A Model Energy Conservation Ordinance for Florida Communities

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BACKGROUND ON ENERGY CONSERVATION ORDINANCES

I. Issue

A. Scope of project

Energy efficiency and conservation have taken on renewed importance as concerns about global climate change and energy security have increased.[1]

This paper addresses the problem of energy and water consumption of the built environment in the specific context of local government regulation of rental residential units. Specifically, a class of local government regulations of rental property residential energy and water efficiency called the energy conservation ordinance.

This paper also reviews existing energy conservation ordinances in three communities and proposes a draft ordinance for Florida communities drafted to meet the needs of Gainesville, Florida.

B. Public policy problem

Advocates and policymakers have strategized to create programs to improve the energy efficiency of the built environment.[2]Since 35% of all United States households are rented as of 2012, any solutions must address rental properties, which often require unique policy solutions.[3] Because most residential leases require tenants to pay energy costs, property owners do not pay for energy usage and have no reason to provide energy upgrades to rental units. Alternatively, renters—as transient occupants—have no financial incentive to pay the capital cost of upgrades for which they will not remain in the unit long enough to recoup the benefits of their investment.

This mismatch between the party responsible for paying to upgrade property and the beneficiary of these upgrades is called the split-incentive problem. The U.S. Department of Energy explains this problem thusly:

> Under most net leases, energy costs are paid directly by tenants and building owners aren't driven to invest in efficient building systems. Conversely, in many gross leases, building owners pay energy expenses and tenants have little incentive to save energy in their leased space. This dynamic is commonly referred to as the "split incentive" barrier to energy efficiency.[4]

[1] Kenneth Gillingham, Richard G. Newell & Karen Palmer, Energy Efficiency Economics and Policy (2007) *available at* http://weathervane.rff.org/rff/Documents/RFF-DP-09-13.pdf.
[2] http://ac.els-cdn.com/S0301421512004661/1-s2.0-S0301421512004661-main.pdf?_tid=cc053d82-433b-11e4-b7e3-
[3] Joint Center for Housing Studies of Harvard University, America's Rental Housing – Evolving Markets and Needs (2013) *available at* http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/jchs_americas_rental_housing_2013_1_0.pdf.
[4] U.S. Dep't of Energy, Leasing & Split Incentive *available at* http://www4.eere.energy.gov/

This is especially important in the case of affordable housing since residents pay a much higher portion of their household income to utility bills.[5] Lower income households' energy consumption constitutes 1.89% of all United States' energy use.[6] Addressing this problem could create a range of savings between 4 and 11 billion dollars per year.[7] Further, these savings would accrue to many of the nation's poorest residents. In cities like Gainesville, Florida—where 47% of residents are renters—the potential energy and greenhouse gas savings would be significant.[8]

C. Data collected—problems associated with rental properties

The Gainesville, Florida based Program for Resource Efficient Communities "applies the University of Florida's educational and analytical assets to promote the adoption of best design, construction, and management practices that measurably reduce energy and water consumption and environmental degradation in new residential community developments."[9] A 2012 study of the Program for Resource Efficient Communities showed energy savings from seven different retrofit measures in residential single family detached homes located within Orlando city limits.[10] As shown in Figure 1, participant saved an average of 10.6% on energy in the first year alone. This exemplifies the energy conservation potential of energy conservation measures.

The Program for Resource Efficient Communities conducted another study in Gainesville, Florida that shows the positive effects of attic insulation upgrades. Findings suggest that increased marketing to poor performing households could lead to greater energy savings from energy efficiency and conservation programs.[11] The Program for Resource Efficient Communities formally recommended strategic customer targeting for participation in demand-side programs to ensure greater energy savings, with program cost-effectiveness for utilities and shorter payback periods for participating customers.[12]

The two studies mentioned above illustrate potential monetary and energy savings from implementing energy conservation measures, with the latter highlighting customer targeting to improve energy efficiency. One such possible customer focused program is the implementation of an energy conservation ordinance.

[5] G. Pivo, Energy Efficiency and its Relationship to Household Income in Multifamily Rental Housing (2012) *available at* www.fanniemae.com
[6] Stephen Bird & Diana Hernandez, *Policy options for the split incentive: Increasing energy efficiency for low-income renters*, Energy Policy 48, 506-514 (2012)
[7] *Id*.
[8] Department of Numbers, Gainesville Residential Rent and Rental Statistics *available at* http://www.deptofnumbers.com/rent/florida/gainesville/
[9] UF Program for Resource Efficient Communities, About *available at* http://www.buildgreen.ufl.edu/about.htm
[10] P. Jones, N. Taylor & J. Kipp, Housing Stock Characterization Study: An Innovative Approach to measuring Retrofit Impact (2012) *available at* http://www.nrel.gov/docs/fy13osti/54891.pdf
[11] N. Taylor, P. Jones, & J. Kipp. *Targeting utility customers to improve energy savings from conservation and efficiency programs*. Applied Energy 115, 25-36 (2014)
[12] *Id*.

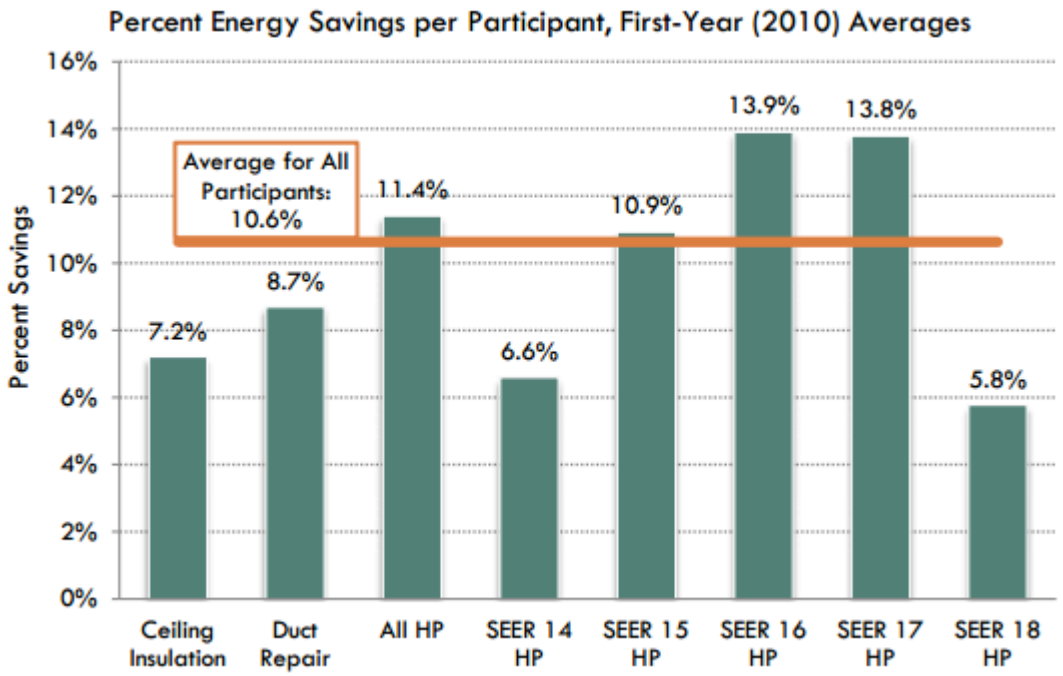

Figure 1. Percent energy savings, first-year (2010)

In residential properties where the occupant pays the utility costs, the property owner is less likely to implement these upgrades because of additional costs. However, recent studies show that it might be cost effective to do so. Elevate Energy prepared a case study focusing on the non-energy benefits of energy efficiency building improvements in an apartment complex in Chicago, Illinois.[13] The study concluded that there was an 8.2% rental vacancy loss as a percentage of potential receipts, compared with a national average of 11%.[14] Maintenance costs also fell 17% from 2010 to 2012.[15]

D. Energy conservation ordinances as a solution

Energy conservation ordinances are one solution to the aforementioned split-incentive issue between rental property renters and owners.[16] These ordinances are an affirmative requirement that owners of existing housing upgrade their property to ensure energy efficiency and conservative water usage. Energy conservation ordinances target building owners, either landlords or homeowners, to implement prescriptive or comprehensive energy and water efficiency measures if their property does not meet an established minimum standard. The intent of these ordinances is to "reduce the amount that tenants and homeowners pay in utility bills, reduce the emissions of greenhouse gases, reduce the community's susceptibility to energy price fluctuations, improve air quality by reducing the emissions of criteria pollutants associated with

[13] Elevate Energy. Non-energy benefits of energy efficiency building improvements (2013) *available at* www.elevateenergy.org
[14] *Id.*
[15] *Id.*
[16] U.S. Dep't of Energy, Leasing & Split Incentive *available at* http://www4.eere.energy.gov/

coal (from electricity) and natural gas combustion, and improve the comfort and livability of a living space by reducing drafts and heat imbalances."[17]

II. Energy conservation ordinances

A. Energy conservation ordinances generally

Typically, the sale of a property or a rental license inspection process will trigger application of an energy conservation ordinance.[18] Once triggered, an energy conservation ordinance traditionally includes a list of proscriptive or comprehensive energy conservation measures with which property owners must comply. Proscriptive measures entail a list of action items to complete, while comprehensive actions are tailored to each home. Expected energy conservation measures include energy saving upgrades like a minimum level of attic insulation, duct sealing and insulation, water heater tank and pipe insulation wrap, and water saving measures, etc.[19] The energy conservation ordinance will generally require a property owner to implement the measures and then hire a certified inspector to certify that the dwelling meets the program requirements, dependent on specific city ordinances.[20]

When a property sale triggers the energy conservation ordinance, the responsibility for complying with the law typically belongs to the seller, or else the buyer and seller negotiate who will be responsible.[21] In either case, homeowners are typically responsible for scheduling and paying for the inspection.[22] For instance, the fixed cost for an initial energy conservation ordinance inspection is an average of $100 for a single-family unit and $50 for each additional unit in Berkeley, California.[23] Some energy conservation ordinance programs include renovations and the initial energy conservation ordinance inspection fee is included in the city's construction permit process.[24]

All of the existing energy conservation ordinance programs place a cap on the amount a homeowner is required to spend on upgrades.[25] Some programs limit total expenditures to a certain percentage of the sales price.[26] Furthermore, since homeowners pay for the inspections, the expense to the administrating agency is small.[27] According to the American Council for an

[17] U.S. Dep't of Energy, Leasing & Split Incentive *available at* http://www4.eere.energy.gov/
[18] R. Rachel. Consideration of a Residential Energy Conservation Ordinance (RECO) for Boulder, Colorado, City of Boulder OEA (2007) *available at* http://www.recaonline.com/docs/arc/arc2008/PointofSale_BoulderCO.pdf
[19] *Id.*
[20] *Id.*
[21] *Id.*
[22] *Id.*
[23] C. Haines & E. Mackres. American Council for an Energy-Efficient Economy, Case Study – Berkeley Residential Energy Conservation Ordinance (2011) *available at* www.acee.org
[24] R. Rachel. Consideration of a Residential Energy Conservation Ordinance (RECO) for Boulder, Colorado, City of Boulder OEA (2007) *available at* http://www.recaonline.com/docs/arc/arc2008/PointofSale_BoulderCO.pdf
[25] *Id.*
[26] *Id.*
[27] *Id.*

Energy Efficient Economy, even in places where employees were hired specifically for energy conservation ordinance purposes, the "programs have not been budget drains."[28]

B. Three examples—overview

This paper will review existing energy conservation ordinances in three different communities: Berkeley, California; Boulder, Colorado; and Burlington, Vermont. Like Gainesville, Florida—the community for which the model energy conservation ordinance included in this paper is tailored—each of these three communities is a university community with a small to mid-sized population.

