

Idaho Strategic Plan for 2009 International Energy Conservation Code Compliance

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Executive Summary

This document describes strategies for better implementation of energy codes in Idaho. The purpose of development of a strategic plan is to begin to clarify a roadmap for improving energy code compliance to at least the 90% level required by the Department of Energy.

Fortunately for us, Idaho has a ten-year history of collaboration on code development, including the development and implementation of energy codes. This collaboration was formalized through the leadership of the Association of Idaho Cities in 2001 as a process for developing consensus on statewide energy code adoption.

The strategic plan focuses in on jurisdictional, statewide and industry issues that should be addressed if we are going to ensure, not just one-time 90% code compliance but a continuous high compliance level. Idaho's goal is to work on energy code issues as a continuous improvement process to ensure that the full value of energy codes are provided to buyers and owners of homes.

The plan also provides an overview of five other areas that need to be more closely developed:

- ✓ Compliance documentation outlines Idaho's simple roadmap to code quality assurance through use of a statewide online database.
- ✓ The training and technical assistance section makes a case for a continuous improvement process in curricula development and delivery, broader use of Idaho's IDABO International Code Council Energy Code Ambassador Program (Ambassadors) for provision of statewide technical assistance and building department mentoring, more value approached training that works directly with the building trades and design industry on development of integrated measure packagesⁱ and construction modules that save energy and dollars, and development of broader approaches to education delivery such as webinars, video streaming, and online training resources.
- ✓ The utility and Demand Side Management (DSM) section makes the case for a closer alignment of utility program and energy code goals, reexamining an old concept of utility programs paving the path for the next code cycle.
- ✓ The marketing section utilizes a best practice approach for analysis and branded actions that will place the energy code central to industry and consumer thoughts on good buildings.

- ✓ And finally, the resource section begins the process of identifying what support will be needed to retain dynamism in this plan.

✓ **Idaho's Commitment to 90% Compliance**

The Idaho Energy Code Collaborative (the collaborative) is comprised of Idaho energy code stakeholders and currently includes; the Governor's Office of Energy Resources; the Association of Idaho Cities; the Division of Building Safety; the Idaho Building Contractor's Association; the University of Idaho Integrated Design Lab; the Idaho Association of Building Officials; K energy and EcoEdge consultants; and, Idaho Power Company.

The collaborative has met on a regular basis since its formation in 2001. The collaborative purpose has always been a forum for energy code discussion and it has served to ensure that Idaho energy code stakeholders are aware of and involved in energy code issues and changes in Idaho.

The Department of Energy/Pacific Northwest National Laboratory (PNNL) grant, the genesis of this plan, has provided opportunity for the collaborative to think strategically about gaps in our code development and implementation processes and about immediate and future needs and resources that are necessary to ensure 90% statewide compliance to the 2009 International Energy Conservation Code (IECC) which was implemented on January 1, 2011.

During an October 2009 Idaho Energy and Green Building Conference the Idaho Energy Code Collaborative met to discuss Governor Otter's certification of 90% compliance to the Department of Energy. During that discussion the collaborative unanimously agreed to work for 90% compliance in all new Idaho buildings and to not limit the intrinsic value of compliance to a small statistical sub-sample of buildings.

That collaborative agreement on code value ultimately led to Office of Energy Resources funding, through Recovery Act dollars, the Division of Building Safety development of a statewide voluntary database for residential and commercial energy code quality assurance and compliance. The database, as such, is Idaho's response to the 90% certification requirement. It is designed to serve as a simple jurisdiction friendly approach to help Idaho gain a deeper understanding of quality assurance issues in energy code compliance. It will be piloted by a cross-section of Idaho jurisdictions to evaluate its effectiveness.

Though the database does not fully mimic the level of investigation that is built into the PNNL set of compliance checklists, if utilized it will provide jurisdictions with a means for documenting code compliance issues – what is working well and what is not working well - and a checklist for providing a level of quality assurance for energy code implementation that does not currently exist. If the database is not utilized by enough Idaho jurisdictions to ensure that a representative sample of buildings is being assessed, it may be necessary to adopt the PNNL protocol for 90% compliance evaluation.ⁱⁱ

Whatever approach is eventually taken, Idaho has made the commitment to show compliance to the 2009 IECC.

II. Jurisdiction Level Challenges

1. CHALLENGE: Consistent Statewide Code Application

As with most states that have large rural and a few medium density urban areas, there can be varying interpretations and applications of code. Much of the different interpretations could be attributed to the level of certification of the local building official. Idaho has a very solid statewide building official association, the Idaho Building Officials Association (IDABO). IDABO is committed to providing good training throughout the states five regions, but very small jurisdictions may not have the resources to send their plan reviewers and inspectors to the full spectrum of training available.

