

Fort Collins Building Code Green Amendments: Overview

Introduction

While Fort Collins building codes include many elements that support green building, this building code amendment proposal represents next steps along the path of integrating green building practices into mainstream construction.

Background

Areas commonly included under the “green building” umbrella include:

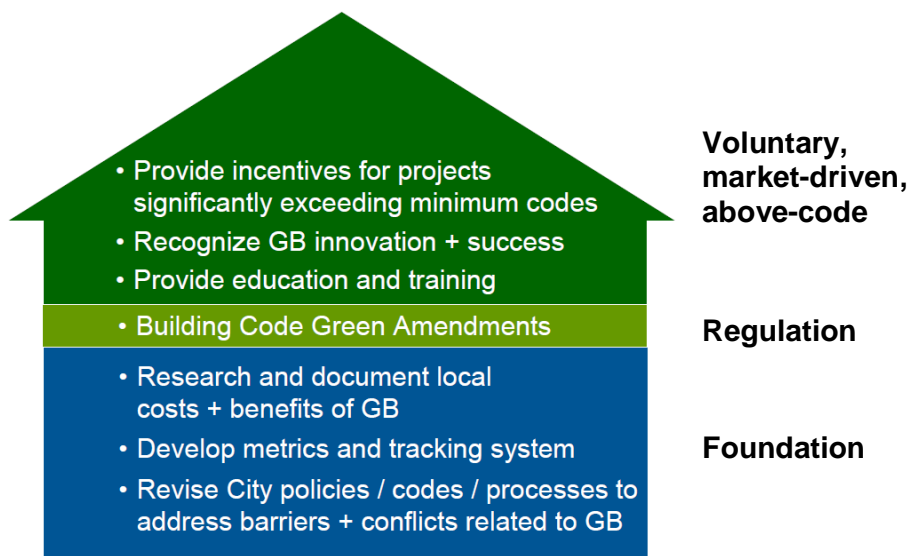
- Site and lot development
- Resource efficiency
- Energy efficiency
- Water efficiency
- Indoor environmental quality (healthy indoor air, thermal and visual comfort, acoustics)
- Operations and maintenance / owner education

Implementation of a Green Building Program (GB Program) was identified as a City Council priority during the 2010 – 2011 budget process. The Utilities department is leading the effort in close collaboration with other departments. Green building has a strong policy basis with the 2008 Climate Action Plan, 2009 Energy Policy and 2009 Water Conservation Plan.

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.

The GB Program will incorporate both code and market-driven elements, as shown in Figure 1. Council’s direction to consider a code amendment ordinance during the first quarter of 2011 focused the efforts of GB Program work in 2010. Other aspects of the GB Program will continue to be developed throughout 2011.

Figure 1: Green Building Program Elements



Green Amendments

Building codes represent the minimum acceptable community standards for design and construction of new buildings and renovations or additions to existing buildings. The City recently adopted the 2009 International Building Codes. Rather than adopting a standalone “green building code,” the direction of this project has been to update the Fort Collins building code with “green amendments.”

Staff has developed, through a comprehensive stakeholder process, two packages of green building practices for adoption by Council: one each for residential and commercial construction. The applicability of individual green building practices to new construction, additions and renovations varies, and is described in the proposal documents outlined below.

The following information about the green amendments is available on the GB Program web pages (www.fcgov.com/gbp):

- This overview document of the Green Building Program and Building Code Green Amendments.
- “Amendment-package-at-a-glance.” These summary documents, one each for the residential and commercial amendments, list all of the green building practices with brief descriptions.
- Benefits and Costs Summary. This document summarizes the benefits and costs for the residential and commercial amendment packages, based on prototypical projects for each sector. A triple-bottom-line approach is used that reflects social, economic and environmental impacts.
- Green Building Practice Summaries. These documents, currently under development, will provide additional information about each of the practices. Topics addressed include applicability to new construction and existing buildings, benefits and costs, implementation issues, current practice, and context

As an integral part of the amendment package, staff is estimating the resources required to effectively implement the green amendments. City responsibilities will include:

- Development of necessary verification procedures
- Development of support materials
- Training (contractors, inspectors, public)
- Day-to-day implementation (plan review, field inspections, training)
- Monitoring and evaluation of the implementation process and results

These resource needs will be reflected in the Benefits and Costs Summary.

