas	Entergy Solutions for Multifamily	Direct Install	2011	Efficient light bulbs, showerheads, and faucet aerators, advanced power strips, central AC tune-up; wall insulation, ceiling insulation, air infiltration, duct sealing, water heater jackets and pipe insulation
Arkansas	Oklahoma Gas and Electric Company	Multi-Family Direct Install Program	Direct Install	2011	CFL’s, advanced power strips (“APS”), low-flow showerheads, faucet aerators, duct sealing, and air sealing
Florida	Gulf Power	Landlord-Renter Custom Incentive	Equipment Rebates	2010 (renamed in 2015)	Applicable residential DSM measures from other programs; custom measures meeting the objectives of the program
Kentucky	Duke Energy Kentucky	Multifamily Energy Efficiency Program	Direct Install	2012	Lighting and water measures (bath and kitchen faucet aerators, water saving showerheads and pipe wrap)

<b>Louisiana</b>	Entergy New Orleans	Energy Smart for Multifamily	Direct Install/ Prescriptive	2017	Efficient light bulbs, showerheads, and faucet aerators, advanced power strips, Central AC tune-up; wall insulation, ceiling insulation, air infiltration, duct sealing, water heater jackets and pipe insulation
<b>Mississippi</b>	Atmos Energy	Multi-family Direct Install Program	Direct Install	2014	Low flow shower heads, aerators, pipe wrap, water heater wraps and basic weather-stripping (if needed)
<b>North Carolina/ South Carolina</b>	Duke Energy Carolinas	Multifamily Energy Efficiency Program	Direct Install	2014	Lighting and water heating low flow devices
<b>North Carolina/ South Carolina</b>	Duke Energy Progress	Multifamily Energy Efficiency Program	Direct Install	2014	Lighting and water heating low flow devices
<b>Tennessee</b>	Memphis Light, Gas and Water	Energy Advantage Apartments	New Construction	2015	N/A (whole-building)

*Sources: Arkansas Public Service Commission, Florida Public Service Commission, Kentucky Public Service Commission, Entergy New Orleans website, Mississippi Public Service Commission, North Carolina Utilities Commission, South Carolina Public Service Commission, MLGW Website, E Source DSM Insights. See Appendix B for details.*

### **E. Program Characteristics**

While many utilities allow rebate dollars to be applied to multifamily housing stock, very few break out multifamily vs. single-family properties in their program filings. For example, most investor-owned utilities in Florida rebate select measures for multifamily residents, and Georgia Power allows individual units within multifamily properties to qualify for its EarthCents New Home Program and Home Energy Improvement Program (Georgia Power Company 2016).



Within ACEEE’s program classification framework, the majority of the southeastern multifamily programs identified fall into the category of direct-install programs, while others incorporate direct-install elements. In general, southeastern utilities have only recently begun ramping up their energy efficiency portfolios, lagging behind those in other regions that have better developed, more comprehensive programmatic offerings.<sup>4</sup> Currently, many southeastern utilities offer “Quick Start” programs—proven, high-impact programs that can be deployed quickly and help to build the infrastructure necessary for future Comprehensive Portfolio programs (Schwimmer and Fournier 2014). While multifamily investment is growing, it still remains a fraction of total portfolio investment. This trend is also reflected nationally.

Many of the programs identified include an educational element, where installations may be paired with educational materials or leave-behinds to support energy-saving behaviors from individual residents.

Some programs combine multiple approaches; for instance, Entergy Arkansas offers a combination of incentives for both direct install and prescriptive measures, as well as property owner and tenant education, and select weatherization measures (Entergy Arkansas, Inc. 2015). Gulf Power offers significant flexibility, inclusive of DSM measures available through other residential programs and custom measures (Gulf Power Company 2015). Two of the programs identified address energy-saving opportunities in new-construction multifamily properties: Georgia Power’s EarthCents New Home Program and MLGW’s Energy Advantage Apartments Program.

Case studies on two of the Southeast’s utility-administered multifamily energy efficiency programs are provided below.

## Case Study

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### Duke Energy’s Multifamily Energy Efficiency Program

#### Program Overview

Duke Energy’s Multifamily Energy Efficiency Program has its roots in the company’s Property Manager CFL Program – the company’s first multifamily-specific energy efficiency program. Launched in 2010, this program was a strategic initiative in response to both customer demand and the acquired knowledge of program managers that multifamily customers represented an underserved market. Through this program, Duke Energy recruited property managers for the program, and then shipped CFLs to the site for installation by maintenance crews during routine in-unit visits.



After a few years, using experience of successful engagement of property managers and collected lessons learned, Duke Energy decided to take full advantage of the multifamily opportunity to take more control

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<sup>4</sup> States like Arkansas, Florida and North Carolina prove an exception and have been offering energy efficiency programs for much longer than their regional counterparts.

of installation schedules while also improving quality control processes. The company also began to look at changing its model to refine specific program design elements and to incorporate water measures. For example, its original Property Manager CFL program relied on property maintenance staff to conduct the installations, which generally lagged Duke Energy's timeline. For these reasons, Duke Energy decided to move to a direct installation approach, as described below.

## **Program Design**

In its current form, the Multifamily Energy Efficiency Program address both lighting and water measures through a direct installation approach implemented by a third-party vendor. This program is available to property owners and managers within the Duke Energy service territory in the Carolinas and the Midwest.

The intake process begins with the acquisition of information about potentially eligible properties, either through the vendor's energy advisors research (a "bottom-up" approach), or through industry aggregators like apartment associations, trade shows and property management companies (a "top-down" approach). The energy advisors then make initial calls to properties, and visit the site to conduct an energy assessment, determine eligibility and answer any questions that the property manager may have.

