

Update to the 2011 New York City Energy Conservation Code

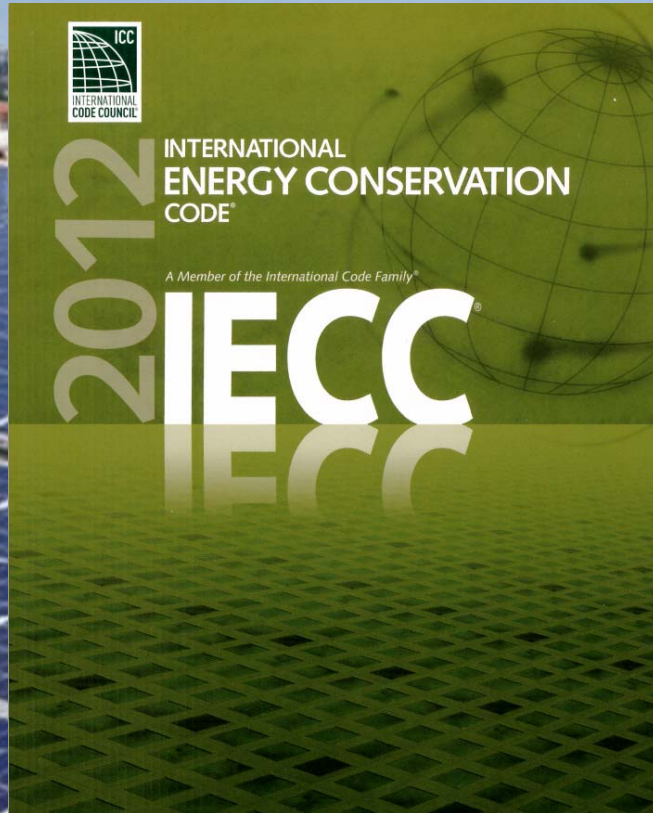
Gina L. Bocra, AIA, LEED AP BD+C, ID+C
Chief Sustainability Officer



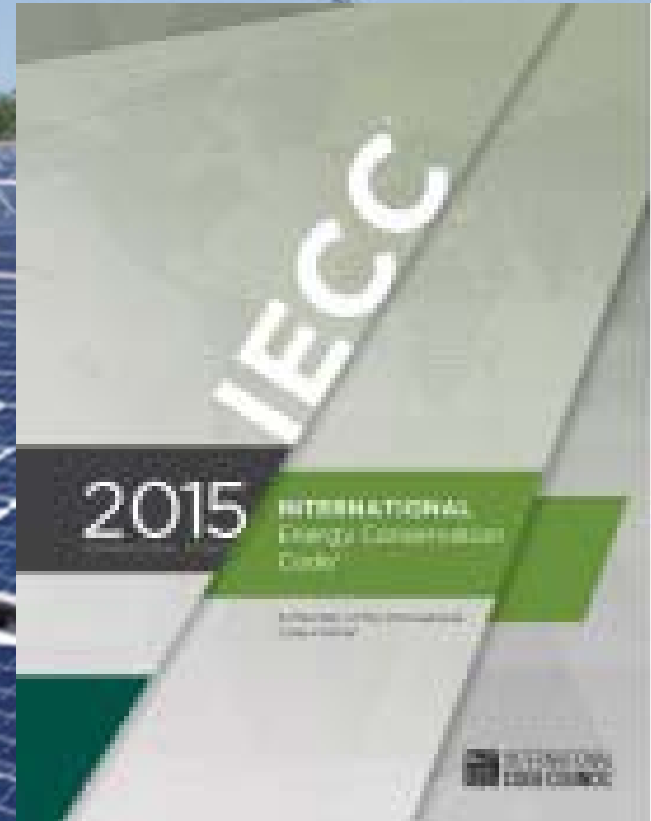
NYCECC Agenda

- Effective Date
- Operational Impacts
- Changes in the Code
 - Envelope
 - HVAC
 - Lighting
 - Commissioning

Future NYC Energy Codes - 2015



**Commercial:
January 1, 2015**



**Residential:
August 2015??**

Operational Impacts

- New code: **January 1, 2015**
 - Substantially completed applications
- Updated Forms
 - PW1
 - TR8
 - EN1

UPCOMING CHANGE

2014 NYC Energy Conservation Code: Effective January 1, 2015

The 2014 New York City Energy Conservation Code (NYCECC) is expected to go into effect on January 1, 2015.

New Projects: Jobs filed on or after January 1, 2015 must comply with the 2014 NYCECC.

Prior Projects: All *completed* job applications filed on or before December 31, 2014 must comply with the 2010 NYCECC.

Incomplete Filings: Incomplete job applications filed prior to December 31, 2014 must comply with the 2014 NYCECC. **Complete applications are those that meet the submittal requirements of Buildings Bulletin 2014-015 and include a complete energy analysis**

NYC Energy Code Forms

All jobs filed on or after January 1, 2015 must use the updated forms.

Technical Report Statement of Responsibility (TR8)

- Renamed and removed selected Energy Code Progress Inspections
- New commissioning report requirement

Energy Cost Budget Worksheet (EN1)

- Restructured to capture energy modeling information according to ASHRAE 90.1
- *2014 EN1 form must be on the construction documents in the drawing set.*

LAA1 and PW1C

- Updated Code references in the statements and signatures sections

Please visit the Department's [website](#) for additional information and subscribe to [Buildings News](#) for regular service updates.

