



Smart regulation
for sustainable places

City of Boulder
Departments of Public Works and
Community Planning & Sustainability
1739 Broadway, Boulder, CO 80302
303-441-1880
www.bouldercolorado.gov/smartregs

Draft Energy Efficiency Proposal and Compliance Options

This document outlines potential options for an energy efficiency code for existing rental housing. The code is proposed to be a local amendment (Appendix B) to the International Property Maintenance Code.

Access to Xcel Energy rebates

The code as adopted will be effective and enforceable only to the extent that Boulder property owners complying with it are not disqualified (as a result of the code's adoption) from receiving rebates and/or incentives from Xcel Energy's Demand-Side Management programs.

Background

To increase the energy efficiency of Boulder's rental housing stock, the city is proposing to initiate both education programs for tenants and regulatory requirements for property owners.

Education and Occupant Behavior

The city is committed to investing in energy conservation education. The following summary outlines how occupant behavior is being addressed through other city and collaborative community efforts. Please see [Education and Assistance Programs](#) handout.

- **Climate Action Plan programs** – Residential Energy Action Program, Neighborhood Sweeps, CU Green Teams, new “Two Techs and a Truck” program (for a more complete description, please see [Education and Assistance Programs](#) handout)
- **Proposed market-based approach: RentSmart**
 - √ The City of Boulder is working with stakeholders to develop an energy rating system for rental housing that would inform renters which properties are the most efficient.
 - √ Properties which exceed the minimum code levels for efficiency could be listed in a centralized RentSmart database.
 - √ A marketing campaign/recognition program could be developed to raise awareness among renters about the total cost of occupancy of a rental unit.
 - √ A campaign would encourage renters to ask for the efficiency rating of the property.
 - √ If renters began to choose properties based on their energy ratings, landlords would have an incentive to upgrade their properties to remain competitive in the market.
 - √ Details associated with the design and cost of developing and maintaining this system will be explored in early 2010.

Code Requirements

Following are the guiding principles considered by the city when developing the code and compliance options.

Essential:

To protect the long-term public health and safety of the community, the code and compliance options must result in energy efficiency improvements that help reduce greenhouse gas emissions.

Desired: Whenever possible, code and compliance options should:

- Recognize the limitations of commercial ownership
- Consider the proportional impact from rental housing on the community's greenhouse gas emissions
- Present flexibility for compliance
- Accommodate multi-family units
- Accommodate older buildings, including contributing buildings located in historic districts and individually landmarked buildings
- Be equitable across dwelling units
- Be manageable to both city staff and stakeholders

Additional work to be done

- √ Staff will be developing accommodations for Home Owner Association (HOA)-controlled condominiums
- √ Staff is developing financing, rebates and technical assistance programs to support property owners as they retrofit their buildings
 - Please see [Education and Assistance Programs](#) handout and [2010 Residential Rebates and Incentives for Energy Efficiency and Renewable Energy](#) handout for more information on rebates, financing, and the development of a “Two techs and a Truck” code compliance program
- √ Staff is developing a work plan to measure real-world GHG reductions that result from following the prescriptive path of this proposed code. This work will entail identifying a sample of rental properties; choosing the lowest cost measures to achieve 20 points; making the actual upgrades to the property; and measuring the GHG reductions that result from the upgrades.

Summary of Code Options
Appendix B of International Property Maintenance Code

Scope: Applies to all rental licenses

Exceptions

- Property constructed after July 2001
- Property meets or exceeds the 2000 International Energy Conservation Code (IECC)

Compliance (*MUST COMPLETE ONE OR THE OTHER*):

Performance Path: If a property owner chooses the performance path to compliance, he/she must demonstrate the energy performance of the property as measured by a third-party energy rating system.

Proposed code: A building must achieve a 120 score on Home Energy Rating System (HERS)¹

Prescriptive Path: If a property owner chooses this prescriptive path to compliance, he/she must earn either earn points from a list of energy and water efficiency improvements or purchase carbon offsets.² The list of prescriptive measures and corresponding points is based on the National Green Building Standard (NGBS).

Proposed code: requires that if a property owner chooses the prescriptive path to compliance, a building must achieve 20 points from the National Green Building Standard (NGBS) prescriptive list.

- √ Compliance will be verified through an International Code Council (ICC) Certified Energy Inspector.
- √ Energy efficiency upgrades in rental units installed prior to this process going into effect can be included in the energy measures point tally upon verification by an ICC Energy Inspector.
- √ Based on community feedback and recommendations, pieces from the prescriptive list can be further clarified or modified to be relevant to Boulder’s existing housing stock.

Sample* Prescriptive List from sections 703, 704, 705, and 801 of NGBS:

Measure	Points**
<u>Energy Efficiency Measures – Proposed 20 points required</u>	
Air Sealing and Insulation	3 or 15

¹ The HERS scale rates homes by the energy performance compared to a baseline 2004 energy code home. The lower the number on the HERS scale, the better the energy performance. The 2004 energy code home is 100 on the HERS scale. The proposed 120 performance level would be 20% worse (Less efficient) than the 2004 energy code. New homes in Boulder must be rated between 35 – 70, depending on house size. Further research needs to be completed on the proposed 120 level and its correlation to the prescriptive requirements.

