

EFFICIENT BUILDING ADVISORY GROUP

SUMMARY of Recommendations: Important and Achievable Efficient Building Practices for Summit County, Colorado September 2006

Prepared by High Country Conservation Center



Background: The Efficient Building Advisory Group (EBAG) was formed to help Town and County building officials determine which efficient building practices were most important to address in Summit County in their efforts to create an efficient building code. The EBAG is a representative group of Summit County building and energy conservation professionals, including builders, architects, landscape architects, and building officials.

Process: The Efficient Building Advisory Group provided recommendations on both the implementation and content of an efficient building code using both qualitative discussion and a quantitative rating process. Concepts were rated on a 1-5 scale (1=low, 5=high) for both importance and achievability and included separate ratings for single family and multi-family developments.

Recommendation: In brief, a simple code for all residential development that focuses on the most important efficient building practices, including energy conservation, energy efficiency, and waste reduction is desired by the group.

SUMMARY

The Efficient Building Advisory Group identified the following key issues as important for **implementation** of the code:

- Uniformity between jurisdictions
- Simplicity for inspection, paperwork, and certification
- Flexibility for changes in the marketplace and innovation
- Any opt-out condition (i.e, paying a fee instead of complying with certain requirements) should facilitate further resource conservation and efficient building
- Both single family and multi-family homes should be addressed in this code

- The size of a home should be considered (smaller is less resource intensive); baseline home around 3000 square feet (between 2000 and 3500)
- A phase in period is necessary
- A comprehensive Resource Guide must accompany the code
- Educational forums and proactive outreach are necessary

Other implementation issues that need to be considered include:

- Energy codes are not uniform between jurisdictions; baseline energy requirements (examples include roof and wall insulation, windows, etc) likely need to be included in the efficient building code
- Remodels could be tied to size and included in this code (i.e., additions over 2000 square feet)
- All remodels could be required to include efficient building concepts in new materials (i.e., baseline window requirements but not a new furnace)
- All conditioned space (i.e., heated garages) should be included in code
- Mixed-use is not addressed yet, but should be considered over time.

The most important and achievable concepts identified by this group, with an overall rating of 4.5 or greater, are:

- Upgrading Insulation
- Upgrading Windows and Doors
- High Efficiency Heating Equipment
- High Efficiency Appliances
- Water Efficient Landscaping

Secondary important concepts, with an overall rating of 4.0 or greater, are:

- Recycled Content Materials
- Recycling Program (Space) for Operations
- Energy Efficient Controls
- Chemical & Pollutant Control & Monitoring
- Thermal Comfort & User Friendly Controls
- Daylighting

Other important and achievable concepts, with an overall rating of 3.0 or higher, are:

- Rapidly Renewable Materials
- Local and Regional Materials
- OVE Framing
- Construction Waste Management
- Water Use Reduction

- Active Solar Hot Water Systems
- Passive Solar Design
- Off-Site Renewable Energy Credits
- Energy Efficient Lighting
- Healthy Materials
- Effective Ventilation Systems

Concepts that rated **low in both achievability and importance** (2.9 rating or lower) are:

- Resource Reuse
- Wind Power
- Active Shading

Concepts that had a wide disparity between importance and achievability, indicating that they are **important to efficiency building but difficult to achieve** include:

- Deconstruction
- Certified Wood Products
- Solar PV Systems
- Ground Source Heat (Geothermal)
- Construction IAQ Management

Some concepts that were identified as **easy to achieve (high rating) but not very important (low rating)** to efficient building include:

- Passive Shading Devices
- Ozone Protection
- Measurement & Verification

Other issues not addressed in the outline but vocalized as important by the group include:

- Owners manual for home-owner
- Building commissioning (for multi-family, large projects)
- Rough-in for future technologies and affordability
- Restrictions on use of wood burning stoves (with efficiency requirements) should be revisited
- Highly resource intensive materials and designs:
 - Decorative fireplaces (inside and outside)
 - Heated driveways and sidewalks
 - Heated outdoor pools and spas
 - Very large homes (5000 square feet+)