

Progressive Jurisdictions in a Conservative State

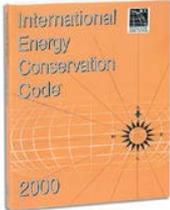


March 23, 2016

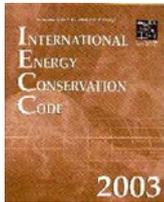
How Conservative is Idaho?

- A [new poll released by the Gallup organization](#) reported Idaho to be the second-most conservative state in the nation, second only to Mississippi.
- The survey said 48.5 percent of Idahoans labeled themselves as conservative, 38.5 percent considered themselves as moderate and 14.9 percent were self-identified as liberal. (*Boise Weekly, Feb 25, 2011*)

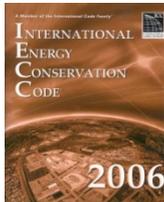
Energy Code History in Idaho



Effective July 1, 2002



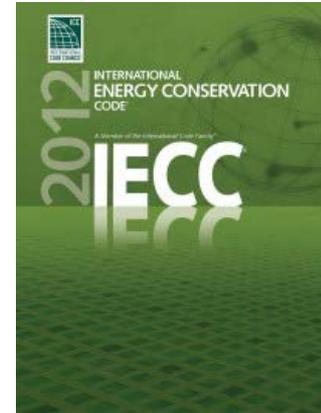
Effective Jan 1, 2005



Effective Jan 1, 2008



Effective Jan 1, 2011



Effective Jan 1, 2015

One year late

Heavily amended

Status of Adoption of Full 2012



- Ketchum – Full 2012
- Hailey – 4ACH₅₀
- Idaho Falls – No BlowerDoor
- Ammon – No BlowerDoor
- Boise – Discussing

Strategies

- Market Assessment of Stakeholders (2012)
- Market Research – Homeowner Survey (2013)
- Cost / Benefit Analysis – National, Regional and State Studies plus Local Price Research
- National Research (Shelton Group, NAHB)
- Identify and Overcome Perceived Obstacles
- Collect Feedback from Jurisdictions

Market Assessment Key Finding

78% of elected officials

90% of building officials

84% of architects

75% of homeowners

It is moderately or highly important that Idaho building codes are consistent with a national standard

Source: *Energy Code Market Assessment Results for Idaho*, published November 19, 2012



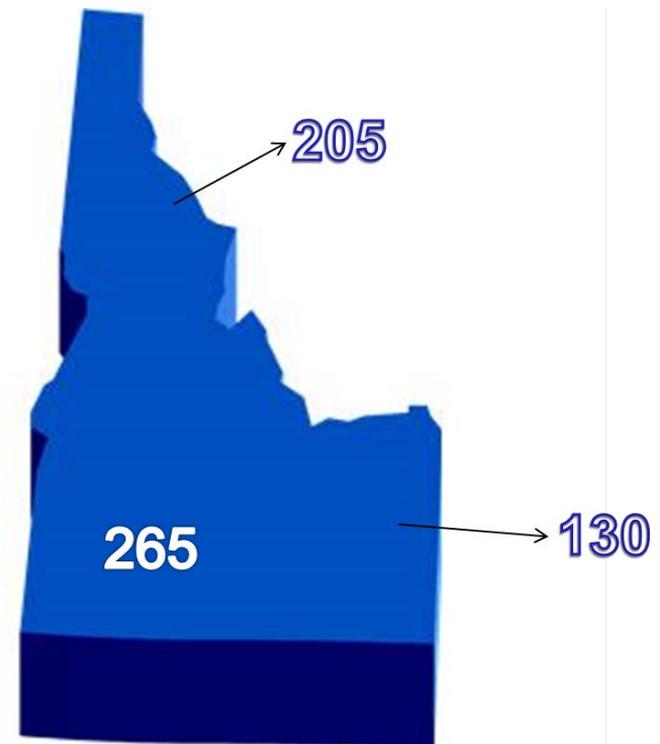
METHODOLOGY

600 Random Digit Dial surveys

13 minutes each

30% wireless

Homeowners and renters, over age 18.