1. Berkeley, California

a. Background

Located in a cool summer Mediterranean climate, with dry summers and wet winters, Berkeley was one of the first communities to implement a residential energy conservation ordinance.[29] The Berkeley energy conservation ordinance, passed in 1987 and attached hereto as Exhibit 2, promotes efficient energy and water use in residences by prescribing ten compliance measures for every home or building sold, transferred, or undergoing substantial renovations.[30]

b. Trigger

All homes sold or substantially renovated must demonstrate compliance with the ten requirements, through city inspections and proper documentation in the form of a certificate of compliance.[31]

c. Approach

Compliance measures for homes are shown in Table 1.[32] Specifically, the ordinance targets reducing energy used for space heating, hot water, and lighting.[33] This ordinance regulates all homes, residential areas of mixed-use buildings, tenants in common, condominiums, multi-family properties, live-work spaces, and boarding houses.[34]

[28] C. Haines & E. Mackres. American Council for an Energy-Efficient Economy, Case Study – Berkeley Residential Energy Conservation Ordinance (2011) *available at* www.acee.org
[29] *Id.*
[30] *Id.*
[31] *Id.*
[32] R. Rachel. Consideration of a Residential Energy Conservation Ordinance (RECO) for Boulder, Colorado, City of Boulder OEA (2007) *available at* http://www.recaonline.com/docs/arc/arc2008/PointofSale_BoulderCO.pdf
[33] C. Haines & E. Mackres. American Council for an Energy-Efficient Economy, Case Study – Berkeley Residential Energy Conservation Ordinance (RECO) *available at* www.acee.org (July 2011)
[34] *Id.*

Table 1. Compliance measures for homes under Renergy conservation ordinance jurisdiction in Berkeley, California

Toilets	1.6 gal./flush toilet, or flow reduction devices
Showerheads	3.0 gal./min. flow rate
Faucets	2.75 gal./min. flow rate for kitchen and bathrooms
Water Heaters	Insulation wrap of R-12 value
Hot & Cold Water Piping	Insulate first two feet from water heater to R-3 value
Hot Water Piping in Pumped, Recirculating Heating Systems	Insulate all piping to R-3 value
Exterior Door Weather-Stripping	Permanently affixed weather-stripping, and door sweeps or door shoes
Furnace Duct Work	Seal duct joints, add insulation wrap to R-3 value
Fireplace Chimneys	Dampers, doors, or closures
Attic Insulation	Insulate to a minimum of R-30 value
Common Area Lighting (multi-unit buildings only)	Replace incandescent with compact fluorescent lamps (CFL) of at least 25 lumens per watt

The Berkeley population over the past two decades has remained relatively static, with an apparent decrease in energy consumption.[35] Table 2 shows an overall decrease in electricity and natural gas use since the energy conservation ordinance's inception.[36]

Table 2. Residential consumption in Berkeley, California from 1990-2005[37]

Residential Consumption	**1990**	**2000**	**2005**	**Change 2000-2005**	**Change 1990-2005**
Electricity (MWh)	170,247	194,201	183,665	-5.4%	7.9%
Natural Gas (1000 therms)	24,386	23,190	19,943	-14.0%	-18.2%

Input from a variety of people, from citizens to contractors to realtors—as well as the availability of federal, state, and local programs to offer loan, rebate, and assistance programs to offset costs—have ensured the Berkeley program's success.[38] Total program savings, as of the 2011 American Council for an Energy Efficient Economy report, are estimated at 811,800 therms of

[35] C. Haines & E. Mackles. American Council for an Energy-Efficient Economy, Case Study – Berkeley Residential Energy Conservation Ordinance (2011) *available at* www.acee.org
[36] *Id.*
[37] This table is completely excerpted from the above source.
[38] *Id.*

natural gas and 1.32 MWh of electricity.[39] However, these figures are based on numerous assumptions due to housing market fluctuations and constraints in staff time.

The program's success is also attributed to the involvement of an independent agency as inspectors and the establishment of clear firewalls protecting Berkeley residents.[40] As of now, the program is prescriptive, and a hybrid approach of prescriptive and comprehensive measures is currently being studied.[41]

2. Boulder, Colorado

a. Background

Boulder has a history of innovative city ordinances. In 1996, it became the first municipality in the country to adopt a formal green building code for residential construction.[42] This is in addition to the green points program, which requires applicants to earn points by selecting green building measures in order to receive a building permit.[43]

b. Trigger

The Boulder Green Points Program is a mandatory residential green building program that requires a builder or homeowner to include a variety of sustainable building elements in structures.[44]

c. Approach

In addition to the minimum green points requirement, new construction projects must also show energy efficiency compliance though the home energy rating analysis rating, which will vary according to the size of the home.[45] The home energy rating analysis program process includes a review of plans, energy modeling, and various tests to ensure the home will meet the ENERGY STAR performance guidelines.[46] In this way, Boulder—as Berkeley is aiming to do—has created a hybrid approach of prescriptive and comprehensive energy efficiency measures.

[39] C. Haines & E. Mackles. American Council for an Energy-Efficient Economy, Case Study – Berkeley Residential Energy Conservation Ordinance (2011) *available at* www.acee.org
[40] R. Rachel. Consideration of a Residential Energy Conservation Ordinance (RECO) for Boulder, Colorado, City of Boulder OEA (2007) *available at* http://www.recaonline.com/docs/arc/arc2008/PointofSale_BoulderCO.pdf
[41] *Id.*
[42] L. Barrett, S. Glick, & C. Clevenger. The process for adopting an energy efficiency code in existing homes: A case study of Boulder, Colorado's SmartRegs program (2012) *available at* http://www.josre.org/
[43] Green Building and Green Points Program, Colorado, City of Boulder available at https://bouldercolorado.gov
[44] Synertech Systems Corporation. Residential retrofit study in support of Boulder's climate change action plan: the potential role of residential energy conservation ordinances and other policy options (2008) *available at* https://www-static.bouldercolorado.gov/
[45] *Id.*
[46] *Id.*

Rental units in Boulder account for 51% of the residential housing stock, representing a substantial opportunity for energy savings and greenhouse gas reduction.[47] To ensure program goals are met, and to aid property owners in navigating the compliance process, the City of Boulder and the SmartRegs program administrators developed the EnergySmart Advisors service with the use of funds from the Better Buildings program, a program under the American Recovery and Reinvestment Act.[48] The service provides a Home Energy Assessment and access to free Energy Advisors who help make decisions on the most cost-effective energy efficiency measures and assist with rebate paperwork and contractor selection.[49]

3. Burlington, Vermont

a. Background

In 1997, the Burlington City Council passed the Minimum Rental Housing Energy Efficiency Standards Ordinance to improve rental dwellings within the City that are substandard due to lack of adequate insulation and other thermal performance defects that cause the inefficient use of energy to heat the dwellings.[50]

b. Trigger

The ordinance is applied upon transfer of a rental property at the time of sale, and the seller and buyer negotiate who is responsible for compliance.[51] Through the program administrator, technical assistance and coordination with all available energy programs are available to help property owners meet the requirements.[52] This measure applies only to rental properties where tenants are responsible for directly paying the heating costs.[53]

c. Approach

As shown in Table 3, buildings can achieve substantial energy savings if owners perform work beyond the minimum ordinance requirements.[54] Optional technical assistance, project management incentives and financing packages are available to help property owners take advantage of these additional savings.[55]

[47] L. Arena & G. Vijayakumar. Evaluation of Boulder, CO, SmartRegs ordinance and better buildings program. U.S. Dep't of Energy (2012) *available at* http://www.nrel.gov/docs/fy12osti/54724.pdf
[48] *Id.*
[49] *Id.*
[50] Introduction to Burlington's residential rental housing time of sale energy efficiency ordinance (TOS). City of Burlington, VA *available at* www.burlingtonelectric.com
[51] *Id.*
[52] *Id.*
[53] *Id.*
[54] *Id.*
[55] *Id.*

Table 3. Compliance measures for homes under Minimum Rental Housing Energy Efficiency Standards Ordinance in Burlington, Vermont

Exterior wall insulation and sloped roof cavities	R-11 or as much as will fit
Attic insulation	R-40 or as much as will fit
Horizontal attic access panels	R-20
Vertical attic access panels	R-10
Box sills insulation	R-10
Electric water heater insulation	R-10
Floors over basements, crawl spaces, outdoor spaces insulation	R-19*
Ducts in attics insulation	R-10 if less than R-5 exists
Ducts in unheated attics	sealed with proper duct mastic
Space heating and domestic hot water piping insulation	R-4 if less than R-2 exists
HVAC distribution system pressure differential	less than 2 pascals between conditioned space and outdoors
Windows	Double-glazed or storm windows
Operable windows	Functioning latches which close windows tightly
Doors and hatches to outside	Functioning weatherstripping and latches which close doors tightly
Air leakage rate	No greater than 1,500 cfm at 50 pascals or less than 0.6 average air changes per hour
Combustion appliances and equipment	Tested for operational safety and corrected deficiencies within 12 months of the title transfer date
Heating system components	In good working order
*unless already has R-11, the basement contains no equipment used for space heating, or the basement or crawl space isn't vented to the outdoors	

Furthermore, since the Burlington Electric Department administers the Burlington program, program managers were able to compare electric bills (not heating bills) for energy saving purposes, ensuring a more accurate estimate than those named in the Berkeley, California case study.[56] The program manager estimates that each housing unit realizes $240 per year in energy savings.[57]

[56] Introduction to Burlington's residential rental housing time of sale energy efficiency ordinance (TOS). City of Burlington, VA *available at* www.burlingtonelectric.com
[57] *Id.*

III. A model for Florida communities

a. Background

The included model ordinance for Florida communities is tailored to meet the needs of Gainesville, Florida in order to provide a draft ordinance that can be read in the context of an existing city code of ordinances.

b. Trigger

The model ordinance for Florida communities is a minimum housing code, providing minimum standards for all structures in the community in question where the property owner does not supply utility services. This broad applicability captures all structures in the community subject to the split incentive problem.

c. Approach

The compliance measure listed in the model ordinance are those residential energy efficiency standards found in the 2010 Florida Building Code.

LEGAL DISCUSSION OF FLORIDA STATE PREEMPTION OF ENERGY CONSERVATION ORDINANCES

I. Question Presented

Whether Florida state law preempts Florida local governments from adopting energy conservation ordinances that obligate owners of existing structures to meet certain energy efficiency standards.

II. Brief answer

Probably not. First, Florida Statutes generally limit application of the Florida Building Code to building construction. The Florida Building Code does not apply to programmatic regulations. Second, while the Florida Building Code preempts local governments from adopting building regulations which are "more stringent or lenient," it explicitly anticipates that local governments will apply the code alongside other regulatory programs pursuing energy efficiency. Because energy conservation ordinances do not regulate building construction but are an innovative program to impose energy efficiency standards on existing structures, Florida law probably does not preempt local governments from adopting energy conservation ordinances.