When seeking to hire code staff, rural jurisdictions may have a difficult time finding fully qualified local personnel. Idaho law does require that building officials be certified when hired for life-safety and energy codes.

But this is not to say that Idaho's rural jurisdictions lack in knowledge or that buildings built in their jurisdictions do not achieve equal compliance levels to Idaho's larger or more urban areas. In fact, both large and small jurisdictions have challenges and opportunities unique to their size. For example, a small jurisdiction, though having few staff, may have a building official that is an energy efficiency and energy code advocate and is insistent that compliance is a 100% proposition. A large jurisdiction may have staff that are overwhelmed with inspections and treat the energy code measures as secondary to life safety to an extent that measures get overlooked during inspections.

2004 Jurisdiction Survey

In 2004, Eric Makela and Ken Baker, working under Northwest Energy Efficiency Alliance (NEEA) funding, developed and implemented a verification program for jurisdiction energy code plan review and inspectionsⁱⁱⁱ. They visited 19 jurisdictions, both large and small throughout Idaho. Depending on the size of the jurisdiction Makela and Baker spent two to four hours with plan review staff going through a series of pre-developed questions to determine time and approach spent on residential and commercial energy code submittals. Another two to four hours was spent with inspectors in the field to ascertain their energy code enforcement proficiency level.

Findings from the jurisdiction visits show a large range of plan review and inspection activities. The average residential plan review was 23 minutes with a range of 5 minutes to 60. Commercial plan review averaged just over 51 minutes per plan set with a range of 22 to 90 minutes per review.

Interestingly, rural or smaller jurisdictions (less than 40,000 in population) averaged 28 minutes for the residential plan review and larger jurisdictions –

Boise, Ada County, Pocatello and Kootenai County – averaged 17 minutes for residential plan review. Statistically, the qualitative difference between large and small jurisdiction time spent on plan review cannot be derived from the data set.

What we can say from the data is that there was not consistency in approach to statewide plan reviews and inspections.

2011 Jurisdiction Survey

During the spring of 2011, George Klomp, a retired Idaho building official and now a consultant, performed field interviews with fifteen large and small statewide jurisdictions regarding energy code process and compliance.^{iv} This field study/survey was funded through Pacific Northwest National Laboratory through the Northwest Energy Efficiency Alliance.

In just seven years, the time for residential plan review went from 28 to 32 minutes. Commercial plan review from 51 to 41 minutes.

The 2011 survey gathered detail in areas that wasn't reviewed in 2004 and provides us with a much more varied set of data on jurisdictional approach to code implementation.

Mr. Klomp, a highly experienced building official, provides many recommendations for achieving code compliance in Idaho. Below (italics added) are his recommendations for improving energy code compliance specific to Idaho jurisdictions.

The fifteen jurisdictions that were visited are representative of Idaho. Large, medium and small departments were visited. Most jurisdictions are fully enforcing the energy code and a few are not. The major issues that are identified in the survey are, full energy code enforcement, education and training, and time or staff. The following recommendations will address these issues.

Full Energy Code Enforcement

There is not full enforcement of the energy code among the jurisdictions that have adopted the code. There are some jurisdictions that have been doing a good job of energy code enforcement for some time, some jurisdictions that are in the process of fully implementing energy codes and some jurisdictions that are fully implementing energy codes. The jurisdictions that are not fully enforcing the energy code fall into two groups. One group does not enforce commercial lighting because they do not have an electrical inspector and the state electrical inspector will not do it. The other group has simply decided that they will not enforce the requirements for heat load calculations or duct design. Some building officials do not believe that there is sufficient support from their elected official, contractors and community to be able to enforce the energy code. Other building officials do not personally believe in the need for an energy code and choose not to enforce portions of it.

It is important that building officials, elected officials, contractors and the public understand the value of energy codes to their community and the nation. While it is true that major efforts have been made to emphasize the importance of energy codes in Idaho, the fact is that there is still a significant amount of resistance.

Develop and implement a strategy to identify and influence the jurisdictions that are not fully enforcing the energy code. After visiting with some of these jurisdictions, I believe that with the proper approach and patience they may change their position.

