

**Utilities**

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**Green Building Program Advisory Committee****Meeting # 3****Topic: Green Building Program Updates****Wednesday November 17, 2010, 1-3 pm**

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**MEETING PARTICIPANTS IN ATTENDANCE****Utilities Green Building Team**

Amanda Sutton – Green Building Program Coordinator

Felix Lee – Green Building Code Project Manager

Gary Schroeder – Energy Engineer – Commercial GB Code Review

John Phelan - Energy Services Manager

Doug Swartz - Energy Engineer-Green Building Program Manager

Kim DeVoe - Energy Services Specialist

**Facilitator**

Susanne Durkin-Schindler

**GBPAC Members**

<b>Organization/Company</b>	<b>Representative</b>
Home Builders Association of Northern Colorado	Bob Peterson
Fort Collins Chamber of Commerce	Ann Hutchinson
Poudre School District	Mike Spearnak
U.S. Green Building Council-Northern CO branch	Bill Hofmann
<b>Board / Commission</b>	<b>Representative</b>
Building Review Board	Alan Cram
Electric Board	John Graham
Landmark Preservation Commission	Bud Frick

**Building Officials**

<b>Jurisdiction</b>	<b>Representative</b>
City of Fort Collins	Mike Gebo
Larimer County	Tom Garton

### **RTRAC Members**

<b>Organization/Company</b>	<b>Representative</b>
Armstead Construction	Jeff Schneider
HighCraft Builders	Gordon Winner

### **C-TRAC Members**

<b>Organization/Company</b>	<b>Representative</b>
Architecture West	Steve Steinbicker
BHA Designs	Angela Milewski
Fisher Architecture	Greg Fisher
Poudre School District	Pete Hall

### **Members of the Public**

Kendol Gustafson  
Shaun LaBarre

### ***Key Points:***

#### ***Green Building Program Update - Doug Swartz***

*See Presentation in Appendix A*

City Council told staff that Green Building was important to them and something that should be pursued in 2010. Opportunities exist to build better buildings in Fort Collins that will have lower operations and maintenance costs and, potentially, a higher value. Staff has focused on capturing opportunities that might be lost knowing that the decisions that are made during the construction of a building will impact how that building operates and the resources it uses throughout its lifetime. City Council has also made it clear that they want Fort Collins to remain in a leadership position as far as green building is concerned.

The formal goal of the green building program ties back to other City policies around GHG reduction, water conservation, and energy efficiency. The GB team also recognizes that green building has several other benefits as well. A majority of 2010 has been focused on developing the code piece of the green building program. Feedback from the technical review advisory committees has helped inform the development of the code as well as ideas for development of the voluntary piece of the program.

It is important to note that when we are talking about the green building program we are focusing on the building itself and not the site/lot development. The City has an extensive Land Use Code in place to address site and lot development. The green building team made some recommendations on improvements that could be made to the land use code that would provide stronger support for green building. Those changes have been passed to the

planning department to think about as they work on Plan Fort Collins and other updates.

The building code green amendment proposals were developed based on a broad scope of green building practices that were evaluated using a triple bottom line approach. Performance was a primary focus for the amendment proposals to help ensure that the building performs the way it was designed to. The TRAC members helped staff determine which practices would be reasonable to regulate. A code proposal at-a-glance was developed for the commercial and the residential amendment proposals. A detailed practice summary was developed for each of the green building practices outlined in the proposals. All of this information will be available on the green building website ([fcgov.com/gbp](http://fcgov.com/gbp)).

Green building exists on a continuum. The goal of this proposal is to bring up the bottom of the market but continue to encourage the leaders to continue to build greener buildings and homes. Staff recognizes that the code amendment proposals may present some challenges to the City and to builders. Staff is trying to be sensitive to those challenges and will present those to City Council.

The benefits and costs analysis for the amendment proposals are currently being developed. A triple bottom line approach is being used to evaluate each of the green building practices and the proposals as a whole. Some of the practices are difficult to quantify. The goal is to present honest and transparent information on the costs and benefits of the proposals to Council so they can make an informed decision.