Upon qualification, Duke Energy provides and directly installs efficient lighting and water measures at no direct cost. Duke Energy leverages the evaluation, measurement and verification process and customer satisfaction surveys to gather additional feedback from property managers as well as tenants in order to provide all stakeholders with an excellent customer experience.

## **Results**

Duke's multifamily programs, which began in the Carolinas, have since expanded to other markets with an interest in better serving multifamily customers and capturing the tremendous energy-saving opportunities within this sector. Since it began, the program has reached approximately 100,000 units in Kentucky, North Carolina, South Carolina and Ohio.

The process of "selling" the program has not been a challenge, once property managers understand the program is a free service offered by Duke Energy. This process must operate at multiple levels since property managers often don't pay the bills for in-unit electricity use and therefore program savings may not always resonate specifically with property managers. However, in cases where the property owner does pay the water bill, they may see a bottom-line impact. In addition to this, property owners and managers can also benefit from reduced maintenance costs and efforts and improved customer satisfaction by helping tenants save energy and money.

Following the "sale," program managers and administrators have found that communicating clearly and establishing expectations for both management and tenants have been crucial success factors.

Duke Energy also views the Multifamily Energy Efficiency Program as a relationship building block that will assist Duke Energy in developing and providing additional offers in the future that serve the property managers and assist the tenants in managing their energy bill.

For more information on Duke Energy's Multifamily Energy Efficiency Program, visit [duke-energy.com/multifamily](https://duke-energy.com/multifamily).

## Case Study

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### MLGW's Energy Advantage Apartments Program

#### Program Overview



Memphis Light, Gas and Water (MLGW) is the nation's largest three-service municipal utility, serving nearly 421,000 customers in Memphis and Shelby County (MLGW 2016). MLGW's service territory is marked by high rates of poverty, which often intersects with the high prevalence of multifamily housing (23 percent) in the Memphis Metropolitan Statistical Area.

As one of a network of more than 150 Tennessee Valley Authority (TVA) distributors, MLGW offers a number of TVA energy efficiency programs. While many TVA programs are provided "out of the box," Energy Advantage Apartments developed organically to provide a solution to concerns seen in the field. MLGW staff observed that, of all residential units, apartment complexes tended to use the most energy per tenant, and that the culprit was often the use of electric resistance heating. Electric resistance heating is relatively inefficient, and, coupled with leaky building envelopes, it was a clear contributor to high utility bills.

#### Program Design

With these supporting factors, ultimately, Energy Advantage Apartments was developed in response to specific developer interest in applying MLGW's EcoBUILD new construction program to multifamily housing. MLGW worked closely with the developer to modify EcoBUILD's new home program elements to more adequately address the characteristics of multifamily housing.

Through a simulation process, MLGW identifies expected energy usage and determines project eligibility for incentives.

- Facilities that demonstrate performance equal to or greater than current EcoBUILD standards may qualify for incentives and certification.
- All new electric apartment projects may qualify to receive the same MLGW construction incentives as apartments that utilize gas for heat.
- Qualifying units heated with heat pumps that meet EcoBUILD standards are eligible for up to \$275 per unit in defraying upfront MLGW electric costs. If the units are all electric and electric resistance heat is the primary heating source for the units, MLGW will not participate financially in the project.



*South Junction, the first development to participate in MLGW's Energy Advantage Apartments program.*

- With prior approval, the builder of the apartment may also be eligible for a rebate under EcoBUILD, based on funding availability.

In addition to this new construction program, MLGW is developing an existing program tier, which will allow for rebates for measures such as windows, insulation and HVAC equipment – especially heat pumps, as an alternative to electric resistance heating.

## Results

While full results are not yet available, preliminary data show decreased occupant turnover and an overall high level of satisfaction for both occupants and building owners. In addition, MLGW has begun to explore options for retrofitting existing multifamily properties, leveraging TVA rebates. While preliminary data won't be available until next winter, MLGW looks forward to delivering continued value to customers through the program.

For more information, visit <http://www.mlgw.com/images/content/files/pdf/EAA2.pdf>.

## National, State and Local Multifamily Initiatives

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A variety of state and local policies can support investment in multifamily energy efficiency efforts. Within a given state or locality, policies can exist within a variety of agencies, local governments and NGOs. In many cases, programs may leverage incentives and infrastructure from multiple actors. Due to the limited scope of this analysis, we have chosen to focus on a handful of key policies that drive investments in energy efficiency in the Southeast across the market rate, subsidized and affordable housing sectors.

### A. Financing

Year after year, interest continues to grow in incentives for supporting energy efficiency investments. However, deploying private capital within the multifamily sector has been challenging, given the diverse nature of the multifamily sector, as well as the unique timelines on which developers operate. Entities at the national, state and local levels have stepped in to provide targeted financing programs to fill this gap, with many notable and successful models in the Southeast.

#### Tax Credit Allocation

One tool that states may use to support energy efficiency in affordable multifamily housing is the Low Income Housing Tax Credit (LIHTC) program. The LIHTC program is the largest affordable rental housing production and preservation program in the nation and is administered jointly by the U.S. Department of Treasury and state housing agencies (Trachtenberg et al. 2016). State housing agencies receive a fixed share of tax credit authority each year, which they allocate to developers through a competitive process. Federal statute provides state housing agencies wide latitude determining how to distribute tax credits to address local housing needs. On an annual basis, state housing agencies must develop a Qualified Allocation Plan (QAP), which sets forth the eligibility and selection criteria for distributing the tax credits.