Building Department Administration

A lot of time and effort and money are spent on code training. Very little is spent on building department administration. Good administration is the key to effective code enforcement. It is evident that a department that effectively enforces building code will also effectively enforce energy codes or any other task that they are given because they have good administrative policies and procedures in place. Quality of submittals, incomplete plan review, miscommunication, staffing levels and a lack of support are all examples of issues that can benefit from good administrative practices.

The survey includes a variety of departments, from one-person departments to medium and large departments. In one large department I discovered that there were a number of discrepancies between the REScheck and the Wrightsoft for a specific submittal. When I asked about the differences I learned that one person reviewed the REScheck and another reviewed the Wrightsoft. No one compared the two to see if they matched. In another jurisdiction, I was told in the interview that the staff was mostly trained. When I asked who looked at the lighting in a new residence the building official was not sure if the building inspector or the electrical inspector did. As we questioned the staff, we learned that the electrical inspector had not received any training on the 2009 IECC and he did not believe that the electrical contractors in the area had either. Those are examples of a number of building department administration issues that I noticed during the survey.

Building department administration should become an important element of the education and training program. It should part of the IDABO annual educational program and regional training. In addition, it would be very beneficial to create a program where a jurisdiction could have a qualified individual assist them in assessing their administrative policies and procedures.

1.1. OPPORTUNITY: Assess Current Jurisdiction Applications of Code

- ✓ Current as of May 2011, the Northwest Energy Efficiency Alliance and the Idaho Building Officials Association conducted a statewide site survey of fifteen jurisdictions to assess the use and type of documentation for plan review and inspection to the IECC. This earlier cited survey is providing an opportunity to view the current range of jurisdictional requirements, data collected and processes used for code compliance. This “dataset” will inform

us of the gaps in code documentation and be helpful in development of strategies that will bring consistency to statewide enforcement.

- ✓ Energy code enforcement lessens our dependency on other, higher cost energy resources such as oil.
- ✓ Energy code enforcement provides for economic stability through energy security and lower rates for electrical customers. The sixth Northwest Power Plan^v estimates that there are 6000 average megawatts available through energy conservation in the Northwest between now and 2030. The levelized life cycle cost of this conservation is about 2 cents a kilowatt-hour. Energy codes are one of the most cost effective and efficient means for achieving these energy savings.
- ✓ Enforcement of energy codes helps maintain lower electrical energy rates for all electrical consumers.
- ✓ Energy code enforcement lowers the cost of building ownership.
- ✓ Enforcement of energy codes helps to strengthen electrical utility capacity.

1.2 RECOMMENDATIONS:

- ✓ Based on advice given in the 2011 Jurisdictional Plan Review Survey, develop a building department administration program to provide guidance to jurisdiction code structure.
- ✓ Review the NEEA/PNNL funded jurisdiction documentation assessment and develop strategies for a long-term solution that will provide consistency to Idaho Jurisdiction requirements for energy code compliance documentation.
- ✓ In 2010, the collaborative developed and presented a series of sessions on the value of energy codes. The one-hour sessions were focused on elected officials. The Association of Idaho Cities posted a Value of Energy Codes video on their website, idahocities.org. We recommend that the value of energy code sessions be expanded to include a broader market/audience such as building officials, the design and construction industry and consumers. It is imperative that code enforcers understand and support full enforcement of the energy code.
- ✓ Based on NEEA study findings develop long-term strategies that will assist jurisdiction consistency in code enforcement and code documentation statewide.

Long-term enforcement strategies could include:

- a. Standardization of plan review documentation and process
- b. Code inspection and verification process standardization
- c. Blower door and air leakage, air balancing requirement standardization
- d. Development and implementation of education and training to support standardization.
- e. Utilize the Division of Building Safety and Office of Energy Resource online compliance database statewide.

- ✓ Consider if a more intensive study should follow up the NEEA/PNNL review. The purpose of the study would be to find where the energy code is and is not consistently enforced, setting the baseline for future code training and assistance.

2. CHALLENGE: Cultural perception and understanding the positive economics of energy codes

Some Idahoans may not understand or support participation in energy code programs. Many times the perception is that energy codes are unfunded mandates placed on the jurisdiction, on the industry, and on building owners. Others may believe that energy codes raise the cost of construction and therefore have an impact on the ability of a consumer or owner to finance construction.

And in fact, the 2009 energy code is more stringent than the 2006 code. The requirements have changed from 2006 to 2009 and those changes will be associated with some level of incremental cost.

The challenge is to make clear that the cost increase does have direct benefit for the homeowner.