### **Committee Comments**

- ♦ It may be a good idea to put out more optional GB practices for Council to consider. Perhaps items that we would like to put into the code at a later date.
- ♦ Staff should have different incentive options/mechanisms ready for council to consider.
- ♦ The City is planning on updating the code every three year cycle. When the codes are updated will the local green amendments will be reviewed and updated? Has Staff looked at the ICC 2012 codes?
- ♦ These codes should be their own separate code and not buried in the existing code. Green technologies are changing everyday. Options are important to the consumers. People need to feel like they have a choice.
- ♦ This is not the market to implement a code that is cost-heavy, even if it is just in the initial phase.

- ♦ State of Washington just tried to pass a very stringent green code and is now dealing with a lawsuit. The City should consider any unintended consequences that could result by adopting this code.
- ♦ Need to have more than a "stab" at costs to the consumer. This should not be passed without a strong understanding of how it is going to impact builders.
- ♦ Staff should look at going a different direction other than a prescriptive code.
- ♦ The Brendle Group is working on the Costs and Benefits project for the green amendment proposals. Staff and the Brendle Group are working on cost information from the bottom up and as a whole.
- ♦ Is the cost going to be broken down by square foot or stay in ranges?
- ♦ Staff is working on developing the costs and will present them as a percentage increase along with a financial example.
- ♦ Some builders in the community are already building at or above the proposed codes at a competitive cost.
- ♦ Staff needs to develop a plan to address additions and remodels.
- ♦ Affordable housing - how do you take an older affordable house and update it and still keep it affordable?
- ♦ Existing buildings and historical have embodied energy and character in them and can be considered "green." That should be stated in the proposal so that is understood.
- ♦ The code can be up for interpretation. That can make it difficult to deal with projects that are unconventional.
- ♦ Builders need more time to adjust to the changes.
- ♦ Compared to other codes in the country, this code proposal seems to be on the lighter side as far as green building codes go.
- ♦ Deconstruction should be considered in the proposal because it will be throwing out the embodied energy that is in the existing structure.
- ♦ Boulder has implemented a deconstruction program and it has been very successful. ReSource is able and willing to assist the City with implementing that measure. On most projects the costs of deconstruction can be offset by

selling/reusing materials and tax incentives. Builders could provide a deconstruction plan before demolition permits are given.

- ♦ How knowledgeable is City Council on Green Building? USGBC does education and training on green buildings. Issues around building appraisals exist and should be presented to Council.
- ♦ Financial incentives exist such as ENERGY STAR home loans, how can this program tie into that?
- ♦ When thinking about education, staff should think about how to address rental homes and older homes in Fort Collins or the "do it yourself" community.
- ♦ Before considering requiring solar, staff and Council needs to focus on building envelope and design.
- ♦ There was not enough time to review all of the residential green amendments.
- ♦ It would be difficult for the average person to see how big of a leap the new amendments are going to be.

### **Overall Committee Comments**

- ♦ Education and incentives are extremely important to the success of this program. The costs to the City and building community should be seriously considered.
- ♦ The Electric board energy policy will be very difficult to achieve without some of the mandates that are outlined in the amendment proposal. This also supports other City goals.
- ♦ Council is going to need more specific information before they can make a decision. Overall, the amendment proposal is on the right track. Deconstruction should be considered for the proposals.
- ♦ Staff has done a great job of summarizing everything. Some of these items will add cost but they are on the lighter side of green building regulations. Integration is important for these proposals. If builders look at each item as something that has to be added it is going to cost more than if these practices are integrated into the design and construction.
- ♦ The code proposals are a great compromise between people who want more and those who want less. The TRACs worked hard to find items that would

make a difference but not push things too far. A market for green does exist in our community.

- ♦ Council needs to be careful about putting too much burden on the building community. Existing homes need to be addressed in this code.
- ♦ A lot of gaps exist in the information that is available in the proposals and cost and benefit information. These are all good measures, but more information is needed for Council to make an informed decision.
- ♦ The City could research how other existing programs like ENERGY STAR for homes and NGBS could be used in our community.
- ♦ From a realistic, practical standpoint from the residential sector this code is pushing things too far. The market is starting to move this way but a lot of people are not ready to pay more for "green."
- ♦ The adoption of this code should be delayed to give staff and the community more time to understand the details and decide if it is the right move.
- ♦ The financial piece and how this code will impact the business community is a big concern. Incentives are important to help move green building forward and address the existing building stock in Fort Collins.
- ♦ City Council is looking for something that is more aggressive. The C-TRAC really tried to find practices that could be implemented as soon as possible and have big impacts. The IGCC would have been a huge burden on builders and owners. These proposals are a great compromise. It should be up to City Staff and City Council to decide when the code should be implemented.
- ♦ Deconstruction should be added to the proposals. ReSource can support and provide the infrastructure and it would create jobs in the community.

