

City of Houston, Texas, Ordinance No. 2014-5

AN ORDINANCE AMENDING THE VOLUME OF THE CITY OF HOUSTON CONSTRUCTION CODE KNOWN AS THE CITY OF HOUSTON RESIDENTIAL ENERGY CONSERVATION CODE; CONTAINING FINDINGS; PROVIDING AN EFFECTIVE DATE; PROVIDING FOR SEVERABILITY; AND DECLARING AN EMERGENCY.

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WHEREAS, the City Council approved Ordinance No. 2011-1087, adopting the 2009 International Energy Conservation Code with local amendments thereto, on December 7, 2011; and

WHEREAS, Ordinance No. 2011-1087 requires that in 2012 and 2013, on or before the anniversary of the passage of said ordinance, the director of Public Works and Engineering Department submit for placement on the Council agenda a proposal to increase energy efficiency by up to an additional 5%; and

WHEREAS, the City Council approved on January 2, 2013, Ordinance No. 2013-0005, authorizing an increase in energy efficiency by an additional 5% for a minimum total improvement of 10% and other amendments; and

WHEREAS, the Department of Public Works and Engineering seeks to increase energy efficiency by an additional 5% above current code requirements for a minimum total improvement of 15% and other amendments to the City of Houston Residential Energy Conservation Code;

NOW, THEREFORE,

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF HOUSTON, TEXAS:

Section 1. That the findings contained in the preamble of this Ordinance are determined to be true and correct and are hereby adopted as a part of this Ordinance.

Section 2. That Section 110 of the volume of the City of Houston Construction Code known as the City of Houston Residential Energy Conservation Code, adopted by Ordinance No. 2011-1087 and amended by 2013-0005, is hereby amended to read as follows:

“SECTION 110

INCREASED STANDARDS

110.1 General. For any permit application filed under this code, compliance with additional performance objectives for new construction shall be required to achieve a minimum fifteen percent improvement in efficiency above the minimum provisions of this code.

110.2 Energy use. New residences and apartments must use 15 percent less energy as shown by one of the methods indicated in Sections 110.2.1, 110.2.2, 110.2.3 and 110.2.4.

110.2.1 Energy Star. The United States Environmental Protection Agency's ENERGY STAR Program or other approved above code program certification of energy code equivalency; or

110.2.2 Software and testing. Energy code compliance modeling through approved software; along with testing of the building thermal envelope for infiltration and the duct system for leakage; or

110.2.3 Option packages. Prescriptive option packages approved by Texas A&M Energy Systems Laboratory and listed in Table 110(1), Table 110(2), or Table 110(3) or subsequently approved by Texas A&M Energy Systems Laboratory and accepted and published by the code official.

110.2.4 Performance Approach. Demonstrating improved efficiency by compliance with Section R405 of the *2012 International Energy Conservation Code*, as published by the International Code Council.

**TABLE 110(1)
COMBINED ENERGY SAVINGS FOR ONE AND TWO FAMILY STRUCTURES
WITH ELECTRIC / NATURAL GAS HEATING**

Groups	Measures	Notes
Group 1	Photovoltaic Array for Partial Demand at 2kW	3
	Ducts located in conditioned space	5
Group 2	Photovoltaic Array for Partial Demand at 4kW	4
Group 3	Improved SEER (Minimum 18)	9
	Improved Furnace Efficiency (Minimum .95 AFUE)	11
	Improved EF (Minimum .748)	7
	Ducts located in conditioned space	5
Group 4	Reduced Air Leakage (From 7 ACH to 5 ACH)	8
	Improved Envelope Insulation (ceiling minimum R-38; For wall: minimum R-13+5 or R-20)	12
	Radiant Barrier	13
	Improved Fenestration (Maximum U-0.35, SHGC-0.25)	10
Group 5	Solar Domestic Hot Water System (32 sq. Ft. collector area)	2
	Ducts located in conditioned space	5
	100% Energy Star CFL Indoor Lamps	6

Group 6	Improved Fenestration (Maximum U-0.35, SHGC-0.25)	10
	100% Energy Star CFL Indoor Lamps	6
	Improved SEER (Minimum SEER 18)	9