Within the QAP framework, state housing agencies can encourage green building, which may include efficient construction practices, through set-asides, targeted point allocations or threshold criteria.

According to a 2013 analysis by Global Green USA, Georgia’s QAP is consistently ranked highest in the Southeast for prioritization of green building criteria, inclusive of energy efficiency (Fuhry 2013). Virginia’s QAP is also widely recognized for its encouragement of energy efficiency. Developers must adhere to rigorous standards, as well as third-party testing and inspection from EarthCraft Virginia and LEED certification programs. A recent study conducted by Virginia Tech’s Center for Housing Research (McCoy 2015) found that units built to these standards used 40 percent less energy than housing built to meet existing code requirements.

### Property Assessed Clean Energy (PACE)

Property Assessed Clean Energy (PACE) financing supports building upgrades – often including energy efficiency improvements – which are then repaid through an assessment on the property owner’s tax bill. Currently, all but three of the states in SEEA’s footprint (Mississippi, South Carolina and Tennessee) have passed PACE-enabling legislation. Table 10 provides a summary of the PACE enabling legislation for each Southeastern state.

**Table 10. PACE-Enabling Legislation in Southeastern States**

State	Legislation	Year	Sector Targeted
Alabama	SB 220 / Act No. 2015-494	2015	Commercial
Arkansas	SB 640 / Act 1074	2013	Commercial
Florida	CS/HB 7179	2010	Commercial and Residential
	Title XI, Chapter 163	2011	Commercial and Residential
Georgia	HB 1388	2010	Commercial and Residential
Kentucky	HB 100	2015	Commercial
Mississippi	<i>No PACE Enabling Legislation</i>		
Louisiana	HB 973 / Act No. 611	2010	Commercial
	SB 224	2009	Commercial
North Carolina	SB 284	2015	Commercial
	N.C. Gen. Stat. § 153A-210.1, et seq.	2008	Commercial and Residential
	N.C. Gen. Stat. § 160A-239.1, et seq.	2008	Commercial and Residential

<b>South Carolina</b>	<i>No PACE Enabling Legislation</i>		
<b>Tennessee</b>	<i>No PACE Enabling Legislation</i>		
<b>Virginia</b>	Ch. 9, sec 15.2-958.3	2010	Commercial
	Ch. 389	2015	Commercial
	Ch. 773	2009	Commercial

Source: PACENation

While PACE is most often applied to commercial properties, some states have extended eligibility to multifamily properties. For example, when SB 97 was enacted in North Carolina in 2009, it included a provision for special assessments to finance energy efficiency improvements in a range of buildings, including multifamily residential. In Florida, while multifamily properties are not explicitly referenced in a statute, they are folded into commercial PACE. Arkansas, which passed PACE-enabling legislation in 2013, already has a handful of multifamily projects in its project pipeline.

**Loan Programs**

Some states have established state-administered financing programs that can be leveraged by multifamily property owners for energy efficiency upgrades. In 2013, the Florida Department of Agriculture and Consumer Services, Office of Energy awarded the Florida Housing Finance Corporation grant funding to establish a revolving loan program, known as the Multifamily Energy Retrofit Program (MERP). Loans are used for retrofitting rental properties in older buildings within the Corporation’s portfolio that have the potential to achieve at least 15 percent projected energy savings (Florida Housing Finance Corporation 2016). Additional information on the MERP is provided in the case study that follows.

In Tennessee, local community development financial institution (CDFI) Pathway Lending has established multifamily energy efficiency as a priority area of focus. In 2013, Pathway Lending launched the Loan Consortium for Affordable Multi-Family Housing, in partnership with the Tennessee Bankers Association and the Tennessee Housing Development Agency, to provide permanent financing to multifamily developers who had been awarded a Low-Income Housing Tax Credit. This consortium is working collaboratively to identify qualified developers, underwrite loan requests and participate in loans with subscribing banks (Clinard 2014).

**B. Supporting Tools**

**Benchmarking**

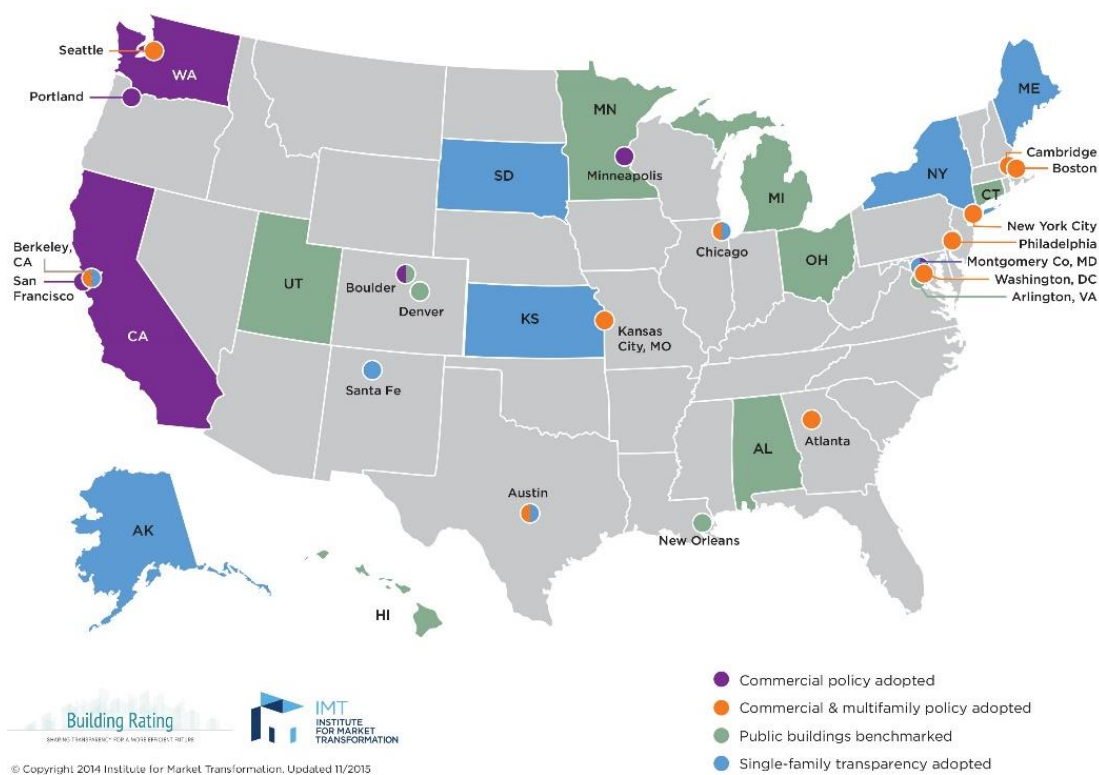
Benchmarking is the process of tracking the energy use of a building or group of buildings over time and comparing it with the energy use of similar structures or an established baseline (Kismohr 2013). A central goal of benchmarking is to overcome barriers restricting private investment in energy efficiency, including



