



2016 Annual Report
**Implementation of Energy
Efficient Manufactured
Homes Incentive Program**

Section 48-52-870, Code of Laws of South Carolina

Annual Report on the Implementation of Energy Efficient Manufactured Homes Incentive Program

Pursuant to Section 48-52-870, South Carolina Code of Laws

August 2017

This document may be downloaded from the State Energy Office website

ENERGY.SC.GOV/Residential

South Carolina Office of Regulatory Staff

Energy Office

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Background

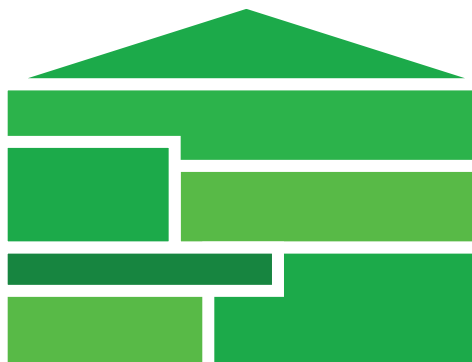
State Energy Office

The 1992 South Carolina Energy Efficiency Act established the State Energy Office (Energy Office) within the South Carolina Budget and Control Board to serve as the principal energy planning entity for the state. In 2015, the Budget and Control Board was dissolved and the Energy Office was established within the Office of Regulatory Staff. The Energy Office carries out the state policy and programs mandated by the General Assembly and also administers the State Energy Program funded by the US Department of Energy.

**Approximately
16 percent of
South Carolinians live in
manufactured housing,
one of the highest
percentages in
the nation.**

Manufactured homes are defined in law as homes built in a factory and transported to the site under a federal code administered by the U.S. Department of Housing and Urban Development. The federal standards went into effect in 1976. It should be noted that modular homes, also built in a factory, are constructed to state or regional building codes in the areas where they will be located.

According to the U.S. Census American Community Survey, 16.4 percent of South Carolinians were estimated to live in mobile homes (or “other” housing) in 2015. Further, the Survey reported that southeastern states (Alabama, Florida, Georgia, Kentucky, Mississippi, the Carolinas and Tennessee) accounted for 36% of manufactured home sales in 2015. According to the Corporation for Enterprise Development, “Owners of manufactured homes are disproportionately low-income: in 2013, the median annual household income for those living in manufactured housing was \$28,400, versus a national median of \$51,939. About 75 percent of manufactured home households earn less than less than \$50,000.”



South Carolina Energy Efficient Manufactured Homes Programs

Energy Efficient Labeling Program

In 1992, the South Carolina General Assembly passed legislation designed to increase energy efficiency in manufactured homes sold in the state. Sections 12-36- 2110(B) and 40-29-360 of the South Carolina Code of Laws specify criteria for energy efficient manufactured homes. Manufacturers constructing homes that meet the criteria may order labels from the Energy Office and affix the labels to the more energy efficient homes. Individuals who purchase these energy efficient homes would pay no more than \$300 in state sales tax on the home. Buyers of homes that do not meet the energy efficient criteria would pay an additional 2 percent in state sales tax.

The program was originally managed by the SC Department of Labor, Licensing and Regulation. In 1998, the Energy Office assumed responsibility of managing the program. Initially, approximately 16 percent of all purchased manufactured homes met the more stringent energy efficiency criteria established by state legislation. After 11 years, between 70 and 80 percent of homes sold met these higher level criteria (Manufactured Housing Institute of SC, 2008). The Energy Office estimates that these energy efficiency standards may have saved South Carolinians as much as \$130 million over the expected life of homes purchased, based on an estimated annual savings of \$152 for a standard manufactured home and \$252 in annual savings for a doublewide home. However, as industry standards have improved, the amount of savings that can reasonably be attributed to the labeling program have decreased.

