



Georgia Clean Energy Property Tax Credit Economic Impact Analysis

On May 14, 2008, Georgia House Bill 670 was signed into law establishing the Georgia Clean Energy Property Tax Credit. HB670 created an income tax credit for a variety of energy-efficient technologies (see appendix). The credits are available to taxpayers placing qualified clean energy property in service between July 1, 2008, and December 31, 2014. The program's annual cap is \$2.5 million for 2008 through 2011 and \$5 million for 2012 through 2014.

In 2009, Marshall Goldberg of MRG & Associates developed the Georgia Clean Energy and Economic Impacts Model to analyze the energy, environmental and economic impacts associated with the Georgia Clean Energy Property Tax Credit. The model utilizes multipliers derived from the IMPLAN Professional Version 2.0 Social Accounting & Impact Analysis software. Depending on the specific technology, certain data is taken into consideration, such as the cost and size of the system installed, the applicant's relevant fuel cost rates, and the applicant's previous energy usage. The model then calculates information such as energy savings, electricity savings, energy avoided and carbon dioxide emissions avoided.

Included in this report are the model results for the first three years of the Georgia Clean Energy Property Tax Credit. Data is analyzed annually by the individual clean energy technology types. Over three years, a total of 780 applications were approved (677 residential and 103 non-residential). The clean energy property projects generated \$2,368,885 in sales tax revenue from a total investment of \$37,661,968. The projects also produced:

- \$9,010,793 in annual energy savings;
- 40,306,325 kilowatt hours (kWh) of annual electricity savings;
- 145,779 million British thermal units (mmBtu) of annual energy savings; and
- 28,014.6 tons of annual carbon dioxide emissions avoided.

Tax Credit Limits

Clean Energy Technology	credit limit (max. 35 percent of cost)	
	residential	commercial
Solar energy equipment for domestic water heating	\$2,500 per dwelling unit	\$100,000 per installation
Solar energy equipment for solar electric (PV), other solar thermal electric applications or active space heating	\$10,500 per installation	\$500,000 per installation
Wind	35 percent of the cost	\$500,000 per installation
Biomass gasification and pyrolysis	N/A	\$500,000 per installation
Energy Efficiency Technology		
Energy Conservation Projects (Lighting)	N/A	\$0.60/sq. ft. price cap of \$100,000
Geothermal Heat Pump (GHP) Systems	\$2,000 per installation	\$100,000 per project
Energy Efficient Buildings	N/A	\$1.80/sq. ft. price cap of \$100,000
Wood Residuals	Georgia Forestry Commission determines the value of the tax credits based on a voucher system.	

2010 Tax Credit Applications

Clean Energy Type	Solar Electric	Solar Hot Water	Geothermal Heat Pump*	Active Solar Space Heating	Lighting**	Total ***
Total Applicants	139	164	38	6	22	369
Residential Applicants	85	160	38	5	0	288
Non-Residential Applicants	54	4	0	1	22	81
Sales Tax Generated	\$1,246,288	\$102,177	\$61,368	\$6,116	\$154,929	\$1,572,492
Investment (system cost)	\$18,721,179	\$1,651,381	\$957,444	\$95,628	\$2,440,053	\$23,890,356
Annual Energy Savings	\$998,686	\$114,708	\$35,536	\$5,010	\$57,433	\$1,211,704
Annual Electricity Savings (kWh)	3,657,417	852,606	159,221	44,531	638,148	5,355,602
Annual Energy Avoided (mmBtu)	12,482.77	5,334.27	2,247.23	151.99	2,178.00	22,406.82
Annual Carbon Dioxide Emissions Avoided (tons)	2,505.3	653.5	208.0	30.5	437.1	3,836.9

* An additional 15 GHP applications did not have sufficient data to complete the model. Thirteen of the applicants were for residential properties and two were for non-residential properties. The total installed system cost was \$433,039.

** An additional nine non-residential lighting applications did not have sufficient data to complete the model. The total installed system cost was \$422,304.