lack of awareness by building owners and operators about performance improvement opportunities, lack of energy performance recognition in the marketplace, and lack of availability of energy performance data to tenants, prospective lessees, investors, lenders, appraisers and other entities (Burr et al. 2012).

Comprehensive local benchmarking and disclosure ordinances are becoming increasingly prevalent and have been passed in major cities like Austin, Boston, Minneapolis, New York, Philadelphia, San Francisco and Washington, D.C. In SEEA’s footprint, the Atlanta City Council unanimously approved the Atlanta Commercial Buildings Energy Efficiency Ordinance in 2015. Currently, multifamily building owners may claim an exemption, until Georgia Power provides adequate data aggregation.

**Figure 28. U.S. Building Benchmarking and Transparency Policies**



Source: Institute for Market Transformation 2016.

The City of Orlando is currently in the process of drafting a similar ordinance, which would require commercial, multifamily and industrial buildings with 40,000 square feet or greater to benchmark energy consumption on an annual basis.

## Voluntary Programs

In recent years, local jurisdictions, as well as private sector players, have tapped into energy-saving opportunities available through voluntary or challenge programs. One of the most notable of these is the U.S. Department of Energy’s Better Buildings Challenge. This initiative, launched in 2011, aims to make commercial, public, industrial and residential buildings 20 percent more energy efficient over the next

decade. Multifamily residential partners are multifamily housing owners and managers who commit to reducing energy use across their U.S. portfolios by 20 percent in ten years (DOE ND).

As a leading partner under the Better Buildings Challenge, the City of Atlanta has launched a complementary Affordable Multifamily Housing Challenge pilot program, in partnership with the City Energy Project and Energy Efficiency for All. This program allows qualified participants to access tools and resources for reducing energy and water consumption, incentives and funding options to support energy and water efficiency retrofit projects, and other resources and trainings. In order to participate, property owners or managers must commit to reducing energy consumption 20 percent by 2020 and benchmarking their energy data (Atlanta Better Buildings Challenge 2016).

Various public housing authorities have also made the decision to participate in the Better Buildings Challenge as a mechanism for providing economic development and self-sufficiency activities for residents, as well as equal access to safe, quality housing for low and moderate income families. As a partner in the Better Buildings Challenge, the Tampa Housing Authority includes energy consumption reduction as a goal of its five-year plan, requiring a 15 percent reduction in energy consumption agency-wide, reaching 20 percent by 2020. To advance these goals, the Tampa Housing Authority has undertaken a performance contract that includes installation of ENERGY STAR® appliances, double-pane argon gas windows, weatherization measures, increased insulation, high SEER air conditioners, low-flow water devices, interior CFL lighting and LED or conduction lighting (DOE ND). In the Southeast, the Housing Authority of the City of Palatka, Florida has also made a commitment through the Better Buildings Challenge.

## Case Study

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### Florida's Multifamily Energy Retrofit Program

#### Program Background

Florida's Multifamily Energy Retrofit Program (MERP) began in 2013 with an initial investment of \$6.3 million in unexpended American Recovery and Reinvestment Act Funds from Florida's Office of Energy. The Office of Energy contributed additional funds in 2014 bringing the total to \$8.3 million. These dollars were used to seed a revolving loan fund, managed by the Florida Housing Finance Corporation (FHFC), intended to support the financing of energy retrofits in older affordable housing multifamily properties.



When the FHFC issued an initial Request for Applications (RFA) for the program in October 2014, they received very little interest. As a result, FHFC spent the better part of a year engaging developers, federal agencies and other stakeholders in designing a program that better reflected the needs of the market.

## Program Design

The newly designed program, launched in 2015, featured a number of modifications designed to simplify and streamline the process, and gain additional developer interest and buy-in. FHFC increased the allowable investment per unit, in addition to making return-in-investment (ROI) criteria less stringent and adding a developer fee. Finally, FHFC conducted extensive outreach within the community of affordable housing developers, helping developers to better understand the impact of these investments on their bottom line. As before, projects were selected via a competitive RFA process. When the RFA was again released in late 2015, FHFC received 33 applications.