1998: 16% met criteria
2008: 70-80% met criteria

Table 1: Energy Efficient Labels Requested by Manufacturers 1998-2016

Years	Labels Requested
1998	10,349
1999	11,722
2000	5,860
2001	5,595
2002	4,180
2003	3,182
2004	2,360
2005	2,331
2006	2,000
2007	1,880
2008	1,660
2009	1,175
2010	1,935
2011	941
2012	860
2013	1,446
2014	1,610
2015	2,064
2016	2,015
Total	63,105

Since 1998, approximately 63,000 labels have been distributed to manufacturers. During the first several years of the program participation was high, but the number of labels requested has been declining in recent years. **Table 1** summarizes the number of energy efficient labels requested by manufacturers each year since the Energy Office began managing the program in 1998.

Energy Efficient Manufactured Homes Incentive Program

In 2001, the US Department of Energy and the US Environmental Protection Agency created standards for manufactured homes, which are at least 15 percent more energy efficient than homes meeting the minimum energy code. In general, **ENERGY STAR®** qualified homes include features and appliances that make them as much as 30 percent more efficient than most recently constructed manufactured or site-built homes.

Factors contributing to increased efficiency include:

- Effective insulation in walls and floors
- High performance windows, including protective coatings and improved frame assemblies
- Tight construction and ducts so that cracks and holes are sealed to reduce drafts, dust and moisture problems
- High efficiency heating and cooling equipment
- **ENERGY STAR®** qualified lighting and appliances

In 2008, the Energy Efficient Manufactured Homes Incentive Program was established under Section 48-52-870 South Carolina Code of Laws. It was passed to create more significant incentives for ENERGY STAR® labeled homes. Section 48-52-870 requires the Energy Office to “adopt rules pursuant to this article to develop tax credit applications and administer the issuance of tax credits and must track and report on the fiscal and energy impacts.” This incentive includes a \$750 nonrefundable state income tax credit for eligible homebuyers. In addition, Section 12-26-2110 eliminates any state sales tax on ENERGY STAR® manufactured homes (but not optional furniture or drapes) from July 1, 2009 to July 1, 2019.

To implement the Energy Efficient Manufactured Homes Incentive Program, the Energy Office created retailer instructions (see Appendix A) and an application form (see Appendix B) for the \$750 tax credit. The Energy Office worked with the South Carolina Department of Revenue and the Manufactured Housing Institute of South Carolina to develop instructions for retailers and a form to certify the purchase that would be simple for homebuyers to complete.

Retailers that sell ENERGY STAR® manufactured homes are required to certify that energy-saving measures have been installed in accordance with guidelines. The retailer is required to return this certification to the manufacturer of the home. The manufacturer files the certification with the entity responsible for tracking ENERGY STAR® home sales nationally, on behalf of the US Environmental Protection Agency and US Department of Energy. In addition, retailers that sell ENERGY STAR® homes must supply the homebuyer with an Energy Office application form. The homebuyer must complete the application form and provide it to the Energy Office.

The Energy Office reviews the application form, ensures that the homebuyer has received the ENERGY STAR® certification from the retailer, and signs and returns the application form to the homebuyer. The homebuyer(s) must include these documents in their tax filing to claim the \$750 state income tax credit.

Energy Savings & Fiscal Impact

Based on applications received by the Energy Office for the \$750 tax credit, the incentives have encouraged savings that average approximately \$488 per homeowner per year, or an average of approximately \$14,645 over the lifetime of the home – at current energy prices. Seventy-five requests for the \$750 tax credit were received for homes purchased in 2016. This equates to an overall energy savings for these 75 homebuyers of approximately \$1,098,389 over the expected life of the homes, with an investment of only \$56,250 by the state. This also equates to a savings of 29,650 MMBTU in overall energy savings for all 75 homes over their expected useful life. To date, the Energy Office has approved 396 tax credit applications, representing an investment by the state of \$297,000 and cost savings to homeowners of \$8,853,297. In addition, the [ENERGY STAR®](#) homes for which tax credits have been requested to date for 2016 will collectively save over 6.4 million pounds of CO₂ over their estimated 30-year lifetime.