Bill de Blasio, Mayor
Rick D. Chandler, PE, Commissioner

nyc.gov/buildings

build safe | live safe

7 Plans/Construction Documents Submitted <i>Plans are required for most applications.</i>						
<input type="checkbox"/> AR - Architectural <input type="checkbox"/> BP - BPP Checklist <input type="checkbox"/> DM - Demolition (Full/Partial) <input type="checkbox"/> EN - Energy Analysis <input type="checkbox"/> FO - Foundation or <input type="checkbox"/> NP - No Plans <input type="checkbox"/> ME - Mechanical <input type="checkbox"/> OT - Other <input type="checkbox"/> PL - Plumbing <input type="checkbox"/> ST - Structural <input type="checkbox"/> ZO - Zoning						
8 Additional Information						
8A	WT	Cost	WT	Cost	WT	Cost
8G Total Construction Floor Area:						sq. ft.
8B Is a building enlargement proposed?						
<input type="checkbox"/> No enlargement is proposed <input type="checkbox"/> Yes 12, PD1 <input type="checkbox"/> Horizontal <input type="checkbox"/> Vertical Additional Construction Floor Area:						
						sq. ft.
8C Estimated Job Cost \$						
8D Street Frontage: _____ linear ft.						
8E Height: _____ ft. Width: _____ ft.						
8F Name of cluster or development below:						
Project lead job no. _____						

Old PW1

7 Plans/Construction Documents Submitted <i>Plans are required for most applications.</i>						
Are plans being submitted with this PW1? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, do the plans include: <input type="checkbox"/> FO — Foundation <input type="checkbox"/> EN — Energy Analysis						
8 Additional Information						
8A	WT	Cost	WT	Cost	WT	Cost
8G Total Construction Floor Area:						sq. ft.
8B Is a building enlargement proposed?						
<input type="checkbox"/> No enlargement is proposed <input type="checkbox"/> Yes 12, PD1 <input type="checkbox"/> Horizontal <input type="checkbox"/> Vertical Additional Construction Floor Area:						
						sq. ft.
8C Estimated Job Cost \$						
8D Street Frontage: _____ linear ft.						
8E Height: _____ ft. Width: _____ ft.						
8F Total Construction Floor Area:						
						sq. ft.

New PW1 – 12/14

10 NYCECC Compliance *New York City Energy Conservation Code*

To the best of my knowledge, belief and professional judgment, all work under this application is in compliance with the NYCECC*

Energy analysis is on another job number:

Yes No

This application is, or is part of, a project that utilizes trade-offs among different major systems

This application utilizes trade-offs within a single major system

To the best of my knowledge, belief and professional judgment, all work under this application is exempt from the NYCECC* in accordance with one of the following: *Choose one*

The work is an alteration of a State or National historic building.

The scope of work is entirely in a "low-energy building" and is limited to the building envelope.

The scope of work does not affect the energy use of the building.

This is a post-approval amendment and exempt under a prior edition of the energy code. See statement of exemption on attached drawings.

* Note: Exceptions to Section ECC 101.4.3 are NOT exemptions. For exceptions, check compliance statement and use the Energy Analysis.

Old PW1

10 NYCECC Compliance *New York City Energy Conservation Code*

To the best of my knowledge, belief and professional judgment, all work under this application is in compliance with the NYCECC*

Code Compliance Path (*choose one*): NYCECC ASHRAE

Energy Analysis (*choose one*): Tabular Analysis REScheck COMcheck Energy Modeling (EN1)

To the best of my knowledge, belief and professional judgment, all work under this application is exempt from the NYCECC* in accordance with one of the following (*choose one*):

The work is an alteration of a State or National historic building.

The scope of the work is entirely in a "low-energy building" and is limited to the building envelope.

The entire scope of work involves a temporary structure and/or one or more of the following work types:
FA, FP, SD, SP, FS, EQ, CC, OT/BPP, OT/FPP. Other work types are not exempt.

This is a post-approval amendment and exempt under a prior edition of the energy code. See statement of exemption on attached drawings.

NEW PW1 – 12/14

3 Energy Code Progress Inspection *Required for applications where Energy Code Compliance Progress Inspection is marked Yes on TR1*