III. Long Answer

A. Origins of Home Rule in Florida Constitution and Statutes

A general rule of Florida law regarding local governments is that Florida municipalities and charter counties have home rule powers. This rule comes from two provisions' of the Florida Constitution. First, regarding cities, Article VIII, section 2(b) of the Florida Constitution states "[m]unicipalities shall have governmental, corporate and proprietary powers to enable them to conduct municipal government, perform municipal functions and render municipal services, and may exercise any power for municipal purposes except as otherwise provided by law."[58]

Second, regarding charter counties, Article VIII, section 1(g) of the Florida Constitution states "[c]ounties operating under county charters shall have all powers of local self-government not inconsistent with general law, or with special law approved by vote of the electors. The governing body of a county operating under a charter may enact county ordinances not inconsistent with general law."[59]

Florida Statutes expound on these Constitutional provisions. First, Section 166.021(1), *Florida Statutes,* states "municipalities shall have the governmental, corporate, and proprietary powers to enable them to conduct municipal government, perform municipal functions, and render

[58] FLA. CONST. art. VIII, § 2(b)
[59] FLA. CONST. art. VIII, § 1(g)

municipal services, and may exercise any power for municipal purposes, except when expressly prohibited by law."[60]

Second, Section 125.86, *Florida Statutes*, states that charter counties have the power to "[a]dopt, pursuant to the provisions of the charter, such ordinances of countywide force and effect as are necessary for the health, safety, and welfare of the residents"[61] and "[a]ll other powers of local self-government not inconsistent with general law as recognized by the Constitution and laws of the state and which have not been limited by the county charter."[62]

B. Express and implied preemption

That Florida cities and charter counties have home rule powers means these local governments may adopt any ordinance for municipal purposes unless otherwise preempted. State preemption is the limitation of local government authority in an area by the state.[63] The Florida Supreme Court has identified two distinct kinds of preemption: express and implied preemption.[64]

Express preemption is an explicit legislative statement that a local government cannot exercise certain authority. The Florida Supreme Court has said, "[e]xpress preemption of a field by the Legislature must be accomplished by clear language stating that intent."[65] Moreover, "[i]n cases where the Legislature expressly or specifically preempts an area, there is no problem with ascertaining what the Legislature intended."[66] Therefore, express preemption is neither implied nor inferred.[67]

Implied preemption is a court's gleaning of legislative intent in the absence of an explicit statement of preemption.[68] This form of preemption rests on the judicial understanding that the legislature may override local action if that action conflicts with state law.[69] In this context, local laws conflict with state law when the local ordinance cannot coexist with the state legislation without frustrating its purpose.[70] Because of this relatively narrow meaning of conflict, the mere fact that local legislation addresses similar subject matter as that state legislation does not result in implied preemption.[71]

[60] FLA. STAT. § 166.021(1) (2014)
[61] FLA. STAT. § 125.86(7) (2014)
[62] FLA. STAT. §125.86(8) (2014)
[63] Judge James R. Wolf & Sarah Harley Bolinder, *The Effectiveness of Home Rule: A Preemption and Conflict Analysis*, 83 Fla. B.J. 92, 92 (2009).
[64] *Sarasota Alliance For Fair Elections, Inc. v. Browning*, 28 So. 3d 880, 886 (Fla. 2010).
[65] *Id*.
[66] *Id*.
[67] *Id*.
[68] Judge James R. Wolf & Sarah Harley Bolinder, *supra* note 63 at 93.
[69] *Id*.
[70] *Id*. (*citing Shetler v. State*, 681 So. 2d 730 (Fla. 2d D.C.A. 1996)).
[71] Judge James R. Wolf & Sarah Harley Bolinder, *supra* note 63 at 93.

C. Preemption in the context of energy conservation ordinances

Energy conservation ordinances create affirmative obligations on the owners of existing structures to make energy efficiency upgrades to those structures. The Florida Constitution does not preempt local governments from regulating this subject matter.[72] Therefore, the remainder of the memorandum addresses possible sources of express and implied preemption in Florida Statutes.[73]

1. The Florida Building Code background

The Florida Building Code is a single statewide code based on national model codes and consensus standards, amended for Florida specific needs for the design and construction of buildings. The Florida Building Commission drafts and updates each version of the Florida Building Code to make the local building process more efficient, increase accountability, bring new and safer products to the market, increase consumer confidence, and better protect the residents of this natural-disaster prone state.[74] In adopting the Florida Building Code, Florida replaced a patchwork of codes and regulations that were developed, amended, administered and enforced by more than 400 local jurisdictions and state agencies with building code regulation responsibilities.[75] The code comprises nine individual volumes including Energy Conservation.

2. Legislative adoption of Florida Building Code

Florida Statutes direct the Florida Building Commission to "adopt, by rule … the Florida Building Code which shall contain or incorporate by reference all laws and rules which pertain to and govern the design, construction, erection, alteration, modification, repair, and demolition of public and private buildings, structures, and facilities and enforcement of such laws and rules."[76]

Regarding the scope of the code's application, Section 553.73(13), *Florida Statutes*, provides that the

> Florida Building Code does not apply to, and no code enforcement action shall be brought with respect to, zoning requirements, land use requirements, and owner specifications or programmatic requirements which do not pertain to and govern the design, construction, erection, alteration, modification, repair, or demolition of public or private buildings, structures, or facilities or to programmatic requirements that do not pertain to enforcement of the Florida Building Code.[77]

[72] FLA. CONST. art. VIII, § 2(b)
[73] Note that while the charter of any charter county might preempt adoption of an energy conservation ordinance, this memorandum does not review any county charter. Rather, this memorandum is limited to reviewing possible preemption under state law.
[74] Florida Building Codes and Standards (Dec. 3, 2014), http://www.myfloridalicense.com/dbpr/bcs/buildingcode.html.
[75] *Id*.
[76] FLA. STAT. § 553.73(1)(a) (2014)
[77] FLA. STAT. § 553.73(13) (2014)

Together these requirements express the legislature's intent for the Florida Building Code to apply to all aspects of the construction of buildings but to not apply to planning functions—such as land use and zoning—or to programmatic requirements. This division splits the areas of the code's application generally into building construction, where the code applies, and building use, where the code does not apply.

3. Scope and intent of Florida Building Code

The Energy Conservation Volume of the Florida Building Code identifies itself as "a statewide uniform code" which "shall not be made more stringent or lenient by local government."[78] This language is clearly express preemption that reserves to the Florida Building Code regulation of its subject matter.

That scope, however, is paired with this intent:

> This code shall regulate the design and construction of buildings for the effective use of energy. This code is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve the effective use of energy. This code is not intended to abridge safety, health or environmental requirements contained in other applicable codes or ordinances.[79]

Further, the Energy Conservation volume endorses alternate materials and alternate methods of construction, design and insulating systems saying:

> This code is not intended to prevent the use of any material, method of construction, design or insulating system not specifically prescribed herein, provided that such construction, design or insulating system has been *approved* by the *code official* as meeting the intent of this code. Nationally recognized energy analysis procedures may be used to demonstrate that the building, or component thereof, will use less energy than a code compliant building (or building component) of the same configuration.[80]

Clearly, the Florida Building Code anticipates local governments applying the code in conjunction with other programs that affect the energy efficiency of buildings. While these programs cannot alter the requirements of the code itself, they may permissibly approach the challenge of ensuring an energy efficient building stock through methods or programs the Florida Building Code does not anticipate.

4. Energy conservation ordinances

As previously stated, an energy conservation ordinance creates an affirmative requirement that owners of existing housing upgrade their property to ensure energy efficiency and conservative

[78] Florida Building Code, Energy Conservation Volume, section 101.2
[79] Florida Building Code, Energy Conservation Volume, section 101.3
[80] Florida Building Code, Energy Conservation Volume, section 102.1

water usage. These ordinances apply to existing structures upon some occurrence such as the sale or lease of the regulated property. When triggered, energy conservation ordinances then require property owners to meet either prescriptively or comprehensively defined energy efficiency standards. Prescriptive standards state explicitly what energy conservation measures a property will implement. Comprehensive standards provide some energy efficiency standard a property must meet using the property owner's choice of energy conservation measures.

The intent of an energy conservation ordinance is to

> reduce the amount that tenants and homeowners pay in utility bills, reduce the emissions of greenhouse gases, reduce the community's susceptibility to energy price fluctuations, improve air quality by reducing the emissions of criteria pollutants associated with coal (from electricity) and natural gas combustion, and improve the comfort and livability of a living space by reducing drafts and heat imbalances.[81]

In short, energy conservation ordinances are an innovative regulatory solution to the public policy problem that some existing residential buildings do not meet the energy efficiency standards of the Florida Building Code.

a. Florida Statutes do not preempt local governments from adopting programmatic regulations like energy conservation ordinances

This section applies the express and implied preemption tests to the *Florida Statutes* provisions discussed in section III.C.2. of this memorandum. The Florida Legislature provides for the adoption of the Florida Building Code to regulate the "design, construction, erection, alteration, modification, repair, and demolition" of buildings.[82] The Legislature also provides that local governments are not preempted from adopting "zoning requirements, land use requirements," and "programmatic requirements."[83]

Express preemption is an explicit legislative statement, made in clear language stating legislative intent, that a local government cannot exercise certain authority. *Florida Statutes* do not explicitly state that local governments cannot regulate the energy and water efficiency of buildings. Therefore, the legislature has not expressly preempted local governments from adopting energy conservation ordinances.

Implied preemption exists where local government regulation and state regulation of the same subject matter cannot coexist because the local government regulation frustrates the purpose of the state regulation. Local government adoption of energy conservation ordinances would not

[81] U.S. Dep't of Energy, Leasing & Split Incentive *available at* http://www4.eere.energy.gov/alliance/activities/market-solutions-teams/leasing-split-incentive
[82] FLA. STAT. § 553.73(1)(a) (2014)
[83] FLA. STAT. § 553.73(13) (2014)

frustrate the purpose of *Florida Statutes* because these ordinances are the type of programmatic regulations anticipated by and allowed by *Florida Statutes*.

Programmatic standards regulate the ongoing management of a structure to achieve a community's goal—such as reduced energy consumption. If achieving that goal requires the design, construction, erection, alteration, modification, repair, or demolition of a regulated building, those activities remain within the purview of state law. This framework, where a local government programmatic regulation works in conjunction with the Florida Building Code—mirrors how many common local government ordinances function.

For example, when applying use regulations, a local government may require a property owner to change the use of his or her property to residential from commercial. Such a change would almost certainly require renovation of the building. Nonetheless, Florida law does not preempt local governments from so changing use simply because the Florida Building Code would regulate that renovation.

b. Energy conservation ordinances do not frustrate the intent of the Florida Building Code, but local governments should take care not to adopt energy conservation measures more stringent or lenient than the Florida Building Code

This section applies the express and implied preemption tests to the Florida Building Code provisions discussed in section III.C.3. of this memorandum. The Florida Building Code clearly states that local governments may not adopt building regulations which are more stringent or lenient than the Florida Building Code. The code also anticipates that local governments will apply it in conjunction with innovative programs to encourage energy efficiency and alternative methods to achieve energy efficiency standards.

Express preemption is an explicit statement that a local government cannot exercise certain authority. The Florida Building Code therefore expressly preempts local governments from adopting regulations which are more stringent or lenient than the Florida Building Code. To avoid invalidation due to preemption when drafting an energy conservation ordinance, local governments should ensure that prescribed energy conservation measures are not more stringent or lenient than the Florida Building Code. One practical approach to avoid conflicting with the Florida Building Code's express preemption is to identify prescriptive energy conservation measures by referencing the Florida Building Code.

Implied preemption exists where local government regulation and state regulation of the same subject matter cannot coexist because the local government regulation frustrates the purpose of the state regulation. Local government energy conservation ordinances avoid frustrating the purposes of the Florida Building Code by applying to properties on the occurrence of some trigger that is different than those which trigger the Florida Building Code.

For example, property owners must comply with the Florida Building when conducting permitted design, construction, erection, alteration, modification, repair, and demolition work.

Energy conservation ordinances, instead, apply to structures at time of lease or sale. Therefore, energy conservation ordinances work alongside of, and do not conflict with, building codes. The Florida Building Code anticipates being applied parallel to this sort of regulation.

D. Conclusion

Florida Law probably does not preempt Florida local governments from adopting energy conservation ordinances. Because energy conservation ordinances do not create building standards, but are a programmatic requirement, Section 553.73(13), *Florida Statutes*, does not preempt these ordinances. The drafters of an energy conservation ordinance should be careful not to create energy conservation measures which are more stringent or more lenient than the Florida Building Code. Doing so might violate the Florida Building Code's express preemption of local government building standards which differ from the Florida Building Code. Finally, local government energy conservation ordinances would not frustrate the purposes of the Florida Building Code but would effectively work alongside the code.

ORDINANCE NO. ____

AN ORDINANCE OF THE CITY OF GAINESVILLE, FLORIDA, RELATING TO ADDING ENERGY EFFICIENCY REQUIREMENTS TO CHAPTER 13, ARTICLE II, HOUSING CODE; MAKING FINDINGS OF FACT; AMENDING SECTION 13-16 TO PROVIDE FINDINGS OF FACT AND DECLARATION OF NECESSITY, AMENDING SECTION 13-19 TO PROVIDE DEFINITIONS; AND ADDING DIVISION 13 ENERGY CONSERVATION; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A REPEALING CLAUSE; AND PROVIDING AN IMMEDIATE EFFECTIVE DATE.

WHEREAS, at least 10 days' notice has been given once by publication in a newspaper of general circulation notifying the public of this proposed ordinance and of a public hearing to be held in the City Commission Auditorium, City Hall, City of Gainesville; and

WHEREAS, the Public Hearings were held pursuant to the published notice described at which hearings the parties in interest and all others had an opportunity to be and were, in fact, heard.

