

# Energy Code Marketing Plan for Idaho

*Part 2 of the BPA Grant*

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## Introduction

As part of a grant awarded by BPA, a market assessment was conducted in May through August of 2012 to research market barriers to code compliance and guide the development of a more comprehensive marketing plan. This marketing plan serves as a roadmap for how to overcome barriers to code acceptance and provide tools that lead to more widespread awareness and understanding of the value of energy codes. The market assessment included city and county building departments, city and county leaders, political leaders, the commercial and residential design industry and homeowners (unfortunately, builders did not participate in the survey). The market assessment and writing of this plan was led by marketing specialist, Sharon Patterson Grant, Eco Edge, with assistance from Ken Baker, K energy; Ron Whitney, Division of Building Safety (DBS); Jennifer Pope, Office of Energy Resources (OER); and, staff from Resource Media. Leon Duce from the Association of Idaho Cities (AIC) administered surveys to the following audiences:

- Elected officials of 200 cities and 44 counties (via the AIC)
- Building officials (via the Idaho Association of Building Officials)
- Architects (via the American Institute of Architects, Idaho Chapter)
- Homeowners (via Canyon County Assessor's Facebook page and various Treasure Valley neighborhood associations)

In addition to the market assessment results, a number of sources were referenced to create this marketing plan. In 2011, the Consumers Union surveyed approximately 5,000 homeowners across the U.S. on their views of energy codes. Several of the questions asked by the Consumers Union were included in the market assessment survey of Idaho homeowners, which enables us to compare the results. In early 2012, the Idaho Energy Code Collaborative ("Collaborative") conducted a message workshop that resulted in a "Communications Guide for Building Support for Stronger Energy Codes in Idaho." The Collaborative also hosted a meeting on July 18, 2012, and October 15, 2012, for stakeholders to discuss recommendations for the Idaho Building Code Board (IBCB) on code adoption. Also in 2012, the IBCB held three public hearings, and testimony at these meetings is referenced. An interview with the newly hired Energy Code Circuit Rider contributes his perspective on compliance and enforcement. In early 2013, a report on "Residential Energy Code Compliance in Idaho" was published by the Northwest Energy Efficiency Coalition (NEEA), and results from this study are referenced in this marketing plan. Because cost is perceived as a significant barrier, several cost studies are quoted. And, select outreach materials from the Consumers Union and other states are included for reference.

This marketing plan serves as an outreach plan for overcoming the barriers to code acceptance that were identified in the market assessment. Objectives of the plan include 1) improving Idaho energy code compliance and assuring future energy code acceptance by providing tools that lead to more widespread awareness and understanding of the value of energy codes and 2) documenting a consistent process for adoption, enforcement and implementation of energy codes in Idaho. It outlines how to most effectively reach a diverse range of Idaho stakeholders, including elected officials, building officials, architects, builders, homeowners, real estate professionals and the appraisal community. It also translates the benefits of energy codes into language that Idaho consumers, political leaders and industry implementers will understand and embrace. Questions are being asked about code stringency and code value, and this plan aims to provide well-prepared and documented Idaho-based answers to inform future actions and inquiries.

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## 1. Executive Summary

A market assessment was conducted in mid-2012 in Idaho to identify barriers and gauge perceptions in relation to energy code adoption, compliance, enforcement and cost. The survey results form the foundation of this marketing plan. The recommended outreach measures are based on overcoming barriers identified in the market assessment and communicating to each audience according to their values.

The outreach plan outlines four strategies for overcoming the most significant barriers and recognizing audience values. First, the primary barrier is the perceived cost of a more stringent energy code, and a recommended approach is to develop a cost/benefit analysis that includes local research and involves local builders and then communicate accurate cost information to all audiences. The second strategy addresses the learning curve associated with each code cycle by outlining a detailed timeline and defining targeted education strategies for each audience. Third, continuing the quarterly stakeholder meetings fosters a collaborative approach to code adoption, compliance and enforcement. Lastly, developing targeted outreach materials that speak to each audience's values and concerns will help to overcome barriers to code acceptance and lead to more widespread awareness and understanding of the value of energy codes.

Even though cost was identified as the most significant barrier, the results show a misperception that the cost of building to the 2009 International Energy Conservation Code (IECC), the current energy code in Idaho, vs. the 2006 IECC, the previous energy code, is higher than what multiple studies show. And, of particular importance, homeowners indicate that they are willing to finance at least or more than the estimated cost. Overcoming the cost barrier requires local research on cost that involves local builders because they are skeptical of studies done outside of Idaho by entities such as DOE (Department of Energy). Then, a cost/benefit analysis needs to be communicated to decision makers on energy code adoption. And, elected officials will likely want to know the payback for homeowners. In the past, they have required a five-year payback, and most studies are showing a payback of five to seven years to go from the 2009 IECC to the 2012 IECC. It is also important to consider the person who communicates information, i.e. the messenger. Results indicate that all audiences see an energy consultant as a reliable source of information on the cost of energy codes.

Although the survey did not focus on education and training, the survey results and anecdotal evidence indicate that this is perceived as a significant barrier and more research needs to be done to understand how to better target energy code training towards architects and builders. Results show that different audiences learn in different ways. Building officials rely on workshops, so continuing to offer workshops is an effective strategy. Architects learn primarily from individual study, so developing tools for them to learn independently will be valuable. Builders do not tend to attend workshops, so determining a more effective training approach for them, such as training in the field, would be advantageous. And, homeowners prefer to learn about energy codes online, so an online resource is recommended. Survey questions also addressed which components of the energy code are considered the most challenging, and the majority of building officials and architects said the addition of performance testing for envelope tightness and duct leakage. Air sealing was the second most challenging component. Targeting these topics during training will help overcome this barrier.

The effort to bring together stakeholders in Idaho to discuss code issues has been ongoing and productive. The group met in December, 2012, to discuss the cost barrier and builder concerns, and meets again in February, 2013. The consensus on the commercial energy code is to recommend adopting the 2012 IECC. However, there is debate with regards to the residential energy code where the recommendation is to significantly amend the 2012 IECC to almost match the 2009 IECC. This recommendation by stakeholders disregards the overwhelming support in the market assessment for ensuring Idaho codes are consistent with national standards and that homeowners are willing to pay for more energy efficient homes. Sharing these results directly with decision makers is a recommended next step.

Developing marketing materials with a targeted message for specific audiences are important for effective outreach. Specifically, targeting decision makers and homeowners would have the most impact. Decision makers value a cost/benefit analysis of energy codes and care what constituents think, so sharing market assessment results is important. Outreach to homeowners should include a website on the value of energy codes and materials to drive homeowners to the website such as a flyer that could be distributed at home shows and through mortgage providers to home and home equity loan customers.

Understanding why each audience values energy codes helps to shape the outreach plan and materials. Survey results show that the most important benefits for homeowners are reducing energy use and air pollution, making homes more comfortable and protection from high utility bills. Elected officials and building officials indicated that the most important reason builders should comply with energy codes is because it protects homeowners and ensures quality construction. There is also consensus on some critical aspects of code adoption. When asked if energy codes should be enforced like other safety and quality standards of construction, all audiences indicate strong agreement. In addition, significant majorities believe that it is highly or moderately important that Idaho building codes are consistent with a national standard. Both of these results indicate an inherent support for adopting the latest IECC every three years, yet this is not what is currently happening in Idaho. Implementing an outreach plan that speaks to each audience's values and recognizes the reasons for support will help to overcome barriers to code acceptance and lead to more widespread awareness and understanding of the value of energy codes.

## 2. Barriers to Energy Code Acceptance

The market assessment results and the outcomes from the message workshop hosted by the Collaborative in early 2012 indicate that the most significant perceived barrier to energy code acceptance is cost. Education and training (i.e., learning curve) and local jurisdiction capacity to enforce are also barriers. Below are the survey results. In addition, input from meetings, public hearings and interviews raised additional barriers, including special interests (i.e., industry influencing codes in their favor) and systemic issues.

*What is the most significant barrier to energy code compliance?*

	Education and training	Perceived higher cost to comply	State enforcement resources	Local jurisdiction capacity to enforce
Elected Officials	29%	49%	3%	19%
Building Officials	38%	50%	2%	11%
Architects	44%	39%	6%	11%

### 2.1 Cost

While survey results and anecdotal evidence indicate that cost is the most significant barrier to energy code compliance, homeowners seem willing to pay the increase in cost for a 15% more energy-efficient home. The majority of respondents (building officials, elected officials and architects) indicate that they think it costs \$1,000-2,500 more to build to the current energy code (2009 IECC) vs. the previous energy code (2006 IECC). Research indicates that the actual cost increase is roughly half that amount or \$874 according to the Incremental Cost Analysis study by BCAP for new homes in Idaho ([www.bcap-ocean.org](http://www.bcap-ocean.org)).

Correspondingly, homeowner responses indicate that the vast majority are willing to pay more than \$874 to finance a home that will save 15% on energy bills. In fact, 79% are willing to pay \$1,000 or more. Here are the results for reference.

*If you were to buy a new home, how much more are you willing to finance for a home that will save you 15% on your energy bills?*

	\$2,500 – 5,000	\$1,000 – 2,500	\$500 – 1,000	Less than \$500
Homeowners	43%	36%	11%	9%

If we look ahead at the cost difference between the 2009 and 2012 IECC, the research varies. At the June 12 Idaho Building Code Board Public Hearing, builders presented that there was a 9% cost increase to go from the 2009 IECC to the 2012 IECC based on a study published by the National Association of Home Builders (NAHB) in May of 2012. However, a detailed study by PNNL (Pacific Northwest National Laboratories) for DOE estimated the following construction cost increases for Idaho.