#### **Next Steps:**

- ♦ Council Work Session - December 14, 2010
- ♦ Public Outreach and Open House - February 2010
- ♦ Possible GBPAC Meeting - February 2010
- ♦ City Council: 1<sup>st</sup> reading - March 1, 2010
- ♦ City Council: 2<sup>nd</sup> reading - March 22, 2010

## Appendix A



## Green Building Program Update

Green Building Program Advisory Committee  
November 17, 2010



## Green Building - Opportunities



- Site + lot development
- Resource efficiency
- Energy efficiency
- Water efficiency
- Indoor environmental quality
- Outdoor environmental quality
- O+M / education





## Why?

### Better buildings

- Better for people
- Lower O+M costs
- Higher future value



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## Why?

### Lost opportunity

- Building life = decades to centuries
- Initial design decisions and construction practices critical



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## Why?



### Leadership

- FC reputation: energy efficiency, clean energy, green building
- Accelerate market transformation

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## Green Building Program Goal

The goal of an ongoing Green Building Program is to increasingly align Fort Collins' built environment with community goals of reduced carbon emissions, reduced energy use and reduced water use.

(+ other benefits)



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## Green Building Program

Voluntary,  
market-driven,  
above-code

- Provide incentives for projects significantly exceeding minimum codes
- Recognize GB innovation + success
- Provide education and training

Regulation

- Establish GB code

Foundation

- Research and document local costs + benefits of GB
- Develop metrics and tracking system
- Revise City policies / codes / processes to address barriers + conflicts related to GB

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## 2010 Focus: Building Code

Staff

Consultant

Technical  
Review  
Advisory  
Committee

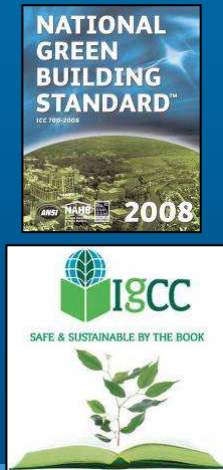
- Incentives
- Recognition
- Education + training

• **GB code**

- Costs + benefits
- Metrics and tracking
- Barriers + conflicts

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## Building Code - Initial Plan

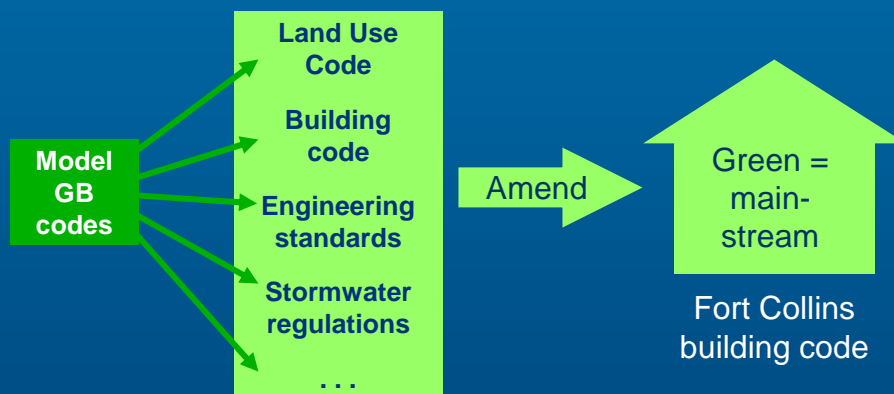


Adapt for FC fit

Green =  
overlay

Fort Collins  
“green building code”