See [Table 2](#) below for a summary of the [ENERGY STAR®](#) Manufactured Homes Tax Credit impact. It is important to note that the data for this year's report has been calculated using recently updated data from the EIA, DOE, and EPA for SC energy rates, lifetime of a manufactured home, and CO₂ saved, respectively. The average statewide cost of electricity increased from \$0.1056/kWh to \$0.1264/kWh. The estimated lifetime of a manufactured home was reduced from 55 years to 30 years based on a 2016 DOE study using the expected lifetime of measures that make a home efficient rather than the older estimates based on the life of the home itself. Finally, CO₂ savings estimates were reduced from 380 lb. CO₂/MMBTU to 214 lb. CO₂/MMBTU based on EPA's recent region-specific estimates rather than national data. Footnotes in the tables themselves also note the changes.

The Energy Office continues to work with the Manufactured Housing Institute of South Carolina to raise awareness of the program and to encourage dealers to give the tax credit application and the site installation checklist to the buyer, thus increasing the likelihood of the buyer applying for the tax credit.

However, as shown in [Table 2](#), there is a noticeable difference between the number of [ENERGY STAR®](#) labeled homes sold and the number of tax credit applications received. Possible causes for this discrepancy include dealers who are unaware of the program and homebuyers who are retired and may not file state tax returns.

Data from the Systems Building Research Alliance, the entity which tracks ENERGY STAR® manufactured homes for the federal government, indicates that approximately 1,812 ENERGY STAR® homes were produced for sale or installation in South Carolina in 2016. The Alliance also reports that a total of 3021 homes were shipped to the state by the end of 2016, meaning that ENERGY STAR® homes shipped to South Carolina retailers represent approximately 60 percent of the market, a significant increase over recent years. Only 1,424 of the 1,812 ENERGY STAR® manufactured homes produced for South Carolina retailers had been sited and certified by the end of 2016.

Table 3 shows the location and expected savings for those homes for which tax credit approvals have been sought through May 31, 2017.

Table 2: ENERGY STAR® Manufactured Homes Tax Credit Summary

	Jan-Dec 2010	Jan-Dec 2011	Jan-Dec 2012	Jan-Dec 2013	Jan-Dec 2014	Jan-Dec 2015	Jan-Dec 2016*	Total to Date
Estimated total ENERGY STAR® labeled homes certified/sited by SC retailers ¹	230	229	179	275	422	834	1,424	3,593
Tax credit applications	43	59	84	48	35	52	75	396
Estimated energy savings per year (MMBTU)	602	786	1,160	642	481	716	988	5,375
Expected cost savings per year (\$)	\$18,620	\$24,315	\$35,896	\$22,413	\$17,584	\$22,170	\$36,613	\$177,611
Estimated energy savings over life of homes (MMBTU)	33,089	43,209	63,790	35,315	26,462	39,399	29,650	270,914
Expected cost savings over life of homes (\$)	\$1,024,102	\$1,337,312	\$1,974,260	\$1,232,711	\$967,125	\$1,219,398	\$1,098,389	\$8,853,297
Estimated CO ₂ savings per year (lbs)	228,618	298,538	440,727	243,994	182,829	272,215	212,162	1,879,083
Estimated CO ₂ savings over life of home (lbs)	12,573,962	16,419,563	24,240,029	13,419,681	10,055,617	14,971,819	6,364,872	98,045,543

¹Data provided by the Systems Building Research Alliance.

*Calculations are based on 214 lb. CO₂/MMBTU (EPA 2014 eGrid data); the average statewide cost of electricity of \$0.1264/kWh (EIA March 2017 data); the estimated lifetime of a manufactured home of 30 years based on a 2016 DOE Manufactured Home Standard Technical Support Document; and EIA Table CE1.4 mobile home energy consumption per square foot.

