Support Updated Building Codes to Save Georgians Money

Building energy codes specify a minimum set of proven approaches to cost-effectively reduce energy waste in new construction. While Georgia technically currently uses an eight-year-old standard (2015 IECC), amendments have effectively weakened the state's energy efficiency standards to 2009 levels. Updating Georgia's building energy codes to the 2021 standard (2021 IECC) can deliver substantial benefits to building occupants, electric ratepayers, and society at large.

Utility Bill Savings

Occupants of single-family homes and low-rise multifamily buildings will cumulatively save over $16 billion on their utility bills.

Energy Savings

Buildings will save over 200 gigawatt-hours of electricity over their lifetimes. That is equivalent to more than 10 years' worth of generation from Georgia's Vogtle nuclear power plant.

Grid Benefits

Higher-performance residential building envelopes will lower annual peak demand by 2.7%, avoiding about $200 million in electricity system costs each year by 2033.

Cleaner Air

By reducing electricity generation, better building energy codes will lead to a 4% drop in airborne pollutants (e.g., SO_2, NOx, PM2.5) and an emissions reduction equivalent to permanently removing over 725,000 cars from Georgia's roads.

Customers' bills go farther:

More modern building energy codes help residential buildings save energy in a variety of ways. The best time to implement these efficiency upgrades is when buildings are first being constructed. Residents are expected to save between $130 and $220 on their utility bills per year (depending on the building type), and these savings will persist for decades.

A better electricity system:

Higher-performance buildings reduce the amount of electricity utilities must purchase and the amount of infrastructure they must install and maintain. As a result, Georgian electric ratepayers—even those who do not live in upgraded homes—will enjoy savings of hundreds of millions of dollars' worth every year.

A healthier state:

Improved building energy codes tend to reduce generation from the region's dirtiest power plants, avoiding the release of hundreds of tons of pollutants like sulfur dioxide (SO_2), nitrogen oxides (NOx), fine particulate matter (PM2.5), volatile organic compounds (VOCs), and ammonia (NH_3) into the air each year. The resulting cleaner air will deliver tens of millions of dollars in total health benefits every year by reducing mortality, lowering heart attack incidents, and lessening the number of lost workdays.

How Georgia can update its building energy codes

The International Energy Conservation Code (IECC) is the model residential building energy code generally adopted by states and jurisdictions. The IECC is developed through a consensus process with updates published every three years. Georgia currently uses an amended version of 2015 IECC codes. The legislature or governor's office have the ability to propose building code updates to the State Codes Advisory Committee via the Department of Community Affairs. While the Department of Community Affairs has a goal of revising Georgia's building energy code on a three-year cycle, the department is not currently required to do so by law. We recommend that state decision makers take decisive action to update these buildings codes today.

Constructing new buildings to Passive House standards offers even greater benefits

Buildings can be constructed "beyond code" to meet even higher standards than 2021 IECC, delivering greater benefits as a result. Passive House is a design standard that prioritizes air tightness and insulation. Buildings constructed to Passive House standards use substantially less energy, are easier for the grid to accommodate, save money for occupants and electric ratepayers, and are more resilient to power outages. They are also extremely comfortable homes that people love to occupy. The benefits of surpassing 2015 IECC standards and instead building new construction to Passive House standards are listed below.

	Single-family Passive House	Multifamily Passive House
Utility bill savings	Average household will save $460/year on its electric utility bill. Lifetime utility bill savings equal $9.8 billion.	Average apartment unit will save $220/year on its electric utility bill. Lifetime utility bill savings equal $19.5 billion for all units combined.
Energy waste reduction	Lifetime energy reduction of 123,000 gigawatt-hours, or enough savings to permanently displace the need for an average coal-fired power plant.	Lifetime energy reduction of 246,000 gigawatt-hours, or enough savings to permanently displace the need for two average coal-fired power plants.
Peak demand reduction and avoided electricity system costs	Reduces peak demand 2.1% by 2033, reducing utility energy and capacity costs by $128 million per year.	Reduces peak demand 4.1% by 2033, reducing utility energy and capacity costs by $258 million per year.
Air quality benefits	Average reduction in air pollutants of 2.4%; emissions reduction equivalent to permanently removing over 430,000 passenger vehicles from Georgia's roads.	Average reduction in air pollutants of 4.7%; emissions reduction equivalent to permanently removing over 860,000 passenger vehicles from Georgia's roads.

- Lowering heating and cooling demand in new construction lowers energy and capacity requirements on the grid, in turn lowering costs for all and enhancing grid reliability.
- Energy efficient buildings are more resilient, enabling residents to safely shelter in place for longer periods of time during power outages.
- Improvements to the building envelope (e.g., walls, windows, foundation) are most cost-effective to complete during building construction, and the resulting savings can persist for decades.
- The benefits of improved building codes are especially great for low-income customers, especially those who are energy burdened (i.e., those who spend greater than 6% of their incomes on energy costs).

Methodology

The statistics on this fact sheet were calculated by combining bottom-up building energy modeling with average projections for the evolution of Georgia's electric grid through 2035. Reported benefits result from improvements to single-family homes and low-rise multifamily buildings, and do not include potential benefits from multifamily buildings greater than three stories, commercial buildings, or industrial facilities. Energy savings depend on weather, and the benefits reported here assume typical meteorological years. For additional details on how these savings numbers were calculated, see our methodology here: https://www.aceee.org/sites/default/files/pdfs/ga-building-energy-codes-documentation.pdf.