According to program guidelines, loan funds may support the installation of the following measures, upon the completion of an energy audit showing projected energy savings:

- Air infiltration (e.g., envelope sealing, duct sealing, weather stripping);
- Replacement of appliances with Energy Star qualified appliances, lighting, faucets/showerheads, HVAC systems, programmable thermostats, boilers/water heaters, insulation, window film, high efficiency windows; and
- Other building improvements which will result in reduced energy and/or water consumption (Florida Housing Finance Corporation 2015).

Loans may cover up to \$15,000 of retrofit expenses per unit. A portion of the loan is forgivable; ten percent for profit-oriented applicants and 15 percent for not-for-profit applicants. Loans to for-profit applicants are priced at one percent; loans to not-for-profit applicants are priced at zero percent. The term of the loan is 15 years.

The new program design attracted significant interest from developers who had deferred capital needs and limited cash flow to act upon them.

## Successes and Challenges

One of the most challenging elements of the MERP has been assembling the infrastructure to track utility data for properties that have undergone a MERP retrofit. FHFC has partnered with the Program for Resource Efficient Communities at the University of Florida to do the data tracking; however, getting the buy-in of utility stakeholders to provide the necessary data to the university required several rounds of engagement and trust-building. Ultimately, all of the state's investor-owned electric utilities agreed to provide this information, although some required a demonstration of tenant consent.

The first round of retrofits funded by the MERP will be installed in 2016, and results will be available soon after. Given the limited supply of capital and the 15-year loan term, it may be some time before FHFC is able to offer a similar volume of retrofit financing; however, FHFC hopes that the utility data tracking will serve as a "proof of concept" to illustrate the significant savings available through energy efficiency retrofits in the affordable multifamily housing sector.

# Findings and Conclusions

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## A. Key Findings

Multifamily housing represents a significant portion of the Southeast's residential building stock, particularly in urban areas. Since the Recession of 2008, renovations have outpaced new construction of multifamily properties in most southeastern states, pointing to a major energy-saving opportunity for multifamily retrofit projects. Florida, Virginia and North Carolina provide notable exceptions to this trend, with new construction constituting more than 50 percent of activity in the multifamily sector.

Designing and delivering utility program offerings to effectively serve multifamily owners and renters can be challenging, due to the unique characteristics of the multifamily sector. Even in the southeastern cities with the most multifamily stock, utility offerings are scarce. In many cases, multifamily programs exist as programmatic tiers, rather than as focused, standalone offerings. All of the nine southeastern programs that SEEA identified have come online since 2010 and represent fairly recent additions to utility program portfolios. The majority of these programs utilize direct installation delivery models and include some variety of educational component.

Outside of utility-administered programs, multifamily housing programs exist at multiple levels and are housed across various agencies throughout any given state or locality. There is very little consistency in terms of programming, but one consistent factor is the limited investment in this space.

As rebate-based models ramp up in the utility space, many non-utility offerings are essentially financing tools. These include Low Income Housing Tax Credits, PACE financing tools and loan programs. Support tools like benchmarking and voluntary or challenge programs further expand the deployment of incentives and technical assistance to serve the region's multifamily building stock. Existing policy tools provide a foundation for future growth and expansion of multifamily energy efficiency opportunities in the Southeast.

## B. Recommendations for Further Research

As previously noted, this assessment report focuses on defining the Southeast's multifamily market and programmatic infrastructure at a high level. Several key questions have emerged from this work, and may provide a starting point for future research in this area:

- What is the economic impact of multifamily building projects on state and local economies?
- What factors are contributing to a greater number of multifamily renovation projects?
- How energy-efficient is the Southeast's multifamily building stock? What are the largest contributors to energy usage?
- Do standalone utility-administered multifamily programs perform better than those that serve multifamily properties as a subset of broader programs?

- Has spending grown for existing utility-administered energy efficiency programs? How does the relative level of spending and savings of these programs compare nationally?
- What barriers prevent southeastern utilities covering multifamily-rich geographies from offering programming to serve multifamily properties?
- What challenges and opportunities have utility program administrators that are offering multifamily programs identified in their work?
- What additional financial tools are available to support energy efficiency investments in multifamily properties?
- What capital sources are available to support more robust loan programming for multifamily properties?
- How effective has PACE financing been in driving investments in the Southeast's multifamily residences?
- What is the impact of benchmarking on encouraging energy savings in multifamily properties?
- Are there successful models from other regions that support greater coordination of the multiple actors involved in multifamily energy efficiency efforts?

As previously described, this report is intended as a starting point. SEEA hopes that market actors throughout the region will continue to explore these questions and others to enhance the body of regional knowledge and expertise in this area.

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## Appendix A

**Table A1. Southeastern Metropolitan Area Multifamily Housing Markets**

	<b>Geography</b>	<b>Total Housing Units</b>	<b>Multifamily Units</b>	<b>Percent of Multifamily</b>
<b>1</b>	Naples-Immokalee-Marco Island, FL Metro Area	199,818	97,253	49%
<b>2</b>	Miami-Fort Lauderdale-West Palm Beach, FL Metro Area	2,475,877	1,137,300	46%
<b>3</b>	Gainesville, FL Metro Area	120,574	41,910	35%
<b>4</b>	Greenville, NC Metro Area	75,844	24,851	33%
<b>5</b>	Panama City, FL Metro Area	109,023	32,474	30%
<b>6</b>	Myrtle Beach-Conway-North Myrtle Beach, SC-NC Metro Area	268,415	77,685	29%
<b>7</b>	Athens-Clarke County, GA Metro Area	82,159	23,581	29%
<b>8</b>	New Orleans-Metairie, LA Metro Area	550,248	154,987	28%
<b>9</b>	Tampa-St. Petersburg-Clearwater, FL Metro Area	1,362,891	380,858	28%
<b>10</b>	Cape Coral-Fort Myers, FL Metro Area	372,769	103,513	28%
<b>11</b>	Orlando-Kissimmee-Sanford, FL Metro Area	955,148	264,851	28%
<b>12</b>	Lexington-Fayette, KY Metro Area	212,020	57,960	27%
<b>13</b>	Durham-Chapel Hill, NC Metro Area	227,389	61,076	27%
<b>14</b>	Crestview-Fort Walton Beach-Destin, FL Metro Area	139,731	37,505	27%
<b>15</b>	Tallahassee, FL Metro Area	164,135	42,243	26%
<b>16</b>	Sebastian-Vero Beach, FL Metro Area	76,786	19,488	25%
<b>17</b>	Tuscaloosa, AL Metro Area	103,348	25,877	25%
<b>18</b>	Virginia Beach-Norfolk-Newport News, VA-NC Metro Area	696,858	173,116	25%