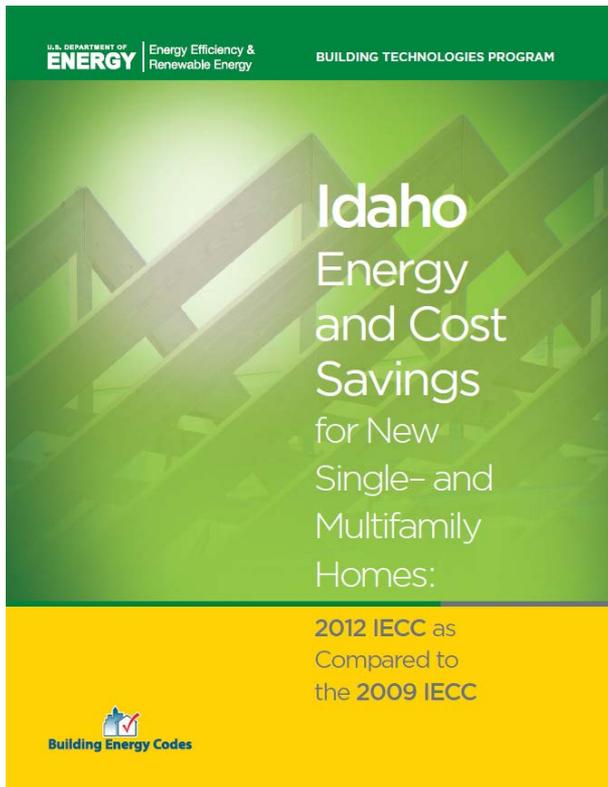
Idaho Homeowner Survey Results

- 65% of Idahoans support state energy codes that are consistent with national standards
- Monthly operating costs are the top driver followed by a belief that energy code standards ensure quality construction
- 88% strongly or somewhat agree that energy efficiency increases resale value
- Willing to pay \$10 per month to save \$16
- 7 years is an acceptable payback period



Life-Cycle Cost – Climate Zone 6

DOE/PNNL Study – Based on actual construction starts in Idaho, assumes a *prescriptive* (worst case) approach.



Cost Increase \$1,875

Life-Cycle Savings \$4,798

Simple Payback 6.8 Years

28.8% Energy Cost Savings

Monthly Savings \$29



Local Research – Cost Benefit Analysis

Home 3 – 4465 Meadow Ranch Ave – **Climate Zone 5**

CZ 5	Annual Baseline Energy Costs	Ceiling Cost Savings	Window Cost Savings	3ACH50 Cost Savings	5ACH50 Cost Savings	Lighting Cost Savings	Annual Energy Costs 2012 IECC
Home 3	\$1,562	\$14	\$16	\$133	\$67	\$19	\$1,381

\$181 decrease in annual energy costs (assumes 3 ACH50)

CZ 5	Ceiling Cost R-38 to R-49	Window Cost U-0.35 to U-0.32	air testing 7 ACH50 to 3ACH50	Lighting Cost 50% CFL to 75% CFL	Total Incremental Costs
Home 3	\$386	\$83	\$165	\$31	\$665

\$665 increase in incremental costs



2013 NAHB Research

“What homebuyers really want is...
first and foremost, energy efficiency.”

Source: *What Home Buyers Really Want* by NAHB Economics and Housing Policy Group, published February 19, 2013, www.nahb.org



Is Blower Door Testing an Issue?

- Mandatory blower door testing below 3ACH₅₀
- Idaho research tells us the average blower door test is 3.6ACH₅₀
- Local research tells us the average blower door test is 2.63ACH₅₀ (out of 50 homes)
- Ketchum is requiring blower door testing.
- Air sealing is the most cost effective energy efficiency measure based on actual savings
- EEBA analysis that 2-2.5ACH₅₀ is ideal for durability

Is Lighting an Issue?

- The lighting requirement increase from 50% to 75% of installed bulbs must be CFL or LED
- Resistance to CFLs, dissatisfaction with quality
- 2013 is the tipping point for LEDs when quality increased and costs decreased to make LEDs a smart investment—*ROI best of any measure*
- Example, Costco makes a 65-Watt equivalent BR30 LED bulb (can light) for \$6.99 that uses 13 watts, last over 22 years and has a CRI of 93 (now less than \$3/bulb)

Is Cost an Issue?

- The cost estimates using the prescriptive approach are inflated
- Majority of submittals use REScheck™ which allows trade-offs in envelope requirements
- The most expensive measure is the change to wall insulation to require +5 rigid insulation
- Energy savings can be achieved more cost effectively by using trade-offs in REScheck™

Benefits to Homeowners

- 28.8% energy cost savings
- Life-Cycle Savings \$4,798
- Less than 7 year simple payback
- Improved comfort
- Better, non-toxic pest control
- Better quality construction
- Better potential resale value
- 2 out of 3 Idahoans want codes to be consistent with national standards

Jurisdiction Feedback



Energy Code Survey

December 11, 2015

On behalf of the Idaho Energy Code Collaborative, I am reaching out to those jurisdictions who have adopted the full 2012 IECC (this survey only pertains to residential not commercial) to gather feedback on the adoption process, perceptions and compliance. The Collaborative is starting to meet to vet the 2015 IECC, which also includes a discussion of the components of the 2012 IECC that were amended at a State level to remain at 2009 IECC levels. We are looking for your honest feedback on challenges and successes so we can convey firsthand experience and opinions from jurisdictions already enforcing some of the components being evaluated.