	2,400 sq ft SF house		1,200 sq ft MF apt/condo	
	Slab, unheated basement, crawl	Heated basement	Slab, unheated basement, crawl	Heated basement
Zone 5	\$1,438	\$1,672	\$769	\$803
Zone 6	\$2,568	\$2,568	\$1,182	\$1,182

If we assume that the average construction cost is \$100/sq ft, then the total cost is \$240,000 for a 2,400 sq ft house, then the increased cost for 2012 IECC in Zone 5 is less than 1% and in Zone 6 is about 1%, which is significantly less than the builders' estimate of 9%. One reason for this disparity is that the NAHB study only referenced a single family home not an apartment or condo and based estimates on Chicago and Helena (for

Climate Zone 5 and 6 respectively), which are very different markets than Idaho. The complete study can be found at [http://www.nahbrc.org/Trends and Reports/Report Search?search=true&tag=Green%20Building](http://www.nahbrc.org/Trends_and_Reports/Report_Search?search=true&tag=Green%20Building).

The PNNL study used actual construction start, heating source and climate data for Idaho; the complete study “Idaho Energy and Cost Savings for Single-Family and Multifamily Homes: 2012 IECC as Compared to the 2009 IECC” is available at [www.energycodes.gov/development/residential](http://www.energycodes.gov/development/residential).

In a study by Nexant for the Utah State Energy Program, they estimated a similar cost increase as the DOE study to go from the 2009 IECC to the 2012 IECC. They modeled a single family dwelling, both with a slab on grade foundation and with an insulated basement, and a townhouse with a slab on grade foundation. They also met four times with Utah home builders, code officials and the state of Utah to determine methods of complying with code. And, costs of complying with code were obtained from several Utah home builders who were given takeoffs of the prototype buildings. These costs were then averaged to represent typical building costs. The complete study is available at

<http://dbs.idaho.gov/boards/BBboard/SpecInterest/IECC%20Report%20080911%20copy.pdf>.

Here are their final results.

	Incremental Cost	Savings	Simple Payback
Zone 3	\$2,496	\$279	8.96
Zone 5	\$1,544	\$217	7.13
Zone 6	\$1,699	\$333	5.10

*These results indicate that the increase in cost is within the range of what 79% of homeowners responded they were willing to finance.*

Payback is an important component of cost for homeowners. The Nexant study found the simple payback to be approximately seven years for Climate Zone 5 and five years for Climate Zone 6. Here are the savings and payback periods according to the PNNL/DOE research for Idaho:

- Life-cycle cost savings, averaged across climate zones and building types, are \$4,057 for the 2012 IECC
- Simple payback period is six years for the 2012 IECC
- Households save an average of \$285 per year on energy costs with the 2012 IECC
- Net annual consumer savings, including energy savings, mortgage cost increases, and other associated costs in the first year of ownership average \$186 for the 2012 IECC
- Energy costs, on average, are 25.5% lower for the 2012 IECC

Cost is a significant concern for building officials, elected officials, builders and for homeowners, but the market assessment indicates that homeowners are willing to pay at least as much and more than estimated costs for a home that will save 15% on energy bills, which is approximately the percentage increase in energy efficiency with each three-year code cycle. In addition, national research by the Consumers Union indicates that consumers prioritize that “Homebuilders should not make less efficient homes at consumer’s expense” more than “Energy codes add to the purchase price of new homes but lower the operating costs.” Furthermore, builders and building officials at a July 18 meeting of the Collaborative expressed that cost is a significant issue: construction cost for builders and cost to purchase new code books for jurisdictions.

To overcome the cost barrier, more research should be done to validate the methodology used in national studies and to verify actual costs in Idaho to build to a new energy code. Similar to the Utah study, local builders should be involved to obtain costs and define the methodology. Then, results need to be shared with stakeholders and decision makers to correct or confirm their perceptions of the cost of the new energy code. It may also be meaningful to address the cost of purchasing books and attending training for jurisdictions as well as architects and builders. And, better communication to homeowners is needed on understanding the energy codes and the value of investing in greater energy efficiency.

## 2.2 Education and Training

In the market assessment, 44% of architects saw education and training as the most significant barrier to energy code compliance compared to the 39% that selected cost as the most significant barrier. According to building officials, education and training was the second most significant barrier to energy code compliance at 38% compared to the 50% that selected cost as the most significant barrier. And, during the June 12 IBCB Public Hearing, builders expressed that their main reason for opposing the adoption of the 2012 codes is the intense learning curve to understand the new code every three years. At a follow-up meeting organized by the Collaborative on July 18, the position the builders took was to delay the adoption of the Residential 2012 IECC for one year so there was time to digest the new energy code and agree on any potential amendments. The builders in attendance expressed support for adopting the latest and greatest code as a model and then amending it for Idaho.

To overcome this barrier, more education and training needs to be provided for architects and builders. Significant numbers of building officials participate in training each time a new code is adopted, but a much lower number of architects and even fewer builders participate. Energy code training is typically funded by NEEA and is free for participants. According to the market assessment, architects rely mostly on independent study to learn about energy codes, so developing self-study tools is recommended. Research needs to be conducted to determine the best method, location, timing and way of marketing energy code training that is targeted towards builders. Training also needs to be scheduled prior to the code adoption cycle to ensure a larger number of builders and, in particular, leaders of the BCA learn about the new energy code before it is considered for adoption by the IBCB at public hearings. A timeline is included in the section on Process for Adoption, Enforcement and Implementation.

## 2.3 Local Jurisdiction Capacity to Enforce

In the market assessment, “local jurisdiction capacity to enforce” was the third most significant barrier to energy code compliance; 11% of building officials responded that their capacity to enforce is the most significant barrier. This is not nearly as high a percentage as the other two barriers (cost and learning curve), but is still an issue because not all survey respondents indicate a perceived level of enforcement that is equal to or greater than the statewide goal to achieve 90% compliance. We would aim to see 90% of respondents perceiving a high level of enforcement, or at least 90% perceiving high or moderate levels of enforcement. Building officials do perceive this level of enforcement, with 93% selecting high or moderate, which indicates confidence in achieving 90% compliance and does not indicate an issue with local jurisdiction capacity to enforce. However, there is a strong difference between the audiences on their perception of how well building officials and inspectors enforce the code. For example, only 11% of architects surveyed reported that there is a high level of code enforcement, in contrast to 61% of building officials. Below are the survey results for reference.

*What is your perception of how well building officials and inspectors enforce current energy codes in your jurisdiction?*

	High level of enforcement	Moderate level of enforcement	Low level of enforcement
Elected Officials	30%	48%	22%
Building Officials	61%	32%	7%
Architects	11%	61%	28%

Another factor affecting compliance relates to the specific components of the energy code, and 71% of building officials and 61% of architects responded that the most challenging component of the energy code to comply with is the “Addition of performance testing for envelope tightness and duct leakage.” The second most challenging component is “Increased air sealing requirements.” Below are survey results for reference.

*Which component of the energy code is the most challenging to comply with?*

	Increased insulation R-value requirements	Increased window u-factor requirements	Increased air sealing requirements	Addition of performance testing for envelope tightness and duct leakage
Elected Officials	n/a	n/a	n/a	n/a
Building Officials	5%	0%	23%	71%
Architects	0%	0%	39%	61%

To overcome concerns about local jurisdiction capacity to enforce, more support needs to be provided for jurisdictions to ensure consistent and high levels of enforcement, specifically related to performance testing and air sealing. Support is already underway with the introduction of the Circuit Rider position by NEEA in Idaho in mid-2012. This should have a positive impact but also will likely not be sufficient to completely overcome this barrier. Statewide ongoing training should be provided that is consistent with the standards being set by the Circuit Rider and addresses current needs. At this point in time, the Circuit Rider’s training priority is Manual J, D and S calculations. Market assessment results suggest performance testing and air sealing should be a priority. Ongoing collaboration and feedback with the Circuit Rider should help define current needs. In addition, it would be meaningful to conduct a more detailed assessment of the potential internal barriers to compliance within a jurisdiction, which may provide additional information on the most meaningful support and/or resources to provide. The market assessment addressed components of the code that are barriers, but did not delve deeper into internal processes within a jurisdiction, such as identifying barriers to implement or enforce performance testing.

**2.4 Industry Special Interests**

Although “special interests” was not listed as a choice for a barrier in the market assessment, it was expressed as a concern at the June 12 IBCB Public Hearing and at the July 18 Collaborative meeting. Specifically, builders and industry expressed concern about codes that are based on special interests that show bias towards a particular industry or product. An example is the new wall insulation requirement in the 2012 IECC to have R-20 or R-13 cavity plus R-5 or R-10 continuous insulation in climate zone 6. And, a State Representative expressed that he wants code adoption decisions to be market driven not driven by industry or special interest groups.

To overcome this barrier, amendments should be considered to address code elements that are perceived to be based on special interest.

**2.5 Systemic Issues**

Much of the justification for systemic issues is anecdotal and is based on an interview with David Freelove, the new Energy Circuit Rider for Idaho. David started on May 1, 2012, and spends 10-15 days per month visiting jurisdictions around Idaho to serve Idaho’s local governments and their citizens, building safety professionals, construction industry and design professionals by providing a greater understanding and education of Idaho’s adopted energy codes. Here is a summary of the interview, which took place on August 20, 2012.