WHEREAS, there exist in the city of Gainesville numerous dwellings which are substandard due to the lack of adequate insulation and other thermal performance defects that cause the inefficient use of electricity to heat and cool the dwellings which may compromise the public health, safety and welfare; and

WHEREAS, the City of Gainesville through Gainesville Regional Utilities is the provider of electric power and natural gas for heating, cooling and lighting to residents within the city limits and in the GRU service territory in Alachua County, and as such has a significant and legitimate governmental interest in mandating energy efficiency; and

CODE: Words ~~stricken~~ are deletions; words underlined are additions.

WHEREAS, the City of Gainesville through Gainesville Regional Utilities offers rebates to property owners to help them manage energy use and save money including the Low-income energy Efficiency Program for low-income property owners; and

WHEREAS, rebates are an insufficient economic incentive to maintain a structure in an energy efficient state when a property owner does not pay the cost of utility services; and

WHEREAS, forty-seven percent of residents in the City of Gainesville rent their residential units and property owners typically do not pay the cost of utility services, and

WHEREAS, Chapter 4 – Residential Energy Conservation of the 2010 Florida Building Code: Energy Conservation provides energy conservation standards for residential structures;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF GAINESVILLE, FLORIDA:

Section 1. The aforementioned findings are adopted by the City Commission of the City of Gainesville, Florida.

Section 2. Sec. 13-16 of Chapter 13 of the Gainesville Code of Ordinances is hereby amended to read as set forth below.

Sec. 13-16. Findings of fact and declaration of necessity.

The city commission finds the following:

(1) Existence of conditions. Premises exist within the city containing blighted dwellings or other structures intended for human habitation, and such dwellings or other structures are blighted because of faulty design or construction or failure to keep them in a proper state of repair or lack of proper sanitary facilities or lack of adequate heat, light, insulation or ventilation, or improper management or any combination of these factors as a result of which such buildings or structures have become deteriorated, dilapidated, neglected,

overcrowded with occupants, energy inefficient or unsanitary as to be unfit for human habitation, thereby imperiling the health, safety or welfare of the occupants thereof or the inhabitants of the surrounding area.

(2) Results if conditions uncorrected. Such blighted premises, dwellings and other blighted buildings or other structures contribute to the development of, or increase in, disease, infant mortality, energy consumption, crime and juvenile delinquency; conditions existing on such blighted premises cause a drain upon public revenue and impair the efficient and economical exercise of governmental functions in such areas; and conditions existing on such blighted premises necessitate excessive and disproportionate expenditure of public funds for public health, public safety, crime prevention, fire protection, environmental mitigation for energy production, energy generation or energy purchase, and other public services.

(3) Necessity to protect public health, safety and welfare. The enactment of this chapter is necessary to protect the public health, safety and welfare of the people of the city by establishing minimum standards governing the facilities, utilities, occupancy, repair and maintenance of buildings and grounds used for human habitation. This chapter is declared to be remedial and essential to the public interest and welfare, and to this extent it is intended that this housing code be liberally construed to effectuate the purposes stated herein.

Section 3. Sec. 13-19 of Chapter 13 of the Gainesville Code of Ordinances is hereby amended to include the definitions set forth below.

Utility services shall mean electric and natural gas services.

Section 4. Chapter 13 of the Gainesville Code of Ordinances is hereby amended to add a new Division 13. Energy Conservation as set forth below.

DIVISION 13. Energy Conservation

Sec. 13-195. Energy conservation measures.

Structures without supplied utility services shall meet the standards of Chapter 4 – Residential Energy Efficiency of the 2010 Florida Building Code: Energy Conservation. Failure to meet the requirements of this section shall be a minor violation.

Section 5. If any word, phrase clause, paragraph, section or provision of this ordinance or the application hereof to any person or circumstance is held invalid or unconstitutional, such finding shall not affect the other provision of applications of the ordinance which can be given effect without the invalid or unconstitutional provisions or application, and to this end the provision of this ordinance are declared severable.

Section 6. All ordinances, or parts of ordinances, in conflict herewith are to the extent of such conflict hereby repealed.

Section 7. This ordinance shall become effective immediately upon final adoption.

PASSED AND ADOPTED this _____ day of _____, _____.

_____
EDWARD B. BRADDY
MAYOR

ATTEST:

Approved as to form and legality

_____
KURT M. LANNON
CLERK OF THE COMMISSION

_____
NICOLLE M. SHALLEY
CITY ATTORNEY

CODE: Words ~~stricken~~ are deletions; words underlined are additions.

This ordinance passed on first reading _____.

This ordinance passed on second reading _____.

CODE: Words ~~stricken~~ are deletions; words underlined are additions.

ORDINANCE NO. 6099 - N.S.

AMENDING SECTIONS 19.16.040, 19.16.050, 19.16.060, 19.16.080, AND 19.16.120 OF ORDINANCE NO. 5802 - N.S., THE BERKELEY RESIDENTIAL ENERGY CONSERVATION ORDINANCE (CHAPTER 19.16 OF THE BERKELEY MUNICIPAL CODE), TO ADOPT WATER CONSERVATION AND RENOVATION MEASURES.

BE IT ORDAINED by the Council of the City of Berkeley as follows:

Section 1. That Sections 19.16.040, 19.16.050, 19.16.060, 19.16.080, and 19.16.120 of Ordinance No. 5802 - N.S., (Chapter 19.16 of the Berkeley Municipal Code) are hereby amended to read as follows:

19.16.040 DEFINITIONS

For the purposes of this ordinance, the following terms shall be defined as follows:

A. "Administrator" shall be the City Manager or his or her designee assigned to administer this ordinance.

B. "Certificate of Compliance" shall mean a certificate provided by the administrator or his or her designee certifying that a property has been inspected by the administrator or his or her designee and has been found to be in compliance with the standards prescribed in Section 19.16.050 of this chapter.

C. "ECM" shall mean an energy or water conservation measure, as specified in this ordinance.

D. "Educational Materials" shall mean brochures or other written materials provided by the City of Berkeley to persons handling the sale or exchange of a residential property and representing or serving as the agent for a buyer or seller of such property, or other interested parties, for the education of residential property sellers and buyers about potential energy and water conservation technologies and methods and alternative energy options for their property. This educational material shall also include information about programs, services, businesses and financing that may be used for energy and water conservation and alternative energy efforts.

E. "Inaccessible attic space" shall mean an attic space such that the roof slope is less than two and one-half inches in twelve inches and the vertical clear height from the top of the bottom chord of the truss or ceiling joist to the

underside of the roof structural members or rafters at the roof ridge is less than twenty-four inches (24").

F. "Negligent noncompliance" shall mean noncompliance without actual knowledge of the requirements of this ordinance.

G. "Renovation" shall mean any revision, change, improvement, alteration, refinement, modernization, remodeling, increase in square footage or repairing to the existing structure which cost in excess of $50,000.

H. "Residential structure" shall mean a structure consisting of one or more units as defined in this section.

I. "Sale or exchange" shall mean the transfer of title pursuant to any agreement to sell or exchange. This does not include transfer of title pursuant to inheritance, involuntary transfer of title resulting from default on an obligation secured by real property, change of title pursuant to marriage or divorce, condemnation, or any other involuntary change of title affected by operation of law. Any agreement that transfers ownership before the effective date of this ordinance.

J. "Unit" shall mean any dwelling unit in a Group R occupancy as specified in the Uniform Building Code most recently adopted by the City of Berkeley. "Unit" shall also include any unit in a hotel or motel.

K. "Willful noncompliance" shall mean noncompliance by a person with actual knowledge of the requirements of this ordinance.

19.16.050 CONSERVATION MEASURES

A. Prior to the sale or exchange of any residential structure or unit, the seller must provide that residential structure or unit with ECMs that meet the standards of this section. Except as otherwise provided in this ordinance, the seller and/or licensed real estate agent or broker handling a sale of residential property is responsible for compliance with this section.

ECMs in the following Section B shall be installed, if feasible, in a residential structure or unit each time it is exchanged or sold, or undergoes renovation, until all feasible ECMs are installed. A Certificate of Compliance must be filed at each of these sales, exchanges, or renovations. No renovation may receive final approval by the City until such a Certificate is filed with the City of Berkeley.

After all feasible ECMs have been installed as evidenced by a duly filed Certificate of Compliance, the residential structure or unit is considered in full compliance with this ordinance. From that point on, no further registration or filing of Certificates of Compliance under this ordinance shall be required, as constituted at the time of adoption. This provision could be affected by future amendment of this ordinance. This information shall be described in the Certificate of Compliance form.

B. The following are prescribed ECMs which must be implemented for a residential structure or unit to be deemed in compliance:

1) Install ceiling insulation to bring the thermal resistance value of the ceiling insulation to R-30 in buildings where the existing ceiling insulation value is R-11 or less, except in those buildings having no attic or inaccessible attic space between the roof and ceiling below. Inaccessible is defined such that the roof slope is less than two and one-half inches in 12 inches and the vertical clear height from the top of the bottom chord of the truss or ceiling joist to the underside of the roof structural members or rafters at the roof ridge is less than twenty-four inches (24").

2) Seal leaks in furnace ducts at all joints in the ducting system and at the plenum with pressure sensitive tape or mastic, and insulate all furnace ducts to at least a thermal resistance value of R-3 except where ducts are inside heated space, between floors, inside interior walls or partitions, are asbestos coated, or otherwise inaccessible without alteration.

3) Insulate all domestic storage water heaters with an external insulation blanket rated at a minimum thermal resistance value of R-6, except where a minimum clearance of two inches from a wall or other permanent fixture does not exist, or where the thermal resistance of the total water heater insulation jacket is in excess of R-12. For purposes of safety, water heaters that are having installation blankets installed must also meet all legal requirements including the requirement of a Pressure-Temperature (PT) Safety Release Valve.

4) Install low-flow devices with a maximum rated flow rate of no more than three (3) gallons per minute in all shower fixtures, two and three quarters (2.75) gallons per minute for sink and lavatory faucets, and four (4) gallons per minute for all other faucets; or replace with fixtures designed to meet the same limits.

5) Insulate to at least a thermal resistance value of R-3 hot water pipes in pumped, recirculating domestic water heating systems. Exemptions shall be granted where hot water pipes are between floors, inside interior walls, or otherwise inaccessible without alteration.

6) Insulate to at least a thermal resistance of R-3 exposed hot water pipes and cold water pipes within twenty-four inches (24") of water heater.

7) Replace incandescent light bulbs located in common areas of multiple unit structures with lamps that have an efficacy of at least 25 lumens per watt, such as fluorescent lamps.

8) Install approved weatherstripping on all exterior doors.

9) Install approved dampers, doors or other devices to obstruct or block airflow to reduce heat loss through chimneys.

10) Replace existing tank or flushometer-type toilets with fixtures designed to use no more than one and six tenths (1.6) gallons per flush, or modify existing fixtures to reduce the amount of water used while insuring correct operation. Whenever a toilet is replaced in a renovation, it must be replaced with an ultra low-flow model.

19.16.060 MAXIMUM REQUIRED EXPENDITURE

A. The maximum required expenditure to bring a structure into compliance with this section shall be:

1) In the case of sale or exchange:

a) Three-quarters of one percent (.0075) of the final sale price for a structure not containing more than two units, or

b) Fifty cents per square foot in a structure containing three units or more.

2) In the case of renovation of $50,000 or more:

a) One percent (.01) of renovation costs.

19.16.080 IMPLIED WARRANTY OF COMPLIANCE

A. In the case of sale or exchange

1) All residential structures or units sold or exchanged in Berkeley after this ordinance becomes effective are sold with an implied warranty of compliance with the provisions of this ordinance.

2) Prior to sale or exchange of a residential unit or structure, a statement acknowledging the warranty provided for in this section, using a form provided by the Administrator, and signed by the buyer, seller, and agent (if any), shall be filed with the Administrator or his or her designee.

On the back of this form shall be printed the "Notice to Buyer" provided by Administrator.

The seller and/or agent shall be responsible for the filing of these forms. Failure to file the forms required by this subsection constitutes noncompliance with this ordinance.

In preparing such forms, the Administrator or other assigned staff shall solicit and allow input from the Energy Commission and the general public.

3) The implied warranty provided in subsections A1 and A2 above may be modified by an agreement between buyer and seller for buyer to assume responsibility for bringing the residential structure or unit into compliance with any such an agreement must be signed by buyer, seller, and agent (if

any) and filed with the Administrator prior to the sale or exchange of the subject property along with the forms prescribed in subsection A2.