3A ← Identification of Requirement		Table Reference in 1RCNY §5000-01(h) (1)and (2)	3B Identification of Responsibilities	3C Certificate of Complete Inspections / Tests	3D Withdraw Responsibilities
Y	N Progress Inspections		Initial & Date	Initial & Date	Initial & Date
<input type="checkbox"/>	<input type="checkbox"/> Protection of exposed foundation insulation	(IA1), (IIA1)			
<input type="checkbox"/>	<input type="checkbox"/> Insulation placement and R values	(IA2), (IIA2)			
<input type="checkbox"/>	<input type="checkbox"/> Fenestration u-factor and product rating	(IA3), (IIA3)			
<input type="checkbox"/>	<input type="checkbox"/> Fenestration air leakage	(IA4), (IIA4)			
<input type="checkbox"/>	<input type="checkbox"/> Fenestration areas	(IA5), (IIA5)			
<input type="checkbox"/>	<input type="checkbox"/> Air sealing and insulation — visual	(IA6), (IIA6)			
<input type="checkbox"/>	<input type="checkbox"/> Air sealing and insulation — testing	(IA7)			
<input type="checkbox"/>	<input type="checkbox"/> Projection factors	(IIA7)			
<input type="checkbox"/>	<input type="checkbox"/> Loading deck weather seals	(IIA8)			
<input type="checkbox"/>	<input type="checkbox"/> Vestibules	(IIA9)			
<input type="checkbox"/>	<input type="checkbox"/> Fireplaces	(IB1), (IIB1)			
<input type="checkbox"/>	<input type="checkbox"/> Shutoff dampers	(IB2), (IIB2)			
<input type="checkbox"/>	<input type="checkbox"/> HVAC and service water heating equipment	(IB3), (IIB3)			
<input type="checkbox"/>	<input type="checkbox"/> HVAC and service water heating system controls	(IB4), (IIB4)			
<input type="checkbox"/>	<input type="checkbox"/> HVAC insulation and sealing	(IB5), (IIB5)			
<input type="checkbox"/>	<input type="checkbox"/> Duct leakage testing	(IB6), (IIB6)			
<input type="checkbox"/>	<input type="checkbox"/> Electrical energy consumption	(IC1), (IIC1)			
<input type="checkbox"/>	<input type="checkbox"/> Lighting in dwelling units	(IIC2)			
<input type="checkbox"/>	<input type="checkbox"/> Interior lighting power	(IC2), (IIC3)			
<input type="checkbox"/>	<input type="checkbox"/> Exterior lighting power	(IIC4)			
<input type="checkbox"/>	<input type="checkbox"/> Lighting controls	(IIC5)			
<input type="checkbox"/>	<input type="checkbox"/> Exit signs	(IIC6)			
<input type="checkbox"/>	<input type="checkbox"/> Electrical motors	(IIC7)			
<input type="checkbox"/>	<input type="checkbox"/> Maintenance information	(ID1), (IID1)			
<input type="checkbox"/>	<input type="checkbox"/> Permanent certificate	(ID2)			



* For column 3C, indicate date when the actual final inspection was performed.

TR8 – 01/11

3 Energy Code Progress Inspection <i>Required for applications where Energy Code</i>		
3A ← Identification of Requirement		
Y	N	Progress Inspections
		Table Reference in 1RCNY §5000-01(h) (1) and (2)
<input type="checkbox"/>	<input type="checkbox"/>	Protection of foundation insulation (IA1), (IIA1)
<input type="checkbox"/>	<input type="checkbox"/>	Insulation placement and R values (IA2), (IIA2)
<input type="checkbox"/>	<input type="checkbox"/>	Fenestration thermal values and ratings (IA3), (IIA3)
<input type="checkbox"/>	<input type="checkbox"/>	Fenestration ratings for air leakage (IA4), (IIA4)
<input type="checkbox"/>	<input type="checkbox"/>	Fenestration areas (IA5), (IIA5)
<input type="checkbox"/>	<input type="checkbox"/>	Air sealing and insulation — visual (IA6), (IIA6)
<input type="checkbox"/>	<input type="checkbox"/>	Air sealing and insulation — testing (IA7)
<input type="checkbox"/>	<input type="checkbox"/>	Projection factors (IIA7)
<input type="checkbox"/>	<input type="checkbox"/>	Loading deck weather seals (IIA8)
<input type="checkbox"/>	<input type="checkbox"/>	Vestibules (IIA9)
<input type="checkbox"/>	<input type="checkbox"/>	Fireplaces (IB1), (IIB1)
<input type="checkbox"/>	<input type="checkbox"/>	Dampers integral to building envelope (IB2), (IIB2)
<input type="checkbox"/>	<input type="checkbox"/>	HVAC and service water heating equipment (IB3), (IIB3)
<input type="checkbox"/>	<input type="checkbox"/>	HVAC and service water heating system controls (IB4), (IIB4)
<input type="checkbox"/>	<input type="checkbox"/>	Duct plenum and piping insulation and sealing (IB5), (IIB5)
<input type="checkbox"/>	<input type="checkbox"/>	Duct leakage testing (IB6), (IIB6)
<input type="checkbox"/>	<input type="checkbox"/>	Electrical motoring (IC1), (IIC1)
<input type="checkbox"/>	<input type="checkbox"/>	Lighting in dwelling units (IC2), (IIC2)
<input type="checkbox"/>	<input type="checkbox"/>	Interior lighting power (IIC3)
<input type="checkbox"/>	<input type="checkbox"/>	Exterior lighting power (IIC4)
<input type="checkbox"/>	<input type="checkbox"/>	Lighting controls (IIC5)
<input type="checkbox"/>	<input type="checkbox"/>	Exit signs (IIC6)
<input type="checkbox"/>	<input type="checkbox"/>	Tandem wiring (IIC7)
<input type="checkbox"/>	<input type="checkbox"/>	Electrical motors (IIC8)
<input type="checkbox"/>	<input type="checkbox"/>	Maintenance information (ID1), (IID1)
<input type="checkbox"/>	<input type="checkbox"/>	Permanent certificate (ID2)