David has divided the types of jurisdictions that he sees into three types: 1) large, 2) small with a full-time building official and 3) small in a sparsely populated location. The issues are different for each type. Large jurisdictions typically have a high level of enforcement, have the money to provide workshops and see many different builders. Small jurisdictions with a full-time building official tend to have a high level of enforcement, do not have the money to provide workshops and see a small group of builders more than once. In small, sparsely populated jurisdictions, enforcement is often low to moderate, resources are very limited for any training and the building official will likely see different builders on only one or very few occasions.

A systemic issue for jurisdictions is the reliance of builders on building officials to educate them and provide quality control on code issues. This is a particular issue in small, sparsely populated jurisdictions, but can be an issue for large jurisdictions as well. This reliance is most noticeable when comparing the jurisdiction of Idaho Falls with other jurisdictions around Idaho. Idaho Falls requires builders and skilled trades to get licensed and earn CE credits annually, and the jurisdiction in turn provides free training opportunities. Builders are held accountable for learning, and tend to attend training events. Outside of Idaho Falls, builders do not tend to participate in code trainings. This places a lot of responsibility on building officials to spend time reviewing builders' plans and educating builders during the plan review and inspection processes. An example of how David addressed this when he was a building official was to offer to buy a code book for each builder at his ICC member price.

A compliance issue for jurisdictions is the need to address Manual J, S and D enforcement. Although these calculations were required prior to the latest code cycle, the reality is that it has not been enforced by most Idaho jurisdictions until the past two or three years. David has seen compliance lacking in many smaller jurisdictions, yet there is a willingness to improve. One solution being implemented is a template for enforcement during plan review that explains running the actual calculations. He is also offering training workshops and one-on-one guidance.

To correlate with the market assessment, David was asked to identify the most challenging component of energy codes, between windows, walls, air sealing and performance testing. He sees air sealing as the hardest to comply with and enforce, yet it has the biggest impact on energy efficiency. Performance testing is not being used by very many jurisdictions. Wall R-value is not a compliance issue. And, window U-factor is driven by industry so doesn't tend to be a challenge. The difficulty with air sealing is that visual inspection is a multi-step process that is often not feasible to inspect in the field. And, if air sealing is not done well, such as when verified with performance testing, then it is often deemed unreasonable to make a builder go back and fix it.

One last factor to consider regarding enforcement is the political nature of the position: the building official's job can be dependent on an elected official. A builder or homeowner complaining about a building official to an elected official could risk his or her job. Enforcing the codes too strictly or not strictly enough can have repercussions. Regardless, it establishes an incentive to be consistent, which also lends itself to good code compliance and enforcement.

To overcome these systemic issues, continued effort by the Circuit Rider to train, establish standard procedures and create tools, such as a one-page energy code checklist for builders, is likely to lead to greater consistency between jurisdictions and better compliance across the State. Understanding the compliance process is also important, for example, Manual J compliance is 90% plan / 10% inspection. Air sealing is 10% plan / 90% inspection. The methods to address each are at different stages of the compliance process. Considering the benefits of contractor licensing and CE requirements in Idaho Falls, this approach could also be a method for overcoming this systemic barriers to education and training across this state. And, according to David, consumers can demand and drive codes. It is an education process to let them know what measures save them money and bring value to their home or building. Therefore, homeowner outreach and education on the value of energy codes would support the industry and potentially lead to better compliance.

### 3. Value of Energy Codes

This section includes results from the market assessment plus results from a national Consumers Union survey on energy codes as well as outcomes of meetings and public hearings related to energy codes in Idaho.

#### 3.1 Idaho Market Assessment

Results indicate that the top reason for supporting the adoption of stronger energy codes is to protect homeowners from excessive energy costs, according to elected officials and building officials. Architects prioritized reducing the need for new power plants in Idaho. Here are the survey results again.

*Right now, what would be your top reason for supporting the adoption of stronger energy codes?*

	Protect homeowners from excessive energy costs	More high quality, comfortable homes in Idaho	Reduce the need for new power plants in Idaho whose cost is passed on to ratepayers	I don't support the adoption of stronger energy codes
Elected Officials	30%	10%	20%	35%
Building Officials	25%	21%	16%	36%
Architects	11%	21%	37%	26%

According to homeowner survey results in Idaho, the following statements about energy codes received the highest percentage of agreement:

- More energy efficient homes will reduce energy use and air pollution (91%)
- Energy codes help make homes more comfortable by reducing cold drafts and keeping all rooms an even, pleasant temperature (90%)
- Energy codes protect homeowners and renters from high utility bills (89%)

#### 3.2 Consumers Union National Survey

In summary, the top performing messages across nearly 3,000 respondents (out of over 5,000 surveyed) were:

- Most energy efficient buildings will reduce energy use and pollution (84%)
- Homeowners should have a right to a home that meets national energy standards (82%)
- Disclosure of a home's energy usage would enable me to make an informed decision about a new home purchase (79%)

The lowest performing statements fall into the category of home builder arguments such as "Energy codes add administrative hassle for builders and stall growth of new homes" (35%) and "Energy codes restrict the amenities of new homes." (23%) Surprisingly, messages that directly address consumer money saving performed lower than the top performing statements. For example, "Energy codes protect homeowners and renters from excessive energy costs" ranked 8<sup>th</sup> out of 17 messages.

Overall, the indicators of an energy efficient home that scored highest in terms of importance to save money were well-sealed windows and doors, adequate insulation, energy efficient windows and efficient HVAC. Well-sealed windows and doors, adequate insulation and efficient HVAC ranked highest in terms of should be standard in a new home. The 10 indicators to choose from included adequate insulation in attic and walls, well-sealed windows and doors, a certificate proving a home meets state energy codes, sealed fireplace, programmable thermostat, insulated ductwork, insulated pipes, energy efficient light bulbs, efficient heating and cooling systems and energy efficient windows.



## Stimuli Tested -Message Evaluation-

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- A total of 17 messaging statements were developed for this research as follows:

<b>MONEY SAVING</b>	101	Energy codes protect homeowners and renters from excessive energy costs
	102	Energy codes would help my energy bills be more affordable and predictable
	103	Energy code standards will help ensure that homeowner and taxpayer dollars are used wisely and efficiently as new buildings will be required to be built right the first time
	104	Homebuilders should not make less efficient homes at consumers' expense
<b>ENVIRONMENTAL</b>	105	More energy efficient buildings will reduce energy use and pollution
	106	Energy codes help reduce the need for more power plants in my community
	107	Energy codes help stimulate the economy and create green jobs
	108	Energy codes help improve indoor air quality
<b>QUALITY CONSTRUCTION</b>	109	Energy codes should be enforced like other safety and quality standards of construction
	110	Energy code standards will help to ensure quality home construction
<b>GENERAL</b>	111	Homeowners should have a right to a home that meets national energy standards
	112	Disclosure of a home's energy usage would enable me to make an informed decision about a new home purchase
	113	Energy codes help make homes more comfortable to live in
	114	Homebuilders should not save money on construction by making homes less energy efficient
<b>HOME BUILDER ARGUMENTS</b>	115	Energy codes add to the purchase price of new homes but lower the operating costs
	116	Energy codes restrict the amenities of new homes
	117	Energy codes add administrative hassle for builders and stall growth of new homes

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Consumer Reports National Research Center

### 3.3 Idaho Energy Code Collaborative Message Workshop

In early 2012, more than a dozen Idaho stakeholders met to discuss challenges and potential strategies for effective communications around energy codes, focusing on how to break through barriers and create a greater understanding and appreciation of the value of energy codes among decision makers and their constituents. The participants represented government agencies, builders, building officials, utilities and energy efficiency advocacy organizations. Resource Media was involved in supporting the survey development in Idaho and the message workshop as well as coordinating the outreach campaign in Utah. Resource Media develops communications strategy and results-driven media outreach campaigns focused on conservation, energy, climate and public health issues with eight offices across the U.S. They also presented on energy code messaging at the 2011 DOE national conference, and contribute a national outlook and depth of experience with energy efficiency outreach.

Key takeaways from the message workshop were:

- Avoid technical and governmental messages and messengers
- Focus messaging on comfort, health and savings
- Position energy codes as providing better choices and consumer protection
- Highlight the benefits of stronger energy codes for builders

Recommended message themes included:

- Strong energy codes save Idahoans money and improve comfort and health
- Strong energy codes protect Idahoans and provide better choices
- Energy efficient homes are more desirable and affordable

### 3.4 Learning from Successful Outreach in Utah

According to the outreach campaign in Utah that Resource Media developed, the following messages were included in a flyer for homeowners. It should be noted that the mission of their campaign was to increase awareness of the benefits of the 2009 IECC and encourage Utah to adopt the residential 2009 IECC to be consistent with having already adopted the commercial 2009 IECC. Here are some highlights from the flyer:

1. Headline: Better Homes, Lower Costs, Brighter Futures
2. Tagline: Updating Utah's Home Energy Code will Save Utahns Money and Boost the Economy
3. Benefits: Save Utahns Money, Protect Utah Residents, Boost Utah's Economy
4. Content: Increasing Energy Security for All Utahns
5. Closing: Help Ensure Utah Homes are Built Energy-Smart from the Start!

Below is the flyer produced in Utah.