2.1. OPPORTUNITY:

- ✓ Work with residential builders to market the lower operating and life cycle cost of a 2009 code home over the current market inventory. This opportunity requires a consumer marketing strategy and program for builders that will identify specific market value of 2009 code homes. One strategy could be the incorporation of a HERS (Home Energy Rating System) program for new and existing buildings, providing an efficiency score that can be used for comparison.
- ✓ Other states, Washington in particular, now have a requirement to benchmark the existing stock of commercial buildings. Idaho should consider promoting a voluntary benchmarking program to establish a base of information for understanding building energy use and as a means to showcase the value new energy codes bring to buildings.
- ✓ Energy codes add economic value to building owners. Economic analysis has shown that the residential building owner who finance code efficiency measures will have see a positive cash flow, based on energy savings, during every month of building ownership.^{vi} Commercial buildings are more complex with more variables than residential buildings but the cost of ownership is less in an energy efficient building.

- ✓ Energy codes add economic value to communities. According to the Department of Energy, energy dollars saved through energy codes are dollars that can circulate in the community an average of 8 times.^{vii}
- ✓ Energy codes assure that the durability of buildings, occupancy health and safety and comfort may^{viii} increase from code cycle to code cycle.
- ✓ Energy codes specify minimum mandatory requirements for building design and construction. Following this function, the 2009 energy code does specify minimum efficiency levels in buildings. However, these minimum efficiency levels will result in a better than a minimum building. The evolution of energy codes over the past three code cycles has tended to “push” good, and not minimum, practices in building efficiency. The code does not require the multitude of best practices that may be used for building efficiency, but compliance with the code does bring an assurance of good value.
- ✓ Energy codes provide a level of assurance in quality and standard. When followed, the 2009 energy code provides value to the building owner, the construction industry and the community. Owners benefit because the return on investment for an energy efficient building is higher than returns for non-efficient buildings. One reason for higher ROIs in buildings built to energy codes is that comfort is the number one priority for building occupants and code buildings assure a good level of comfort.

2.2 RECOMMENDATIONS:

- ✓ Revise the 2001 economic analysis on energy code cost and payback. This could be done through the Idaho Strategic Energy Alliance’s Conservation and Energy Efficiency Task Force.
- ✓ Perform a research review on the economic benefits of the commercial code.
- ✓ Share energy code benefits on the OER, DBS, AIC, IDABO, Idaho Building Contractor Association, K energy and other web sites.
- ✓ Develop and implement an information program on the value of energy codes for Idaho consumers.
- ✓ Develop value of energy codes information pieces for both residential and commercial building owners and commercial tenants.

3. CHALLENGE: Political Will to Enforce Codes

Though not as typical as in the past, it is still not unusual to hear from building officials that their reasons for not fully enforcing the energy code is in response to directives from elected officials. A typical scenario would be a contractor/developer/owner calling a mayor or county commissioner and complaining about aspects of energy code enforcement. This action can cause the elected official to make inquiries of the building department regarding code enforcement and subsequently cause some building officials to lighten their approach to code compliance.

3.1 OPPORTUNITY:

We know more about the value and need for good energy code enforcement today than was known in the past. Since energy code enforcement does, as already stated, positively affect the comfort and health of building occupants, the durability and safety of buildings, and our ability to become more energy independent at the lowest resource cost available, it has become easier to counter arguments against energy code enforcement.

3.2. RECOMMENDATIONS

- ✓ Ensure that elected officials are provided good information on the value of energy codes for their communities and that their questions and concerns have are taken seriously.
- ✓ Provide value of energy code education at the AIC and IAC annual conferences.

4. CHALLENGE: Dollars to Fund Plan Review and Inspection

Perhaps the largest challenge to jurisdictions currently is dollars and staffing. With the construction downturn many if not most of Idaho's jurisdictions have either laid off staff or set new priorities and job tasks for code enforcement employees.

4.1 OPPORTUNITY:

It's difficult to see the opportunity here, but if we can begin to not just understand but quantify the true economic value of energy codes for the community, funding sources may emerge.

4.2. RECOMMENDATIONS:

- ✓ Look for sources of jurisdiction funding for code inspection and plan review.
- ✓ Quantify what is needed for funding.
- ✓ Quantify the value of jurisdictional funding of plan review and inspections.

✓ III. Statewide Level Challenges

1. CHALLENGE: DBS Inspection Authority and Jurisdiction Enforcement

State Statute requires that city or county units of government that adopt building codes, must adopt the latest codes promulgated through the Division of Building Safety Building Code Board. Though a large percentage of Idaho's population adopt and enforce building codes making energy code compliance mandatory, in many smaller jurisdictions there is currently no requirement for buildings to be reviewed and inspected for either structural or energy efficiency compliance.