19	Daphne-Fairhope-Foley, AL Metro Area	105,563	26,220	25%
20	Atlanta-Sandy Springs-Roswell, GA Metro Area	2,189,138	542,955	25%
21	North Port-Sarasota-Bradenton, FL Metro Area	404,534	99,469	25%
22	Jacksonville, FL Metro Area	606,085	148,996	25%
23	Columbus, GA-AL Metro Area	130,160	31,844	24%
24	Auburn-Opelika, AL Metro Area	64,258	15,619	24%
25	Port St. Lucie, FL Metro Area	215,521	50,755	24%
26	Savannah, GA Metro Area	153,562	36,163	24%
27	Hilton Head Island-Bluffton-Beaufort, SC Metro Area	104,060	24,405	23%
28	Nashville-Davidson--Murfreesboro--Franklin, TN Metro Area	715,164	166,443	23%
29	Charleston-North Charleston, SC Metro Area	305,301	70,904	23%
30	Memphis, TN-MS-AR Metro Area	559,091	129,707	23%
31	Palm Bay-Melbourne-Titusville, FL Metro Area	271,005	62,259	23%
32	Louisville/Jefferson County, KY-IN Metro Area	543,855	124,522	23%
33	Albany, GA Metro Area	66,257	14,908	23%
34	Greensboro-High Point, NC Metro Area	325,526	72,399	22%
35	Raleigh, NC Metro Area	480,522	106,816	22%
36	Richmond, VA Metro Area	512,296	113,534	22%
37	Hattiesburg, MS Metro Area	62,121	13,639	22%
38	Wilmington, NC Metro Area	129,947	28,317	22%
39	Harrisonburg, VA Metro Area	51,885	11,132	21%
40	Fayetteville-Springdale-Rogers, AR-MO Metro Area	201,212	42,528	21%

41	Blacksburg-Christiansburg-Radford, VA Metro Area	78,784	16,377	21%
42	Macon, GA Metro Area	101,904	21,029	21%
43	Fayetteville, NC Metro Area	159,557	32,897	21%
44	Charlottesville, VA Metro Area	98,307	20,155	21%
45	Clarksville, TN-KY Metro Area	111,135	22,746	20%
46	Little Rock-North Little Rock-Conway, AR Metro Area	313,270	63,568	20%
47	Deltona-Daytona Beach-Ormond Beach, FL Metro Area	303,848	61,604	20%
48	Baton Rouge, LA Metro Area	336,104	67,621	20%
49	Jonesboro, AR Metro Area	52,848	10,584	20%
50	Charlotte-Concord-Gastonia, NC-SC Metro Area	951,731	190,177	20%
51	Pensacola-Ferry Pass-Brent, FL Metro Area	203,750	40,567	20%
52	Bowling Green, KY Metro Area	70,168	13,929	20%
53	Gulfport-Biloxi-Pascagoula, MS Metro Area	171,260	33,787	20%
54	Punta Gorda, FL Metro Area	100,959	19,775	20%
55	Huntsville, AL Metro Area	185,953	35,324	19%
56	Roanoke, VA Metro Area	145,379	27,507	19%
57	Johnson City, TN Metro Area	94,699	17,879	19%
58	Columbia, SC Metro Area	336,587	63,425	19%
59	Chattanooga, TN-GA Metro Area	236,121	44,440	19%
60	Hinesville, GA Metro Area	33,081	6,153	19%
61	Valdosta, GA Metro Area	58,687	10,618	18%
62	Jackson, MS Metro Area	235,066	42,408	18%

<b>63</b>	Birmingham-Hoover, AL Metro Area	503,430	89,944	18%
<b>64</b>	Mobile, AL Metro Area	180,277	31,588	18%
<b>65</b>	Rome, GA Metro Area	40,475	7,075	17%
<b>66</b>	Knoxville, TN Metro Area	383,916	66,823	17%
<b>67</b>	Montgomery, AL Metro Area	163,130	28,253	17%
<b>68</b>	Winston-Salem, NC Metro Area	288,897	49,820	17%
<b>69</b>	Burlington, NC Metro Area	67,487	11,580	17%
<b>70</b>	Hot Springs, AR Metro Area	50,552	8,628	17%
<b>71</b>	Elizabethtown-Fort Knox, KY Metro Area	63,024	10,691	17%
<b>72</b>	Shreveport-Bossier City, LA Metro Area	195,808	33,121	17%
<b>73</b>	Greenville-Anderson-Mauldin, SC Metro Area	365,035	61,223	17%
<b>74</b>	Brunswick, GA Metro Area	58,478	9,610	16%
<b>75</b>	Dalton, GA Metro Area	55,645	9,052	16%
<b>76</b>	Monroe, LA Metro Area	76,758	12,351	16%
<b>77</b>	Jackson, TN Metro Area	55,700	8,960	16%
<b>78</b>	Owensboro, KY Metro Area	49,968	8,015	16%
<b>79</b>	Jacksonville, NC Metro Area	72,570	11,638	16%
<b>80</b>	Warner Robins, GA Metro Area	75,531	12,070	16%
<b>81</b>	Cleveland, TN Metro Area	50,109	7,857	16%
<b>82</b>	Hammond, LA Metro Area	51,363	7,852	15%
<b>83</b>	Staunton-Waynesboro, VA Metro Area	53,101	8,102	15%
<b>84</b>	Fort Smith, AR-OK Metro Area	122,052	18,455	15%