**BETTER HOMES, LOWER COSTS, BRIGHTER FUTURES**

**Lock-in Energy Savings**

New homes will be around for 100 years or more. If they aren't built energy-smart from the start, unnecessary energy waste will drive up energy bills for the life of a home. Energy codes set standards for new home construction and renovations so that energy waste is eliminated at the time of construction.

Utah's home energy code is currently outdated and below the minimum standard for energy efficiency.

Utah lawmakers now have the opportunity to update the state's energy code, ensuring that all new homes are built energy-smart from the start and lock-in energy savings for Utah families.

Updating the energy code will also help boost Utah's ailing economy, creating jobs for the state's struggling home construction and real estate industries and helping communities thrive and grow. In communities where there is limited power supply, it can be difficult to attract new businesses and development; updating the energy code will reduce energy waste and free up power to support new business growth across the state.

Updating Utah's Home Energy Code will Save Utahns Money and Boost the Economy

Many Utah families are needlessly paying hundreds of dollars more on energy bills each year and thousands on home repairs because their homes were built to outdated energy codes. Energy is one of the greatest costs of homeownership and will take an even bigger bite out of household income as energy prices rise. We can't afford to let inefficient homes continue to eat away at Utahns' financial wellbeing. Bringing the state's home energy code up-to-date will stop this unnecessary waste of energy and save Utahns money.

Continued on next page >

**Updating Utah's Home Energy Code Will:**

Save Utahns Money	Protect Utah Residents	Boost Utah's Economy
<ul style="list-style-type: none"> <li>Save households an average of \$200 a year on utility bills, even after accounting for the cost of building homes to code</li> <li>Reduce the need for expensive home energy repairs</li> <li>Help make homeownership more affordable</li> <li>Reduce Utahns' exposure to rising energy prices</li> </ul>	<ul style="list-style-type: none"> <li>Ensure new home energy systems are working correctly</li> <li>Increase comfort and health for homeowners and renters</li> <li>Ensure all new homes, not just high-end homes, are energy efficient</li> <li>Provide all Utahns equal opportunity to buy or rent energy-efficient new homes</li> </ul>	<ul style="list-style-type: none"> <li>Drive up demand for energy-saving products and services</li> <li>Help boost home sales and construction</li> <li>Free up household money to be spent elsewhere in the economy</li> <li>Help attract new companies and more job opportunities to the state</li> </ul>

**Increasing Energy Security for All Utahns**

Energy demand and prices in Utah have risen substantially over the past 10 years. Utah's largest electric utility, Rocky Mountain Power, just asked for a 13 percent rate hike and is projecting a massive energy deficit in Utah by 2018. Utah's homes and other buildings consume the majority of energy produced in the state. The more we can do to lower home energy use, the fewer power plants utilities have to build. This saves money for all Utahns - not just new homeowners - since energy from new power plants is at least twice as expensive as energy saved through efficient home construction. Updating the state's home energy code is absolutely essential to lowering energy costs for all residents and businesses and for improving the state's energy security.

**Energy from new power plants is at least twice as expensive as energy saved through efficient home construction.**

**Help Ensure Utah Homes are Built Energy-Smart from the Start!**

If you want to help make sure that new homes in Utah are built energy-smart from the start, contact your elected officials and let them know!

Visit this website to find your representatives: <http://le.utah.gov/GIS/FindDistrict.jsp>

For more information about Utah's home energy code, contact:

Matthew Meyer, President Energy	(801) 811-3426
Tyler Jervis, Energy Inspectors	(801) 669-4319
Gilbert Gonzalez, Chief Building Official, Murray City Corp.	(801) 276-2413
Kevin Emerson, Utah Clean Energy	(801) 563-4340

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### 3.5 BCAP/Consumers Union Outreach Materials

The Building Codes Assistance Project (BCAP) is a national non-profit organization dedicated to the adoption, implementation and advancement of building energy codes on the local, state and international levels. Below are several outreach materials, two of which were developed with the Consumers Union. The first is more focused on the benefits of energy codes, the second is a checklist for homeowners to utilize and the third is a more targeted message to “make sure your home is built right” that combines benefits with a short checklist.

**Why Energy Codes Matter**

**What Consumers Need to Know**

The chart shows that about 40 percent of total U.S. energy use—more than either the transportation or industry sectors—is used in buildings.

**Buildings energy codes matter because they:**

- Save You Money
- Protect You and Your Family
- Help You Make Informed Decisions
- Reduce Pollution and Increase Reliability
- Are a Cost-Effective Investment
- Provide Quality and Comfort

**BCAP** The Building Codes Assistance Project (BCAP) is dedicated to the adoption, implementation and advancement of building codes on the local, state, and international levels. 1001 14th St, NW, 10001 DC | Washington, DC | www.bcap-usa.org

Building energy codes matter because they:

- Save You Money
- Protect You and Your Family
- Help You Make Informed Decisions
- Reduce Pollution and Increase Reliability
- Are a Cost-Effective Investment
- Provide Quality and Comfort

## HOME ENERGY CODE CHECKLIST:

If you are interested in purchasing a quality home—or want to learn more about how to make your home more energy-efficient—this guide provides a quick way to assess home energy performance.

This checklist helps you spot check for compliance with the 2009 International Energy Conservation Code (IECC). While it does not include every requirement, this checklist will help you assess a home and make an informed decision about the quality of construction and efficiency of a home.

**ENERGY CERTIFICATE**

- Energy Certificate located on circuit breaker box is completed and signed. (See reverse side for an example and more details.)

**AIR SEALING**

- All holes between floors and through walls have been sealed with caulk or foam, examples include:
  - where phone and cable wires enter the house
  - where plumbing goes through walls, floors, and ceiling

**THERMOSTAT**

- If a forced air system is being installed, the home has a programmable thermostat.

**DUCTS**

**IN ATTIC:**

- Ceiling and walls are insulated, or
- Ducts are sealed and insulated to a value of R-8

**WHOLE HOUSE:**

- All ducts are sealed with mastic (similar to caulk)

**LIGHTING**

- At least half of the homes light fixtures have high-efficiency bulbs

**FIREPLACE**

- The fireplace doors are sealed with gaskets

**INSULATION**

- Crawl space walls or the crawl space ceiling is properly insulated
- Attic door or access hatch is weatherstripped and properly sealed

**WINDOWS**

- Windows and skylights meet the minimum requirements for U-factors and SHGC. (See [www.efficienohome.org/code\\_requirements](http://www.efficienohome.org/code_requirements) for information at your climate zone)

**DOORS**

- Evaluate windows for age, quality, and air tightness

**TESTS**

- A blower door test resulted in a score of seven or less changes per hour (ACH) or less, if applicable
- The builder tested ducts for air leakage

**ALTERNATIVE COMPLIANCE PATH**

- If those requirements are not met, ask your contractor for documentation showing the home meets minimum standards for energy consumption

For the latest information on codes in your state, check out [energycodesocean.org](http://energycodesocean.org) and find out how to take action.

**BCAP** Consumers Union

## SAMPLE ENERGY CERTIFICATE FOR U.S. HOMES

This energy certificate from the 2009 International Energy Conservation Code (IECC) illustrates the energy efficiency standards, which are required in new homes in most U.S. states. This sample form has been completed with the minimum standards for each building element in the home, meaning that the certificate in your home should meet or exceed these standards. These values will vary based on your climate zone. Look for this certificate in or near the home's circuit breaker box or electric panel box and make sure that it has been signed by the builder and identifies the other contractors.

If you have any questions or concerns about details on the certificate, talk to your builder or your local building permits office.

\*Determine your climate zone at: [www.energycodes.org/energycodehelp/](http://www.energycodes.org/energycodehelp/)

**R-VALUES:**

R-value refers to the thickness and effectiveness of insulation. In order to meet code, R-values on the form should be greater than or equal to those shown in this certificate.

**U-FACTORS:**

These are the requirements for the insulation value of a home's windows, doors, and skylights. U-values on the home's energy certificate should be less than or equal to those shown in the certificate below.

**HEATING AND COOLING (HVAC):**

The way heating and cooling systems are rated and the minimum levels for efficiency depend on the type installed, and fuel used. These abbreviations: SEER, AFUE, and HSPF indicate efficiency. The higher the rating, the more efficient the heating or cooling system is. Use the chart below to determine the minimum efficiency factor (SEER) for water heaters depends on the size and fuel type used. The higher number, the more efficient the water heater is.

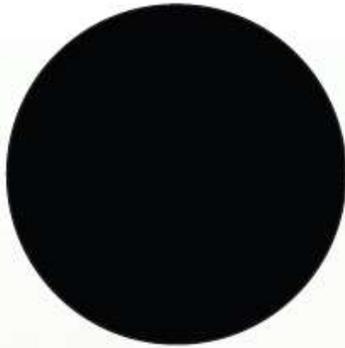
**WATER HEATER:**

Minimum U-factor for water heaters

U-factor	Size	Efficiency
0.04	0-40	0.65
0.04	40-55	0.67
0.04	55-75	0.69
0.04	75-100	0.71
0.04	100-125	0.73
0.04	125-150	0.75

**INSULATION NOTE:**

\*R-19 means R-19 insulation installed throughout on the exterior or interior of the home (based on part of R-19 cavity insulation on the interior of the basement wall).



# MAKE SURE YOUR HOME IS BUILT RIGHT.

When homes are built or remodeled, builders are required to construct them so that they are energy efficient and meet "energy codes."

A home not built to meet energy code can be uncomfortable and can waste hundreds of dollars every year on energy bills.