Total of 26

TR8 – 12/14

3 Energy Code Progress Inspection <i>Required for applications where Energy Code</i>		
3A ← Identification of Requirement		
Y	N	Progress Inspections
		Table Reference in 1RCNY §5000-01(h) (1) and (2)
<input type="checkbox"/>	<input type="checkbox"/>	Protection of exposed foundation insulation (IA1), (IIA1)
<input type="checkbox"/>	<input type="checkbox"/>	Insulation placement and R values (IA2), (IIA2)
<input type="checkbox"/>	<input type="checkbox"/>	Fenestration u-factor and product rating (IA3), (IIA3)
<input type="checkbox"/>	<input type="checkbox"/>	Fenestration air leakage (IA4), (IIA4)
<input type="checkbox"/>	<input type="checkbox"/>	Fenestration areas (IA5), (IIA5)
<input type="checkbox"/>	<input type="checkbox"/>	Air sealing and insulation — visual (IA6), (IIA6)
<input type="checkbox"/>	<input type="checkbox"/>	Air sealing and insulation — testing (IA7)
<input type="checkbox"/>	<input type="checkbox"/>	Projection factors (IIA7)
<input type="checkbox"/>	<input type="checkbox"/>	Loading deck weather seals (IIA8)
<input type="checkbox"/>	<input type="checkbox"/>	Vestibules (IIA9)
<input type="checkbox"/>	<input type="checkbox"/>	Fireplaces (IB1), (IIB1)
<input type="checkbox"/>	<input type="checkbox"/>	Shutoff dampers (IB2), (IIB2)
<input type="checkbox"/>	<input type="checkbox"/>	HVAC and service water heating equipment (IB3), (IIB3)
<input type="checkbox"/>	<input type="checkbox"/>	HVAC and service water heating system controls (IB4), (IIB4)
<input type="checkbox"/>	<input type="checkbox"/>	HVAC insulation and sealing (IB5), (IIB5)
<input type="checkbox"/>	<input type="checkbox"/>	Duct leakage testing (IB6), (IIB6)
<input type="checkbox"/>	<input type="checkbox"/>	Electrical energy consumption (IC1), (IIC1)
<input type="checkbox"/>	<input type="checkbox"/>	Lighting in dwelling units (IIC2)
<input type="checkbox"/>	<input type="checkbox"/>	Interior lighting power (IIC2), (IIC3)
<input type="checkbox"/>	<input type="checkbox"/>	Exterior lighting power (IIC4)
<input type="checkbox"/>	<input type="checkbox"/>	Lighting controls (IIC5)
<input type="checkbox"/>	<input type="checkbox"/>	Exit signs (IIC6)
<input type="checkbox"/>	<input type="checkbox"/>	Electrical motors (IIC7)
<input type="checkbox"/>	<input type="checkbox"/>	Maintenance information (ID1), (IID1)
<input type="checkbox"/>	<input type="checkbox"/>	Permanent certificate (ID2)

Total of 25

* For column 3C, indicate date when the actual final inspection was performed.

TR8 – 01/11

TR8 – 12/14

TR8 PAGE 2

4 Design Applicant's Statements and Signatures *P.E./R.A. responsible for plans must sign and seal.*

I have identified herein all of the progress inspections and tests required for compliance.

Name (please print) _____
 Signature _____ Date _____

TR8 PAGE 2

4 Design Applicant's Statements and Signatures *P.E./R.A. responsible for plans must sign and seal.*

I have identified herein all of the progress inspections, and commissioning required for compliance and determined whether commissioning is required.

Name (please print) _____
 Signature _____ Date _____

Commissioning is required for applications where C408 or ASHRAE 90.1 Section 6.7.2.4 requires commissioning. Check one:

This project requires commissioning and a preliminary commissioning report

TR8 PAGE 2

4 Design Applicant's Statements and Signatures *P.E./R.A. responsible for plans must sign and seal.*

I have identified herein all of the progress inspections, and commissioning required for compliance and determined whether commissioning is required.

Commissioning is required for applications where C408 or ASHRAE 90.1 Section 6.7.2.4 requires commissioning. Check one:

This project requires commissioning and a preliminary commissioning report certification will be provide prior to sign-off.

This project does not require commissioning.

Name (please print) _____
 Signature _____ Date _____

P.E. / R.A. Seal (apply seal, then sign and date over seal)

5 Insp

Check

For the resp and s progr agreed addit

Char

I am

Name

Sign

 (apply seal, then sign and date over seal)

 I am the principal/director of the

3. I further certify that I have read the less inspections as well as 1 RCNY hose qualifications for each and with all provisions of the New York 28-211.1.2 of the Administrative

ereby state that:
 ed individual.

6 Inspection Applicant

I have completed the item

All work performed provisions of the N

All work performed provisions of the N report.

I am aware of the additional sanctions imposed on false filings by §28-211.1.2 of the Administrative Code.

Withdrawal of Applicant: I am withdrawing responsibility for the items of progress inspections and/or tests indicated herein and herewith submit the results or status of the work performed to date.

Name (please print) _____
 Signature _____ Date _____

P.E. / R.A. Seal (apply seal, then sign and date over seal)

6.7.2.4. Projects complying with this standard shall also comply with Section C408 of the *New York City Energy Conservation Code* in regards to system commissioning. When demonstrating compliance with Section C408.3.1, projects following ASHRAE 90.1-2010 must demonstrate compliance with Chapter 9 of ASHRAE 90.1-2010 as required, in lieu of Section C405 of the *New York City Energy Conservation Code*.

Withdrawal of Applicant: I am withdrawing responsibility for the items of progress inspections and/or tests indicated herein and herewith submit the results or status of the work performed to date.