The state DBS is required to provide inspections for electrical, mechanical and plumbing on all buildings that are not part of a city or county inspection program. The DBS does not have authority to inspect for energy code compliance in buildings that are not part of city and county code jurisdiction. This means that some percentage of Idaho new buildings will not have inspections for energy efficiency and may or may not be compliant to the energy code.

1.1 OPPORTUNITY:

There is opportunity to gain a better understanding of energy code compliance issues, concerns and challenges throughout Idaho jurisdictions, and to then determine what percentage of these issues could be resolved through more robust DBS involvement in enforcement of energy code provisions.

1.2 RECOMMENDATIONS:

- ✓ Develop and implement a statewide survey of code enforcement to determine where there are gaps in enforcement and where jurisdictions would like or would accept assistance from DBS.
- ✓ Consider development of state legislation to make building codes mandatory in all jurisdictions and at the same time providing DBS with energy code inspection authority when enforcement is not provided through cities or counties.
- ✓ Seek authority for DBS to enforce the energy code in jurisdictions where they currently inspect.

2. CHALLENGE: Political Support of Energy Codes

During the 2011 legislative session House Bill 207 amended the current building code act to specifically clarify there is no requirement to upgrade unaffected existing parts of an existing building to meet current code when the building is undergoing alteration. While not written with the intent to affect energy code

requirements this exemption confirms what is already in the code, that “additions, alterations, renovations or repairs to an existing building, building system or portion thereof shall conform to the provisions of this code as they relate to new construction without requiring the unaltered portions(s) of the existing building or building system to comply with this code.”

Also during the session, state officials involved with the energy code were asked to provide presentations on the code.

While neither of these actions carried had much impact on energy code enforcement, they both serve as a reminder that the code is not out of sight nor out of mind. Our political leaders are interested in the code. The challenge for the collaborative is to continually bring to surface the overarching value of energy codes so that decisions are made based on good information.

2.1 OPPORTUNITY:

The obvious opportunity may be to provide our elected leadership with good information on the value of energy codes. But how this information is presented and the content and context of the information should be planned and executed with an understanding of what is most important to our leaders, the values of our citizenry.

2.2 RECOMMENDATIONS:

- ✓ Develop an economic analysis of the 2009 residential IECC to show benefit to the consumer.
- ✓ Develop consumer case studies on residential code value for sharing with other Idaho citizens, the building industry and Idaho leaders.
- ✓ Develop marketing strategies for bringing information on the value of energy codes into focus within a group of Idaho homeowners, builders and elected officials.

IV. Industry Issues

1. CHALLENGE: Compliance Requirements and Consistency Between Jurisdictions

The statewide and local issues for building jurisdictions are also issues for the design and construction industry. The biggest current challenge for the building industry is that the market has reduced in size for both residential and commercial new construction.

1.1 OPPORTUNITY:

Many of the residential builders who continue to build have embraced above code programs such as Energy Star™ and LEED for Homes™. These builders seek to distinguish themselves to consumers through building in programs that provide third-party verification of value.

Idaho building officials, through the Idaho Ambassadors are working on an educational piece that will raise consumer awareness of the value of the 2009 IECC. A permanent sticker, branded with the IDABO trademarks that states “This home is built to the 2009 IECC” is one strategy that is being developed.

Commercial building trends have also moved toward energy efficiency and green. Perhaps the greatest opportunity in commercial is utilization of a benchmark system for buildings that documents an energy use index (similar to miles per gallon) for a building.

1.2 RECOMMENDATIONS:

- ✓ Work with the state and local builder associations to assist in development of marketing efforts that will distinguish between the value of homes built to above code programs and homes built to full compliance to the 2009 IECC over homes that do not have efficiency verification. This could include a pilot study on adoption of the Home Energy Rating System standard to show the value of code built homes.
- ✓ Implement the IDABO developed certification strategy.
- ✓ Support the concept of building benchmarking in both residential and commercial buildings. This could be addressed in the soon to be revised state energy plan or through the legislature. A pilot program may have merit.

2. CHALLENGE: Residential Issues

Though not 2009 IECC related, there are numerous efficiency issues with existing buildings that should be addressed as these buildings typically encapsulate approximately 90% of potential energy savings in buildings.

2.1. OPPORTUNITY:

The opportunity for savings in existing buildings is immense. While weatherization programs are the typical delivery mechanism for existing building efficiency upgrades, there may be value in opening discussions on what packages of weatherization measures are most likely to save energy and to bring existing buildings closer to current code.