It costs thousands of dollars to go back and retrofit a home to make it energy efficient. You can save time and money by making sure your home is built right the first time.

To see if your home meets the energy code, please see the checklist on the back of this hanger.

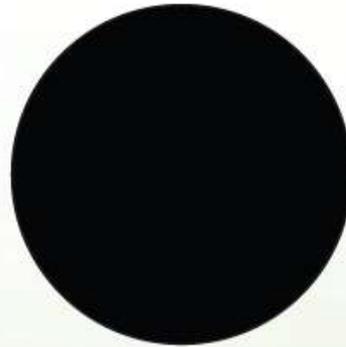
**aGREENERFuture.org**

WORKING FOR CLEAN, RENEWABLE, AFFORDABLE ENERGY

**ConsumersUnion**  
POLICY & ACTION FROM  
CONSUMER REPORTS



Illustration by Harry Campbell



This checklist helps you spot check for the common requirements for the 2009 energy code. For the full checklist and more information on energy efficiency, visit [www.agreenerfuture.org/codes](http://www.agreenerfuture.org/codes).

## LIGHTING

- At least half of the home's light fixtures have high efficiency lights

## ENERGY CERTIFICATE

- An energy certificate has been provided and each installed item meets or exceeds the code

Compliance Method	Date
2009 ENERGY CODE	5/1/10
Insulation	
Ceiling/Roof	1-100%
Walls	100%
Floors	100%
Doors	100%
Basement Walls	100%
Window and Door Ratings	100%
Windows	100%
Doors	100%
HVAC Equipment	Type Rating
Units	2009 ENERGY CODE
Water Heating	Type Rating
Water Heater	2009 ENERGY CODE
General Contractor	J & M CONTRACTORS
Insulation Contractor	J & M CONTRACTORS
Form Completed By:	[Signature]

## THERMOSTAT

- If a forced air heating system is being installed, the home has a programmable thermostat

## WEATHER-STRIPPING

- All doors and windows are weather-stripped and insulated

Speak with your builder or contractor if you don't think your home or renovation is built to code. If you would like more information about energy codes, visit [agreenerfuture.org/codes](http://agreenerfuture.org/codes) or [energycodeocean.org](http://energycodeocean.org).

## 4. Code Adoption and Compliance

### 4.1 Code Adoption Process in Idaho

The code adoption process is dictated by Title 39 Health and Safety Chapter 41 Idaho Building Code Act. Codes are evaluated by the Idaho Building Code Board (IBCB) through the negotiated rulemaking process as established in section 67-5221 of the Idaho Code, which requires two public hearings before they make a formal recommendation regarding adoption to the Idaho Legislature before the next session begins. The IBCB is made up of 10 positions appointed by the governor to serve for a term of four years. The members represent architect, city building official, registered engineer, county building inspector, fire official, modular building industry, disabled representative, general contractor, commercial contractor and public member. The Idaho Energy Plan recommends that codes are evaluated every three years, which is consistent with when new codes are introduced nationally by the International Code Council (ICC). The recent code editions have been 2006, 2009 and 2012, and the predicted editions are 2015, 2018 and 2021, etc.

Idaho State Statute dictates that the IBCB code review process includes two public hearings that are not less than 60 days apart, and notice be given to designated entities not less than five days prior to such hearing. In actuality, there are typically three public hearings. At the first two public hearings, proposals and amendments can be made. It is too late to make a proposal or amendment at the third public hearing because statute requires at least two public hearings.

A sample of the adoption timeline for energy codes is:

Oct 2011	ICC votes on 2012 IECC
Apr 2012	IBCB holds first public hearing
Jun 2012	IBCB holds second public hearing
Aug 2012	IBCB holds third public hearing
	IBCB makes recommendation to Legislature
Jan 2013	Legislative session begins
	Legislature votes on 2012 code adoption
Mar 2013	Legislature adjourns
Jan 1, 2014	2012 code adopted

Although it is typical to consider new codes every three years, it is possible for the IBCB to consider new codes and/or amendments annually.

This represents a summary of the code adoption process for the purposes of establishing a timeline for future adoption. For complete details, refer to Idaho Code 39-4109 and 67-5221.

### 4.2 Timeline for Future Code Adoption

The timing of this market assessment and marketing plan is late to significantly affect the adoption process for the 2012 IECC in 2012, but could have an impact on possible amendments to the 2012 IECC that are proposed for 2013 as well as future code adoption cycles. As of the writing of this marketing plan in late 2012 and early 2013, the IBCB held their third public hearing and officially decided to make the following recommendations:

#### 1. International Residential Code

We recommend that the Board continue with the current 2009 edition with currently proposed amendments. Beginning on October 2, 2012 our group of stakeholders would then commence review of the 2012 IRC with the intent of submitting to the Board at their next, 2013, negotiated rulemaking process the 2012 IRC with stakeholder agreed upon amendments.

2. International Energy Conservation Code

We recommend that we continue with the 2009 edition with currently proposed amendments. The stakeholder group will also begin meetings and discussion in October 2012 of a 2012 IECC proposal for Board consideration in calendar year 2013.

3. International Building Code

Proceed with the adoption of the 2012 IBC. With the loss of the current consistency with the ADAAG/IBC/ANSI Safe Harbor status, it was determined for the best interests of all the affected parties to adopt this code now. This allows Idaho jurisdictions to be enforcing the most current provisions for accessibility.

4. International Existing Building Code

Proceed with the adoption of the 2012 IEBC to be consistent with the IBC/ANSI.

Draft results of the market assessment were shared at the June 18 and August 20 public hearings.

Because the decision was made to delay adoption of the IRC and IECC for one year, the following is the recommended timeline and **actions** for adoption of the 2012.

Oct 2011	ICC votes on 2012 IECC
Apr 2012	IBCB holds first public hearing
Jun 2012	IBCB holds second public hearing
Aug 2012	IBCB holds third public hearing IBCB makes recommendation to Legislature
<b>Sep 2012</b>	<b>Develop outreach materials</b>
<b>Oct 2012</b>	<b>Stakeholder meeting to discuss residential changes, cost/benefit analysis</b> <b>Stakeholder meeting to develop recommendations for 2012 IECC</b>
Jan 2013	Legislative session begins Legislature votes on 2012 code adoption (2012 IBC, EBC)
<b>Feb 2013</b>	<b>Outreach towards legislators</b> <b>Training on 2012 IECC changes</b> IBCB holds first public hearing (2012 IRC, IECC, amendments)
Mar 2013	Legislature adjourns <b>Spring home shows, outreach to homeowners on value of 2012 IECC</b>
Jun 2013	IBCB holds second public hearing (2012 IRC, IECC, amendments)
Aug 2013	IBCB holds third public hearing (2012 IRC, IECC, amendments) IBCB makes recommendation to Legislature (2012 IRC, IECC, amendments)
<b>Sep 2013</b>	<b>Outreach towards legislators</b>
Jan 2014	Legislative session begins Legislature votes on 2012 code adoption (2012 IRC, IECC, amendments)
Mar 2014	Legislature adjourns
<b>May 2014</b>	<b>2012 IECC training conducted for building officials</b>
<b>Oct 2014</b>	<b>2012 IECC training conducted for architects and builders</b> <b>Fall home shows, outreach to homeowners on value of 2012 IECC</b>
Jan 1, 2015	2012 IECC effective
<b>Feb 2015</b>	<b>Ongoing education</b>

Looking ahead to the adoption of the 2015 IECC, the following is the recommended timeline and **actions**:

Oct 2014	ICC votes on 2015 IECC
<b>Nov 2014</b>	<b>2015 IECC reviewed by trainers</b>
<b>Dec 2014</b>	<b>2015 IECC training materials on changes developed</b>

<b>Jan 2015</b>	<b>Initial stakeholder meeting to discuss changes, needs assessment</b> <b>2015 IECC training on changes conducted</b> <b>Outreach towards legislators</b>
<b>Mar 2015</b>	<b>Stakeholder meeting to develop recommendations, cost/benefit analysis</b> <b>Develop outreach materials</b> <b>Spring home shows, outreach to homeowners on value of new proposed code</b>
Apr 2015	IBCB holds first public hearing
<b>May 2015</b>	<b>Stakeholder meeting to discuss results of first public hearing, plan for next hearing</b>
Jun 2015	IBCB holds second public hearing
Aug 2015	IBCB holds third public hearing IBCB makes recommendation to Legislature
<b>Sep 2015</b>	<b>Outreach towards legislators</b>
Jan 2016	Legislative session begins Legislature votes on 2015 code adoption
Mar 2016	Legislature adjourns
<b>May 2016</b>	<b>2015 IECC training conducted for building officials</b>
<b>Oct 2016</b>	<b>2015 IECC training conducted for architects and builders</b> <b>Fall home shows, outreach to homeowners on value of new code</b>
Jan 1, 2017	2015 IECC adopted
<b>Feb 2017</b>	<b>Ongoing education</b>

### 4.3 Status of Energy Code Compliance in Idaho

To benchmark statewide compliance, NEEA contracted with The Cadmus Group, Inc. (Cadmus) and Cadmus' subcontractor, DNV KEMA, to conduct a study of residential energy code compliance in the state of Idaho. This effort to measure compliance has roots in the 2009 American Recovery and Reinvestment Act (ARRA), which provided funding to states, contingent upon a commitment to adopt the latest model energy codes, and to develop and implement a plan, including active training and enforcement provisions, to achieve at least ninety percent compliance overall with target codes by 2017.