## Building Code - Course Change



## GB Program - Focus

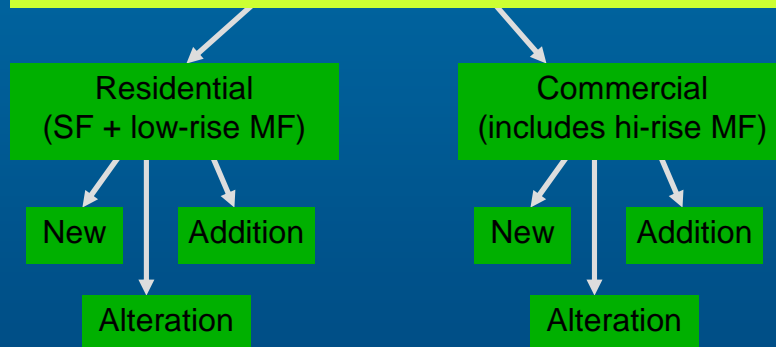


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## Building Code Green Amendments

Baseline: CFC Building Code (2009 I-Codes)



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## Green Amendments - Themes

- Breadth of green building (TBL)
- Lead rather than follow
- Lost opportunities
- Installed performance
- Systems approach
- Reasonable steps
- New, reinstate, refine



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## Green Amendments - Documentation

### Green Building Practice Summary

*Sector*

*Category/Practice*

#### Proposed GB Practice

Description

Applicability

Intent

#### Benefits and Costs

Triple Bottom Line Benefits

Costs Passed to Owner

#### Implementation

Availability and Practicality

Enforcement Procedures

Support Materials Needs

Training Needs

#### Background

Current Practice

Context

Related Green Building Practices

#### Known Objections

- Overview narrative
- Code proposal “at-a-glance”
- Benefits + costs summary
- Green building practice summaries

[www.fcgov.com/gbp](http://www.fcgov.com/gbp)

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## Residential Green Amendments - Base

### Mechanical systems performance

- Heating/cooling system design
- HVAC commissioning

### Electricity

- Thermal specs for electric-heat homes
- Efficient air handler blower motor

### Building envelope performance

- Tight construction
- Insulation installation
- Window installation

### Healthy indoor air

- Tight construction
- Safer combustion appliances
- Low-VOC materials
- Controlled ventilation
- Owner education

### Other GB practices

- Water-efficient fixtures
- Construction waste recycling
- "Dark-Sky" light fixtures
- Owner education

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## Commercial Green Amendments - Base

### Mechanical systems performance

- HVAC commissioning

### Energy savings

- Thermal specs for electric-heat buildings
- Lodging guest room controls
- Outdoor lighting controls

### Building envelope performance

- Tight construction
- Insulation installation
- Commissioning

### Indoor environment

- Low-VOC materials
- Building flush-out
- Sound transmission
- Daylighting

### Other GB practices

- Water-efficient fixtures
- Construction waste recycling
- Energy assessments for existing buildings
- Owner education

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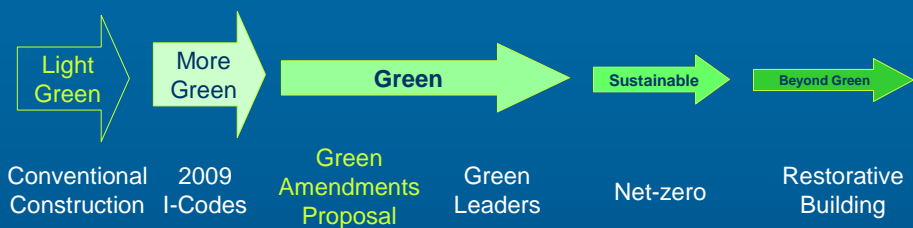
## Green Amendments - Options

<b>Res + Comm</b>	Certified wood
<b>Res + Comm</b>	Solar applications
<b>Residential</b>	House size
<b>Residential</b>	Higher thermal specs for gas-heated homes

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## Green Building Continuum



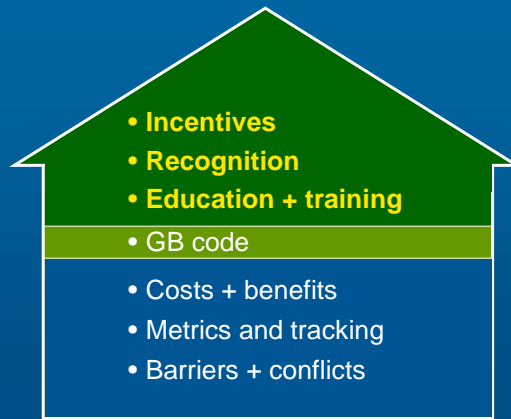
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## Green Building Program