2.2. RECOMMENDATIONS:

The Office of Energy Resources should consider facilitating a discussion between code and weatherization experts.

3. CHALLENGE: Commercial issues

Many of the commercial issues are education related. For example, proper construction documentation to show compliance with the envelope, electrical and lighting and mechanical systems of a building can have challenges. This is true even when using ComCheck software.

Another challenge is the selection of the path to compliance, ASHRAE or IECC when using ComCheck.

And yet another commercial challenge is how to approach certain code requirements during design. For example, vestibules are mandatory requirements in most commercial applications. Architects range from being supportive of vestibules to seeing them as design problems. The real challenge is to help them perceive vestibules, and other code mandatory requirements, as best practice design that are readily incorporated into buildings.

3.1 OPPORTUNITY:

The opportunity with commercial is to assist the design community into establishing best practice design approaches to meeting energy code requirements.

3.2 RECOMMENDATIONS:

- ✓ Work with a few A&E firms to produce a design roadmap for meeting energy codes in a best practice manner.
- ✓ Consider enlisting A&E firms to mentor other firms in best practice approaches for new building design that meets code.

V. Compliance Documentation

Idaho has a rather unique approach to showing 90% compliance to the 2009 IECC. Utilizing ARRA dollars the Office of Energy Resources provided the Division of Building Safety with dollars to build an online database for residential and commercial compliance and quality assurance.

This database is voluntary for statewide jurisdictions but the goal for the collaborative is to seek voluntary use by a majority of our 200 cities and 44 counties. One purpose of the database is to provide a pool of information on compliance issues so that future code efforts, including funding of code compliance and implementation, is directed by actual plan review and field observations of need. Another purpose of the database is to provide jurisdictions with a format for assessing quality assurance in energy code implementation and as an archive for building compliance.

The online forms are simple and less than two pages of information fields. They attempt to record and document high value information such as; compliance approach, building type and square footage, document submittal, building tightness (residential), approach to duct installation (residential), and non-compliance measures.

The biggest challenge with the database may be overcoming the reluctance of jurisdiction use of a database held by a state agency.

As of June 2001, the database is being piloted by fifteen statewide, large and small jurisdictions. The purpose of the pilot is to refine the document fields and process for data entry and retrieval.

Beginning the database program now enables Idaho to assess it's probably effectiveness in showing 90% compliance to the IECC. If the assessment indicates that the database is not effective, Idaho will need to closely consider utilization of the PNNL process for verifying 90% compliance.

VI. Training and Technical Assistance

Thanks to historical funding from the Northwest Energy Efficiency Alliance, and current funding through ARRA Idaho has been able to deliver a robust code education program. The key to meeting the continuous evolving jurisdiction and industry education needs is continuous curricula improvement. We are always looking for content that better expresses a code requirement. The better we can present the information in general, the more the industry begins to truly understand and embrace energy code requirements.

To enable this continuous improvement process the following curricula areas should be addressed over the next two years.

1. Development and education on Integrated Measure Packages
This will support current efforts of the Northwest Energy Efficiency Alliance as they seek to change the existing building market through deep renovations
2. Development and education utilizing standardized training packages for industry
3. Deeper training for jurisdictions including one-to-one training on code administration
4. Expansion of residential training topics to include:
 - a. Advanced topics
 - i. Performance approaches to compliance
 - b. Duct blaster and blower door classroom and site training
 - c. Manual J and D module
 - d. New technologies that support code and best practice
 - e. Consumer messaging
5. Commercial training to include:
 - a. Advanced topics
 - i. Performance approaches to compliance
 - b. Incorporating best practices such as daylighting into code design
6. Understanding the energy code economic value

It will also be important for Idaho to align training and best practices with national efforts. The best approach for this is to monitor PNNL and DOE education resources and participate as much as possible in the development of these resources.

VII. Utility DSM and Code Support

There exists a unique opportunity for public and private utilities to play a role in code advancement. Although they may not be able to justify incentive payments for current code measures, utilities could base their residential and commercial demand side programs on measures contained within future energy codes.

The entirety of DSM programs would not need to be code based but it could be very beneficial to have the collaborative work with utility staff to identify those measures that are the tipping point for the forward movement of industry players.

By investing in the future of codes, utilities and ratepayers are helping to ensure that the process for adoption and, more importantly, the process of measure implementation is practiced and somewhat perfected by the time it is adopted into code.