Table 3: 2016 ENERGY STAR® Tax Credit Request Summary*

Location of Home	Expected Energy Savings (MMBTU/yr)	Expected Cost Savings	Expected Energy Savings over 30 yr life of home, MMBTU	Expected Cost Savings over 30 yr life of home	Energy use MMBTU by home square footage	CO ₂ Savings/yr	CO ₂ Savings over 30 yr life of home
Aiken	14.45	\$535.13	433.35	\$16,053.76	96.30	3,101	93,027.24
Aiken	10.79	\$399.56	323.57	\$11,986.81	71.90	2,315	69,460.34
Andrews	18.10	\$670.39	542.89	\$20,111.80	120.64	3,885	116,542.46
Batesburg	17.11	\$633.83	513.28	\$19,014.79	114.06	3,673	110,185.60
Batesburg	6.74	\$249.73	202.23	\$7,491.76	44.94	1,447	43,412.71
Batesburg	12.58	\$466.15	377.50	\$13,984.61	83.89	2,701	81,037.07
Bishopville	17.98	\$665.93	539.28	\$19,978.01	119.84	3,859	115,767.24
Bishopville	18.10	\$670.39	542.89	\$20,111.80	120.64	3,885	116,542.46
Blair	16.05	\$594.58	481.50	\$17,837.51	107.00	3,445	103,363.61
Blair	16.05	\$594.58	481.50	\$17,837.51	107.00	3,445	103,363.61
Camden	12.04	\$445.94	361.13	\$13,378.13	80.25	2,584	77,522.70
Cheraw	20.06	\$743.23	601.88	\$22,296.89	133.75	4,307	129,204.51
Columbia	15.28	\$566.04	458.39	\$16,981.31	101.86	3,280	98,402.15
Easley	11.64	\$431.07	349.09	\$12,932.20	77.58	2,498	74,938.61
Effingham	9.76	\$361.51	292.75	\$10,845.21	65.06	2,095	62,845.07
Elgin	12.58	\$466	377.50	\$13,984.61	83.89	2,701	81,037.07
Elgin	13.93	\$516	417.94	\$15,482.96	92.88	2,991	89,719.61
Gaston	12.10	\$448	363.05	\$13,449.48	80.68	2,598	77,936.16
Gaston	10.55	\$391	316.59	\$11,728.16	70.35	2,265	67,961.57
Gaston	16.05	\$595	481.50	\$17,837.51	107.00	3,445	103,363.61
Gilbert	10.27	\$381	308.16	\$11,416.01	68.48	2,205	66,152.71
Gilbert	13.48	\$499	404.46	\$14,983.51	89.88	2,894	86,825.43
Gilbert	12.58	\$466	377.50	\$13,984.61	83.89	2,701	81,037.07
Great Falls	15.25	\$565	457.43	\$16,945.64	101.65	3,273	98,195.42
Hartsville	14.61	\$541	438.17	\$16,232.14	97.37	3,135	94,060.88
Hopkins	17.17	\$636	515.21	\$19,086.14	114.49	3,687	110,599.06
Hopkins	13.48	\$499	404.46	\$14,983.51	89.88	2,894	86,825.43
Johnsonville	12.58	\$466	377.50	\$13,984.61	83.89	2,701	81,037.07
Johnston	16.85	\$624	505.58	\$18,729.39	112.35	3,618	108,531.79
Lake Wylie	8.57	\$318	257.12	\$9,525.23	57.14	1,840	55,196.17
Lamar	8.83	\$327	264.83	\$9,810.63	58.85	1,895	56,849.98
Latta	14.37	\$532	431.18	\$15,973.49	95.82	3,085	92,562.11
Leesville	13.48	\$499	404.46	\$14,983.51	89.88	2,894	86,825.43
Leesville	8.99	\$333	269.64	\$9,989.01	59.92	1,929	57,883.62
Leesville	13.48	\$499	404.46	\$14,983.51	89.88	2,894	86,825.43
Leesville	15.02	\$557	450.68	\$16,695.91	100.15	3,225	96,748.33