Themes of the Green Building Amendments

A number of cross-cutting themes drove the selection of measures reflected in the green building amendments:

- Broad scope of green building. City Council directed staff to investigate practices that provide a range of benefits, not just those directly tied to City goals (energy, water, carbon) or that have the most favorable economic benefit for the building owner. The green amendments will improve health and safety of construction workers and occupants, save energy, save water, divert construction waste from the landfill, improve occupant comfort and enhance durability of buildings.

- Leadership. The intent is for Fort Collins to delineate the next steps in the process of integrating green building practices into mainstream construction. This involves accelerating the normal process by which new building practices become part of the building codes.
- Refine current codes. The 2009 International Code package, adopted in September 2010, includes important new elements as well as innovative local amendments adopted in previous code cycles. The green amendments will augment the recently adopted codes and address any gaps that will forward more sustainable construction. .
- Installed performance. The green amendments focus on ensuring that components and systems operate at rated performance. The amendments emphasize critical installation details and testing to verify that performance standards are met.
- Systems approach. Buildings operate as systems. The performance of one component may influence a number of others, positively or negatively. Several of the green amendments are based on important interrelationships and only make sense as a package.
- Lost opportunities. Many aspects of buildings are relatively easy and inexpensive to address during construction and difficult and expensive to address after completion. Several measures are designed to capture these opportunities.
- Reasonable steps. For several measures, the amendment targets achievable steps based on the available infrastructure. The objective of these changes is to catalyze infrastructure growth and, in turn develop capacity to support additional future steps.
- Residential and commercial alignment. Where possible, the amendments align requirements across the residential and commercial codes.

Green Building Program Development Process

The formal Fort Collins Green Building Program development process began in late 2009. The basic program approach received City Council support in a January 2010 Work Session.

The core green building staff team coordinated the formation of stakeholder and advisory committees:

- The Green Building Program Advisory Committee is comprised of a broad spectrum of community stakeholders, such as the Fort Collins Chamber of Commerce, Fort Collins Board of Realtors and Northern Colorado Chapter of the US Green Building Council. This committee serves as a sounding board as the GB Program is developed. Members are asked to help with two-way communication with their constituencies about the effort. The advisory committee will be kept up to date on the development process as part of the continued public outreach in 2011.
- Two Technical Review Advisory Committees (TRAC), one each for residential and commercial sectors, have been closely involved with code development. Members were invited based on their technical and market expertise. Each TRAC typically has met twice a month from May through December 2010. TRACs will be kept up to date on the development process as part of continued public outreach in 2011.

Initial direction was for the City to adopt a “green building code” as a supplement to the City’s existing building codes. The intent was to review and potentially adapt one or more of the national model GB codes or standards. Staff and the TRACs reviewed the National Green Building Standard (residential buildings) and International Green Construction Code (commercial buildings) for

potential adaptation and adoption in Fort Collins. This review suggested this would not be an appropriate solution because of the multiplicity and complexity of optional combinations that would be available as “compliance paths” to applicants.

In mid-2010, staff recommended to City Council that the effort shift from adopting model GB codes to instead develop a strategic selection of effective amendments to further “green” the existing building codes. Council members supported the recommendation.

In parallel, the Building Services Department led an effort for City adoption of the 2009 editions of the International Code Council’s “International Codes” (I-Codes). The 2009 I-Codes package was adopted by Council in September 2010 and became effective in October 2010. The 2009 I-Code requirements serve as the baseline for the green amendments.

Green Building Program – Continued Development

The green amendments are one key element of the overall Green Building Program. GB Program development will continue in 2011-2012 yet are dependent upon appropriate resources and will be focused on the following:

- Implementation of the green amendments (training and enforcement)
- Development of above-code incentive and recognition program elements for projects which demonstrate high performance outcomes.
- Development of the metrics to track results related to the GB Program.
- Review and consideration of green development practices and processes to augment the Land Use Code.