Name (please print) _____
 Signature _____ Date _____

P.E. / R.A. Seal (apply seal, then sign and date over seal)



EN1: Energy Cost Budget Worksheet

Must be typewritten

Do not submit separately. Must be incorporated in the drawing set

EN1

1 Location Information					
House No(s)		Street Name			
Borough	Block	Lot	BIN	CB No.	
Work on Floor(s)			Apt/Condos No(s)		

2 Applicant Information					
Last Name		First Name		Middle Initial	
Business Name			Business Telephone		
Business Address			Business Fax		
City	State	Zip	Mobile Telephone		
Email			License Number		

3 Energy Modeling Information					
Energy Modeling Protocol (check one): <input type="checkbox"/> Section 11 ECB <input type="checkbox"/> Appendix G PRM					
Modeling Software & version:		Weather File:			
Total Modeled Square Feet:		Conditioned Square Feet:			
Proposed Unmet Load Hours:		Baseline Unmet Load Hours:			
Proposed Site EUI (kBtu/sf):		Baseline Site EUI (kBtu/sf):			

4 Purchased Energy Rates							
Fuel	Utility Rate Provider/ Rate Structure (i.e ConEd)	Virtual Utility Rate (\$/unit)	Baseline Design Total Charge (\$)	Virtual Utility Rate (\$/unit)	Proposed Design Total Charge (\$)	Supporting Doc. Location	Model Output Report
Electric							
Gas							
Steam							
Other:							
TOTAL							

This project contains on-site generation.

5 Energy Modeling Usage Summary							
	Baseline Model			Proposed Model			
	Electric Usage (kwh)	Gas/Steam Usage (MMBTU)	Other Usage (i.e. chilled water) (indicate units)	Electric Usage (kwh)	Gas/Steam Usage (MMBTU)	Other Usage (i.e. chilled water) (indicate units)	Model Output Location (Report)
Interior Lighting							
Misc. Equip.							
Space Heat							
Space Cool							
Heat Rejection							
Pumps & Misc							
Vent Fans							
Dom. Hot Water							
Exterior Lighting							
Exterior Misc.							
TOTAL							

6 Energy Inputs and Supporting Documentation Index									
a Above-Grade Wall & Fenestration Areas									
	Orientation	Baseline Case			Proposed Case			Supporting Doc. Location	Model Output Report
		Window + Wall Area (ft ²)	Vertical Glazing Area (ft ²)	(%)	Window + Wall Area (ft ²)	Vertical Glazing Area (ft ²)	(%)		
Above-Grade Wall & Vertical Glazing Area by Orientation	North								
	East								
	South								
	West								
	Total								
Roof & Skylight Area	Roof + Skylight Area (ft ²)	Skylight Area (ft ²)	(%)	Roof + Skylight Area (ft ²)	Skylight Area (ft ²)	(%)	Supporting Doc. Location	Model Output Report	
	Total								

b Vertical Fenestration												
Model Input Parameter	Category (Res/Non-Res)	Item #	Baseline Case				Proposed Case				Supporting Doc. Location	Model Output Report
			Description (from ASHRAE)	Ass'y U-factor	SHGC	VLT	Description (from design)	Ass'y U-factor	SHGC	VLT		
Vertical Glazing		1										
Vertical Glazing		2										
Vertical Glazing		3										
Vertical Glazing		4										
Vertical Glazing		5										
Vertical Glazing		6										
Vertical Glazing		7										
Skylights		1										
Skylights		2										
Shading Devices			<input type="checkbox"/> No shading projections, manual shading devices, or self-shading have been modeled. <input type="checkbox"/> Any shading by adjacent structures has been modeled identically to the proposed case.				List any permanent or auto-controlled shading devices:					

How were the Proposed case framed assembly fenestration U-factors determined? (Choose one)

- NFRC testing for site-assembled fenestration
- NFRC testing for manufactured fenestration assemblies
- Table A8.2 (windows) and Table A8.1 (skylights)
- LBNL Window 5 or Window 8 calculations
- Energy simulation includes separate frame and glazing
- Other (Describe) _____

c Envelope Assembly

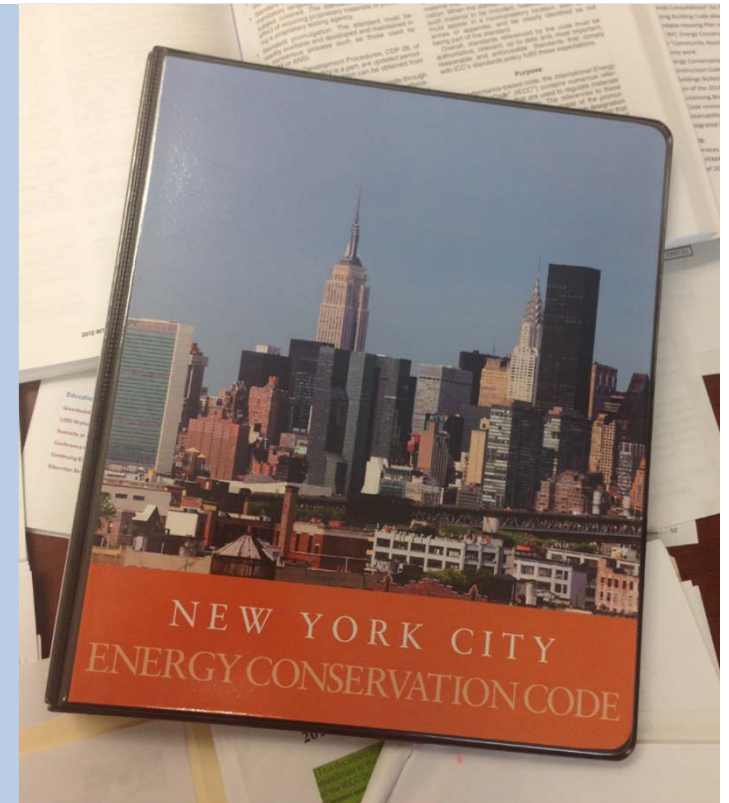
- Check if additional envelope descriptions are attached (Please use the EN-1c).
- All proposed roofs, above-grade exterior walls, below-grade exterior walls, exposed floors, slab-on-grade floors, and opaque doors were modeled as-designed and with assembly U-factors/C-factors/F-factors consistent with ASHRAES 90.1 Appendix A values.