Leesville	15.18	\$562	455.50	\$16,874.29	101.22	3,259	97,781.97
Lexington	14.45	\$535	433.35	\$16,053.76	96.30	3,101	93,027.24
Lexington	10.79	\$400	323.57	\$11,986.81	71.90	2,315	69,460.34
Lexington	15.41	\$571	462.24	\$17,124.01	102.72	3,308	99,229
Lexington	5.83	\$216	174.78	\$6,475.02	38.84	1,251	37,521
Lexington	13.48	\$499	404.46	\$14,983.51	89.88	2,894	86,825
Lexington	12.04	\$446	361.13	\$13,378.13	80.25	2,584	77,523
Lexington	11.07	\$410	332.24	\$12,307.88	73.83	2,377	71,321
Little Mountain	16.18	\$599	485.35	\$17,980.21	107.86	3,473	104,191
Little Mountain	12.58	\$466	377.50	\$13,984.61	83.89	2,701	81,037
Livingston	8.67	\$321	260.01	\$9,632.26	57.78	1,861	55,816
Loris	10.79	\$400	323.57	\$11,986.81	71.90	2,315	69,460
Lugoff	13.64	\$505	409.28	\$15,161.89	90.95	2,929	87,859
Lynchburg	14.30	\$530	429.02	\$15,893.22	95.34	3,070	92,097
Monetta	16.37	\$606	491.13	\$18,194.26	109.14	3,514	105,431
Neeses	9.76	\$362	292.75	\$10,845.21	65.06	2,095	62,845
Newberry	12.58	\$466	377.50	\$13,984.61	83.89	2,701	81,037
Nichols	9.76	\$362	292.75	\$10,845.21	65.06	2,095	62,845
North	15.78	\$584	473.31	\$17,534.27	105.18	3,387	101,606
Orangeburg	15.41	\$571	462.24	\$17,124.01	102.72	3,308	99,229
Pelion	12.58	\$466	377.50	\$13,984.61	83.89	2,701	81,037
Pelion	14.77	\$547	442.98	\$16,410.51	98.44	3,170	95,095
Pelion	13.64	\$505	409.28	\$15,161.89	90.95	2,929	87,859
Pelion	6.29	\$233	188.75	\$6,992.30	41.94	1,351	40,519
Pelzer	8.54	\$316	256.16	\$9,489.56	56.92	1,833	54,989
Pomaria	13.03	\$483	390.98	\$14,484.06	86.88	2,798	83,931
Prosperity	6.74	\$250	202.23	\$7,491.76	44.94	1,447	43,413
Ridge Springs	14.45	\$535	433.35	\$16,053.76	96.30	3,101	93,027
Salley	20.54	\$761	616.32	\$22,832.02	136.96	4,410	132,305
Salley	12.58	\$466	377.50	\$13,984.61	83.89	2,701	81,037
Saluda	6.00	\$222	180.08	\$6,671.23	40.02	1,289	38,658
Sellers	14.37	\$532	431.18	\$15,973.49	95.82	3,085	92,562
Summerton	14.45	\$535	433.35	\$16,053.76	96.30	3,101	93,027
Summerville	19.52	\$723	585.50	\$21,690.42	130.11	4,190	125,690
Sumter	14.93	\$553	447.80	\$16,588.89	99.51	3,204	96,128
Swansea	8.03	\$297	240.75	\$8,918.76	53.50	1,723	51,682
West Columbia	12.84	\$476	385.20	\$14,270.01	85.60	2,756	82,691
West Columbia	17.98	\$666	539.28	\$19,978.01	119.84	3,859	115,767
Winnsboro	12.04	\$446	361.13	\$13,378.13	80.25	2,584	77,523
Total:	988.32	\$36,612.98	29,649.57	\$1,098,389.43	6588.79	212,162.41	6,364,872.39

*According to ENERGY STAR®, homes earning the ENERGY STAR® label use 15-30 percent less energy than typical new homes. The Energy Office used a conservative assumption 15 percent to determine expected energy savings. Additionally, calculations are based on 214 lb. CO₂/MMBTU (EPA 2014 eGrid data); the average statewide cost of electricity of \$0.1264/kWh (EIA March 2017 data); the estimated lifetime of a manufactured home of 30 years based on a 2016 DOE Manufactured Home Standard Technical Support Document; and EIA Table CE1.4 mobile home energy consumption per square foot.

Conclusion

As previously mentioned, approximately 16 percent of South Carolinians live in manufactured housing, one of the highest percentages in the nation. Legislation enacted in South Carolina has established incentives that include a full state sales tax exemption on manufactured homes as well as a \$750 nonrefundable state income tax credit for eligible home buyers. Seventy-five requests for the \$750 tax credit were received for homes purchased in 2016. This equates to an overall energy savings for these 75 homebuyers of approximately \$1,098,389 over the expected life of the homes with an investment of \$56,250 by the state. To date, the Energy Office has approved 396 tax credit applications, representing an investment of \$297,000 by the state, and resulting in energy savings of approximately \$8.8 million for low- to moderate-income South Carolinians.

