BCAP Dedicated to the adoption, implementation, and advancement of building energy codes

Incremental Cost Analysis

One of the major barriers to energy code adoption is the concern that the cost of upgrading to the latest model energy code would be prohibitive. To address this issue, BCAP undertook a study to quantify the incremental construction cost of upgrading to the 2009 IECC in each state where such an analysis was feasible.

The True Cost of Building a New Home

Moving from current practice to the 2009 IECC for new homes would result in a weighted average incremental cost of $818.72 per new home. The annual energy savings per home would be $243.37 on average, meaning the simple payback for homeowners would occur in 3.36 years.

When amortized over a thirty year loan, the average additional cost on a 20 percent down payment would be $163.74 and just $3.18 more in monthly mortgage payments. Moreover, when factoring in energy savings, **the homeowner would realize net savings within the first year.** For examples of how the cost is rolled into a mortgage, please refer to BCAP's Incremental Cost Fact Sheets for Kentucky, Nevada, and North Carolina.

State	Weighted Average Incremental Cost	Median Energy Savings	Simple Payback (Years)
Alabama	$ 668.76	$ 205.00	3.26
Arizona	$ 559.49	$ 217.00	2.58
Colorado	$ 922.73	$ 239.50	3.85

Connecticut	$	897.42	$ 235.00	3.82
Georgia	$	675.36	$ 206.00	3.28
Idaho	$	872.81	$ 235.50	3.71
Iowa	$	863.69	$ 260.50	3.32
Kansas	$	799.27	$ 468.50	1.71
Kentucky	$	773.92	$ 336.00	2.30
Louisiana	$	572.43	$ 188.50	3.04
Massachusetts	$	910.99	$ 200.50	4.54
Mississippi	$	646.08	$ 211.50	3.05
Michigan	$	965.19	$ 274.00	3.52
Minnesota	$	1,828.20	$ 315.00	5.80
Missouri	$	875.28	$ 459.00	1.91
Nevada	$	777.15	$ 228.50	3.40
New Mexico	$	666.00	$ 233.50	2.85
New York	$	835.82	$ 259.00	3.23
North Carolina	$	1,129.93	$ 221.50	5.10
North Dakota	$	903.79	$ 343.00	2.63
Ohio	$	765.43	$ 229.00	3.34
Pennsylvania	$	697.79	$ 240.50	2.90
South Carolina	$	692.74	$ 207.00	3.35
South Dakota	$	1,293.59	$ 405.00	3.19
Utah	$	935.58	$ 242.00	3.87
Virginia	$	582.07	$ 225.00	2.59
Wisconsin	$	556.18	$ 220.00	2.53
Wyoming	$	1,280.47	$ 391.00	3.27
Weighted Incremental Cost	**$**	**818.72**	**$ 243.37**	**3.36**

We believe these cost estimates are conservative and represent an upper bound on incremental cost, as they utilize only traditional building techniques and do not take advantage of certain technologies or performance trade-offs that would lower these costs further and improve energy performance.

For more detailed cost data on all of the states listed above, as well as information on the methodology used, please review BCAP's complete incremental cost analysis model and report (*www.bcap-ocean.org/incremental-cost-analysis*).

Similar Incremental Cost Analyses

Washington State — The Northwest Energy Efficiency Alliance (NEEA) has conducted a similar analysis of cost and savings estimates to update to the 2009 Washington State Energy Code (Residential and Non-Residential reports). (*Links are available on OCEAN*)