Model Input Parameter	Space-Conditioning Category (Res/Non-Res)	Item #	Baseline Case		Proposed Case		Supporting Doc Location	Model Output Report
			Description	Assembly U-factor/C-factor/F-factor	Description	Assembly U-factor/C-factor/F-factor		
Roof Construction		1	Solar Reflectance	SR =	Solar Reflectance	SR =		
		2	Solar Reflectance	SR =	Solar Reflectance	SR =		
Above-Grade Exterior Wall Construction		1						
		2						
		3						
		4						
		5						
		6						
		7						
		8						
Below-Grade Exterior Wall Construction		1						
		2						
Exposed Floor Construction		1						
Slab-On-Grade Floors		1						
Opaque Doors		1						
		2						

2011 NYC Energy Conservation Code

Consists of:

1. 2010 ECCCCNYS
2. NYC's Chapter 1- Administration
3. Chapter 2- NYC Revisions and Additions to the Definitions
4. Chapter 5- Changes Section 505.2.2.2 (LL 48 of 2010)
5. Chapter 6- NYC Modifications to Reference Standards
6. Appendix A- NYC Modifications to ASHRAE (LL48 of 2010)



2014 NY STATE ENERGY CODE

NYS Residential Energy Code

1. 2010 ECCCCNYS
 - a. Based on IECC 2009
 - b. Amended Chapter 1
 - c. Amended Chapter 2
 - d. Chapter 3
 - e. Chapter 4
 - f. Chapter 6 and NYCRR Section 1240.4(b)- Reference Standards
2. 2014 Supplement to the New York State Energy Conservation Construction Code

NYS Commercial Energy Code

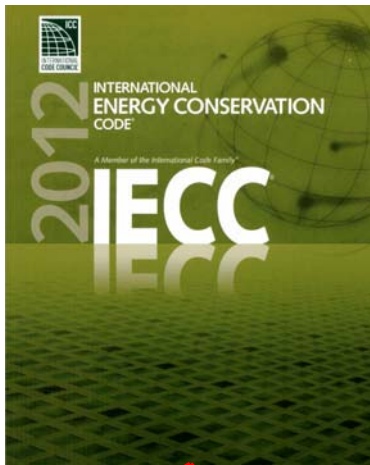
1. 2010 ECCCCNYS
 - a. Amended Chapter 1
2. 2014 Supplement to the New York State Energy Conservation Construction Code
 - a. Based on the IECC 2012, ASHRAE 90.1 2010
 - b. Chapter C2- Definitions
 - c. Chapter C3- General Requirements
 - d. Chapter C4- Commercial Energy Efficiency
 - e. Chapter C5 and NYCRR Section 1240.4(b)- Reference Standards

2014 NYC Energy Conservation Code

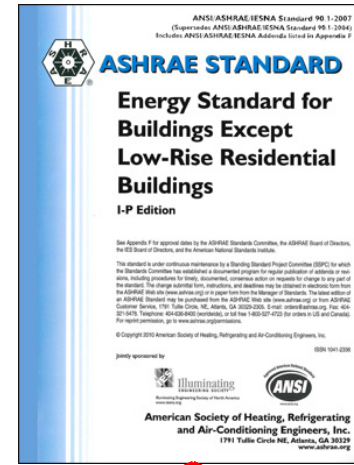
1. 2014 NYS Energy Code
 - a. New York State Residential Energy Code
 - b. New York State Commercial Energy Code
2. NYC's Chapter 1- Administration
3. Chapter C2- NYC Revisions and Additions to the Definitions
4. Chapter C4- Preserves LL 48 of 2010 and replaces Chapter 5 with Chapter C4, plus IECC 2012 errata
5. Chapter C5- NYC Modifications to Reference Standards
6. Appendix A- NYC Modifications to ASHRAE (LL48 of 2010)
7. DOB proposals (modifying both the NYS Energy Code and ASHRAE 90.1)

http://www.nyc.gov/html/dob/html/codes_and_reference_materials/nyccc_main.shtml

Compliance Paths



OR



Prescriptive

OR

Envelope Trade-off

Prescriptive

OR

Envelope Trade-off

Performance

OR

Section 11

Appendix G

2014 NYC Energy Conservation Code

Summary of Major Changes- **ENVELOPE**

1. Increased thermal performance requirements in opaque assemblies in Energy Code (some increases in ASHRAE 90.1 2010)
2. Reduction in the energy code allowable WWR- 30% Maximum *or* 40% allowed if daylighting requirements are met
3. ASHRAE introduced limitations on the orientation of window area (less glazing allowed in the orientations where heat gain cannot be easily controlled)
4. Changes in u-values for fenestration (both Energy Code and ASHRAE)
5. New requirements for mandatory skylights in certain types of spaces
6. Increased air-barrier performance requirements