This survey is being sent to the Cities of Ketchum, Hailey, Idaho Falls and Ammon.

Your Name _____
Your Jurisdiction _____

1. Please describe any amendments your jurisdiction made to the full 2012 IECC. For example, some jurisdictions are requiring blower door testing, and some are not.
2. Please describe the level of stakeholder support for adopting the full 2012 IECC.

On a scale of 1 to 5:
1 = against, 2 = somewhat against, 3 = neutral, 4 = somewhat supportive, 5 = very supportive.

Building Officials and Inspectors	1	2	3	4	5
Elected Officials	1	2	3	4	5
Designers	1	2	3	4	5
Builders	1	2	3	4	5
Homeowners	1	2	3	4	5
3. Please describe your perceptions of how supportive or not the community was about adopting the full 2012 IECC. What did they support? What were their concerns? Have concerns been overcome? How?
4. What portion of homes in your jurisdiction comply by REScheck vs. a prescriptive path?
 - Less than 25% comply using REScheck
 - 25% - 75% comply using REScheck
 - More than 75% comply using REScheck

The Idaho Energy Code Collaborative facilitates energy code implementation through education, outreach and technical assistance and prepares for the adoption of new energy codes by setting changes and providing an open forum for stakeholders to voice concerns and reach consensus. www.IdahoEnergyCode.com

- Ketchum
- Hailey
- Idaho Falls
- Ammon

December, 2015



Survey Results

- The most common amendment to the full 2012 IECC was to not require BlowerDoor testing
- Support for adoption was neutral to somewhat or very supportive (except building officials in Hailey were somewhat against)
- Concerns were about cost, BlowerDoor testing, ventilation and prescriptive wall requirements
- Compliance is over 75% through REScheck

Survey Results

Compliance by Component

- Windows consistently exceed code
- Wall and basement/crawlspace insulation meet code
- Ceiling insulation, air leakage, BlowerDoor test results and lighting tend to meet and somewhat exceed code

Survey Results

“There was no public comment in opposition or in support of the code adoption. We have received no comments or concerns. The RESchecks have consistently been coming in about 3% above code.”

“Our above energy code is overall complied with. Enforcement is our largest concern.”

“In some instances, the lighting exceeds requirements as the homeowners are requesting LED lighting.”

“The continuous rigid insulation on the exterior of the home causes problems for siding installation/warranty.”

“Just the cost of a blower door test when all of the homes we did testing on were better than 3 ACH₅₀.”



Survey Results

“In favor of full 2012 because our contractors have been able to easily absorb the additional requirements, and the results are more efficient, more comfortable homes. In favor of the 2015 for same reasons, plus we have heard it is better written and easier to administer.”

“In favor! Subs, generals, designers and suppliers need more education but they have come a long way.”

“I would be in favor of adopting the full code, but have concerns with the mandatory blower door requirements where a number of the random test being done are less than 3 ACH₅₀ which imply that the visual inspection option has worked.”

“In favor as we have already done this except for the blower door.”



Outlook

Idaho Energy Code Collaborative just issued a proposal to adopt the 2015 IECC with only a few amendments:

- Modify Table R402.1.1 to change the ceiling R-value R-38 and wall value to R-21
- BlowerDoor testing is optional – 7A_{CH50}
- Hot water pipe insulation only required on supply and return piping in recirculation other than demand recirculation systems

Outlook

- ERI Compliance Option based on Home Size

Climate Zone	Energy Rating Index
1	52
2	52
3	51
4	54
5	<u>1,500 sq. ft. or less – 70</u> <u>1,501 sq. ft. to 2,500 sq. ft. – 65</u> <u>2,501 sq. ft. to 5,000 sq. ft. – 60</u> <u>5,001 sq. ft. or greater – 55</u>
6	<u>1,500 sq. ft. or less – 69</u> <u>1,501 sq. ft. to 2,500 sq. ft. – 64</u> <u>2,501 sq. ft. to 5,000 sq. ft. – 59</u> <u>5,001 sq. ft. or greater – 54</u>
7	53
8	53

*Earliest
possible
adoption is
Jan 1, 2018*