The objectives of this study were to:

- Analyze and report current rate of energy code statewide compliance in new residential construction in Idaho, based on the Idaho version of the 2009 IECC.
- Review and comment on the various approaches for assessing code compliance.
- Determine aspects of current energy code in which enhanced code compliance would lead to the largest reductions in home energy consumption.
- Assess an approach to analyze code compliance based on the most significant items in determining energy impacts.

They used three methods of analysis to determine compliance:

- A PNNL checklist developed for the Department of Energy (DOE)
- A streamlined version of the PNNL checklist with the eight most significant components of the code
- Energy modeling using SEEM software

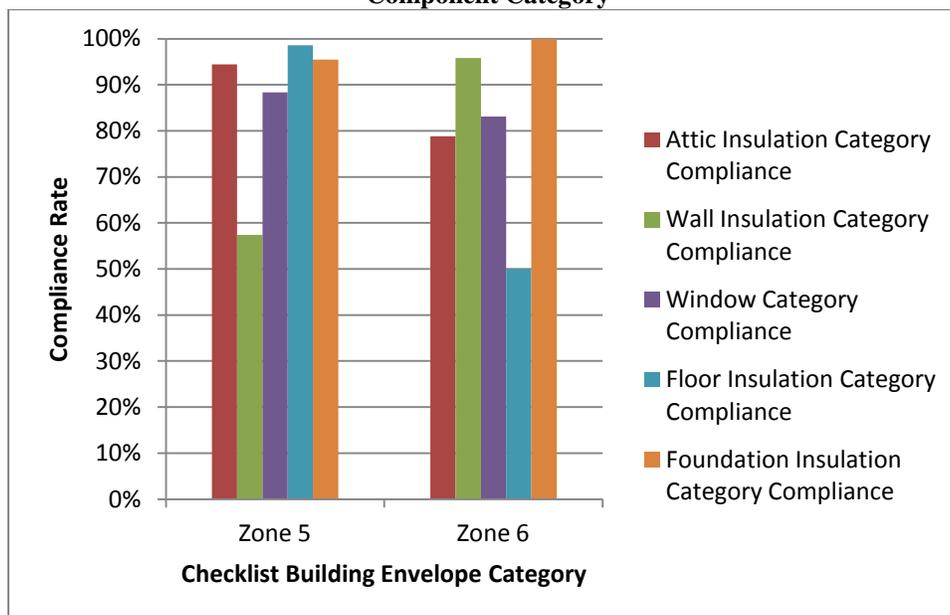
Their results showed the following rates of compliance for 69 homes in 11 counties.

Method	Compliance Rate
PNNL Checklist	90%
Significant Items Checklist	83%
Energy Modeling	109%

As a point of comparison, a study in Montana found lower rates of compliance: 61% using the PNNL checklist and 81% using the Significant Items Checklist.

In summary, Cadmus found near 90% compliance across the three methods, which is very positive news. Additional conclusions they were able to make were related to how builders were complying and which components actually resulted in the most energy savings. They found that just under half, or 30, of the visited homes used a prescriptive method for compliance compared to just over half, or 36 homes, using the trade-off option (i.e., REScheck) and only three homes using the performance method (i.e., energy modeling). This indicates the prevalence of builders using REScheck for compliance and the importance of factoring this into future decisions on code adoption. The following chart from their report shows the compliance rate by component. The most significant compliance concerns are for wall insulation in Climate Zone 5 and floor insulation in Climate Zone 6.

**Figure 1. Compliance Rate by Key Checklist Building Envelope Component Category**



As for which components resulted in the most energy savings, the study found that compliance with wall insulation and window requirements most significantly affected envelope energy savings, which translates to a reduction in heating load. Lighting compliance also had a significant impact on energy savings. Duct leakage and air infiltration were not factored into this comparison due to lack of data.

#### 4.4 Energy Code Enforcement

The plan for enforcement is the responsibility of the Energy Code Circuit Rider, David Freelove, to develop based on assessed needs with guidance from the Idaho Energy Code Collaborative. His initial efforts are centering on Manual J, D and S standard procedures and training. Based on his feedback and on the market assessment results, standard procedures for and training on performance testing and air sealing are likely to be the next priorities for enforcement. Ultimately, enforcement is evaluated based on 90% compliance statewide.

## 5. Outreach Guide

### 5.1 Strategies for Overcoming Barriers

To summarize, the most significant barriers to energy code compliance are cost and the learning curve associated with each new code cycle that typically occurs every three years. The most sensitive components of the energy code are the addition of performance testing for envelope tightness and duct leakage as well as air sealing. Secondary barriers include local jurisdiction capacity to enforce, codes influenced by special interests and systemic issues.

There is a concern that the added cost of a more stringent code is higher than the market will bear, although survey results indicate that homeowners are willing to finance the estimated increase in cost or more to achieve a 15% increase in energy efficiency. Another aspect of the cost issue is the emphasis all audiences placed on the value of protecting homeowners from excessive energy costs. Elected officials and building officials perceive this as the top reason for supporting the adoption of stronger energy codes, and homeowners ranked it in the top three statements about energy codes with which they agree. Architects also prioritize reducing the need for new power plants in Idaho whose cost is passed on to ratepayers. Speaking to these values in outreach materials is important for overcoming the perceived cost barrier.

Overcoming the barrier of a learning curve is largely based on the timing of training and the type of training offered. Training and outreach are not conducted early enough in the code cycle to facilitate the adoption of a new code. More targeted outreach to builders, elected officials, building officials and homeowners could significantly impact the code adoption process and outcome. For example, a robust training program on performance testing would not only address a significant compliance concern, it would also foster greater understanding of one of the components that has the most impact on energy savings based on local cost analysis conducted in November of 2012 in Northern Idaho.

To overcome the most significant barriers, there are four recommended strategies:

1. Mitigate doubt about national cost studies by analyzing several national studies and presenting a summary of the results and methodology used to the stakeholder group as well as conducting a local study of the actual costs associated with building to the new energy code. This local research would include HERS ratings of actual properties and estimates from several suppliers on incremental costs on components such as insulation, windows, lighting and performance testing. It is important to involve local builders and energy consultants to define a commonly accepted methodology. The end result would be a detailed cost/benefit analysis, which has been expressed as a priority for decision makers.
2. Conduct research to better target builders and architects for training and encourage better attendance from builders in particular. Continue ongoing training efforts for building officials and add specific training on the topics of performance testing and air sealing. Collaborate with the Circuit Rider and the Collaborative to assess future training needs for each audience. Consider the feasibility of adopting a licensing and continuing education requirement for contractors similar to what Idaho Falls has adopted.
3. Continue the efforts to bring together a diverse yet broad group of stakeholders to evaluate issues and make recommendations related to energy codes. Correlate outreach efforts and move the timing of this effort forwards to better prepare for the code adoption cycle, and consider it an ongoing process.
4. Develop targeted outreach materials for each audience that speak to their values. This could involve expanding the market assessment to include builders, realtors and appraisers to better understand their values, concerns and priorities. Additional market surveys of homeowners would also be meaningful to achieve a higher response rate and greater geographic representation.

During the writing of this marketing plan, some progress was made on implementing these four strategies. Initial steps taken and recommended next steps include:

1. A detailed analysis of national cost studies was conducted, and three studies were presented to the stakeholder group on December 3, 2012. The PNNL/DOE study was selected because it is the most specific to Idaho, and one of the authors attended the meeting to answer questions about the methodology. This study uses actual housing starts and climate data for Idaho. The second study selected was conducted in Utah and involved builders in the process. This study was based on specific data for Utah. Because Utah is a neighboring state and shares the same climate zones as Idaho, it was assumed to be reasonably comparable to Idaho. The third study selected was done by the NAHB because NAHB is deemed credible by builders. The data was based on a single family home in Chicago (to represent Climate Zone 5) and Helena (to represent Climate Zone 6). These studies have also been referenced in this marketing plan. By presenting a comparison of each of these three studies to the stakeholder group, a greater level of confidence in the PNNL/DOE study was achieved.

Also included in this presentation was the local cost research conducted by an energy consultant in November, 2012. Three recently built homes in Coeur d'Alene were selected as sample homes, and baseline HERS ratings were run to simulate compliance with the 2009 IECC. Then, multiple iterations of HERS ratings were run for each home to model changing several components to comply with the 2012 IECC as well as simulate changing each component individually. Components included windows, air sealing, efficient lighting and insulation for attic and walls. The HERS estimates for energy savings were then compared to the bids received from suppliers across the state for each of the components.

Continuing to share this cost presentation would further alleviate the misperceptions on cost, and it has been requested that this presentation be shared at the Idaho Energy and Green Building Conference in June, 2013.

It is also recommended to expand on the local cost research by increasing the number and variety of homes analyzed, asking builders to collect bids on incremental costs and expanding the components to more specifically quantify the actual local costs for air sealing and performance testing in Idaho. The initial research was constrained by a tight timeframe and limited budget. Further, a builder presented a study to stakeholders that showed homes built to the current energy code using more energy than those built to the previous energy code. Although this study lacked rigor, it should be addressed.

