

BUILDING ELECTRIFICATION LAW: IMPLEMENTATION, TIMELINE & FILING

presented by
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COURSE DESCRIPTION



- This course will provide an overview of NYC's Building Electrification Law (LL154/2021), including what types of applications are affected, deadlines, and filing details. Participants will gain an understanding of the compliance requirements and filing specifics.

LEARNING OBJECTIVES

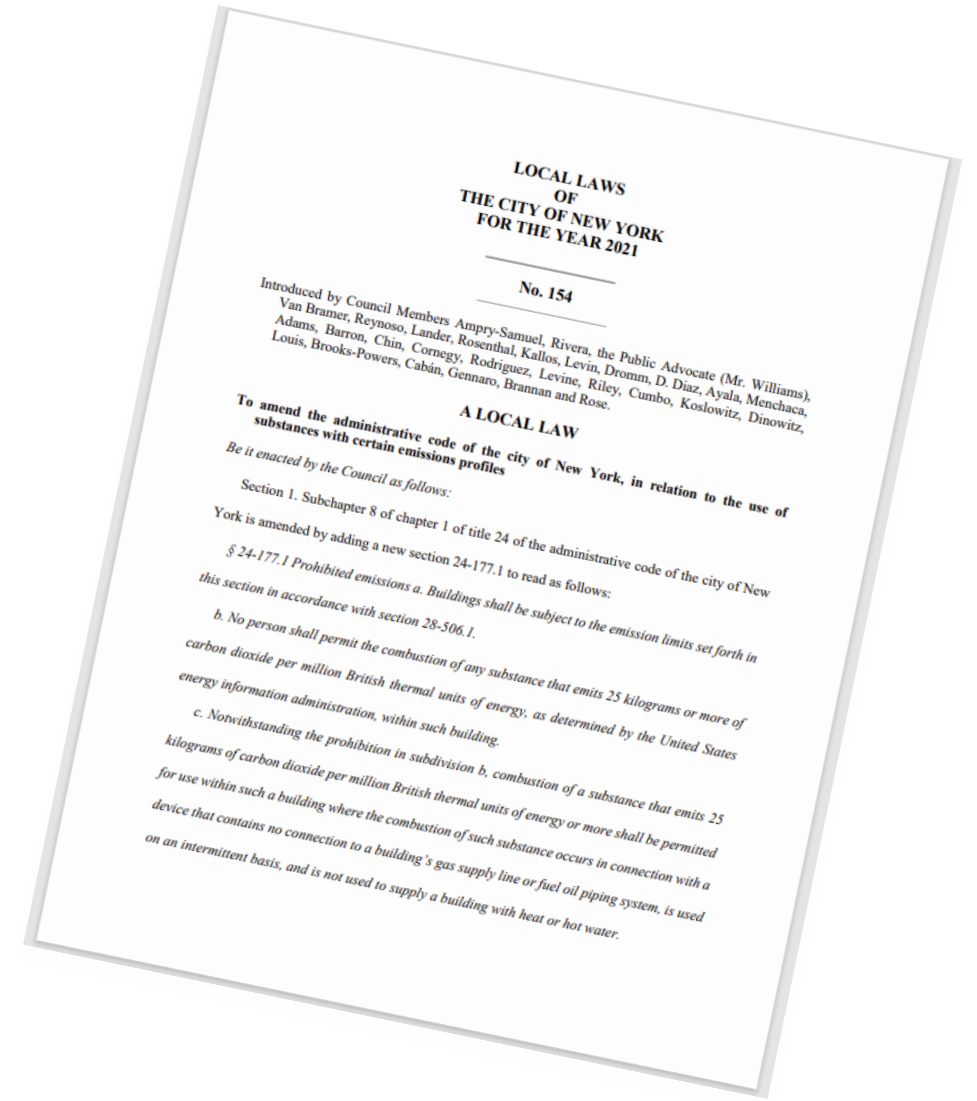


At the end of this course, participants will be able to:

- explain the provisions of the law, including which fuels are prohibited from onsite combustion
- review the components of the law and be able to explain which types of buildings need to comply and by when, including the applicability to affordable housing
- review the exceptions to the law and be able to explain what types of buildings and specific spaces fit the exception criteria
- review the specifications associated with filing an application.