*** Totals include one residential wind application. The total installed system cost was \$24,671.

Note: GEFA's role in the Clean Energy Property Tax Credit program is to confirm that the installed clean energy property is an approved technology and to provide a pre-application confirmation to the taxpayer. Pre-application data was used to generate this report. Pre-applications approved by GEFA do not guarantee that a tax credit will be issued by the Georgia Department of Revenue.

2009 Tax Credit Applications

Clean Energy Type	Solar Electric	Solar Hot Water	Geothermal Heat Pump*	Active Solar Space Heating	Lighting**	Total
Total Applicants	57	82	28	5	44	216
Residential Applicants	44	79	24	5	0	152
Non-Residential Applicants	13	3	4	0	44	64
Sales Tax Generated	\$130,586	\$53,333	\$46,757	\$6,817	\$198,076	\$435,569
Investment (system cost)	\$2,009,683	\$834,383	\$751,242	\$104,208	\$3,087,465	\$6,786,981
Annual Energy Savings	\$1,345,183	\$54,325	\$33,601	\$5,411	\$181,587	\$1,620,107
Annual Electricity Savings (kWh)	4,988,336	427,009	133,047	26,950	2,017,631	7,592,973
Annual Energy Avoided (mmBtu)	17,025.19	2,394.41	2,152.38	199.67	6,886.18	28,657.83
Annual Carbon Dioxide Emissions Avoided (tons)	3,417.0	342.2	190.7	25.6	1,382.1	5,357.6

* An additional three GHP applications did not have sufficient data to complete the model. All were residential applicants. The total installed system cost was \$49,200.

** One additional lighting application did not have sufficient data to complete the model. It was a non-residential applicant. The total installed system cost was \$189,877.

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2008 Tax Credit Applications

Clean Energy Type	Solar Electric	Solar Hot Water	Geothermal Heat Pump*	Active Solar Space Heating	Lighting	Total**
Total Applicants	32	57	18	5	45	157
Residential Applicants	24	53	18	5	0	100
Non-Residential Applicants	8	4	0	0	45	57
Sales Tax Generated	\$117,744	\$29,432	\$28,164	\$4,531	\$182,567	\$363,871
Investment (system cost)	\$1,807,606	\$459,211	\$433,881	\$70,176	\$2,883,370	\$5,676,143
Annual Energy Savings	\$5,729,505	\$31,226	\$22,478	\$3,370	\$392,734	\$6,179,723
Annual Electricity Savings (kWh)	22,249,940	210,542	129,943	22,897	4,748,107	27,365,984
Annual Energy Avoided (mmBtu)	75,939.05	1,362.68	1,073.43	146.33	16,205.29	94,742.33
Annual Carbon Dioxide Emissions Avoided (tons)	15,241.2	182.8	126.2	19.9	3,252.5	18,825.7

* An additional 10 GHP applications did not have sufficient data to complete the model. All were residential applicants. The total installed system cost was \$260,638.

** Totals include one non-residential and one residential wind applications. The total installed system cost was \$40,629.24.

Note: GEFA's role in the Clean Energy Property Tax Credit program is to confirm that the installed clean energy property is an approved technology and to provide a pre-application confirmation to the taxpayer. Pre-application data was used to generate this report. Pre-applications approved by GEFA do not guarantee that a tax credit will be issued by the Georgia Department of Revenue.

About the Georgia Environmental Finance Authority

The [Georgia Environmental Finance Authority](http://www.gefa.org) (GEFA) provides energy, land and water resources resulting in an improved quality of life for today and future generations. GEFA is the lead agency for state energy programs and is home to the Center of Innovation for Energy; directs the Georgia Land Conservation Program and maintains state-owned fuel storage tanks; and offers financing for reservoir and water supply, water quality, storm water and solid waste infrastructure. Since 1985, GEFA has approved financial commitments totaling more than \$3 billion to local governments, businesses and nonprofit organizations. For more information, visit www.gefa.org, [Facebook](#) or [Flickr](#).