2. Little progress has been made towards overcoming the learning curve barrier. Initial steps included applying the strategy and outreach steps recommended in this plan to the 2013 NEEA work plan for the Collaborative, which was being finalized at the time of the publishing this plan.
3. The effort to bring together stakeholders in Idaho to discuss code issues has been continuing on a quarterly basis. The group met again in December, 2012, to discuss the cost barrier as well as builder concerns. The consensus on the commercial energy code is to recommend adopting the 2012 IECC. However, there is more debate with regards to the residential energy code. The consensus is to recommend adopting the 2012 IECC with significant amendments that reduce most of it to the 2009 IECC except making duct leakage requirements more stringent. This raises concerns that homeowners will not reap the potential benefits, the 2015 IECC will be a more significant learning curve and there is potential for confusion in the market. If designers and builders are told to reference the 2012 IECC and make note of significant amendments yet use the 2009 REScheck, then they may get confused between the two versions. This recommendation by stakeholders also disregards the overwhelming support in the market assessment for ensuring Idaho codes are consistent with national standards and that homeowners are willing to pay for more energy efficient homes. The stakeholders meet again in February, 2013, to make final decisions on recommendations for the Idaho Building Code Board. The

results of the market assessment have not been accepted as an agenda item. Meeting on a quarterly basis has been occurring, and it is important that it continues through the next code cycle. As such, the next meeting would be in approximately June. Because market assessment results will not be presented to the stakeholders in time to affect their recommendation, the results should be presented to the Idaho Building Code Board during their public hearings in 2013, and potentially with legislators in the 2014 session. And, any additional market research should be conducted well in advance of the potential adoption of the 2015 IECC, so it can be shared with stakeholders.

4. Outreach materials with a targeted message for specific audiences are important for effective outreach. Specifically, targeting decision makers and homeowners would have the most impact. For decision makers, developing materials that convey a cost/benefit analysis of energy codes is meaningful. Decision makers also care what constituents think, so sharing market assessment results is important. They will be especially concerned about homeowner opinions, so expanding the homeowner surveys to include a greater geographic diversity is critical for the results to be considered relevant and credible. Securing funding to do this additional research is an important next step. For homeowners, there are several potential avenues that are being explored. One, develop a website with resources about the value of energy codes, and [www.idahoenergycode.com](http://www.idahoenergycode.com) has already been reserved. Next, develop materials to drive homeowners to the website. These materials could include flyers and display boards for events such as home shows. A draft flyer has been developed under a NEEA work plan and budget, and is being considered for distribution through mortgage providers. As a first step, Bank of America has been contacted about distributing this flyer to home and home equity loan customers. This flyer could also be distributed at home shows, and is formatted for potential future mailings.

## 5.2 Recommended Tools

Objectives of this marketing plan include improving Idaho energy code compliance and assuring future energy code acceptance by providing tools that lead to more widespread awareness and understanding of the value of energy codes and documenting a consistent process for adoption, enforcement and implementation of energy codes in Idaho. As such, the following tools are recommended:

- One-page summary to share market assessment results with all audiences
- Market assessment of additional homeowners outside the Treasure Valley
- Market assessment of builders
- Market assessment of realtors and appraisers
- Local cost analysis by builders and energy consultants
- Detailed cost/benefit analysis
- Energy code value and cost/benefit guide for elected officials
- Presentation to decision makers on the value of energy codes based on costs and benefits
- One-page summary and presentation on energy code compliance study in Idaho
- Training program on performance testing and air sealing that targets builders and architects
- Independent study materials for architects
- Strategy for assessing ongoing training needs
- Timeline for an ongoing energy code advancement process
- Energy code compliance checklist for builders
- Energy code verification checklist for building officials and inspectors during plan review and inspection
- Website on value of energy codes that includes meaningful resources for homeowners
- Booth for energy codes at spring and fall home shows in Idaho
- Outreach materials for homeowners on the value of energy codes

### 5.3 Communicating Value to Each Audience

In developing the messaging for each audience, input was gathered from not just the market assessment results, but also from the message workshop, IBCB public hearings, Collaborative meetings, Consumers Union survey results, BCAP marketing and Utah outreach efforts. Ultimately, the creation of specific talking points are intended to translate the benefits of energy codes into language that Idaho consumers, political leaders and industry implementers will better relate to and appreciate.

#### Outreach to Elected Officials

The majority of elected officials indicated support for an increase in stringency of 10-15% if there is a bill to vote on a stronger energy code tomorrow. When asked how often energy codes should be adopted in Idaho, the largest response was every three years. And, 78% feel it is highly or moderately important that Idaho building codes are consistent with a national standard. Because more stringent national energy codes are typically introduced every three years, the survey responses indicate that elected officials agree in principle with adopting a more stringent energy code that is consistent with the national code cycle.

In summary, elected officials lean towards adopting a stronger energy code, but this by a thin margin over those that do not support an increase in stringency or support a decrease. To communicate value to elected officials, it is important to understand their top reason for supporting the adoption of stronger energy codes, which is to protect homeowners from excessive energy costs. They see the most significant barrier to energy code compliance is the perceived higher cost to comply, so it is important to convey the actual cost as well as the estimated savings (i.e. benefits), preferably from an energy consultant. And, previous legislatures have based decisions on a payback period of five years, so evaluating payback periods is important to them. Elected officials would appreciate hearing that building officials support the new energy code because they are seen as the most reliable source of information on energy codes. Elected officials are also likely to be swayed by homeowner opinion, so expanding the market assessment to cover a larger number of homeowners that are more geographically diverse as well as conveying benefits to homeowners would support better outreach to elected officials.

Messaging to elected officials to include:

- Cost/benefit analysis with payback of the new energy code
- Homeowners are willing to finance \$1,000-\$5,000 for a home that is 15% more energy efficient
- Adopting a new energy code every three years ensures that Idaho building codes are consistent with a national standard, which saves State resources

Messengers:

- Building official (for energy code information and recommendation)
- Energy consultant (for cost information)

Outreach tools to include:

- One-page summary to share market assessment results
- Energy code value and cost/benefit guide for elected officials
- Presentation on the value of energy codes based on costs and benefits
- One-page summary and presentation on energy code compliance study in Idaho

#### Outreach to Building Officials

If there is a bill to vote on a stronger energy code tomorrow, 45% support an increase in stringency compared to the 48% who are against it. Their top reason for opposing the adoption of stronger energy codes is the potential

of increased issues with compliance or enforcement of energy codes. Half of building officials are concerned about the perceived higher cost to comply, and see this as the most significant barrier. Cost likely includes the cost to build, the cost for training and the cost for new code materials each cycle. Alleviating their concerns about cost is critical, and an energy consultant is the most trusted messenger of this information. Building officials are also ultimately concerned with satisfied customers: homeowners and builders as well their supervisors, elected officials. Their top reason for supporting the adoption of stronger energy codes is to protect homeowners from excessive energy costs. And, 90% of building officials perceive a high or moderate level of importance that Idaho building codes are consistent with a national standard.

In summary, they lean towards opposing the adoption of stronger energy codes, which could have repercussions with elected officials because they value the opinions of building officials. Outreach to building officials should focus on messaging that directly addresses their concerns and the perceived barriers of cost and compliance/enforcement.

Messaging to building officials to include:

- Cost/benefit analysis with payback of the new energy code
- Adopting a new energy code every three years ensures that Idaho building codes are consistent with a national standard, which reduces compliance issues and ensures REScheck is available
- More stringent energy codes protect homeowners from excessive energy costs and provide higher quality, more durable and more comfortable homes

Messengers:

- Energy consultant (for cost information)
- Homeowner

Outreach materials to include:

- One-page summary to share market assessment results
- Presentation on the value of energy codes based on costs and benefits
- One-page summary and presentation on energy code compliance study in Idaho
- Website on value of energy codes that includes meaningful resources for homeowners
- Energy code verification checklist for building officials and inspectors during plan review and inspection
- Ongoing training

### **Outreach to Architects**

A slight majority of architects would support a more stringent energy code if they had to vote tomorrow. Survey results indicate architects' top reason for supporting stronger energy codes is to reduce the need for new power plants in Idaho whose cost is passed on to ratepayers. Their top reason by a significant margin for opposing the adoption of stronger energy codes is the potential of increased issues with compliance or enforcement of energy codes. Their most significant barrier to energy code compliance is education and training. Based on these results, messaging should address bigger picture consequences of energy codes such as linking the progression of energy codes to the 2030 Challenge to be carbon neutral by the year 2030. Outreach is needed to reinforce the support that architects have for more stringent energy codes as well as address their concerns about compliance and education and training.

Messaging to architects to include:

- Energy codes reduce the need for new power plants in Idaho whose cost is passed on to ratepayers
- More energy efficient homes will reduce energy use and air pollution, which supports the 2030 Challenge

- Adopting a new energy code every three years ensures that Idaho building codes are consistent with a national standard, which reduces compliance issues and ensures REScheck is available
- Education and training on the new energy code is free and includes self-study options

Messengers:

- Energy consultant (for cost information)

Outreach materials to include:

- One-page summary to share market assessment results
- Presentation on the value of energy codes based on costs and benefits
- One-page summary and presentation on energy code compliance study in Idaho
- Training program on performance testing and air sealing that targets builders and architects
- Independent study materials for architects

### **Outreach to Builders**

Builders are concerned about cost and the learning curve associated with each new code cycle. This is based on anecdotal evidence and not official survey results. A more extensive survey of builders to understand their specific training preferences would be meaningful. The messaging for builders should be based on cost data that they participate in collecting and the opinions identified in a market assessment of builders. And, ultimately builders are influenced by their customers, so quoting survey results from homeowners is meaningful.

