

Residential Amendment Summary



In 2017, the City of Boulder introduced an updated version of its adopted energy code. This code, known as the 2017 City of Boulder Energy Conservation Code (COBECC), has simplified the compliances approaches and access to information. This resource provides a high level overview of what areas of the 2012 IECC have been significantly amended to create the 2017 City of Boulder Energy Conservation Code.¹ This resource is not a substitute for the code language itself.

Green Building Green Points Program

The Green Building Green Points Program has been retired and is no longer required. Key sustainability measures such as landscaping, electrical vehicle charging, and solar ready standards have been incorporated into the 2017 COBECC and the Boulder Revised Code.

Revised from IECC 2012 New for 2017 COBECC

Compliance Path Requirements

Code Application	COBECC Section	Notes
Amended Definitions Section	R202	<p>Definitions section has been amended to include:</p> <p>Construction Valuation: “The total value of work covered by the permit, to be determined consistent with the standards of Subsection 4-20-4(d), B.R.C. 1981. The higher of the two valuations considered under Subsection 4-20-4(d), B.R.C. 1981, shall be the total value of work.”</p> <p>Floor Area: The total square footage of all levels as measured from the inside finished surface of the walls, but excluding courts, unconditioned garages, and uninhabitable crawl spaces and attics.</p> <p>Residential Building: For this code, includes detached one- and two-family dwellings and multiple singlefamily dwellings (townhouses and duplexes) with a separate means of egress and their accessory structures, as well as Group R-3 and R-4 buildings three stories or less in height above grade plane.</p> <p>Energy Assessment and Advising: A number of new definitions were added related to this topic.</p>
Assessed Value of Existing Building	R401.2.3	Actual value as assessed by Boulder County’s Tax Assessor. Click here to access the Tax Assessor’s database.
Compliance for Mixed Occupancy Buildings	R101.4.6	Where a building includes both residential and commercial occupancies, the building shall meet the requirements of this code for commercial buildings.
Community Solar	R401.2.1	Where meeting the required Energy Rating Index (ERI) ¹ on the property is practically infeasible, the code official has authority to approve purchase of a solar garden subscription to achieve the required ERI.

¹ In addition to what is listed in this document, all code requirements from 2012 IECC related to other climate zones were removed.

Compliance Path Requirements Continued

Revised from IECC 2012 New for 2017 COBECC

Code Application	COBECC Section	Notes	
New Construction	R401.2.1	New buildings with a floor area of less than 500 square feet shall comply with all mandatory and prescriptive requirements in the 2017 COBECC.	
		New buildings with a floor area of 500 square feet or larger shall comply with all mandatory measures and ERI ² requirements in the 2017 COBECC. The exact ERI requirement may be calculated using the ERI calculator for NEW CONSTRUCTION found here .	
Additions	R401.2.2	Additions with a floor area of less than 1,000 square feet shall comply with all mandatory and prescriptive requirements in the 2017 COBECC.	
		For additions with a floor area greater than or equal to 1,000 square feet, the entire structure (the addition and the existing structure) shall meet the ERI requirements in the 2017 COBECC. The exact ERI requirement may be calculated using the ERI calculator for ADDITIONS found here .	
Alterations or Repairs	R401.2.3	Alterations or repairs shall comply with all mandatory requirements.	
		Alterations or repairs with a valuation <26% of existing structure assessed value	Homeowner must contact a qualified energy advisor, as defined by the city manager, and discuss the construction project to learn how efficiency opportunities can be maximized.
		Alterations or repairs with a valuation from 26 to 50% of existing structure assessed value	Homeowner must contact a qualified energy advisor and obtain an energy assessment by a BPI or RESNET accredited professional.
			Comply with prescriptive requirements for air sealing and insulation in ceiling and walls (R402.4).
			Comply with prescriptive requirements for crawl space insulation, vapor barrier, and ventilation (R402.2.10).
Alterations or repairs with a valuation >50% of existing structure assessed value	New construction ERI requirements under COBECC are triggered.		

² ERI – Energy Rating Index. Starting with the 2017 COBECC code cycle the City of Boulder is no longer using HERS Scores and will be using the Energy Rating Index.

Envelope: Prescriptive Requirements

System	COBECC Section	Notes
Envelope (Roof, Wall, Floor, Opaque Door, Fenestration)	R402.1.1& R402.1.3	U-factors revised in Table R402.1.1- Insulation and Fenestration Requirements by Component
		Equivalent Fenestration U-factors revised in Table R402.1.3 – Equivalent U-factors

HVAC: Mandatory Requirements

System	COBECC Section	Notes
Ducts	R403.2	Revised duct insulation requirements from prescriptive to mandatory.
Service Hot Water	R403.4.2	Revised hot water pipe insulation from prescriptive requirement to mandatory.

HVAC: Prescriptive Requirements

System	COBECC Section	Notes
Whole-house mechanical ventilation	R403.5	Revised whole house mechanical ventilation system fan efficiency requirements from mandatory to prescriptive.

Simulated Performance Alternative Requirements

System	COBECC Section	Notes
Simulated Performance Alternative	-	Section 405 included in IECC 2012 was removed from COBECC.

Additional Sustainability Measures

System	Code	Notes
Landscaping and Shading	Title 9-9-12	<u>All New Construction</u> required to submit a Landscaping Plan in accordance with Sections 9-9-12 through 9-9-14 B.R.C., pertaining to the following, shading from existing and new trees; water conservation and Xeriscape landscape practices; and stormwater management.
Construction Waste Management	2012 IRC R324.1 and R324.2	<u>All projects</u> must comply with Construction Waste Recycling. An applicant for a building permit for a new dwelling or an addition to an existing dwelling shall demonstrate all recyclable wood, metal, and cardboard materials, will be donated, reused, or recycled. Deconstruction 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 the existing building materials by weight from the deconstruction, excluding concrete and asphalt, will be diverted from the landfill for reuse or recycling.

System	Code	Notes
Solar Photovoltaic "Ready"	2012 IRC M23	<p><u>All New Construction</u> required to be solar ready including:</p> <ul style="list-style-type: none"> • 40% of roof area designated for PV (no obstructions or shading) • Locate and provide space for future required electrical equipment (inverter and meter) • Install conduit from roof to future electrical equipment location. • Main electrical panel shall have space for future solar. • Structural live and dead loads included in roof design.
Electric Vehicle Charging Infrastructure	2012 IRC E39	<p><u>All New Construction</u> projects require 240-Volt charging outlets in any dedicated offstreet parking space for single family homes and townhomes. For multi-family units, require charging infrastructure (120 and 240 V outlets) for 10 percent of the parking spaces, and require Level 2 dual port charging stations for at least one space.</p>
Radon Mitigation	2015 IRC Appendix F	<p><u>All New Construction</u> projects must meet radon mitigation requirements per 2015 IRC – Appendix F, which requires a passive means of resisting radon gas entry and prepares the dwelling for post-construction radon mitigation if necessary.</p>
Water Efficiency	2012 IRC P29	<p><u>All projects</u> must comply with revised plumbing code fixture flow rates.</p> <ul style="list-style-type: none"> • Lavatory Faucet - 1.5 gpm at 60 psi • Shower Head - 2.0 gpm at 60 psi • Sink Faucet - 1.5 gpm at 60 psi • Water Closet - 1.28 gallons per flushing cycle

Documentation: Mandatory Requirement

Code Application	COBECC Section	Notes
Homeowners Manual	R401.3.2	Builder or owners agent shall provide owner with a binder of all equipment and appliance manufacturers' installation manuals.