**TABLE 110(2)
COMBINED ENERGY SAVINGS FOR MULTI-FAMILY STRUCTURES
WITH NATURAL GAS HEATING**

Groups	Measures	Notes
Group 1	Solar Domestic Hot Water System (21 sq. ft. collector area/unit)	1
	Ducts in conditioned space (Upper Floor Only)	5
	Radiant Barrier (Upper Floor Only)	13
Group 2	Photovoltaic Array for 2kW/unit	3
Group 3	100% Energy Star CFL/LED Indoor Lamps	6
	Improved Fenestration (Maximum U-0.35, SHGC-0.25)	10
	Tankless water heater (Minimum .748 Energy Factor)	7
	Decreased Infiltration 5 ACH	8
Group 4	100% Energy Star CFL/LED Indoor Lamps	6
	Tankless water heater (Minimum .748 Energy Factor)	7
	Improved AFUE (Minimum .95 AFUE)	11
	Improved SEER (Minimum SEER 18)	9

**TABLE 110(3)
COMBINED ENERGY SAVINGS FOR MULTI-FAMILY STRUCTURES
WITH ELECTRIC HEATING**

Groups	Measures	Notes
Group 1	Photovoltaic Array for 2kW/Unit	3

Notes:

- Solar Domestic Hot Water System: Storage tank type 30 gallon DHW heater with 21 square feet collector area.
- Solar Domestic Hot Water System: Storage tank type 30 gallon DHW heater with 32 square feet collector area
- Photovoltaic Array for Partial Demand at 2kW: Equivalent to 10 panels at 205 watts each at minimum 16% efficiency.
- Photovoltaic Array for Partial Demand at 4kW: Equivalent to 20 panels at 205 watts each at minimum 16% efficiency.
- Mechanical Systems within Conditioned Spaces: Ducts in ventilated attic moved to a location within the thermal envelope of conditioned space including unventilated attic space.
- 100% Energy Star CFL/LED Indoor Lamps: Permanent Compact Florescent or LED fixtures excluding closets.
- Tankless water heater (from .54 to .748 Energy Factor for Electric/Gas house) Manufacturer's rating

8. Decreased Infiltration (from 7 ACH to 5 ACH): tested with a blower door at a pressure of 33.5 psf (50 Pa).
9. Improved SEER (from 13 to 18): Manufacturer's rating.
10. Decreased U-factor (from .65 to .35), Decreased SHGC .35 to .25: NFRC 100 and 200.
11. Improved Furnace Efficiency (from .78 to .95 AFUE): Manufacturer's rating.
12. Improved ceiling insulation (from R-30 to R-38); wall insulation (from R-13 to R13+ 5 or R-20)
13. Installation of roof radiant barrier with an emittance .1 or less as tested in accordance with ASTM C-1371 or ASTM E-408."

Section 3. That, if any provision, section, subsection, sentence, clause, or phrase of this Ordinance, or the application of same to any person or set of circumstances, is for any reason held to be unconstitutional, void or invalid, the validity of the remaining portions of this Ordinance or their application to other persons or sets of circumstances shall not be affected thereby, it being the intent of the City Council in adopting this Ordinance that no portion hereof or provision or regulation contained herein shall become inoperative or fail by reason of any unconstitutionality, voidness or invalidity of any other portion hereof, and all provisions of this Ordinance are declared to be severable for that purpose.

Section 4. That there exists a public emergency requiring that this Ordinance be passed finally on the date of its introduction as requested in writing by the Mayor; therefore, this Ordinance shall be passed finally on such date and shall take effect at 12:01 a.m. on the thirtieth day next following the passage of the ordinance.

PASSED AND APPROVED this 8th day of January, 2014.

Annie D. Parker
Mayor of the City of Houston

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Prepared by Legal Dept. YSC Assistant City Attorney
YSC 11/20/2013
Requested by Daniel W. Krueger, P.E., Director, Department of Public Works & Engineering
L.D. File No. 0641300063001

YSC *ck*

AYE	NO	
✓		MAYOR PARKER
....	COUNCIL MEMBERS
✓		STARDIG
✓		DAVIS
✓		COHEN
✓		BOYKINS
✓		MARTIN
✓		NGUYEN
✓		PENNINGTON
✓		GONZALEZ
✓		GALLEGOS
✓		LASTER
✓		GREEN
✓		COSTELLO
✓		ROBINSON
✓		KUBOSH
✓		BRADFORD
✓		CHRISTIE
CAPTION	ADOPTED	