EE 4:

IMPROVE ENERGY & WATER EFFICIENCY UPON SALE OF RESIDENCES

New York City Administrative Code and New York City Building Code
Proposal developed by the Homes Committee

Summary

Issue:
Housing stock accounts for over 37% of the total energy consumed in NYC. Year after year, these properties are renovated before or after they are sold. But typically, these renovations do not include cost-effective energy or water efficiency improvements.

Recommendation:
Require one- to two-family houses and apartments to implement simple energy and water conservation measures at the time of sale and major renovation, unless a property has been sold under financial distress.

Proposed Legislation, Rule or Study

Amendments to the Administrative Code of the City of New York:

1. Add a new Chapter 30 to Title 11 as follows:

   Chapter 30
   CONSERVATION IMPROVEMENTS UPON SALE OR RENOVATION OF RESIDENTIAL PROPERTY

   §11-3001 Definitions
   §11-3002 Conservation Improvements
   §11-3003 Exceptions
   §11-3004 Rules

   §11-3001 Definitions. a. For the purposes of this chapter only, the following terms shall have the following meaning:
   (1) "Certificate of compliance" shall mean a certificate by a certification agent attesting that a covered property is in compliance with the standards prescribed in this chapter. Such certificate of compliance may be recorded against a covered property.
   (2) "Certification agent" shall mean a person who has received a certification by the Department of Buildings demonstrating expertise in energy efficiency and the capability to assess compliance with this chapter.
   (3) "Covered property" shall mean a building, or an individual dwelling unit within a building, classified in occupancy group R in accordance with Chapter 3 of the New York City Building Code that is less than fifty thousand square feet. A building shall not be a covered building if more than fifty percent of the uses, measured in square feet of floor area, in such building are other than in occupancy group R.
   (4) "Insufficient roof cavity" shall mean vertical clear height, measured 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 or high point, that is less than 12 inches.
   b. The terms "consideration", "deed", "grantee", "grantor", "instrument", "net consideration", "transaction", and "transfer" shall have the meaning set forth in section 11-2101 of this code.

   §11-3002 Conservation Improvements. a. Prior to the delivery of a deed for a covered property from grantor to grantee, the grantor of such covered property shall submit to the grantee a certificate of compliance demonstrating compliance with the standards prescribed in subdivisions (b) and (c).
   b. An entire building shall comply with the following standards:
   (1) Any showerhead that consumes more than 2.5 gallons per minute and any toilet that consumes more than 1.6 gallons of water per flush shall be replaced with a showerhead / toilet that is compliant with the water consumption requirements of section 604.4 of the New York City Plumbing Code. Any sink or lavatory faucet that does not comply with the water consumption requirements of section 604.4 of the New York City Plumbing code shall either be fitted with an aerator to bring such faucet into compliance or be replaced with a compliant faucet.
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(2) Any roof that is uninsulated or whose existing insulation has a thermal resistance value of R-11 or less, shall be insulated to a minimum thermal resistance value of R-38; provided that any building with insufficient roof cavity shall install insulation with the highest thermal resistance value that can fit within such space. Prior to the installation of any such insulation, any roof subject to this subsection shall be inspected for leaks and any leaks shall be repaired.

(3) Any leaks in furnace ducts at all joints in the ducting system and at the plenum shall be sealed with pressure sensitive tape or mastic. Furnace ducts shall be insulated to a minimum 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.

(4) Any domestic storage water heater shall be insulated with an external insulation blanket rated at a minimum thermal resistance value of R-12. This requirement shall not apply where there is less than two inches clearance from all walls and other permanent fixtures and where the thermal resistance of the water heater insulation jacket is R-12 or greater. Water heaters shall include a pressure-temperature (PT) safety release valve.

(5) Any uninsulated hot water pipes in pumped, recirculating domestic water heating systems shall be insulated to a minimum thermal resistance value of R-3. This requirement shall not apply to any hot water pipes between floors, inside interior walls, or deemed otherwise inaccessible by the certification agent.

(6) Any exposed, uninsulated hot or cold water pipe within twenty-four inches of a water heater shall be insulated to a minimum thermal resistance value of R-3.

(7) Weatherstripping shall be applied to all exterior doors and caulking shall be applied to any visible cracks in window assemblies and other shell penetrations.

(8) Any fireplace chimney shall include a damper or door to block airflow.