<b>85</b>	Augusta-Richmond County, GA-SC Metro Area	245,526	35,916	15%
<b>86</b>	Lafayette, LA Metro Area	198,738	28,739	14%
<b>87</b>	Rocky Mount, NC Metro Area	67,072	9,668	14%
<b>88</b>	Florence-Muscle Shoals, AL Metro Area	70,017	10,086	14%
<b>89</b>	Lynchburg, VA Metro Area	113,464	16,302	14%
<b>90</b>	Asheville, NC Metro Area	215,589	30,758	14%
<b>91</b>	Lakeland-Winter Haven, FL Metro Area	281,617	39,935	14%
<b>92</b>	Gainesville, GA Metro Area	69,053	9,777	14%
<b>93</b>	Spartanburg, SC Metro Area	137,467	19,027	14%
<b>94</b>	Goldsboro, NC Metro Area	53,074	7,208	14%
<b>95</b>	Alexandria, LA Metro Area	65,406	8,878	14%
<b>96</b>	Lake Charles, LA Metro Area	87,634	11,866	14%
<b>97</b>	Anniston-Oxford-Jacksonville, AL Metro Area	53,306	7,153	13%
<b>98</b>	Florence, SC Metro Area	89,180	11,748	13%
<b>99</b>	Kingsport-Bristol-Bristol, TN-VA Metro Area	147,174	19,344	13%
<b>100</b>	Decatur, AL Metro Area	66,514	8,722	13%
<b>101</b>	Pine Bluff, AR Metro Area	42,059	5,472	13%
<b>102</b>	Sumter, SC Metro Area	46,497	5,995	13%
<b>103</b>	Morristown, TN Metro Area	50,587	6,441	13%
<b>104</b>	New Bern, NC Metro Area	57,974	6,803	12%
<b>105</b>	Gadsden, AL Metro Area	47,507	5,553	12%
<b>106</b>	Hickory-Lenoir-Morganton, NC Metro Area	162,385	18,961	12%

<b>107</b>	Dothan, AL Metro Area	67,444	7,845	12%
<b>108</b>	Sebring, FL Metro Area	55,150	6,330	11%
<b>109</b>	Winchester, VA-WV Metro Area	57,521	6,578	11%
<b>110</b>	Houma-Thibodaux, LA Metro Area	83,338	9,029	11%
<b>111</b>	Ocala, FL Metro Area	163,731	16,371	10%
<b>112</b>	Homosassa Springs, FL Metro Area	77,875	4,254	5%
<b>113</b>	The Villages, FL Metro Area	58,511	1,746	3%

Source: 2014 American Community Survey

**Table A2. Multifamily Construction Starts and Population Density by State**

<b>State</b>	<b>Multifamily Construction Starts</b>	<b>Population Density per Square Mile</b>
<b>Florida</b>	2,405	308
<b>North Carolina</b>	1,457	187
<b>Georgia</b>	1,187	172
<b>Virginia</b>	1,030	196
<b>Tennessee</b>	1,020	157
<b>South Carolina</b>	690	153
<b>Kentucky</b>	624	110
<b>Alabama</b>	570	93
<b>Arkansas</b>	540	56
<b>Louisiana</b>	530	89
<b>Mississippi</b>	245	62

Source: U.S. Census Bureau

## Appendix B

**Table B1. Multifamily Utility Program Descriptions**

State	Utility	Program Name	Program Description	Source
Arkansas	Entergy Arkansas	Entergy Solutions for Multifamily	This program will target multifamily property owners (landlords) and managers, as well as apartment and condo renters to address the three principal barriers to multifamily EE... EAI's Multifamily Program specifically addresses their unique needs, which are often overlooked, through a combination of incentives for both direct install and prescriptive measures, and through property owner and tenant education.	<a href="#">Docket No. 07-085-TF</a>
Arkansas	Oklahoma Gas and Electric Company	Multi-Family Direct Install Program	This new program proposed by OG&E encourages property managers and owners of multifamily dwellings to upgrade their central air conditioning units. OG&E will provide \$250 per ton rebate incentive to the property owner for any replacement of a 13 SEER HVAC system with a 16 SEER heat pump, if the units are total electric, or 16 SEER and 90% gas furnace, if the units are heated with natural gas. The incentive will be offered directly to the installer of the high efficiency equipment. In order to receive the incentive payment for upgrading to a more efficient unit, the customer must contract with an OG&E approved local, certified, and licensed HVAC contractor to proceed with the installation.	<a href="#">Docket No. 07-075-TF</a>