² Carbon offsets allow greenhouse gas emissions reductions to be purchased while allowing time for property owners to raise capital to invest in building improvements. If the Governor’s Energy Office Colorado Carbon Fund (CCF) is the offset provider, a percentage of the offset investments would be reinvested in Boulder projects. The current rate through the CCF is \$20/ton. The code would allow offsets to be purchased at a predetermined number of tons per dwelling unit. Example: 0.15 tons/point = \$3/point. 20 points =3 tons/dwelling unit; \$60/year; \$240/4 years

Window replacement	Up to 12
HVAC Upgrades	6-15
Water Heater	1-10
Lighting	1-8
Appliance Upgrades	3-7
Measure	Points**
Renewable Energy	1-20
Duct & HVAC reconfiguration	1-15
Energy Consumption Control Devices e.g., programmable thermostats, energy monitoring device	2-7
Verifiable tenant education by landlord	Staff amendment, points to be determined.
<u>Water Efficiency Measures – Point requirements TBD</u>	
Water-conservation appliances	2-8
Showerheads	1-3
Faucets	1-5
Water closets and urinals	4-18

**This list is not exhaustive; please refer to NGBS for complete list.*

**Points are shown in ranges. The ranges refer to various factors such as efficiency of equipment or 3rd party inspectors.

Phasing Options for Compliance

OPTION #1: Date Certain: All properties must comply by December 31, 2012.

OPTION #2: Two rental license cycles to comply

1ST RENTAL CYCLE: At time of renewal³, property owner can either:

- a. Demonstrate compliance through performance path (at 120 HERS) or prescriptive path (achieve 20 points);

OR

- b. Purchase four years of carbon offsets to result in 3 tons CO₂ per year. If partial points have been earned through property upgrades, the balance of points must be purchased at a rate of 0.15 tons per point.
 - e.g., if 5 points are earned through property upgrades, the offset-equivalent of 15 points must be purchased [2.25 tons]; if 10 points are earned through upgrades, the offset-equivalent of 10 points must be purchased [1.5 tons];
 - At the current Colorado Carbon Fund rate (\$20/ton CO₂) this would equal \$3 per point which would equal \$240 for a four year rental cycle.

2nd RENTAL CYCLE: At time of renewal, property owner must demonstrate compliance through performance path (at 120 HERS) or prescriptive path (achieve 20 points).

OPTION #3: Phased-in approach: “Two Techs”

1ST RENTAL CYCLE: At time of renewal⁴, property owner can either:

³ If renewal is due within one year after the ordinance is effective, a one-year, temporary license will be available.

- a. Earn 10 points through the prescriptive path (see examples below) **and** purchase the offset equivalent of 10 points (at 0.15 tons/point).
 - At the current Colorado Carbon Fund rate (\$20/ton CO₂) this would equal \$3 per point which would equal \$240 for a four year rental cycle.

OR

- b. Property owner may participate in the city’s “Two Techs and a truck” program (please see the [Education and Assistance Programs](#) handout for details) for full 20 point compliance which will buy the property owner a prescribed standard of additional upgrades at a city-negotiated bulk rate. The measures will be installed by a third-party certified contractor or may be able to be installed by the property owner’s maintenance contractors where applicable.

SUBSEQUENT RENTAL CYCLES: If full compliance was not met in first cycle, at time of renewal⁴, property owner must either:

- a. Demonstrate compliance through performance path (at 120 HERS), prescriptive path (achieve a total of 20 points⁵) or through completion of the city’s “Two Tech and a truck” program.

OR

- b. If partial points have been earned through property upgrades, the balance of points must be purchased in carbon offsets at a rate of 0.15 tons per point.

<p style="text-align: center;">Examples of how 10 points could be achieved</p> <p>EXAMPLE 1:</p> <ul style="list-style-type: none">➤ Lighting upgrades➤ Low-flow showerhead➤ Programmable thermostat➤ Air Sealing <p>EXAMPLE 2:</p> <ul style="list-style-type: none">➤ Lighting upgrades➤ Low-flow showerhead➤ Low flow faucets➤ Insulation

<p>Additional upgrades that could be provided through city “Two Techs” program:</p> <ul style="list-style-type: none">➤ Additional air sealing or insulation➤ Storm windows or thermal pane glass➤ Mechanical system upgrades
--

OPTION 4: Carbon offset purchases to comply

At the time of rental license renewal, property owners may purchase four years of carbon offsets to result in 3 tons CO₂ per year with no limitation on the number of rental license cycles for investments in property upgrades.

⁴ If renewal is due within one year after the ordinance is effective, a one-year, temporary license will be available.

⁵ 10 points earned in first rental cycle will count toward this 20 point total