LL 154 of 2021

- LL154/2021 was signed by Mayor de Blasio
 - Not to be confused with LL154/2016 – requirement to notify DOB of gas service shut off
- **NYC Building Electrification Law**



NYC BUILDING ELECTRIFICATION LAW

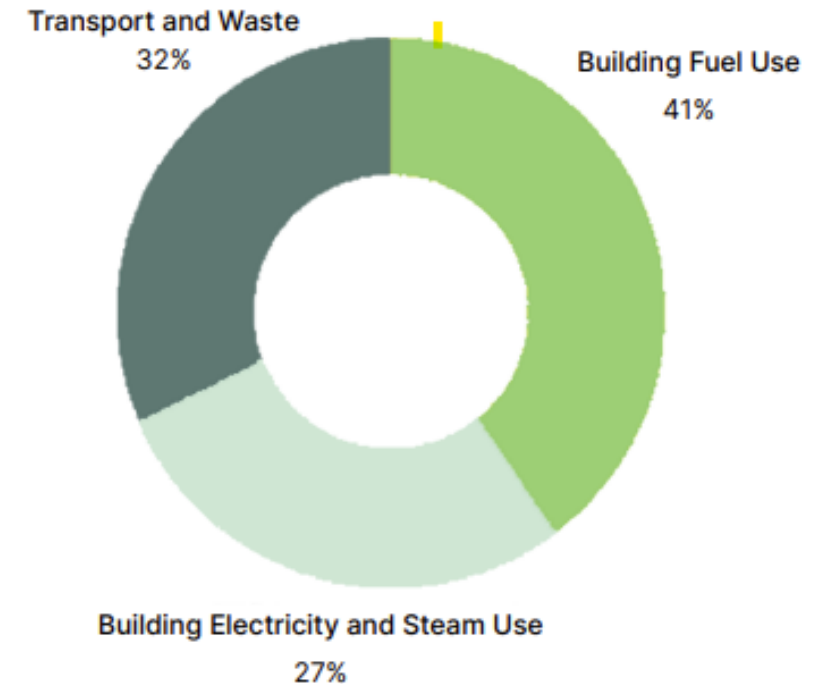
- NYC will become the largest city in the world to phase out fossil fuel usage in new buildings
 - Number of new buildings are approximately 1,000 – 3,000 per year
 - Most new buildings are one- and two-family homes; with approximately 200 additional that are $>$ or $=$ 7 stories
- These new buildings will largely be all-electric and emit less carbon
 - Improving local air quality while continuing to provide occupant comfort
- Phasing in of requirements beginning with smaller low-rise buildings
- Allows more time for affordable housing buildings
- Encourages the use of high-performance technologies like induction stoves for cooking and heat pumps for heating, cooling and hot water

NYC BUILDING ELECTRIFICATION LAW

- Over 40% of NYC carbon emissions come from fossil fuel furnaces, boilers and hot water heaters
- With a service life of approximately 20 years, the impact lasts a long time
- Space heating and hot water electrification reduces emissions upon installation and the expectation is that those emissions reductions would get better as the grid becomes greener