**Voluntary,  
market-driven,  
above-code**



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## GB Amendments - Challenges



- Change
- Infrastructure
- Economic case
- Appraisal
- Implementation resources

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## GB Amendments - Benefits + Costs

### Benefits

- Individual
- Community
- External

### Costs

- Individual
- Community
- External



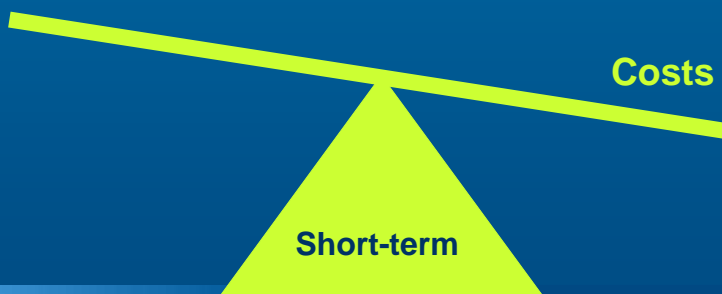
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## GB Amendments - Benefits + Costs

### Benefits

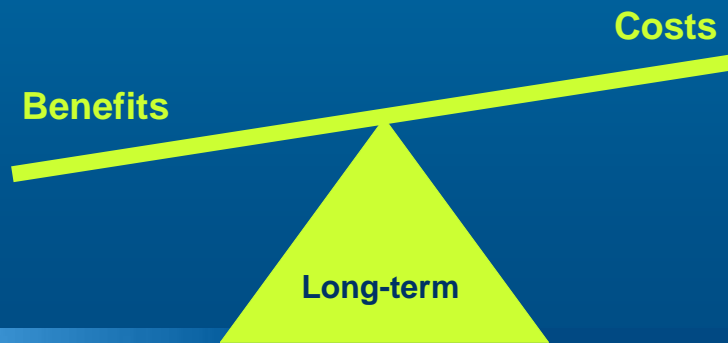
### Costs



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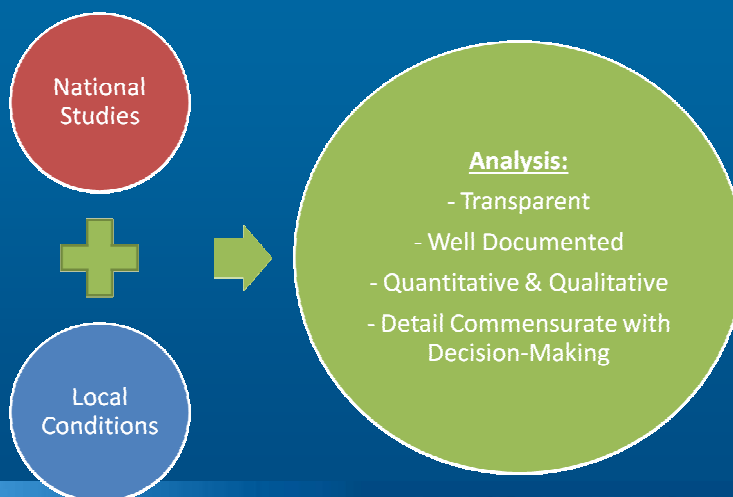
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## GB Amendments - Benefits + Costs



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## Benefits + Costs Analysis



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## GB Amendments - Next Steps

<b>Nov + Dec</b>	Public outreach Proposal refinement Benefits + costs summary
<b>Dec 14</b>	City Council Work Session
<b>Early 2011</b>	Proposal refinement Ordinance language City boards + commissions <b>GB Program Advisory Committee?</b>
<b>March 2011</b>	City Council adoption
<b>TBD</b>	Support materials, training, QC procedures, alternative compliance paths

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## Green Amendments - Options

**Res + Comm**      Certified wood

**Res + Comm**      Solar applications

**Residential**      House size

**Residential**      Higher thermal specs for gas-heated homes

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