2016: 75 requests for the \$750 tax credit

**2016 Overall Energy Savings
\$1,098,389**

**ENERGY STAR® Manufactured Home Tax Credit
Program To Date:**

396 tax credit applications
\$297,000 in state investment
\$8.8 million in energy savings

APPENDIX A

**ENERGY STAR® Incentives for
Manufactured Homebuyers and Dealers**



ENERGY STAR® Incentives for Manufactured Homebuyers and Dealers

Customer's \$750 Income Tax Credit

In order for your customers to claim the \$750 non-refundable state income tax credit on their state tax returns, the following items must be completed:*

- Step 1.** Provide the customer with a copy of the [ENERGY STAR® Tax Credit Application Form](#) (available on the web at either www.ENERGY.SC.GOV or www.mhisc.com).

- Step 2.** Verify that the *Site Installation Checklist* provided by the manufacturer and shipped with the home is completed and signed (the gray [ENERGY STAR®](#) quality assurance label affixed inside the home should also be signed). Return a copy of the signed *Site Installation Checklist* to the manufacturer.

- Step 3.** Give the customer two copies of the bill of sale (clearly showing date of sale) and two copies of the signed *Site Installation Checklist* (must include customer's name and home address). The customer must forward one copy of each of these documents to the Energy Office along with the [ENERGY STAR® Tax Credit Application Form](#). The address is on the application form.

- Step 4.** The Energy Office will approve the request and return the form to the customer. The customer must retain the form along with other income tax records, and must include a copy with his/her income tax filing if filing a paper form.

**Non-refundable tax credits cannot reduce the tax owed to less than zero.*

Sales Tax Elimination

South Carolina law eliminates sales tax on homes meeting [ENERGY STAR®](#) requirements. State law requires retailers to maintain records on each [ENERGY STAR®](#) manufactured home sold. In lieu of a special form, the State Energy Office will require that retailers simply retain copies of the *Site Installation Checklist*, which must include the customer's name and home address. By law, these records must be retained for three years and must be made available for inspection upon request of the Department of Consumer Affairs or the Energy Office.

APPENDIX B

Tax Credit Approval Form



Energy Efficient (ENERGY STAR®) Manufactured Home \$750 Tax Credit Application Form

Please follow instructions carefully and submit to:

South Carolina Energy Office
Attn: ENERGY STAR® Manufactured Home Credit
1401 Main St. Suite 900 Columbia, SC 29201

Applicant name: _____

(Note: Applicant name must match name on bill of sale)

Applicant Social Security Number* or Tax Identification Number *(if not an individual)*: _____

Address of home for which \$750 tax credit is sought: _____

Applicant mailing address, if different than above: _____

(Note: If neither fax nor email is included, your form will be returned via US Mail)

Applicant email: _____

(Needed only if you prefer to receive your approved application via email)

Applicant fax: _____

(Needed only if you prefer to receive your approved application via fax)

Applicant phone: _____

Date of sale: _____ / _____ / _____

(Note: You must attach a copy of your bill of sale and ENERGY STAR® Site Installation Checklist)

Description of home: ___ Single ___ Double ___ Triple

Approximate square footage: _____

I certify the above information is correct, and that I am the owner of the ENERGY STAR® home for which a bill of sale and Site Inspection Checklist is attached.

*Social Security Privacy Act : It is mandatory that you provide your social security number on this tax form. 42 USC 405(c)(2)(C)(i) permits a state to use an individual's social security number as means of identification in administration of any tax. SC Regulation 117-201 mandates that any person required to make a return to the SC Department of Revenue shall provide identifying numbers, as prescribed, for securing proper identification. Your social security number is used for identification purposes.

(Signature)

(Please print name)

-----**Energy Office Approval – Do not write below this line**-----

(Name)

(Title)

____ / ____ / ____
(Date)

ENERGY.SC.GOV

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