Idaho Energy Code Checklist for Homebuilders

Ensuring quality construction and efficient homes that result in a competitive advantage.

On January 1, 2011, the state of Idaho adopted the 2009 International Energy Conservation Code (IECC). Every new home in Idaho is required to meet these minimum standards. **What does this mean for YOU, the builder?** This checklist will help you identify the aspects of a home that meet Idaho’s energy code and protect you against the risk of call backs and improve your bottom line.

**Energy codes save money and resources.**

A home built to the new energy code standards saves homeowners money in heating and cooling their homes and has the potential for a higher resale value. The average breakeven point for upgrading to the new energy code is only 11 months! If a home is built to last 100 years, this is 99 years of positive return on investment and savings for the homeowner.

**Energy codes reduce risk for builders and improve the quality, safety and durability of homes.**

Building for energy efficiency results in improved comfort and enhanced indoor air quality, which reduces callbacks and improves your bottom line. Inadequate insulation and air leakage are leading causes of energy waste in homes, and cause moisture and mold problems. Duct sealing requirements reduce the potential for HVAC backdrafting that can lead to carbon monoxide poisoning. Proper design and sizing of the HVAC system ensures that equipment works properly and is less likely to malfunction.

**Statewide energy codes create a uniform standard between jurisdictions and reduce builder liability.**

Builders with projects in multiple jurisdictions find compliance easier when the codes are the same statewide. This enables builders to streamline operations and save time and money. Energy codes are typically updated every three years, and training and other resources are provided by NEEA, DOE and ICC (Northwest Energy Efficiency Alliance, Department of Energy and the International Code Council). **Training is usually free and is posted on www.idahocities.org and www.idabo.org.**

Overview of the 2009 IECC Energy Code Requirements

Compliance is required on all new homes, new additions and in certain situations for renovations. There are exceptions for historic buildings, low-energy use homes and some alterations when energy use does not increase.

Energy Certificate - Evidence of the energy efficient features of the home

☐ The energy certificate located on the circuit breaker is completed and signed by the builder.

☐ This certificate lists prescriptive requirements for meeting the energy code. An alternative compliance method is to use REScheck (http://www.energycodes.gov) or a HERS Index (http://www.resnet.us), which estimate the overall energy performance of the home. Many jurisdictions in Idaho require a REScheck report. It allows you to trade-off between envelope components such as wall R-value and window U-factor, but mechanical trade-offs are no longer allowed.

Air Sealing – Critical for comfort, air quality and energy efficiency

☐ All joints and seams along with holes between the inside and outside of the home have been sealed with caulk, foam or weatherstripping. Examples include:
  ○ Openings between window and door assemblies and their respective jambs and framing
  ○ Walls and ceilings separating the garage from conditioned spaces
  ○ Where electrical, phone and cable wires enter the home
  ○ Where plumbing goes through walls, floors and ceilings
  ○ Dropped ceilings or chases adjacent to the thermal envelope
  ○ Knee walls
  ○ Behind tubs and showers on exterior walls
  ○ Common walls between dwelling units
  ○ Attic access openings
  ○ Rim joist junctions

☐ Wood-burning fireplaces have doors with gaskets.

☐ Recessed lighting fixtures are IC rated and sealed with gasket or caulk when located between conditioned and unconditioned space.

☐ Builders are required to either submit to a visual inspection of the air sealing package or to show the building jurisdiction compliance through use of an air leakage test such as Blower Door™. This performance test is the most effective way to evaluate air leakage. Code requires a test result of 7 ACH150 (air changes per hour) at a 50 Pascal pressure differential (think of a 20 MPH wind) or lower.

Energy-Efficient Lighting - CFLs use about 75% less energy than incandescent bulbs!

☐ High-efficiency light bulbs, such as compact fluorescents (CFLs) and LEDs, are installed in at least 50% of the permanent light fixtures.

Windows - Enjoy light and views while saving on utility bills

☐ Windows have an average U-factor of 0.35 or less. Skylights have a U-factor of 0.60 or less. This can be found on the NFRC sticker attached to new windows. It is important that builders leave the NFRC labels on windows for inspectors and homeowners.

Heating and Cooling - HALF of a typical energy bill comes from heating and cooling

☐ Minimum federally prescribed efficiencies are met on all heating and cooling systems.

☐ Heating and cooling systems are required to be properly sized using Manual J, S and D or equivalent.

☐ Forced-air furnaces must have a programmable thermostat with initial set points no higher than 70° for heating and no lower than 78° for cooling.

Ducts - Proper duct sealing optimizes the home's comfort delivery system

☐ All ducts and air handlers are sealed with mastic (duct tape is not permitted). Detail on proper duct sealing can be found in the IRC, Section M1601.4.1.

☐ If ducts are located in an unconditioned attic, crawl space or garage, then ducts are insulated with R-6 or higher (R-8 for supply ducts in the attic).

☐ If any ductwork is located in unconditioned space such as a garage, crawl space or attic that is not heated, then it is required to measure air leakage through a Duct Blaster® test.

Idaho Energy Code Checklist for Homebuilders

Ensuring quality construction and efficient homes that result in a competitive advantage.

Insulation - Properly installed insulation will blanket the home for more constant temperatures

☐ Insulation R-value measures the level of resistance to heat transfer. The higher the better.

☐ Walls are insulated to R-20 or higher in all climate zones in Idaho.

☐ Ceilings are insulated to R-38 or higher in climate zone 5 and R-49 or higher in climate zone 6. If there is blown-in insulation in the attic, then there are markers to indicate the depth of insulation.

☐ Floors over an unconditioned (not heated) crawlspace are insulated to R-30 or higher.

☐ Perimeter walls of a conditioned crawlspace are insulated to R-10/13, R-10 (continuous) or R-13 (cavity), AND have a vapor retarder across the ground and securely taped to the crawlspace walls.

☐ Basement walls are insulated to R-10/13 in climate zone 5 and R-15/19 in climate zone 6.

☐ Slab edge is insulated to R-10 that extends 2 ft in climate zone 5 and 4 ft in climate zone 6. If the slab is heated, then add R-5.

☐ Insulation is installed per manufacturer’s specifications in walls, ceiling and floors.

☐ When insulation is blown or sprayed into walls and ceilings, builders must provide a certificate listing the type, manufacturer and R-value of the insulation. The insulation installer must sign, date and post the certificate on the job site.

Idaho Climate Zones - Aqua is climate zone 5 and blue is climate zone 6

✓ A home built to the new energy code standards saves homeowners money in heating and cooling their homes and contributes towards a higher resale value.

✓ Energy codes reduce risk for builders and improve the quality, safety and durability of homes.

✓ Building for energy efficiency results in improved comfort and enhanced indoor air quality, which reduces callbacks and improves your bottom line.

✓ Meeting or exceeding national standards for energy efficiency, which are updated every three years, creates a competitive advantage.