VIII. Marketing

1. **CHALLENGE: Public and industry understanding of the value and meaning of energy codes that update every three years**
2. **OPPORTUNITY: Develop a marketing strategy to convey the primary features and benefits of building to current energy codes**
3. **RECOMMENDATIONS: See marketing strategy below**

1. Situation Analysis
2. Marketing Strategy
3. Marketing Mix
4. Branding
5. Implementation and Control

1. Situation Analysis

5 C's (Company, Customers, Competitors, Collaborators and Climate)

| | |
|----------------------|---|
| Company | The Idaho Energy Code Collaborative (the collaborative) is comprised of Idaho energy code stakeholders and currently includes the Association of Idaho Cities, the Governor's Office of Energy Resources; the Division of Building Safety; the Idaho Building Contractor's Association; the Idaho Association of Building Officials; K energy and Eco Edge consultants; and, Idaho Power Company. They have met on a regular basis since its formation in 2001. The collaborative purpose has always been a forum for energy code discussion and it has served to ensure that Idaho energy code stakeholders are aware of and involved in energy code issues and changes in Idaho. |
| Customers | Building Officials, Builders and Consumers |
| Competitors | N/A |
| Collaborators | See Company description above. Add NEEA, AIA, USGBC, Rocky Mountain Power, Avista and Bonneville Power Administration. |
| Climate | The economic climate is experiencing a downturn, particularly in the construction industry. In Idaho, the building industry has seen a significant decline in the past few years, and has been slow to recover. For example, in 2009, 79% of homebuilders went out of business in Idaho. This is a prime time for education, and enrollments have been up at universities across the state. With the right educational strategy, the potential is strong. Politically, Idaho is conservative. There has been overall receptivity for energy efficiency; however, there has not been significant political will to implement incentives in this area. There is also a challenge for smaller, more rural jurisdictions to enforce energy codes. |

SWOT Analysis (Strengths, Weakness, Opportunities, and Threats)

| Strengths | Weaknesses | Opportunities | Threats |
|--|--|---|--|
| Collaborative nature Diverse stakeholders Consistent funding from NEEA | De-centralized leadership and decision making Lack of rural enforcement | Rising energy costs Growing awareness of energy efficiency Trend towards green building | Current low cost of energy Code changes every three years |

2. Marketing Strategy

| Market Segments | Building Officials | Industry | Consumers |
|---------------------------|--|---|--|
| Target Market | IDABO | Builders (BCA/AGC) | Utility Customers |
| Call to Action | Enforce energy codes | Implement energy codes | Understand energy codes |
| Benefits | Streamline job Reliability | Lower risk Quality control Credibility | Lower utility bills (i.e., efficiency) Increased home value |
| Strategies | Training ECAP logo Compliance sticker | Training Info sheet (FAQ) | Messaging Info sheet (FAQ) |
| Potential Barriers | Lack of time and resources Lack of political will | Misunderstanding of compliance options and strategies Misperception of cost to implement | Lack of desire to understand codes Information overload Low cost of energy |

3. Marketing Mix – 4 P’s – Product, Price, Place and Promotion

| Product | Price | Place (distribution) | Promotion |
|----------------|--------------|-----------------------------|--|
| Energy codes | N/A | Web | Info on AIC website Info on utility websites Info on IDABO website Info on BCA/AGC websites Info on USGBC and AIA websites |
| | | In-person | Training sessions Focus groups Info sheets |
| | | Mail | Messaging on utility bills Info sheets Surveys |
| | | Email | Surveys |

4. Branding

Brand identity starts by defining core values, then brand personality and traits. The brand should convey a simple, core message and have identifiable imagery, such as a distinctive font, color and logo.

The collaborative has decided to focus on branding ECAP (Energy Code Ambassador Program) instead of energy codes as a whole or IECC.

The core values of ECAP are reliability, credibility, efficiency and quality.

5. Implementation and Control

The metrics are simply to achieve 90% compliance with 2009 IECC in Idaho by 2017.

The tracking will be done through the database being developed by DBS and by the audit done by PNNL.

The purpose of this document is to provide a general marketing strategy; however, there are no resources allocated to implement the strategy or develop a marketing plan that outlines the specific components such as messaging and copy. Roles and responsibilities, definition of resources needed, budget and other specifics will need to be outlined during the implementation phase. Much of this implementation is expected to be accomplished through funding from NEEA in 2011. In addition, there was no budget for market research, so this strategy is based on the experience, instinct and opinions of the collaborative. Further research would allow for the development of a more specific and targeted marketing strategy.

