



# LOWER ENERGY COSTS

## Building Energy Codes: A Cost-Effective Path to Lower Energy Bills

Building homes to modern energy code standards protects homeowners from rising energy costs. Homes built to stronger codes are less expensive to heat and cool than those built to outdated standards.

Yet today, much of the country still allows new homes to be built to an outdated energy code – the 2009 International Energy Conservation Code (IECC). The 2009 IECC falls short of delivering cost-effective, life-of-the-building energy performance for today's housing market.

### Balancing First Cost and Long-Term Savings

Recent model energy code editions can be more expensive to implement. For example, the National Association of Home Builders estimates that building to the 2021 IECC can add between \$9,600 and \$21,400 to the cost of a new home, depending on the climate zone.

Much of this added cost stems from newer code provisions that encourage builders to install high-efficiency mechanical equipment that exceeds federal minimum standards.

At the same time, homebuyers increasingly expect new homes to be more energy efficient and to deliver lower monthly utility bills.

### The 2015 IECC: A Practical, Cost-Effective Solution

Homes can be energy-efficient without unduly driving up construction costs. This is achieved by building to the 2015 IECC. A home built to this code is 20% more efficient than a home built to the 2009 IECC,<sup>1</sup> with most of the improvements coming from stronger building envelope requirements – better insulation, air sealing, and windows. These upgrades last for the life of the home.

2015 IECC

A home built to the 2015 IECC is 20% more efficient than a home built to the 2009 IECC at an additional cost that can be recovered in as little as 1.5 years.

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The 2015 IECC is far less expensive to meet than newer code versions. Industry estimates for the incremental cost of meeting the 2015 IECC versus the 2009 IECC are \$1,200-\$2,850, depending on the climate zone. This added cost is recouped and paid back in a few short years through lower gas and electric bills that will then last the life of the home.

## An Affordable Energy Code Approach

Building to the 2015 IECC delivers approximately 20% greater energy efficiency than the 2009 IECC, reducing long-term energy costs for homeowners.

METRIC	VALUE
Efficiency Gain	The 2015 IECC is 20% more energy efficient than the 2009 IECC
Incremental Cost	\$1,200-\$2,850 per home
Payback Period	1.5-7 years
Homeowner Payments	Homeowners see positive cash flow within months

## Policy Recommendations

### 1. Align Federal Housing Policy with Cost-Effective Efficiency

Current federal requirements for FHA and USDA-backed mortgages reference newer energy codes that have proven controversial and are the subject of ongoing litigation.

## Recommendations

- 1. Set the federal minimum energy code requirement for federal mortgages** at the 2015 IECC, which provides a proven balance between upfront cost of compliance and long-term savings (26 states currently enforce the 2015 IECC or a more recent code edition).
- 2. Offer first time homebuyers lower federal mortgage interest rates** when they purchase a home built to the current model energy code.
- 3. Promote consumer awareness** by requiring homes financed through federally backed mortgages to certify in closing documentation (1) the energy code edition used for construction, and (2) the estimated energy savings compared to a 2009 IECC home.

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<sup>1</sup> *Cost-Effectiveness Analysis of the 2009 and 2012 IECC Residential Provisions – Technical Support Document*, Pacific Northwest National Laboratory (2013).