Such agreement shall specify those required measures which will be the buyer's responsibility, and all other required measures shall remain the responsibility of seller and agent, subject to the provisions of Sections 8,10, and 11 of this ordinance. Any such agreement not filed with the Administrator or otherwise not satisfying the conditions of this section is void. One year after the sale or exchange of property for which such an agreement has been filed, the City shall make an inspection to verify buyer's discharge of responsibilities under such agreement.

The City shall charge the seller a fee to cover the cost of an inspection under this section at the time such agreement is filed. Upon verification that the property meets the requirements of this ordinance, a Certificate of Compliance shall be issued.

A buyer failing to discharge responsibilities under an agreement described in this section is in willful noncompliance.

4) Title to residential property may be transferred prior to compliance with the provisions of Section 19.16.070 of this chapter. If an escrow account is first established in the amount of the applicable maximum required expenditure under Section 19.16.060 of this chapter, with instructions to release the funds in such account at the direction of the buyer to the provider(s) of such materials and labor as are needed to bring the property into compliance with the provisions of Section 19.16.050 of this chapter, and to then return any surplus funds to the buyer once such compliance is achieved.

Prior to the sale or exchange, the buyer, seller and agent (if any) shall file with the Administrator an agreement pursuant to subsection 19.16.070 of this chapter transferring responsibility for compliance with Section 19.16.050 of this chapter to the buyer. Inspections and fees required under Section 19.16.080 of this chapter, subsection A3 shall be required under this ordinance.

5) Every lease or rental agreement for residential structures or units sold or exchanged in Berkeley after this ordinance becomes effective carries an implied warranty of compliance with this ordinance.

6) At the time of sale or exchange of a residential structure or unit, involved persons handling the sale or exchange and representing or serving as the agent for the buyer or seller in the sale or exchange shall provide Educational Materials, as described in Section 19.16.040, subsection D, provided by the City of Berkeley about energy and water conservation options to the property seller or buyer they are representing or serving.

B. In the case of renovation:

1) Every lease or rental agreement for residential structures or units undergoing renovations after this ordinance becomes effective carries an implied warranty of compliance with this ordinance.

2) At the time of final approval of renovations to a residential structure or unit, the contractor shall provide Educational Materials, as described in Section 19.16.040, subsection D, provided by the City of Berkeley about energy and water conservation options to the owner.

19.16.120 APPEALS

A. Expenditures for the required ECMs are deemed to be a reasonable burden, in order to achieve the purpose of this ordinance. If, however, in a particular case an affected party believes that the application of this ordinance would be unreasonable, that person may appeal to the Administrator, or his or her designee.

B. An appeal shall be taken by filing a written notice of appeal with the Administrator, or his or her designee, prior to the transaction for sale or exchange of the residential structure or unit, or prior to final approval of a renovation project. The notice of appeal shall clearly and concisely set forth the grounds upon which the appeal is based. Only one copy of the notice of appeal need be filed.

C. An appeal may be taken to the Housing Advisory and Appeals Commission by any person from the decision of the Administrator, or his or her designee. Notice of appeal must be filed in triplicate with the Administrator, or his or her designee, who shall forward one copy thereof to the Housing Advisory and Appeals Commission. Within thirty (30) days after the filing of the notice of appeal, the Administrator, or his or her designee, shall transmit to the Housing Advisory and Appeals Commission all of its records pertaining to the order appealed from.

D. The burden of proof shall be on the appellant to demonstrate the unreasonableness of applying the ordinance.

In the case of sale or exchange:

E. If the buyer of a residential structure or unit subject to the requirements of this ordinance plans to alter it in such a way as to make it exempt from one or more of the requirements of this ordinance, the administrator may grant the appellant an extension of up to one year of the deadline by which compliance would otherwise be required. Such an extension makes compliance the buyer's responsibility.

If at the end of the extension period, the buyer has not either made the planned alterations or otherwise brought the structure or unit into compliance, the buyer may apply for a further extension, the administrator

must be satisfied that the buyer has shown good faith by proceeding as far as possible with the planned alterations during the extension period. The buyer must have filed all necessary applications for such planned alterations to have shown good faith.

If an extension is granted pursuant to a successful appeal under this subsection, then, at the end of the extension period, if no further extension has been granted, there shall be a city inspection to verify compliance with this ordinance. A fee shall be charged to the buyer at the time the appeal is filed to cover the cost of such inspection. This fee shall be refundable if an appeal seeking an extension under this subsection E is denied. In the event that planned alterations rendering a structure or unit exempt from one or more of the ECM requirements of this ordinance are already verified through an inspection by the City, the cost originally charged to the buyer of inspecting for compliance with such requirements shall be refunded.

F. Upon filing an appeal, the title of the property may then be transferred, provided that the buyer is the one filing the appeal and that the maximum required expenditure be placed in escrow to be used to bring the structure into compliance should the appeal fail. In this event, the City shall make an inspection to verify at the conclusion of the appeal. A fee shall be charged to the buyer to cover the cost of such an inspection.

If compliance with this ordinance is not achieved within one year after the final resolution of the appeal, the buyer is in willful noncompliance.

In the case of renovation:

G. If an appeal is filed, final approval may not be given for a renovation project until the appeal is resolved and an exemption is granted.

Section 2. The effective date of this ordinance shall be January 1, 1992.

Section 3. Copies of this Bill are hereby ordered published by posting with the vote thereon for two (2) days at the ten (10) prominent places in the City of Berkeley as designated by Chapter 1.08 of the Berkeley Municipal Code.

At a regular meeting of the Council of the City of Berkeley, held on the twelfth day of November, 1991, this Ordinance was passed to print by the following vote:

Ayes: Councilmembers Collignon, Dean, Shirek, Skinner, Wainwright, Woodworth, and President Hancock.

Noes: None.

Absent: Councilmembers Chandler and Goldfarb.

ATTEST: MARIE MCKECHNIE
City Clerk and Clerk of the Council

In effect: December 19, 1991

At a regular meeting of the Council of the City of Berkeley, held on the nineteenth day of November, 1991, this Ordinance was finally adopted by the following vote:

Ayes: Councilmembers Chandler, Collignon, Dean, Goldfarb, Shirek, Skinner, Wainwright, Woodworth, and President Hancock.

Noes: None.

Absent: None.

ATTEST: MARIE MCKECHNIE
City Clerk and Clerk of the Council

Approved this 19th day of November, 1991

LONI HANCOCK
Mayor and President of the Council

This is to certify that the foregoing is a true and correct copy of Ordinance No. 6099-N.S., and the same was finally adopted on November 19, 1991, and that it was duly and regularly posted as provided by law.

ATTEST: Marie McKechnie
City Clerk and Clerk of the Council

ORDINANCE NO. 7565

AN ORDINANCE AMENDING TITLE 10, B.R.C. 1981, BY ADDING CHAPTER 10-7.5, "GREEN BUILDING AND GREEN POINTS PROGRAM"; REPEALING SUBSECTION 10-5.5.2(y) AND SETTING FORTH RELATED DETAILS.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER, COLORADO:

Section 1. Title 10, B.R.C. 1981, is amended by repealing Subsection 10-5.5-2(y), "Resource Conservation – Green Points and replacing it with the addition of a new Chapter 10-7.5, "Green Building and Green Points Program" to read:

TITLE 10 STRUCTURES

Green Building and Green Points Program

10-7.5-1 Legislative Intent and Purpose

The purpose of this chapter is to protect the public health safety and welfare by regulating residential construction with the intent to conserve energy, water and other natural resources, preserve the health of our environment through optional and mandatory requirements related to design, construction, operations, recycling, and deconstruction This chapter has the following additional purposes:

(a) It provides criteria for rating the environmental performance of residential construction practices and provides guidelines for documentation that demonstrates conformance with the criteria;

(b) It encourages cost-effective and sustainable residential building methods, by encouraging conservation of fossil fuels, water and other natural resources, reduction of greenhouse gas emissions, recycling of construction materials, reducing solid waste and improving indoor air quality;

(c) It identifies the specific requirements for complying with the Green Points Program and how the program interfaces and exceeds the 2006 International Energy Conservation Code adopted in Chapter 10-7, "Energy Conservation and Insulation Code," B.R.C. 1981;

(d) It includes mandatory green building requirements to ensure that construction waste and deconstruction materials are recycled, reused, or otherwise diverted from land fills, and minimum requirements to ensure that dwellings are constructed in an efficient manner; and

(e) It includes provisions intended to provide for joint administration with the processing of building permits for remodeling, adding on, and constructing dwelling units.

10-7.5-2 Scope and Administration

(a) Scope. The provisions of this chapter apply to the following:

(1) New construction, remodels, or additions to a dwelling, including without limitation single-unit dwellings, multi–unit dwellings, and dwellings within mixed use developments.

(2) Any two or more building permits for the same structure that are applied for in any 12 month period shall be considered as one application for the purpose of calculating green points.

(3) The requirements of this chapter shall apply to construction activities of all types of dwellings unless the context clearly indicates otherwise.

(4) The requirements of this chapter are in addition to and do not replace the requirements within the Boulder Revised Code, including without limitation all of the life safety codes, the historic preservation ordinance, the land use code and the City of Boulder Design and Construction Standards.

(b) Administration. The Green Points Program shall be administered applied, and interpreted in accordance with Chapter 1, "Administration," Chapter 2, "Definitions," of the International Building Code (IBC) and the International Residential Code (IRC) as adopted with amendments by Sections 10-5-2, "Adoption of International Building Code with Modifications," and 10-5.5-2, "Adoption of International Residential Code with Modifications," B.R.C. 1981.

(c) Inspection and Compliance. No person shall fail to comply with the requirements of this chapter. No person shall construct in violation of a Green Points approval. All approvals and inspections of Green Point's applications and requirements shall be done in conjunction with a residential building permit application and field inspections. An application shall be made on a form that is approved by the city manager. The applicant shall demonstrate compliance with all of the provisions of this chapter prior to the issuance of a certificate of occupancy by the city manager.

(d) Exceptions. Any structure that includes dwellings that are pursuing a U.S. Green Building Council's LEED™ (Leadership in Energy and Environmental Design) Silver Certification or comparable green building rating certification or higher will be exempt from the Green Points requirements. No person that applies for this exception shall fail to complete the LEED™ certification process and receive such certification within six months after the final inspection on the building permit. The city manager may grant an extension to this time period if a request is made by the applicant and the applicant demonstrates a good cause as to why additional time is needed to complete the certification.

10-7.5-3 Mandatory Green Building Requirements

(a) Energy Efficiency. An applicant for a building permit for each new dwelling shall demonstrate that the building is more energy efficient than a building that meets the minimum requirements of Chapter 10-7, "International Energy Conservation and Insulation Code," B.R.C. 1981. Table 1 lists the minimum energy efficiency requirements.

TABLE 1 – Tiers for Energy Efficiency Thresholds

Type of Project	Square Footage	Energy Efficiency Thresholds Above Code
New Construction		
	Up to 3,000	30 percent more energy efficient than 2006 IECC
	3,001-5,000	50 percent more energy efficient than 2006 IECC
	5,001 and up	75 percent more energy efficient than 2006 IECC
Multi-unit Dwellings	Applies to all	30 percent more energy efficient than 2006 IECC*

* The city manager is authorized to develop a HERS rating sampling protocol for multi-dwelling projects to ensure compliance with this section.

(b) Energy Efficiency – HERS Index Rating. A new dwelling shall be evaluated using the Home Energy Rating System (HERS). The HERS rating will be used for the verification of energy performance of new construction. A HERS rating shall be performed by a rater accredited by the Residential Energy Services Network (RESNET).

(c) Energy Audit. An applicant for a building permit for an addition to a dwelling or a remodel of a dwelling shall be required to obtain an energy audit. The applicant shall provide proof of the completion of the energy audit with a building permit application. The energy audit of the house shall quantify the annual energy performance of the building according to generally accepted standards for energy audits approved by the city manager. An energy audit or an optional HERS rating report will indicate how efficiently the building is operating and where inefficiencies are occurring.

