



AFFORDABLE HOUSING

“Advanced Energy guarantees low utility bills for two years, but the way we build houses under their guidance keeps them performing well for 10 or 15 years or longer. It takes just a phone call to get someone out to the building site if we have a problem. I think these guys are great.”

— Roger Chiles,
Director of Residential
Construction
Self-Help Credit Union

HISTORY

Opportunity

The majority of families living in affordable housing spend close to 20 percent of their household income on energy. With energy usage and costs expected to rise dramatically over the next couple of decades, **SystemVision** can help significantly lower homeowner energy usage and expenses through a process developed specifically for developers and builders of affordable housing.



Solution

Launched in 2001, **SystemVision**, Advanced Energy’s new construction affordable housing program, provides the training and technical support that leads to improved health, safety, durability, comfort and energy efficiency of affordable homes. Nonprofits developing low and moderate-income housing within North Carolina are eligible to start building with **SystemVision** and, through the N.C. Housing Finance Agency (NCHFA), funding is available to these organizations to help defray the costs often associated with building high-performance homes.

SUCCESS WITH AFFORDABLE HOUSING

SystemVision

At **SystemVision**’s core is finding practical solutions to aid developers and builders in the design, construction and marketing of high-performance affordable homes. Advanced Energy provides third-party building expertise, paired with a practical and cost-effective process for builders based on its knowledge of the affordable housing construction market. The program simplifies the standards, training, verification and feedback processes for affordable housing developers and builders.

SystemVision standards cover: air tightness and framing; ventilation and moisture management; insulation and windows; HVAC sizing and installation and duct tightness; pressure balancing; combustion safety and appliances.

To date, Advanced Energy has helped partners build more than 2,000 homes in North Carolina through the **SystemVision** program. All homes in the program carry a heating and cooling energy guarantee.

Results

In 2007, Advanced Energy revealed that **SystemVision** is proven to save 15 percent more in energy use and costs than standard code-built homes, or approximately 30 percent of the heating and cooling portion of the bill.

The study compared 12 months of energy usage data in central North Carolina homes that were less than five years old. While a typical 1,700 square-foot house used approximately 17,056 kWh of energy with total costs of \$1,431 yearly, the homes built to **SystemVision** standards

MORE INFORMATION

www.SystemVision.org



AFFORDABLE HOUSING

"Our goal is to improve energy efficiency in every home receiving public or charitable funding, while improving the homes' safety, durability, comfort, affordability and environmental impact,"

*- Krista Egger,
Affordable Housing
Program Manager
Advanced Energy*

used approximately 14,579 kWh of energy with total costs of \$1,223, a savings of more than \$200.

Beyond high-performance home construction, the program has also resulted in the development of a statewide quality control infrastructure, a network of trained sub-contractors and a remote-access tracking database tool.



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Key Benefits

A **SystemVision** home offers families the relief of knowing they will always afford to remain in the home they've worked so hard to purchase.



With **SystemVision**, more than 100 affordable housing developers in North Carolina, including Habitat for Humanity affiliates, local governments, CDCs and a host of nonprofit organizations, build approximately 400 high-performance homes each year.

These homes also have exclusive heating and cooling and comfort guarantees (See appendix for sample guarantee).

MORE INFORMATION

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AFFORDABLE HOUSING

SystemVision has had a clear impact on the environment.

The energy saved by 1,000 homes would have taken 1.5 million tons of coal to generate.

Burning that coal would have produced 3.8 million pounds of carbon dioxide, and the prevention of that carbon dioxide being released into the atmosphere is equal to not driving 4.7 million miles.

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Benefits to Families

Using **SystemVision** in the design and construction of affordable housing reaps multiple benefits, including:

- Guaranteed average monthly cost for heating and cooling.
- Savings of up to 50 percent on the heating and cooling portion of the family's bill.
- Whole-house comfort with temperatures varying no more than three degrees in the center of each room from the thermostat set point.
- Long-term durability and affordability of the home.

People in the building trades will increase their skills and knowledge with the potential for generating new business. More money will pass through local communities. More energy-efficient homes means a cleaner environment with less need for new power plants and a decrease in the production of greenhouse gases.



Creating Change in Homes Nationwide

For almost 30 years, Advanced Energy has been creating change. Through **SystemVision**, performance-based programs that guarantee both comfort and costs of heating and cooling have been developed. Homes built with **SystemVision** use 30-50 percent less energy for heating and cooling and are more comfortable. With partners in the building and utility industries, Advanced Energy has demonstrated the success of using **SystemVision** and other performance-based programs in more than 150,000 homes nationwide.

MORE INFORMATION

www.SystemVision.org