Building Envelope – Opaque Elements

	Opaque Elements	2012 IECC Not Group-R		ASHRAE (2010) Non-Res		2012 IECC Group-R		ASHRAE (2010) Res.	
		Assembly Max	Insulation Min. R-Value	Assembly Max	Insulation Min. R-Value	Assembly Max	Insulation Min. R-Value	Assembly Max	Insulation Min. R-Value
Roof	Entirely Above Deck	R-25ci	U-0.039	R-20ci	U-0.048	R-25ci	U-0.039	R-20ci	U-0.048
	Metal Building	R-19+R-11ci	U-0.035	R-13+R-13ci	U-0.055	R-19+R-11ci	U-0.035	R-13+R-13ci	U-0.055
	Attic & Other	R-38	U-0.027	R-38	U-0.027	R-38	U-0.027	R-38	U-0.027
Wall, Above-Grade	Mass	R-9.5ci	U-0.104	R-9.5ci	U-0.104	R-11.4ci	U-0.090	R-11.4ci	U-0.090
	Metal Building	R-13+R13ci	U-0.052	R-19	U-0.084	R-13+R13ci	U-0.052	R-19	U-0.084
	Steel-Framed	R-13+R7.5ci	U-0.064	R-13+R7.5ci	U-0.064	R-13+R7.5ci	U-0.064	R-13+R7.5ci	U-0.064
	Wood-Framed/Other	R-13+R-3.8ci OR R-20	U-0.064	R-13	U-0.089	R-13+R-3.8ci OR R-20	U-0.064	R-13+R-3.8ci	U-0.064
Wall	Below-Grade Wall	R-7.5ci	C-0.119	NR	C-1.14	R-7.5ci	C-0.119	R-7.5ci	C-0.119
Floors	Mass	R-10ci	U-0.076	R-8.3ci	U-0.087	R-10.4ci	U-0.074	R-10.4ci	U-0.074
	Steel-Joist	R-30	U-0.033	R-30	U-0.038	R-30	U-0.033	R-30	U-0.038
	Wood-Framed/Other	R-30	U-0.033	R-30	U-0.033	R-30	U-0.033	R-30	U-0.033
Slab-on-Grade,	Unheated	R-10, 24"	F-0.54	NR	F-0.73	R-10, 24"	F-0.54	R-10, 24"	F-0.54
	Heated	R-15, 24"	F-0.65	R-15, 24"	F-0.86	R-15, 24"	F-0.65	R-15, 24"	F-0.86
Opaque Door	Swinging		U-0.61		U-0.7		U-0.61		U-0.7
	Nonswinging	R-4.75			U-1.5	R-4.75			U-0.5

