Pennsylvania Energy Efficient New Homes Program

CASE STUDY

BUILDER SPOTLIGHT: KEYSTONE CUSTOM HOMES

A companywide commitment to energy efficiency fosters greater home buyer satisfaction, wider industry recognition and thousands of dollars in financial incentives.

Keystone Custom Homes builds high-quality properties that save, on average, 3,000 kWh of electricity annually compared to standard-built homes, earning industry and customer recognition, plus on average $900 per home in financial incentives from FirstEnergy's Pennsylvania utilities.

A commitment to energy efficiency began by upgrading from 2x4 to 2x6 walls. With fewer studs and rafters, advanced framing minimizes air drafts and allows for greater use of insulation, lowering homeowner energy costs.

Keystone Custom Homes places studs every 19.2 inches. The change from 16-in.-on-center does not affect drywalling and allows construction crews to align framing with floor joists, further reduce lumber costs and create greater synergy with HVAC systems by minimizing duct bends.

Confidence in these energy efficiency practices is demonstrated by Keystone Custom Homes guaranteeing customer heating bills will stay below $390 for the winter months. Despite many cold winters, Keystone Custom Homes has not had to repay a single customer.

"We're trying to design with energy efficiency in mind, certainly," said Director of Marketing Ben Rutt. "Ultimately, our goal is to save the customer money. It comes down to their personal pocket book."

KEY STATISTICS

Total Builder Incentive	$1,047
HERS Score	58
Annual Electricity Savings	3,491 kWh
Whole House Infiltration	2.93 ACH50
Duct Leakage to Outside	0.03 CFM25
High-Efficiency Lighting	100%
Ceiling Insulation	R-38
Wall Insulation	R-20
Heating Equipment Rating	92 AFUE
AC Equipment Rating	13 SEER
Water Heater Rating	0.67 EF

(Rater: TopBuild Home Services)

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The Home Energy Rating System (HERS) Index ranges from 150 to 0, with more energy-efficient properties achieving lower scores. A code-compliant home constructed in 2018 scored, on average, an 85 on the index. Keystone Custom Homes has achieved scores as low as 57.

HERS testing was performed initially to meet local ordinances. In recent years, incentives from the Pennsylvania Energy Efficient New Homes Program led Keystone Custom Homes to record HERS Scores with all their Pennsylvania properties.

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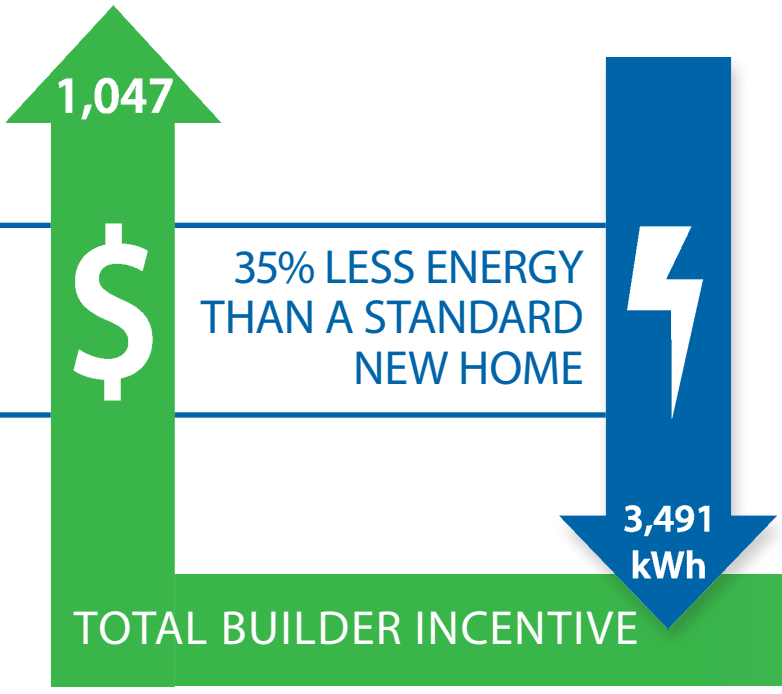
>
> - Ben Rutt, Keystone Custom Homes, Director of Marketing

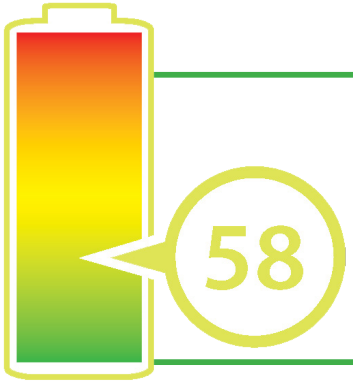
"Keystone Custom Homes turned a corner and went all-in for FirstEnergy's Pennsylvania utilities' incentive programs," said Chuck Bond, a HERS Rater at TopBuild Home Services. "They see the monetary advantage to it. They want to take their energy efficiency practices as far as they practically can, while staying



Whole-House Infiltration: 2.93 ACH50
An effective leakage area (ELA) of 104 sq. inches suggests all gaps throughout the home can fit within a hole that would measure just 10x10 inches. Such a tightly constructed frame creates a building envelope that allows only 2.93 air changes per hour at 50 Pascals (ACH50), well below the 2009 building code's limit of 7.

13 York Road in Douglassville, PA uses 35% less energy than a standard new home. Recognizing this achievement, the Home Builders Association of Berks County featured the 2,789-square feet, single family home when presenting Keystone Custom Homes with the 2018 Building Award for Energy Efficiency and Sustainability.

Advanced framing techniques and comprehensive use of LED lighting resulted in 13 York Road scoring a 58 on the HERS Index.



HERS SCORE

Average code-compliant homes scored 85 on the HERS Index. 13 York Road in Douglassville achieved a score of 58.

The Pennsylvania Energy Efficient New Homes Program
Builder incentives are available for qualifying homes within FirstEnergy's Pennsylvania utilities' service areas: Met-Ed, Penelec, Penn Power and West Penn Power. The Pennsylvania Energy Efficient New Homes Program offers at minimum 30¢ per kWh saved for homes that achieve 15% savings over the 2009 International Energy Conservation Code. Additional incentives are available for builders who comply with ENERGY STAR® V3.0 certification requirements or who build housing for low-income residents.

FOR MORE INFORMATION:
EnergySavePA-NewHomes.com
1-800-537-6745

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