Messaging to builders to include:

- Cost/benefit analysis with payback of the new energy code
- Homeowners are willing to finance \$1,000-\$5,000 for a home that is 15% more energy efficient

Messengers:

- Energy consultant (for cost information)
- Homeowner
- Builder

Outreach materials to include:

- One-page summary to share market assessment results
- Presentation on the value of energy codes based on costs and benefits
- Local cost analysis by builders and energy consultants
- One-page summary and presentation on energy code compliance study in Idaho
- Training program on performance testing and air sealing that targets builders and architects
- Energy code compliance checklist for builders

### **Outreach to Homeowners**

According to homeowner survey results, the following statements about energy codes received the highest percentage of agreement:

- More energy efficient homes will reduce energy use and air pollution (91%)
- Energy codes help make homes more comfortable by reducing cold drafts and keeping all rooms an even, pleasant temperature (90%)
- Energy codes protect homeowners and renters from high utility bills (89%)

Homeowners are concerned about comfort and energy savings, and trust a professional such as an architect or engineer to communicate this. And, when posed with the cost of building a 15% more energy efficient home, the majority is willing to finance at least \$1,000 - \$2,500 and many up to \$5,000. Because there was only a 4% response rate from homeowners surveyed, a more extensive survey should be conducted before defining talking points. And, the surveys should include a wider geographic region than just the Treasure Valley.

Messaging to include:

- Adopting the latest energy code will reduce energy use and air pollution
- Compliance with the latest energy code provides homeowners with greater access to higher quality, more durable and more comfortable homes
- Energy codes protect homeowners and renters from high utility bills
- Costs vs. benefits of a home that is 15% more energy efficient
- Household annual savings and payback with the 2012 IECC

Messengers:

- Professional such as an architect or engineer
- Energy consultant

Outreach materials to include:

- Website on value of energy codes that includes meaningful resources for homeowners
- Booth for energy codes at spring and fall home shows in Idaho
- Outreach materials for homeowners on the value of energy codes

### **Outreach to Realtors and Appraisers**

Research was not budgeted for realtors or appraisers, and it is important to understand their perceptions before defining talking points.

## **5.4 Implementation**

It is recommended to have a project manager or similar point person in place to oversee the implementation of this marketing plan and manage the timeline and actions related to energy code adoption. This includes education and training, stakeholder meetings and outreach efforts. The outreach guide outlines several strategies and the development of multiple tools. It is assumed that some of this may fall under a future work plan and budget for Collaborative members from NEEA, but is not guaranteed. In addition, it is recommended to conduct market assessments of builders, realtors and assessors as well as administer a more widespread homeowner survey to target a greater response rate and geographic diversity. The existing grant team is a logical candidate to conduct this additional research as a continuation of this grant. And, results of this market assessment should be shared with elected officials, stakeholders and the IBCB to ensure market feedback is heard prior to decisions on energy code adoption.

## **5.5 Conclusion**

This plan aims to provide well-prepared and documented Idaho-based answers to inform future decisions about energy code outreach in Idaho. It includes a timeline for the adoption process as well as strategies for overcoming barriers to energy code compliance and adoption. The strategies are linked to recommended messaging, messengers and specific tools for each audience.

## Appendix – Overview of Survey Results

This section includes select results of the market assessment in Idaho. The Market Assessment Report includes the complete survey results. Market assessment questions were designed to assess perceptions in relation to specific topics, including:

- Level of support for adopting the current energy code
- Enforcement and compliance with the current energy code
- Barriers to energy code compliance and/or adoption
- Perceptions on cost of energy codes
- Views on code adoption

### Audiences and Response Rates

	Audience	Responses	Response Rate
Elected Officials	440	69	16%
Building Officials	652	57	9%
Architects	300*	20	7%
Homeowners	1,122**	44	4%

\*This is an estimate based on AIA Idaho Chapter having “over 300 members.”

\*\*This is an estimate based on sending emails to 550+90+20+462 individuals via neighborhood associations plus posting on the Canyon County Assessor’s Facebook page.

### Level of support for adopting the current energy code

*Do you support the adoption of the current energy code, the 2009 IECC that took effect January 2011 in Idaho?*

	Yes	No	No Opinion
Elected Officials	41%	16%	43%
Building Officials	81%	12%	7%
Architects	65%	25%	10%

### Enforcement and compliance with the current energy code

*What is your perception of how well building officials and inspectors enforce current energy codes in your jurisdiction?*

	High level of enforcement	Moderate level of enforcement	Low level of enforcement
Elected Officials	30%	48%	22%
Building Officials	61%	32%	7%
Architects	11%	61%	28%

*What is your perception of how easy or difficult it is for builders to comply with current energy codes?*

	Very easy to comply	Somewhat easy to comply	Difficult to comply
Elected Officials	23%	61%	16%
Building Officials	39%	46%	14%
Architects	22%	67%	11%

### Barriers to energy code compliance

*What is the most significant barrier to energy code compliance?*

	Education and training	Perceived higher cost to comply	State enforcement resources	Local jurisdiction capacity to enforce
Elected Officials	29%	49%	3%	19%
Building Officials	38%	50%	2%	11%
Architects	44%	39%	6%	11%

Which component of the energy code is the most challenging to comply with?

	Increased insulation R-value requirements	Increased window u-factor requirements	Increased air sealing requirements	Addition of performance testing for envelope tightness and duct leakage
Elected Officials	n/a	n/a	n/a	n/a
Building Officials	5%	0%	23%	71%
Architects	0%	0%	39%	61%

### Perceptions on cost of energy codes

How much more do you think it costs to build a home to the current energy code (2009 IECC) vs. the previous energy code (2006 IECC)?

	More than \$5,000	\$2,500 – 5,000	\$1,000 – 2,500	\$500 – 1,000	Less than \$500
Elected Officials	n/a	23%	49%	23%	4%
Building Officials	n/a	11%	55%	23%	11%
Architects	16%	26%	21%	16%	21%

If you were to buy a new home, how much more are you willing to finance for a home that will save you 15% on your energy bills?

	\$2,500 – 5,000	\$1,000 – 2,500	\$500 – 1,000	Less than \$500
Homeowners	43%	36%	11%	9%

### Views on code adoption

Right now, what would be your top reason for supporting the adoption of stronger energy codes?

	Protect homeowners from excessive energy costs	More high quality, comfortable homes in Idaho	Reduce the need for new power plants in Idaho whose cost is passed on to ratepayers	I don't support the adoption of stronger energy codes
Elected Officials	30%	10%	20%	35%
Building Officials	25%	21%	16%	36%
Architects	11%	21%	37%	26%

Right now, what is your top reason for opposing the adoption of stronger energy codes?

	Add administrative hassle for builders	Raise home prices	Increase issues with compliance or enforcement of energy codes	Perceive as another government mandate
Elected Officials*	3%	7%	13%	32%
Building Officials	0%	18%	48%	34%
Architects	0%	11%	74%	3%

\*45% of elected officials responded "I don't oppose the adoption of stronger energy codes."

If there is a bill to vote on a stronger energy code tomorrow, what choice below most closely matches yours / how would you tell your representative to vote?

	For 15% more stringent	For 10% more stringent	Against an increase in stringency	For decreasing stringency (amending or repealing current energy code)
Elected Officials	14%	39%	35%	12%
Building Officials	13%	32%	48%	7%
Architects	44%	11%	28%	17%

The IECC is updated every three years. How often should new energy codes be adopted in Idaho?

	Every 6 years	Every 5 years	Every 3 years
Elected Officials	32%	30%	38%
Building Officials	38%	9%	54%
Architects	28%	6%	67%

How important is it that Idaho building codes are consistent with a national standard?

	High level of importance	Moderate level of importance	Low level of importance	Not important
Elected Officials	36%	42%	12%	10%
Building Officials	45%	45%	9%	2%
Architects	56%	28%	6%	11%

### Surveys of Homeowners

For the following questions, respondents were asked "How much do you agree with the following statements?"

Statements	Strongly Disagree	Disagree	Agree	Strongly Agree	Total Who Agree and Strongly Agree
More energy efficient homes will reduce energy use and air pollution	9%	0%	36%	55%	91%
Energy codes protect homeowners and renters from high utility bills	7%	5%	57%	32%	89%
Homeowners should have a right to a home that meets national energy standards	7%	23%	41%	30%	71%
Energy code standards help to ensure quality home construction and prevent costly energy repairs in the future	5%	11%	61%	23%	84%
Energy codes help make homes more comfortable by reducing cold drafts and keeping all rooms an even, pleasant temperature	2%	7%	70%	20%	90%
Energy codes help improve indoor air quality	5%	18%	61%	16%	77%
Energy codes help reduce the need for more power plants in my state	7%	20%	48%	25%	73%
Energy codes should be enforced like other safety and quality standards of construction	7%	18%	50%	25%	75%
Energy codes add to the purchase price of new homes but lower the monthly operating costs	2%	14%	64%	20%	84%

Note that these statements were pulled from a national online survey of 5,086 individuals (2,992 respondents) that was conducted by the Consumers Union on energy codes in February of 2011, which enables comparisons to be made between local, regional and national results. They developed 17 messaging statements in five categories to describe energy code benefits. Below are the statements. They also evaluated the importance of energy efficiency indicators such as adequate insulation and energy efficient windows. Their research delved deeper than ours in Idaho to also gather demographic data on the respondents by nine geographic regions. Of the nearly 3,000 responses, 249 came from the Mountain West (ID, MT, WY, NV, UT, CO, AZ, NM). A summary of the results is included in the section on Value of Energy Codes