(9) Any building shall install programmable thermostats in compliance with sections 403.1 of the Energy Conservation Construction Code of New York State or energy controls in compliance with either Section 6.3 or Section 6.3 or INSA/ASHRAE/IESNA 90.1 (2007), as applicable.

a. An individual dwelling unit shall comply with the following standards:
   (1) Paragraph (1) of subdivision (b) of this section.
   (2) If heat or hot water is supplied to the individual dwelling unit through a dedicated heating system or hot water heater, and the owner of such unit has the right to access and modify such system or hot water heater, such system or heater and its piping shall comply with any applicable provisions of paragraphs (3), (4), (5) and (6) of subdivision (b) of this section, and shall include thermostat controls, either through thermostat controls for the heat supply, to the entire unit or on each radiator,

d. In lieu of delivering a certificate of completion as provided in subdivision (a) hereof, prior to the delivery of the deed, the grantor may assign and the grantee may assume any and all of the grantor’s obligations under this section pursuant to a contract executed by the grantor and grantee. Such contract shall:
   (1) provide that the grantee shall complete any and all of grantor’s assigned obligations within a period no later than eighteen months following the conveyance of the deed; provided, however, that the grantee may apply to the commissioner of the department of buildings for an extension of such completion date, which the commissioner may grant in his or her discretion;
   (2) require grantor to deposit in escrow funds equal to the maximum required expenditure for the covered property as set forth in subdivision (a) of section 11-2122 of this chapter. The escrow agent shall distribute such funds to grantee, upon grantee’s written request, to perform or cause the performance of grantor’s obligations under this section that have been assumed by grantee. Any funds remaining in the escrow upon the completion of such work shall be returned to grantor. In the event grantee fails to complete the obligations assumed pursuant to the contract within the period provided in paragraph (1) of this subdivision, then escrow agent shall pay any funds in the escrow to the department to be deposited in a special fund established by the department to further green technologies, energy efficiency and conservation in building construction and operation. Upon the forfeiture of such funds, grantee shall have no further liability under this section. In no event shall grantor have any further liability under this section after depositing in escrow funds in the amount of the maximum required expenditure.
   e. At least once every two years, the Commissioner of Buildings, in conjunction with the Mayor’s Office of Long-Term Planning & Sustainability, shall review and, if necessary, recommend to the Mayor and the City Council new requirements or standards.

§11-3003. Exceptions

a. The maximum required expenditure to bring a covered property into compliance with this chapter shall be:
   (1) 0.75 percent of the consideration of the transfer of a covered property that is a building (or portion of a building) classified in occupancy groups R-3 or of the consideration for the transfer of a covered property that is an individual dwelling unit classified in occupancy groups R-1 or R-2; and
   (2) Fifty cents per square foot for any covered property that is a building classified in occupancy groups R-1 or R-2.

b. This chapter shall not apply to the delivery of a deed:
   (1) 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 effected by operation of law,
   (2) pursuant to a transaction described in section 11-2106 of this code, other than a transaction described in paragraph (2) of subdivision (b) of such section;
   (3) that is for a covered property where the net consideration of the conveyance of such covered property is less than the net consideration paid by the grantor for an economic interest in the covered property;
   (4) that is the grant, assignment or surrender of a leasehold interest in a covered property; or
(5) that is for a covered property scheduled for demolition within one year of the delivery of the deed, provided the grantor or grantee has obtained a demolition permit from the Department of Buildings, and such real property is demolished within one year of delivery of the deed.

c. The Commissioner may exempt any covered property from the provisions of this chapter upon a determination of undue hardship.

§ 11-3004. Rules. The Commissioner shall promulgate any rules necessary or appropriate to implement this chapter.

Amendments to the Energy Conservation Construction Code of New York State, as incorporated in Chapter 13 of the New York City Building Code:

1. Add a new Section 401.4 as follows:

401.4 Alterations. Upon any alteration of any individual dwelling unit in a residential building of less than fifty thousand (50,000) square feet costing fifty thousand dollars ($50,000) or more, the owner of such dwelling unit shall undertake conservation improvements in accordance with chapter 30 of title 11 of the Administrative Code of the City of New York.

Amendments to ANSI/ASHREA/IECNSA 90.1 (2007), as incorporated in Chapter 13 of the New York City Building Code:

1. Add a new Section 4.1.1.6 as follows:

4.1.1.6 Alterations. Upon any alteration of any individual dwelling unit in any existing building of less than fifty thousand (50,000) square feet, classified in occupancy group R and costing fifty thousand dollars ($50,000) or more, the owner of such dwelling unit shall undertake conservation improvements in accordance with chapter 30 of title 11 of the administrative code of the City of New York.

Supporting Information

Issue – Expanded
Green building policy in New York City has focused primarily on large, high-rise buildings because, although few in number, they are responsible for half of building energy use. While this approach is logical, New York City will be unable to reduce its greenhouse gas emissions by 30% by 2030, as required by city law, if all buildings are not part of the solution.

NYC’s housing stock accounts for over 37% of the total energy consumed. One challenge to improving the energy (and water) efficiency of housing is that ownership is dispersed and owners have limited access to capital.

Other U.S. cities are improving the efficiency of their housing stock by requiring the most basic and most cost-effective energy and water efficiency improvements when small residential buildings and apartments are sold or undergo expensive renovations. The sale of a property is a logical time to undertake efficiency measures because buyers and sellers typically make improvements to a home either right before or after the sale and it is a time when they have financing. Other municipal energy/water improvement ordinances wisely include provisions exempting properties sold under financial duress and limit the cost of any required improvements to a small percentage of the sale price. It should be noted that this proposal limits the cost of conservation improvements for 1-2 family homes to a maximum of 0.75% of the sale price; in comparison, real estate brokers charge sellers 6% of the sale price for their services.