IX. Resource Needs

Many, if not most, of the recommendations in this plan will require a funding source if they are to be followed. Absent from many of the recommendations are the follow through steps of who will take the lead, when will we pursue, and how much will it cost. Even so, the plan will provide a proactive guide for collaborative actions into the next five years.

The key tools that will aid Idaho in achieving 90% compliance with the energy code by 2017 are already in place. The database development has been funded, jurisdictions are piloting it and a feedback loop of improvement has been developed. What's left on the table is the question of how many other key jurisdictions will utilize the database over the next five years, and, what further resources will be necessary to motivate this participation.

Thanks to the Northwest Energy Efficiency Alliance's eleven-year history of funding and the Recovery Act dollars, training mechanisms are well established in Idaho. A full set of basic and multiple advanced session curricula have been developed for industry and jurisdictional stakeholder education. And thanks to NEEA, again, there is most likely some level of training, technical assistance and code policy development support for at least a few more years.

The Idaho Building Code Board now reviews codes, including energy codes, on a three-year cycle, implements a process of negotiated rule making and promulgates new codes.

What is missing resource wise are the dollars that will help stakeholders understand the deeper value of energy codes. Idaho needs a new economic analysis of energy code return on investment. A study for both the residential and commercial investment potential.

We need more training resources, a broader menu of educational opportunities for a broader audience that includes the consumer, the building developer, and the building owner and financial community.

In the near term an energy code roadmap should help us meet the 90% compliance requirements by identifying quality assurance components that, when met, give us the best value for the dollars we do have to spend.

Strategic Plan Key Recommendation

✓ Energy Code Roadmap:

The Idaho Energy Code Collaborative believes that the first step to improving energy code compliance and in assuring future energy code acceptance is in development of an

energy code roadmap that could be adopted by communities for implementation of energy codes. This roadmap, piloted in a few communities statewide, could be an interactive guide that steps a community through a process of consistent adoption and administration of codes and an integration of the code into the economic structure of the community.

A component of the roadmap is to perform a market assessment. This research will guide the development of a more comprehensive marketing plan that builds on the NEEA/PNNL grant-funded strategic plan, which provided a basic framework for marketing strategy. Once the baseline market assessment is complete, the roadmap can begin to map out the next steps in more detail. It will include a marketing plan for how to most effectively reach a diverse range of stakeholders. The stakeholders we will reach go beyond the market players included in the assessment phase to include homeowners, real estate professionals and the appraisal community. The overall objective is to develop an outreach plan for how to overcome any barriers to code acceptance and provide tools that lead to more widespread awareness and understanding of the value of energy codes.

Development of the energy code roadmap aligns closely with the recommendations from the NEEA/PNNL funded Building Department Administration survey. In the survey George Klomp stated “Good administration is the key to effective code enforcement. It is evident that a department that effectively enforces building codes will also effectively enforce energy codes or any other task that they are given because they have good administrative policies and procedures in place. Quality of submittals, incomplete plan review, miscommunication, staffing levels and a lack of support are all examples of issues that can benefit from good administrative practices.”

In short, the Roadmap would provide a close up look at key players in energy code implementation, the jurisdiction, the design and construction industry, and the building owner and document needs and code acceptance issues.

The roadmap outcomes would include needs and acceptance analysis, economic and value casestudies, a set of direct actions for near term code support, a code value piece for community and state decision makers, and a set of best practice administration guidelines for jurisdiction code administration.

ⁱ Credit goes to the Northwest Energy Efficiency Alliance for this concept.

ⁱⁱ The PNNL protocol is listed on the energycodes.gov website. Also provided on this site is a “generator” that provides distribution of the compliance sample based on past residential and commercial construction starts.

ⁱⁱⁱ Idaho Site Education – 2004, Baker and Makela, February 28, 2005.

^{iv} IDABO Jurisdictional Survey, June 2011, George Klomp

^v Conservation is estimated to cost \$200 per megawatt hour or 2 cents a kilowatt hour. The Sixth Northwest Power Plan can be found at:

<http://www.nwcouncil.org/energy/powerplan/6/default.htm>

^{vi} An economic analysis of the 2000 IECC, Ken Baker, 2001

^{vii} A 1992 study by Skip Laitner specific to Idaho showed that dollars spent on energy leave the community. A dollar not spent on energy circulates in the community, changing hands an average of eight times.

^{viii} There is some debate on whether all aspects/requirements of an energy code will increase comfort. For example, the push to reduce prescriptive glass from 40% of wall area to 30% could affect visual comfort for occupants.