(d) Lighting Efficiency. Prior to final inspection for an addition to a dwelling or a remodel of a dwelling the applicant shall install energy efficient lamps (light bulbs) with a luminous efficacy of 40 lumens per watt or above in at least 50 percent of the existing home's light fixtures.

(e) Direct Vent Furnace. When the scope of the work of an addition to a dwelling or a remodel of a dwelling requires replacement of a furnace, the furnace shall be replaced with a direct vent unit that has a minimum 90 percent AFUE.

(f) Construction Waste Recycling. An applicant for a building permit for a new dwelling or an addition to a dwelling shall demonstrate that a minimum of 50 percent of construction waste is recycled. Waste diversion calculations and tracking spreadsheet form must be provided at project completion which shows that the minimum recycling requirements

have been met. No person shall fail to complete the diversion calculations and tracking spreadsheet or recycle construction waste as required by this section.

(g) Demolition Management. An applicant proposing to demolish more than 50 percent of exterior walls shall demonstrate through a deconstruction plan that at least 65 percent of material by weight from deconstruction of the existing structure, including concrete and asphalt, will be diverted from the landfill. Verification of deconstruction plan compliance must be provided prior to final inspection. No person shall fail to follow or otherwise implement an approved deconstruction plan

10-7.5-4 Resource Conservation – Green Points

(a) Schedule for Green Points. Residential building permit applicants are required to earn green points according to the schedule in Table 2.

TABLE 2

Project Description	**Square Footage Thresholds**	**Green Point Requirements**[1] [2]
New construction of single unit dwellings	1,501-3,000	20
	3,001-5,000	40
	5,001 and up	60
Additions to a dwelling	500- 1,000	*15*
	1,001- 2,000	20
	2,001 – 3,000	30
	3,001 and up	45
Interior remodels of a dwelling	500 – 1,000	*10*
	1,001 – 2,000	15
	2,001 – 3,000	20
	3,001 and up	30
Multi-unit Dwellings:[3] **final tenant finish of a unit in a multi unit dwelling**	1,001 – 2,000	10

[1] One green point is awarded for each HERS rating score below the HERS index rating requirement.

[2] The green point values listed in Subsections 10-7.5-4(e) and (f) only apply to those projects that are not required to have a HERS index rating.

	2,001 – 3,000	20
	3,001 and up	30

(b) Site Development.

(1) Landscaping

(A) Organic Soil Amendments: 2 points

(B) Xeriscape Landscaping: 1-4 points

(i) Reduce turf areas to a minimum: 1 point

(ii) All planting beds mulched with wood chips at least 3" deep: 1 point

(iii) Appropriate use of xeric (low-water-demand) plants grouped by water needs: 1 point

(iv) Zoned Irrigation System: 1 point

(2) Shading of Hardscapes

(A) Preserve Existing Mature Trees on Site: Up to 5 Points (1 Point per tree)

(B) Plant Shade Trees: Up to 5 Points (1 Point per tree)

(3) Surface Water Management - Permeable Sites: 1-4 Points. Points are awarded according to the following:

Percentage of Site that is Permeable	Points
> or equal to 50%	1
> or equal to 75%	2
> or equal to 90%	3
100%	4

(4) High-Efficiency Automatic Irrigation: Up to 2 points. Points are awarded according to the following:

(A) 75% Efficiency Rating: 1 point

(B) 95% Efficiency Rating: 2 points

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[3] Each dwelling in a multi-unit dwelling shall be required to meet the green point requirements separately.

(c) Building Rehabilitation: Up to 10 points. Points are awarded according to the following:

(1) Complete and appropriate rehabilitation and/or retrofitting of windows and doors: up to 3 Points. .5 point for each window.

(2) Storm System: up to 2 points. Installation of appropriate interior or exterior storm systems. .5 point for each window.

(3) The property is a contributing building within a historic district or designated as an individual landmark pursuant to Chapter 9-11, "Historic Preservation," B.R.C. 1981: 5 points.

(d) Waste Management.

(1) Reuse Existing Building: Up to 5 points. Incorporate portions of existing structures in remodel and addition projects according to the following:

(A) Save 50% of exterior walls (external sheathing and framing): 3 points

(B) Save 75% of exterior walls (external sheathing and framing): 5 points

(2) Remodels, Additions, and Demolition: Up to 3 points. Green points will be awarded on waste diversion on existing buildings (additions, remodels, or complete demolitions classified as an "entire structure" on a demolition permit) beyond the mandatory waste diversion requirements. Points will be awarded for additional diversion according to the following:

(A) 75% deconstruction material diverted from landfills: 2 points

(B) 85% deconstruction material diverted from landfills: 3 points

(3) New Construction Waste Recycling: Up to 3 points. Green points will be awarded on waste diversion beyond the mandatory waste diversion requirements. Points will be awarded according to the following:

(A) 75% waste material diverted from landfills: 2 points

(B) 85% waste material diverted from landfills: 3 points

(e) Energy Efficiency.

(1) Insulation. Points will be awarded according to the following:

(A) Minimum R-19 cavity plus R-5 sheathing wall insulation: 2 points.

(B) Minimum R-49 ceiling: 2 points.

(C) Exterior minimum R-10 insulation installed for the full height of a basement or foundation wall: 2 Points

(D) Insulated Pre-cast Concrete Foundation: 2 points

(E) Insulated Concrete Forms: 2 points

(2) Windows: Up to 10 points. New windows or replacement windows installed as part of a remodel or an addition. Points will be awarded as follows:

(A) National Fenestration Rating Council (NFRC): Up to 5 points. Rated Window with Maximum U Value of 0.35 or lower: .5 point for each window, up to 5 points.

(B) NFRC Rated Window with Maximum Solar Heat Gain Coefficient (SHGC) of 0.55: .5 point for each window, up to 5 points. Exception: South facing glass.

(*3*) Air Sealing of an Existing Building. Points will be awarded when a HERS rating is applied to the existing structure preconstruction, then a post rating after construction showing:

(A) Ten percent net increase in initial HERS rating*: 2 points

(B) No net increase in initial HERS rating*: 3 points

(C) Decrease in initial HERS rating*: 5 points

*Because of the variability of existing construction, projecting the final HERS rating can be difficult and planning for contingencies if the planned HERS rating is not achieved should be done.

(*4*) Heating, Ventilation and Air Conditioning (HVAC) Systems. Points will be awarded according to the following:

(A) HVAC Commissioning: 3 points. Testing for duct leakage, firing rate, and refrigerant charge.

(B) Ground Source Heat Pump: Up to 10 points. Points will be awarded according to the following:

(i) 30-39% calculations from a heating/ cooling load bin analysis: 4 points

(ii) 40-49% calculations from a heating/ cooling load bin analysis: 6 points

(iii) 50-59% calculations from a heating/ cooling load bin analysis: 8 points

(iv) 60-69% calculations from a heating/ cooling load bin analysis: 10 points

(C) Direct Vent Combination Space/Water Heating System: 2 points

(D) ENERGY STAR Boiler: 2 points

(E) Zoned, Hydronic Radiant Heating: 2 points

(F) Passive Cooling: 2-5 points (one point per item). Points will be awarded for passive cooling systems using any two or more of the techniques described below:

(i) Exterior vertical shading devices for east and west facing glass.

(ii) Reflective films or glass on east and west facing windows.

(iii) Radiant, heat-reflective barriers installed in the attic space.

(iv) Landscaping that shades east and west-facing glazing during the cooling season (June to September).

(v) South window overhang sized to effectively shade the window during the cooling season (June to September)

(G) Whole House Fan: 2 points

(H) Evaporative Cooling: 3 points

(5) Water Heater.

(A) Tank-less Water Heater: 2 points

(B) Point-of-Use Water Heater: 2 points

(6) Lighting, Appliances, and Electricity.

(A) ENERGY STAR Advanced Lighting Package (ALP): 5 Points. The ALP shall meet the following minimum specifications.

High-Use Rooms	Kitchen, Dining Room, Living Room, Family Room Bathroom(s), Hall(s)/Stairway(s)	50% of Total Number of Fixtures
Medium/Low-Use Rooms	Bedroom, Den, Office, Basement, Laundry Room, Garage, Closet(s) and all other rooms	25% of Total Number of Fixtures
Outdoor	Outdoor Lighting Affixed to the structure or Free-Standing Pole(s) Except for landscape and solar lighting	50% of Total Number of Fixtures including all flood lighting

(B) Efficient Light Controls: Up to 2 points. Efficient lighting controls include occupancy sensors, dimming controls, and automatic daylight dimming controls.

(i) 4 control devices: 1 point

(ii) 6 control devices: 2 points

(C) Energy-Efficient Appliances: Up to 6 Points. Points are awarded according to the following:

(i) ENERGY STAR rated refrigerator: 2 points

(ii) ENERGY STAR rated clothes washer: 2 points

(iii) ENERGY STAR rated freezer: 1 point

(iv) ENERGY STAR rated dishwasher: 1 point

(f) Solar.

(1) Passive Solar Heating Design: 6-12 points. Design with passive solar heating elements of south facing glazing, appropriate thermal mass and building overhangs.

(A) 40-49% verifying calculations of the solar heat gain fraction: 6 points

(B) 50-59% verifying calculations of the solar heat gain fraction: 8 points
(C) 60-69% verifying calculations of the solar heat gain fraction: 10 points
(D) >70% verifying calculations of the solar heat gain fraction: 12 points

(2) Solar Thermal Domestic Hot Water System: 8 points. Systems must be sized to provide at least 50% of the domestic hot water load.

(3) Solar Thermal Space Heating or Pool/Spa System: 3 points. Systems must be designed to offset a minimum of 15% of the annual space heating or pool or spa load.

(4) Pre-Plumb for Solar Thermal System Retrofit: 2 points.

(5) Active Solar Electric System: 6–12 points. Design and install an active solar (photovoltaic) system to meet the electrical load of the building according to the following schedule:

(A) 30-39% solar electricity or equivalent to 2 KW system: 6 Points
(B) 40-49% solar electricity or equivalent to a 3 KW system: 8 Points
(C) 50-59% solar electricity or equivalent to a 4 KW system: 10 Points
(D) >60% solar electricity or equivalent larger than 5 KW system: 12 Points

(6) Pre-Wire for Future Solar Electric Installation Retrofit: 2 points.

(g) Water Efficiency. High Efficiency Fixtures: 2-6 Points. Points will be awarded for installation of high efficiency (low flow) fixtures follows:

(1) 25% of all fixtures: 2 points

(2) 50% of all fixtures: 4 points

(3) 75% of all fixtures: 6 points

(h) Material Efficient Framing and Structure.

(1) Advanced Framing Techniques: Up to 10 points. Points will be awarded as follows:

(A) 24" On-Center Framing: 2 points

(B) Insulated Headers: 2 points

(C) Energy Efficient Roof Trusses: 2 points

(D) HVAC Ducts Within Conditioned Spaces: 2 points

(E) Minimum 12-inch Roof Overhangs: 2 points

(2) Structural Insulated Panels (SIPs): Up to 8 points. Points will be awarded as follows:

(A) At least 50% of exterior walls: 5 points

(B) At least 50% of exterior walls and roof: 8 points

(3) Structural Alternatives to Wood: Up to 8 points. Points will be awarded as follows:

(A) At least 50% of exterior walls: 5 points

(B) At least 50% of exterior walls and roof: 8 points

(i) Sustainable Products.