Environmental & Health Benefits
The wise and efficient use of energy and water is essential to the health, safety and welfare of the people of the City of New York. In 2007, 2.5% of 1-3 family homes in NYC were sold, meaning this proposal has the potential to improve the efficiency of a large number of homes over time.\(^1\)

This proposal was found to have a high, positive environmental impact per building and to impact a large number of buildings. It was thus given an environmental score of 3.

This proposal was found to have no significant positive health impact.

Cost & Savings
As described in the Executive Summary, Bovis Lend Lease prepared cost estimates for each Task Force proposal in the context of well-defined construction projects in specific buildings. Where possible, members of the Technical Committees prepared savings estimates for some of these projects and buildings. These cost and savings estimates are presented in the February 1\(^{st}\) draft version of Appendix A. The innate uncertainty in how construction and operation will vary from one building to another, the complexity of the Task Force proposals, and the wide range of applications in
which the proposals may be realized mean these figures are truly estimates.

This proposal was estimated to increase costs at the time of sale by up to 0.75%. It was thus categorized as incurring a higher cost increment.

**Precedents**

Several U.S. cities have implemented similar standards to this proposal. San Francisco, for example, has required energy conservation upgrades at the time of sale and major renovation since 1982 through the Residential Energy Conservation Ordinance (RECO). 2 RECO mandates limited energy and water efficiency measures at the time of sale for one- and two-family dwellings, apartment buildings, and residential hotels. 3 The ordinance also requires upgrades at major renovations, which is defined as renovations in excess of $20,000 for one- and two-family dwellings, $6,000 per unit for apartment buildings, and $1,300 per unit for residential hotels. 4 Upgrades are also required at meter conversions and condo conversions. 5

Similarly, on November 25, 2008, the Santa Rosa (California) City Council accepted its Green Building Advisory Committee’s recommendations, including Recommendation D. 6 Recommendation D creates “energy efficiency requirements for existing residential and non-residential buildings, to be triggered by a transfer of title or major renovation.” 7

Other Jurisdictions:

1. Berkeley requires homeowners to implement certain energy conservation measures before ownership changes. Homeowners are not required to spend more than .75% of the final sale price for a structure with two units or less, or fifty cents per square foot in a structure containing three units or more. 8
2. Burlington, VT, Ann Arbor, MI, and the State of Wisconsin have residential energy conservation ordinances for rental properties. 9
3. The State of California recently amended its Water Code to add a new Section 379, stating that it’s the intent of the legislature for lower jurisdictions implementing the code to enact ordinances requiring the retrofit of outdated fixtures at the time of sale of properties. 10
4. Boulder, CO is considering implementing a Residential Energy Conservation Ordinance. 11

**LEED**

LEED does not specifically refer to energy improvements at time of building sale. However, the implementation of this proposal would facilitate achieving credits in numerous areas of the LEED for Homes rating system.

These LEED for Homes credits include but are not limited to: WE cr. 3 Indoor Water Use (requires slightly more efficient fixtures than included herein); EA cr. 1 Optimize Energy Performance (requires compliance with Energy Star); EA cr. 3 Air Infiltration (addresses the air leakage rate of the building envelope); EA cr. 5 Heating & Cooling Distribution System (addresses duct leakage); EA cr. 6 Space Heating & Cooling Equipment (addresses piping designed as part of a heat pump system); EA cr. 7 Water Heating (requires more pipe insulation than included herein).

Many of these credits are mutually exclusive. Project teams must refer to LEED reference manuals to determine compliance.

Any project classified under occupancy group R which is seeking certification via the LEED for Existing Buildings rating system, will more easily achieve Energy & Atmosphere credits by adhering to the measures outlined in this proposal.

**Implementation and Market Availability**

Any building materials needed to implement this proposal are readily available.

Care should be taken when insulating ceiling cavities to protect lighting housing intended for non-insulated ceilings.

**ENDNOTES:**

1 CITY OF NY DEPT’ OF FIN. ANNUAL REPORT ON THE NYC PROPERTY TAX FISCAL YEAR 2008 (2008), http://nyc.gov/html/doft/html/pdf/08pdf/nyc_property_tax_fy08.pdf. (As of 2008, there were 1,049,031 one, two and three family residential units in New York City (p. 1) and 26,234 were sold in 2007 (p. 34). Sales %: 26,234/1,049,031 = 2.5%).
3 Ibid. at 2-3.
4 Ibid.
5 Ibid.
7 Ibid. at 7-9.
8 BERKELEY, CA., MUN. CODE ch. 19.16 (1991), available at
9 HOWARD GELLER, NEVADA ENERGY EFFICIENCY STRATEGY, § 37.
10 CAL. WATER CODE § 379 (“It is the intent of the Legislature that public entities exercise authority pursuant to this chapter to enact ordinances that require the retrofitting of outdated, high water use plumbing fixtures, and the disclosure thereof, in connection with the transfer of real estate.”).