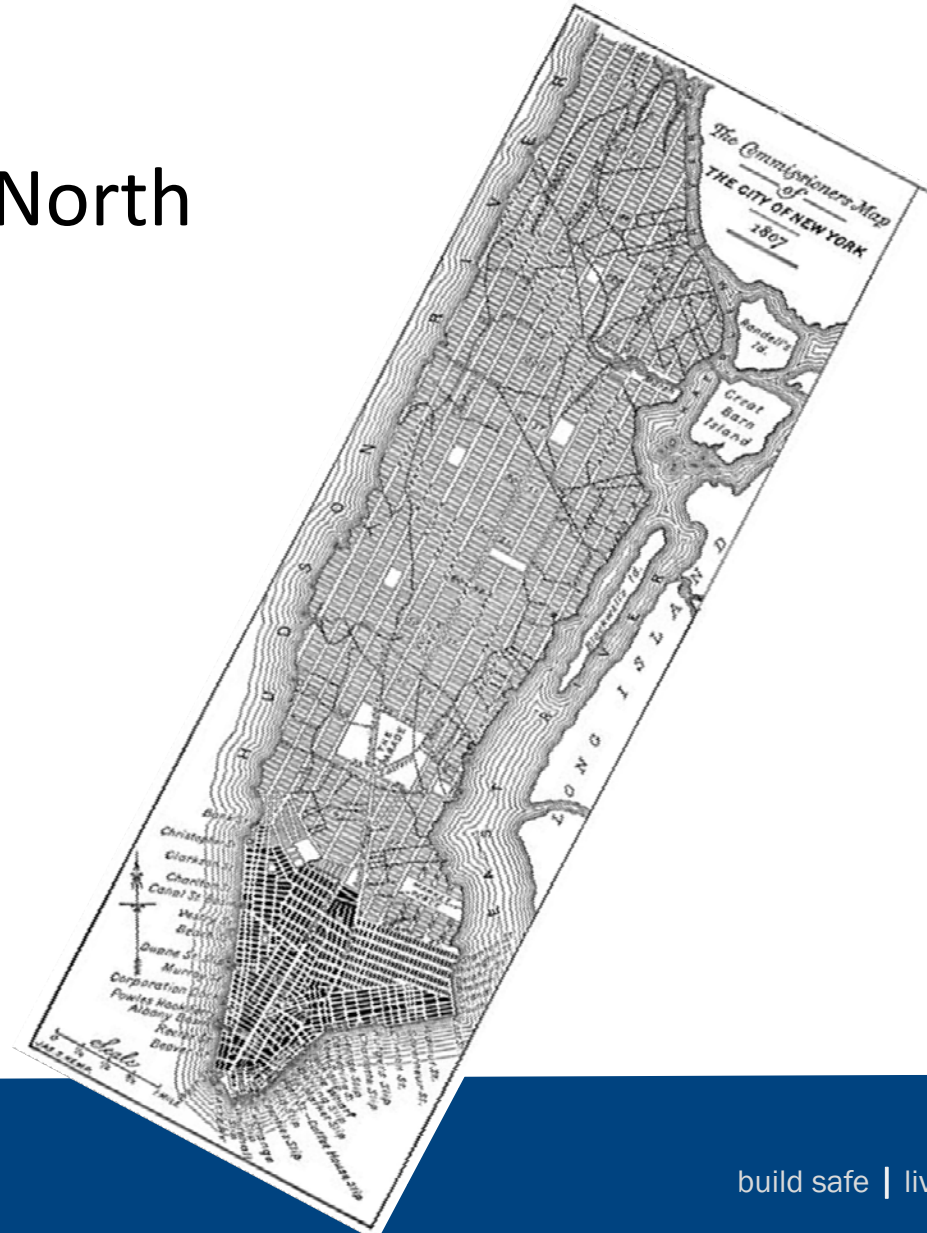
2014 NYC Energy Conservation Code

Summary of Major Changes- **ENVELOPE**

1. Increased thermal performance requirements in opaque assemblies in Energy Code (some increases in ASHRAE 90.1 2010)
2. Reduction in the energy code allowable WWR- 30% Maximum *or* 40% allowed if daylighting requirements are met
3. ASHRAE introduced limitations on the orientation of window area (less glazing allowed in the orientations where heat gain cannot be easily controlled)
4. Changes in u-values for fenestration (both Energy Code and ASHRAE)
5. New requirements for mandatory skylights in certain types of spaces
6. Increased air-barrier performance requirements

Envelope – Fenestration Orientation

29° off of true North



2014 NYC Energy Conservation Code

Summary of Major Changes- **ENVELOPE**

1. Increased thermal performance requirements in opaque assemblies in Energy Code (some increases in ASHRAE 90.1 2010)
2. Reduction in the energy code allowable WWR- 30% Maximum *or* 40% allowed if daylighting requirements are met
3. ASHRAE introduced limitations on the orientation of window area (less glazing allowed in the orientations where heat gain cannot be easily controlled)
4. Changes in u-values for fenestration (both Energy Code and ASHRAE)
5. New requirements for mandatory skylights in certain types of spaces
6. Increased air-barrier performance requirements

2014 NYC Energy Conservation Code

Summary of Major Changes- HVAC

1. ASHRAE no longer exempts all industrial or manufacturing process loads
2. Increased minimum efficiency for HVAC equipment
3. Requirement for Demand-Controlled Ventilation has dropped from 40 persons per 1000 Sq. Ft. to 25 persons/1000 Sq. Ft. in the Energy Code
4. Both the Energy Code and ASHRAE 90.1 2010 require Energy Recovery on ventilation systems for more cases
5. Both will require more use of economizers
6. Commissioning will be required for projects that include HVAC equipment

2014 NYC Energy Conservation Code

Summary of Major Changes- **Lighting and Electrical**

1. Dwelling unit lighting is no longer exempt under ASHRAE
2. Lighting requirements now apply in ASHRAE when modifying only 10% of the connected lighting
3. More controls are required- more multi-level controls, more occupancy sensors, and mandatory daylighting sensors
4. New requirements for exterior lighting controls have been introduced
5. Lighting power densities have been reduced in both IECC and ASHRAE
6. Commissioning required for lighting controls in ALL commercial projects
7. Maximum voltage drop has been added to ASHRAE but was made *prescriptive* by the State, rather than mandatory
8. Sub-metering of large tenant spaces in new 50K SF buildings

2014 NYC Energy Conservation Code

Summary of Major Changes-

Additional Efficiency Option requires ONE of the following:

- HVAC – Updated Efficiency Tables
- Lighting – Updated LPD Table
 - Building Area Method **ONLY**
 - 15% reduction
- On-Site Supply of Renewable Energy
 - Minimum per SF OR % usage

Summary

- New Code went into effect on JANUARY 1, 2015
- New code is approximately an 18.5% increase in energy efficiency compared to the current version.
- The ECC and ASHRAE 90.1 continue to come more and more into alignment.
- One City Built to Last initiative is likely to influence additional code updates to dramatically increase energy efficiency in future years.

Thank-you!

For more information on the NYC Energy Code:

http://www.nyc.gov/html/dob/html/codes_and_reference_materials/nycecc_about.shtml

NYC Energy Code:

http://www.nyc.gov/html/dob/html/codes_and_reference_materials/nycecc_main.shtml

Energy Code Technical Questions:

energycode@buildings.nyc.gov

© 2015 New York City Department of Buildings