(1) FSC-Certified Tropical Woods or No Tropical Wood: Up to 6 Points. Points will be awarded as follows:

(A) 2 BF of FSC lumber per SQ/FT of floor area (2 BF/SQ. FT.): 2 points

(B) 3 BF of FSC lumber per SQ/FT of floor area (3 BF/SQ. FT.): 4 points

(C) 50% or more of dimensional lumber in total BF is FSC, excluding engineered wood products: 6 points

(2) Environmentally Preferred Materials: Up to 10 Points. Points will be awarded environmentally preferred materials as follows:

(A) Recycled content: 2 points

(B) Reclaimed: 2 points

(C) Bio-based: 2 points

(D) Agricultural residue: 2 points

(E) Low or no Volatile Organic Compounds (VOCs) emissions: 2 points

(3) Locally Sourced Materials: Products that are environmentally preferable and/or extracted, processed, and manufactured within 500 miles of the city are considered local. A maximum of 1.5 points can be earned for any single component listed in the Environmentally Preferable Products Chart regardless of the amount by which a minimum performance threshold is exceeded. A "recycled content" product must contain a minimum of 25% post-consumer recycled content except as noted otherwise above. Post industrial (pre-consumer) recycled content is counted at half the rate of post-consumer content. Points will be awarded as shown on the Environmentally Preferable Products Chart below:

ENVIRONMENTALLY PREFERABLE PRODUCTS CHART

Assembly	Component	Product Specification Types (see Note 1)		
		Specifications	Emission Specifications	Local
Exterior Wall	Framing	FSC-certified		X

Exterior Wall	Framing	Finger-jointed studs (vertical use only for structural components)		X
Exterior Wall	Siding or masonry	Recycled content or FSC-certified		X
Floor	Flooring	Linoleum, cork, bamboo, FSC-certified or reclaimed wood, sealed concrete, recycled-content flooring, or combination in 45% of home's floor area.	Carpet & pad: comply with Carpet and Rug Institute's Green Label Plus Program	X
Floor	Flooring	BONUS 1/2 for 90% of home	BONUS 1/2 for NO carpet in home	
Floor	Framing	FSC-certified		X
Foundation	Aggregate			X
Foundation	Cement	Fly ash or slag as replacement for, not addition to, cement content (min. 30%)		X
Interior Wall	Framing	FSC-certified		X
Interior Wall	Framing	Finger-Jointed, (vertical use		X

		only for structural components)		
Interior Walls AND ceilings	Gypsum board	Recycled content		X
Interior Walls AND millwork	Paint		Comply with Green Seal Standard GS-11, Paints, First Edition, May 20, 1993	
Interior Walls AND millwork	Wood finishes		VOC concentrations of 150 gpl or less	
Landscape	Decking or patio material	Recycled content or FSC-certified		X
Other	Cabinets	Recovered, recycled content, or FSC-certified	Wood and/or agrifiber products with no added urea-formaldehyde resins	X
Other	Counters	Recycled content	Wood and/or agrifiber products with no added urea-formaldehyde resins	
Other	Doors (not incl. garage)	Recycled content or FSC-certified	Wood and/or agrifiber products with no added urea-formaldehyde resins	X
Other	Trim	Recovered, recycled content, or FSC-certified	Wood and/or agrifiber products with no added urea-formaldehyde resins	
Other	Adhesives and sealants		VOC concentrations of 70 gpl or less	
Other	Windows	Recycled content or FSC-certified		X
Roof	Framing	FSC-certified		X
Roof	Roofing	Recycled content or		X

		vegetated (min. 200 sf)		
Roof AND floor AND wall	Insulation	Recycled content (min 20%)	Comply with State of California, DHS, "Practice for Testing of VOCs from Building Materials using Small Chambers"	X
Roof, floor, wall (2 of 3)	Sheathing	Recycled content or FSC-certified		X

(j) Indoor Air Quality.

(1) ENERGY STAR's Indoor Air Quality Package Requirements: 10 points

(2) Mechanical Ventilation: Up to 5 Points. Points will be awarded as follows:

(A) Installation of a kitchen exhaust fan: 1 point

(B) Bath exhaust fans with timer or humidistat controls: 1 point

(C) Ventilation integrated in the HVAC system: 1 point

(D) Incorporating Heat Recovery Ventilation: 2 points

(3) High Efficiency HVAC Filter: 1 point

(4) Radon Mitigation: Up to 2 Points. Points will be awarded as follows:

(A) Passive System: 1 point

(B) Active System: 2 points

(5) Attached Garage Exhaust Fan: 1 point

(k) Homeowner Information. Operations and Maintenance Binder: 1 Point. The builder shall provide a binder to be left in the dwelling for future occupants that includes the four of the following items:

(1) The Green Points checklist

(2) Home Energy Audit or HERS certificate

(3) The equipment manufacturer's installation manuals, except for manuals required to be affixed to the equipment

(4) Copies of operations and maintenance instructions for equipment installed in the home

(m) Design Process and Innovation.

(1) Green Building Consultants: 2 points

(2) ENERGY STAR Builder: 1 point

(3) Innovation Points: Up to 10 Points. Points are awarded for products, designs or technologies which minimize the environmental impact of the house in a tangible and demonstrable way beyond the methods outlined in the Green Points Program.

10-7.5-5 Alteration or Modification

(a) Alteration and Modification. The city manager may make reasonable alterations or modifications in the award of green points or the requirements of this chapter if the manager finds that the strict application of the green points and mandatory green standards:

(1) creates practical difficulties in the construction of a residential unit; or

(2) causes undue waste; or

(3) the proposed alteration or modification is equivalent to existing mandatory green building requirements or green points; or

(4) is necessary to remove barriers for the construction of housing that is affordable to households, as that term is used in Chapter, 9-13, "Inclusionary Zoning," B.R.C. 1981; or

(5) Requires an alteration to an individual landmark or a contributing building in a historic district that would not be eligible for approval as part of a landmark alteration certificate; and

(6) when the purposes of this chapter are otherwise met through such alteration or modification.

(b) Appeal. An applicant for an alteration or a modification that has been denied by the city manager may appeal the determination by filing an appeal within fourteen days after the denial. Within 60 days after the appeal is filed, unless a different time is mutually agreed upon by the applicant and the city manager, the Board of Zoning Adjustment and Building Appeals will consider the appeal pursuant to the hearing requirements of Chapter 1-3, "Quasi-Judicial Hearings," B.R.C. 1981.

10-7.5-6 Regulations

The city manager may make reasonable interpretive and administrative regulations to aid in applying this subsection under the procedures of chapter 1-4, "Rulemaking," B.R.C. 1981. The city manager is authorized to adopt rules related to the award of green points that provide for equivalent benefits as for similar green point awards in this chapter. The purpose of this grant of rulemaking authority is to allow the city manager to consider green point awards for technology and products that were not contemplated at the time of the adoption of this chapter that will provide benefits that are consistent with the purposes of this chapter.

10-7.5-7 Definitions

(a) The following terms used in this chapter have the following meaning unless the context clearly indicates otherwise:

"Addition" An extension or increase in floor area of a building or structure of 500 sq. ft. or greater.

"FSC" means the Forest Stewardship Council. FSC certified lumber products are accredited and abides by criteria that ensure responsible management of the world's forests.

"Home Energy Rating System Index" or "HERS Index" means a rating system where an index of 100 represents the energy use of the "American Standard Building" and an index of zero indicates that the Proposed Building uses no net purchased energy (a Zero Energy Building).

"Remodel" means an interior reconfiguration or upgrade of an existing structure of 500 sq.ft. or greater and the work required to complete the reconfiguration or upgrade requires a building permit.

"Residential Energy Services Network" or "RESNET" means an organization that sets the standards of quality, and increases the opportunity for ownership of high performance buildings and ensures the success of the building energy performance certification industry.

(b) Words defined in section 1-2-1, "Definitions," and section 10-1-1, "Definitions," B.R.C. 1981, have the meanings there expressed if not differently defined by this chapter.

Section 2. Section 2-2-12, B.R.C. 1981, is amended to read:

2-3-12 Board Of Zoning Adjustment And Building Appeals.

(a) The City of Boulder Board of Zoning Adjustment and Building Appeals consists of five members appointed by the city council for five year terms.

(b) The board's functions are to:

(1) Review and decide at the request of any interested person, any question of interpretation by the city manager of section 9-6-1, "Schedule Of Permitted Land Uses," or 9-7-1, "Schedule Of Form And Bulk Standards," B.R.C. 1981;

(2) Hear and decide to grant or deny applications for variances from the setback requirements of section 9-7-1, "Schedule Of Form And Bulk Standards," B.R.C. 1981, and the size and parking setback requirements for accessory dwelling units of subparagraph 9-6-3(a)(2)(B), B.R.C. 1981;

(3) Hear and decide referrals from the planning department or appeals from applicants or interested parties regarding changes or expansion in nonconforming buildings or lots, as provided in section 9-2-14, "Site Review," B.R.C. 1981;

(4) Hear and decide applications for exceptions under the solar access ordinance, section 9-9-17, "Solar Access," B.R.C. 1981;

(5) Hear and decide appeals of orders from the city manager under the sign code, section 9-9-21, "Signs," B.R.C. 1981;

(6) Hear and decide appeals of alterations and modifications related to mandatory green building practices and green points awards under Section 10-7.5-6, "Alteration or Modification," B.R.C. 1981;

(7) Sit as the Board of Building Appeals pursuant to section 2-3-4, "Board Of Building Appeals," B.R.C. 1981; and

(~~7~~8) Hear and decide such other matters as the city council may by ordinance provide.

Section 3. This ordinance shall be effective at 12:01 a.m. on February 1, 2008. It shall be applied to building permit applications submitted after the effective date. Building permits applied for before the effective date shall be considered under the green points program in effect at the time of application.

Section 4. This ordinance is necessary to protect the public health, safety, and welfare of the residents of the city, and covers matters of local concern.

Section 5. The city council deems it appropriate that this ordinance be published by title only and orders that copies of this ordinance be made available in the office of the city clerk for public inspection and acquisition.

INTRODUCED, READ ON FIRST READING, AND ORDERED PUBLISHED BY TITLE ONLY this 16th day of October, 2007.

Mayor

Attest:

City Clerk on behalf of the
Director of Finance and Record

READ ON SECOND READING, AMENDED, AND ORDERED PUBLISHED BY TITLE ONLY this 30th day of October, 2007.

Mayor

Attest:

City Clerk on behalf of the
Director of Finance and Record

READ ON THIRD READING, PASSED, ADOPTED, AND ORDERED PUBLISHED BY TITLE ONLY this 13th day of November, 2007.

Mayor

Attest:

City Clerk on behalf of the
Director of Finance and Record

CITY OF BURLINGTON

Sponsoring
Dept: Public Works/BED

ORDINANCE

In the Year One Thousand Nine Hundred Ninety-seven.

First reading: 8/12/96
Referred to: Ordinance Committee
Rules suspended and placed in all stages of passage:
Second reading: 3/24/97
Action: adopted as amended
Date: 3/24/97
Signed by Mayor: 3/26/97
Published: 4/9/97
Effective: 9/24/97

An Ordinance in Relation to

MINIMUM RENTAL HOUSING ENERGY EFFICIENCY STANDARDS

It is hereby Ordained by the City Council of the City of Burlington, as follows:

That the Code of Ordinances of the City of Burlington be and hereby is amended by amending Chapter 18 to add Article VII thereto to read as follows:

ARTICLE VII
MINIMUM ENERGY EFFICIENCY STANDARDS ORDINANCE

Sec. 18-500. Title.

This article shall be known as the Minimum Rental Housing Energy Efficiency Standards Ordinance.

Sec. 18-501. Statement of findings and purpose.

A. There exist in the City of Burlington numerous dwellings which are substandard due to the lack of adequate insulation and other thermal performance defects that cause the inefficient use of energy to heat the dwellings. Such substandard dwellings may compromise public health, safety and welfare.

B. The efficient use of energy is essential to the economic security and well being of the people of the City of Burlington. Significant opportunities do exist to reduce energy consumption which will result in the lowering of housing costs, stimulation of the local economy and creation of local jobs. Buildings which

require improvements to meet these minimum energy efficiency standards may require investments by buyers or sellers. This ordinance is designed to allow property owners to pass on the cost of energy improvements to tenants through increases in rents and any increase in rent that may result from such investment is expected to be offset over time by reductions in energy bills.

C. The purpose of this ordinance is to promote the wise and efficient use of energy through cost effective minimum energy efficiency standards for rental dwellings where physically possible.

Sec. 18-502. Applicability.

A. This article shall be applicable to all rental properties subject to the Minimum Housing Code. In mixed commercial/residential buildings this article shall apply only to the residential portion of the building. This article shall not apply to owner-occupied portions of a multi-unit building.

B. The following properties shall be exempt from meeting the requirements of this article:

1. Rental properties not rented between November 1 and March 31 of each year.
2. New construction subject to and in compliance with the Energy Conservation Ordinance, B.C.O. Sections 8-100 to 8-104.
3. Hotels, motels, tourist rooming houses, dormitories, hospitals, hospices and nursing homes.