<b>Florida</b>	Gulf Power	Landlord-Renter Custom Incentive	<p>The Residential Custom Incentive Program is a flexible program designed to increase energy efficiency in the residential rental property sector... This program will promote the installation of various energy efficiency measures available through other programs including HVAC, windows, appliances, etc. Depending on the individual circumstances of the rental property, additional incentives may be necessary to overcome the split-incentive barrier. This program may also promote the installation of low cost measures associated with the Community Energy Saver Program by the landlord of multi-family properties. These measures, when provided to the landlord for installation, will benefit the renter and represent one solution to the split-incentive barrier possible with this program. The program may provide other technical assistance services such as project savings evaluation as another means of overcoming this barrier.</p>	<a href="#">Docket No. 15-0086-EG</a>
<b>Kentucky</b>	Duke Energy Kentucky	Multifamily Energy Efficiency Program	<p>The Multifamily Energy Efficiency Program ... allows Duke Energy Kentucky to utilize an alternative delivery channel which targets multifamily apartment complexes. The measures are directly installed in permanent fixtures by the program vendor, Franklin Energy, or the property management staff via the DIY (Do It Yourself) option. The target audience for the program is property managers who have</p>	<a href="#">Case No. 2015-00368</a>

			properties that consist of four or more units and are served on an individually metered residential rate schedule. In order to receive water measures, apartments must have electric water heating. ... The Program helps property managers upgrade lighting with energy efficient CFLs and also saves energy by offering water measures such as bath and kitchen faucet aerators, water saving showerheads and pipe wrap.	
<b>Louisiana</b>	Entergy New Orleans	Energy Smart for Multifamily	This ENO program will target multifamily property owners (landlords) and managers, as well as apartment and condo renters to address the three principal barriers to multifamily energy efficiency.... ENO’s Multifamily Program specifically addresses their unique needs, which are often overlooked, through a combination of incentives for both direct install and prescriptive measures, and through property owner and tenant education. Multifamily will also be the delivery mechanism for the program-wide weatherization collaborative cost effective measures.	<a href="#">Docket No. UD-08-02</a>
<b>Mississippi</b>	Atmos Energy	Multi-family Direct Install Program	This program will target multi-family complexes with four or more units that utilize has water heaters. The benefit to offering a multi-family direct install program is that it offers energy saving opportunities to the Atmos Energy rental community. The program offers the installation of low flow shower heads, aerators,	<a href="#">Docket No 2014-UN-17</a>

			<p>pipe wrap, water heater wraps and basic weather-stripping (if needed) at no cost to the property management company. While performing the direct install service, the program representative will complete an inventory of existing equipment and identify opportunities for additional energy saving opportunities. The program representative will educate the complex manager/owner regarding other measures that we can install to provide additional savings.</p>	
<p><b>North and South Carolina</b></p>	<p>Duke Energy Carolinas</p>	<p>Multifamily Energy Efficiency Program</p>	<p>The Multifamily Energy Efficiency Program encourages multifamily property owners properly managers, and tenants to become more energy efficient through the installation energy efficient measures. Energy efficient lighting measures and energy efficient water heating low flow devices at no direct cost to the property manager. PMs managing multi-family units served by Duke Energy Carolinas. LLC (the Company) on a residential rate schedule who meet the program eligibility requirements.</p>	<p><a href="#">Docket No. E-7, Sub 1032</a></p>
<p><b>North and South Carolina</b></p>	<p>Duke Energy Progress</p>	<p>Multifamily Energy Efficiency Program</p>	<p>The purpose of this Program is to encourage multi-family property owners, property managers and tenants to become more energy efficient through the installation of new energy efficient appliances and devices in permanent fixtures. The Program offers appliances and devices such as energy efficient</p>	<p><a href="#">Docket No. E-2, Sub 1059</a></p>

			lighting measures and energy efficient water heating measures.	
<b>Tennessee</b>	Memphis Light, Gas and Water	Energy Advantage Apartments	MLGW’s Energy Advantage Apartments (EAA) Certification program ensures that newly constructed apartments in Shelby County are as energy efficient as dwellings built to MLGW’s EcoBUILD standards for homes. MLGW works with apartment developers to simulate energy usage given specifications on heating and cooling equipment, windows, building envelope, and other equipment in the units. If the simulation shows efficiency equal to or greater than current EcoBUILD standards, the complex can qualify.	<a href="#">MLGW Website</a>

# Appendix C

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## Additional Multifamily Resources

- [American Council for an Energy-Efficient Economy \(ACEEE\)](#)  
ACEEE's Multifamily Energy Savings Project focuses on creating and expanding comprehensive building upgrade programs for market-rate and affordable multifamily housing through partnerships between utilities and the multifamily housing community.
- [Database of State Incentives for Renewables & Efficiency \(DSIRE\)](#)  
Searchable database of information on incentives and policies that support renewable energy and energy efficiency in the United States.
- [Energy Efficiency for All \(EFFA\)](#)  
Collaborative project initiated by the National Housing Trust, Natural Resources Defense Council, Energy Foundation, and Elevate Energy to provide state and local partners with the tools and resources to help increase energy efficiency investments in affordable multifamily housing.
- [National Housing Trust](#)  
The National Housing Trust is the nation's leading expert in preserving and improving affordable housing.
- [Network for Energy, Water, and Health in Affordable Buildings \(NEWHAB\)](#)  
A network of individuals and organizations working together to share best practices, innovations, and successes to address policy and projects related to energy, housing, water, health, and social justice.
- [U.S. Department of Energy Better Buildings Challenge](#)  
Initiative to drive leadership and commitment to energy efficiency in commercial, public, industrial, and residential buildings to achieve the goal of becoming 20 percent more energy efficient over the next decade.
- [U.S. Housing and Urban Development Multifamily Programs](#)  
HUD's Federal Housing Administration (FHA) Office of Multifamily Housing Programs is responsible for the overall management, development, direction and administration of HUD's Multifamily Housing Programs.