4. Buildings or apartments where heating costs are paid by owners of the rental properties.

Sec. 18-503. Certificate of Minimum Energy Efficiency Standards compliance required.

A. Upon transfer of a rental property where there is a deed recorded, an inspection report signed by a Vermont licensed mechanical engineer or an inspector certified by the program administrator, must be filed with the city clerk when the deed is recorded in the land records. The inspection report shall either include a certificate of energy efficiency compliance, if the standards of this article are met, or list the standards not met and inform the property owner that the required energy improvements must be made within one year of the date of transfer. An inspection report and certificate shall not be required for the following transfers:

a. transfer of property for no or nominal consideration, including inheritance;

b. transfer of property as part of a divorce settlement;

c. involuntary transfers of property including foreclosures, bankruptcies, condemnations and tax sales.

B. Extension Stipulation. An extension stipulation to extend the time for the filing of a certificate for a period of time not to exceed two years may be granted by the program administrator where the cost of making energy improvements needs to be spread over more time due to financing constraints.

C. Cost Effectiveness Limitation. Notwithstanding the above, no property owner shall be required to make any specific energy improvement where the cost of making the improvement is greater than seven times the calculated first year savings in energy costs attributable to the improvement. All such calculations must be verified by a Vermont licensed mechanical engineer or an inspector certified by the program administrator.

D. Total Cost Cap.

The total cost of energy improvements required under this article shall not exceed 3% of the sale price of the property listed on the property transfer tax return or $1,300 per rental unit, whichever is less.

E. Not withstanding the above, no property owners shall be required to make any specific energy improvement when the specific energy improvement would compromise building integrity or otherwise adversely affect the health or safety of the building occupants. Such a determination shall be made by the program administrator and the city engineer.

F. Waiver.

1. The program administrator shall grant a waiver for rental properties to be demolished or converted to a non-residential use within one year of the date of transfer.
2. The program administrator shall grant a waiver to the owner of a rental property that cannot obtain financing for energy improvements required under this Article. In order to secure such a waiver, the owner must document

and prove that good faith efforts to obtain financing have been unsuccessful, including following up on assistance from the program administrator.

G. All forms necessary for administration of the program shall be provided by the program administrator.

Sec. 18-504. Inspection and certification of rental properties.

A. Inspectors.

1. Energy inspections required pursuant to this ordinance must be conducted by Vermont licensed mechanical engineers or inspectors certified by the program administrator and the city engineer. Fees for such inspections shall not be regulated by the program administrator.

2. The program administrator shall promulgate rules and standards for certification and decertification of inspectors, provide periodic training and administer testing to qualify prospective inspectors.

B. Certification of Rental Properties.

1. The inspector shall complete an inspection report on a form provided by the program administrator which shall indicate compliance or noncompliance with the minimum energy efficiency standards of this article. The original inspection report shall be given to the property owner, with a copy to the program administrator.

2. If the minimum energy efficiency standards are not all met, the inspection report shall list the standards not

met and inform the property owner that the required energy improvements must be made within one year of transfer of the property.

3. When all the minimum energy efficiency standards are met, the inspector shall prepare and sign a certificate of energy efficiency compliance and provide the original to the property owner, with a copy to the program administrator. The program administrator shall file a copy of the certificate with the city clerk.

Sec. 18-505. Administration of energy efficiency ordinance.

The general manager of the Burlington Electric Department shall be the program administrator for the Minimum Rental Housing Energy Efficiency Standards Ordinance. The program administrator may take such measures as are necessary for the proper administration of this ordinance. The program administrator may delegate his/her powers and duties under this ordinance to an appropriate administrator within the department. The program administrator may charge an administrative fee of $15.00 per building payable at the time of recording a deed transferring a rental property except in situations where no inspection report is required.

Sec. 18-506. Appeal.

A party aggrieved by an action of an inspector or the program administrator may request a hearing before the Housing Board of Review pursuant to Division 2, Article II of Chapter 18 by writing the program administrator within sixty (60) days from the action from which relief is sought. The request shall specify the grounds

for the appeal and the relief which is requested. The program administrator shall notify the chair of the Housing Board of Review of the receipt of the notice of appeal forthwith.

Sec. 18-507. Enforcement and penalties.

Any violation of this article shall be subject to civil penalties as set forth in Section 1-9(b). Prior to filing a municipal complaint, the program administrator shall send a notice of violation to the property owner. Each day's failure to comply with the minimum energy efficiency standards as required by this article shall constitute a separate offense. The general manager of the Burlington Electric Department and designated administrators within the department are authorized to issue a municipal complaint for a violation of this article.

Sec. 18-508. Minimum energy efficiency standards.

A. Definitions

For the purposes of this section, the following terms, phrases, words and their derivations shall have the meanings given herein:

1. A "heated space" means any living space within the exterior boundaries defining the building into which heat is intentionally introduced during the heating season.
2. "Attic" means the volume, if any, between the roof and the ceiling over the interior finished space nearest the roof.
3. "Box sills" shall be defined as the cavity created by the floor joists resting on the foundation, and the outer band joist.

4. "Roof" means the surface on the top of a building which separates the building from the outdoors.

5. "Exterior walls" means all walls separating the heated space of the building from the outdoors, or from spaces typically having temperatures during the heating season which approximate outdoor temperatures.

B. Standards.

These minimum energy efficiency standards shall apply where physically possible and cost effective as provided in Sec. 18-503C. and Sec. 18-503D.

1. Insulation of Exterior Walls.

All exterior walls with an existing overall effective insulation value of less than R-11 and enclosing an empty cavity of over 2" in depth shall have insulation added to achieve an R-11 overall effective insulation value. In cases where there is insufficient space to add insulation to the R-11 level, as much insulation shall be added as will fit.

2. Insulation of Open Attics/Ceilings/Roofs

a. If existing insulation in open attics (an attic which is unfloored) provides less than an average effective value of R-15, insulation shall be added to bring the average effective insulation value to an R-40 level. In cases where there is insufficient space to add insulation to the R-40 level, as much insulation shall be added as will fit.

b. The space under the flooring of an unheated floored attic shall be filled with insulation, not to exceed R-40. (See Section 1. above.)

c. Horizontal attic access panels shall be insulated to an R-20 level.

d. Vertical attic access panels shall be insulated to an R-10 level.

e. "Sloped roof cavities" (including "cathedral" ceilings) and knee walls shall be treated as exterior walls. (See Section 1. above.)

3. Insulation of Other Areas.

a. Box sills shall be insulated on either the inside or the outside of the band joist to an overall effective R-10 level.

b. Floors over basements, crawl spaces, outdoor spaces or spaces typically approximating outdoor temperatures during the heating season, shall be insulated to an overall effective R-19 level unless:

i) they are already insulated to an overall effective R-11 level or greater, in which case no additional insulation is required;

ii) the basement contains equipment used for space heating, in which case no insulation is required;

iii) the floor assembly encloses a space, in which case the floor shall be treated as an exterior wall (see Section B above); or

iv) the basement or crawl space is not vented to the outdoors, in which case an alternative method of compliance is to insulate the perimeter of the foundation above grade, and at least two (2) feet below grade, to an overall effective R-10 level.

c. Electric water heaters shall be insulated to an R-10 level.

4. Heating/Cooling Ducts and Piping, and Domestic Hot Water Piping

a. All accessible space heating/cooling ducts in basements or crawl spaces with insulated ceilings, or in attics, shall be insulated to an overall effective R-10 level if less than an effective R-5 level currently exists. Ducts in unheated attics shall have any visible leaks sealed with proper duct mastic prior to insulation.

b. All accessible space heating/cooling piping in basements or crawl spaces with insulated ceilings, or in attics, shall be insulated to an overall effective R-4 level if less than an effective R-2 level currently exists.

c. All accessible domestic hot water piping which is part of a pumped circulating loop in basements or

crawl spaces with insulated ceilings, or in attics, shall be insulated to an overall effective R-4 level if less than an effective R-2 level currently exists.

d. All accessible domestic water piping (both hot and cold) within nine feet of the domestic hot water tank shall be insulated to an overall effective R-4 level if less than an effective R-2 level currently exists.

e. Operation of the heating or cooling air distribution system shall not induce a pressure differential of more than 2 pascals between the conditioned space and the outdoors, as measured after any other energy improvements are completed.

5. Windows and Doors.

a. All windows in exterior walls shall be double-glazed or provided with storm windows during the heating season.

b. All operable windows in exterior walls shall have functioning latches which close windows tightly.

c. All doors and access hatches opening to the outdoors, or to spaces which typically approximate outdoor temperatures during the heating season, shall have functioning weatherstripping and latches which close doors tightly.

6. Air Leakage.

All residential buildings shall have

a. a leakage rate no greater than 1,500 cubic feet per minute at a pressure differential of 50 pascals as tested with calibrated pressurization (or depressurization) air flow measurement equipment; or

b. a projected natural air leakage rate which is no greater than .6 average annual air changes per hour as calculated by accepted professional practice approved by the program administrator.

Application of this standard shall not require more than that large gaps and holes be sealed to achieve a reasonable airtightness level.

7. Combustion Appliances and Equipment.

a. All combustion appliances and equipment shall have been tested for operational safety within 12 months, before or after the title transfer date. All health and safety deficiencies identified during such tests shall have been corrected.

b. All components of a heating system including any pumps, motors, and controls shall be in good operating condition.

c. The heating system shall be adequate to heat all living spaces as required and defined by the City of Burlington's minimum housing code.

Sec. 18-509. Implementation.

The effective date of the requirements under this article shall be six (6) months after city council passage of the ordinance. Provided, that this article shall not become effective unless the program administrator certifies that there are financing sources available for energy improvements required under this article.

Sec. 18-510. Report.

amended 3/24/97

Reports on the impact of the ordinance shall be prepared by the program administrator six (6) months and eighteen ~~(18)~~ twenty-four (24) months after implementation of the ordinance. The report shall be presented to the board of electric light commissioners, the public works commission and the city council.

Sec. 18-511. Phase-in.

The requirements of this article shall be phased in with the requirements initially applicable only in the Enterprise Community as designated by the U.S. Department of Housing & Urban Development. A phase-in approach will provide an opportunity to study the impact of the article. The initial applicability will be in the Enterprise Community as that is the area of greatest need with the largest concentration of low income tenants and where heating costs are the most burdensome on tenants.

The applicability of the requirements of this article shall be expanded to the rest of the City one month after the City Council receives the ~~18~~ 24 month report. During the intervening month, the

Amended 3/24/97

City Council may do nothing, repeal, halt or postpone expansion or consider amendment of this article.

* Material in brackets deleted.
** Material underlined added.

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8/6/96; 10/7/96; 11/26/96; 12/03/96; 12/16/96; 1/8/97; 3/6/97; 3/7/97; 3/13/97

ORIGINAL

AN ORDINANCE

IN RELATION TO

MINIMUM RENTAL HOUSING ENERGY EFFICIENCY STANDARDS

Introduced by

Councilor Knodell

Read in City Council first time

8/12, 1996.

Attest, Catharine H. Andrews, Clerk.

Rules suspended, and ordinance placed in all stages of passage.

....., 19.....

Attest,

....., Clerk.

Read in City Council second time

3/24, 1997.

Attest, Catharine H. Andrews, Clerk.

Passed in City Council at meeting held

3/24, 1997.

Attest, Catharine H. Andrews, Clerk.

Approved 3/26, 1997

....., Mayor.

I Catharine H. Andrews, City Clerk of the City of Burlington and Clerk of the City Council of said City, do hereby certify that the within written Ordinance has been duly published according to Law and the Charter of the City, and in compliance with said Charter this certificate is hereto attached.

And the within Ordinance was ordered published for one day, namely the

2nd day of April, 1997.

Adopted 3/24/97; Published 4/1/97; Effective 9/24/97;

Catharine H. Andrews, *City Clerk*

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DISTRIBUTION:

I certify that this ordinance has been sent to the following department(s) on April 1, 1997:

DPW, Admin.
CEDO
Attorney
Housing Board of Review (Lisa)
Burlington Electric

Attest: Joanne M. Bessette

Joanne M. Bessette
Administrative Assistant

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