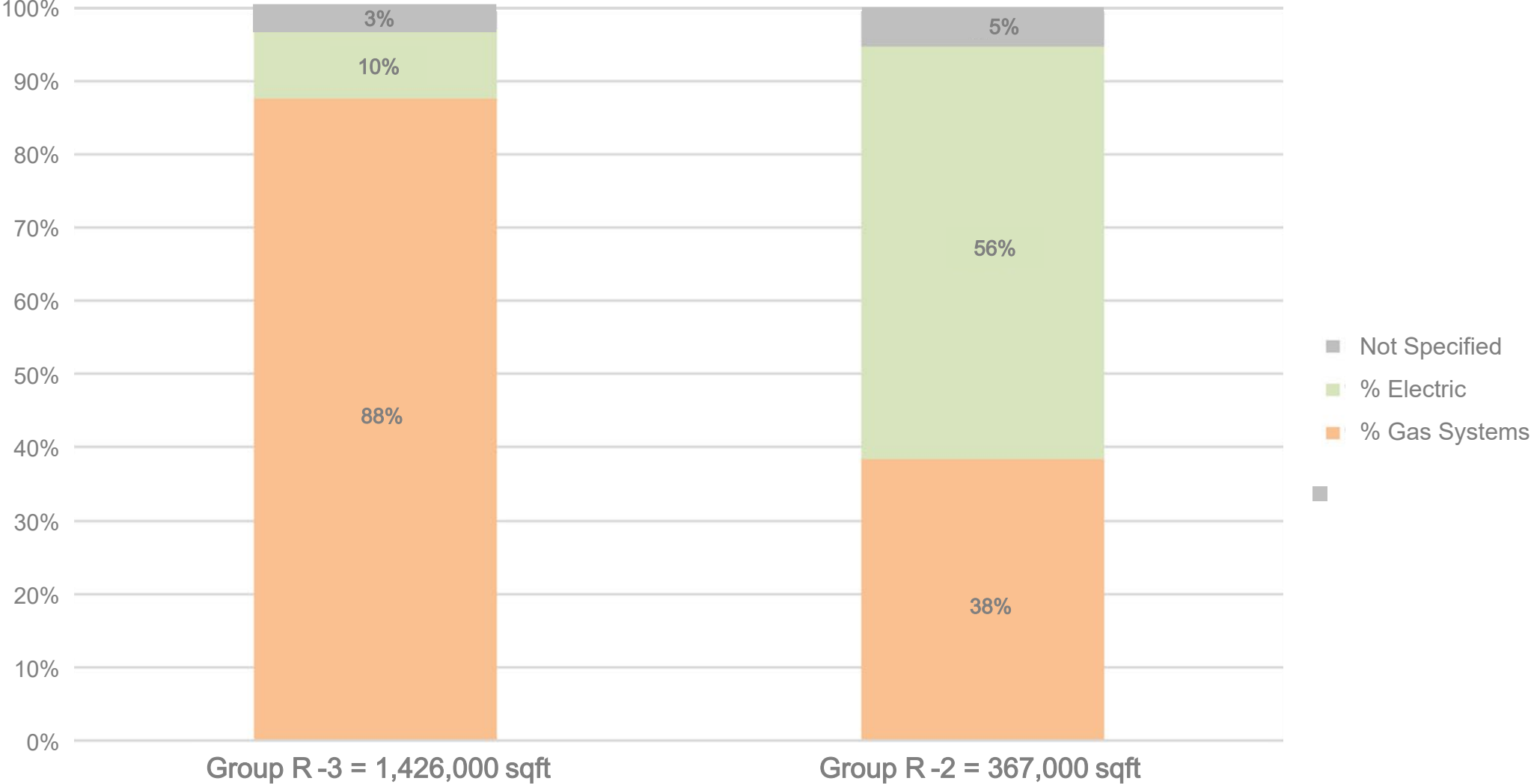
New York City GHG Emission Sources

On-site fossil fuels are NYC's largest source of carbon

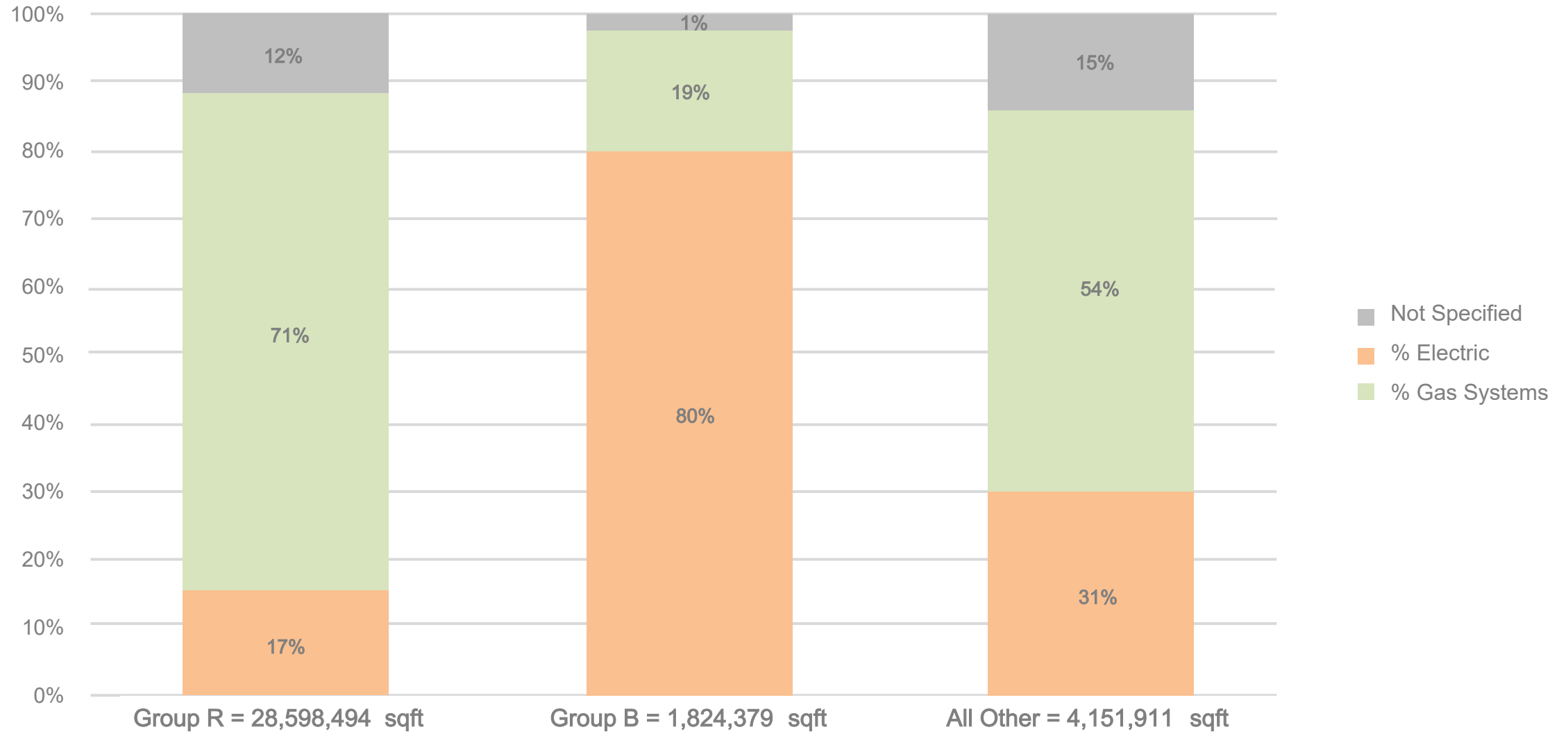


Source: 2019 NYC GHG Inventory

NEW CONSTRUCTION, RESIDENTIAL BUILDINGS 3-STORIES OR LESS: Gas vs. Electric Space Heating



NEW CONSTRUCTION – COMMERCIAL BUILDINGS: Gas vs. Electric Space Heating



LL 154 of 2021

- Portions of the law are contained in two sections of the City's Administrative Code
 - **Title 24** (NYC Air Pollution Control Code, administered by DEP) sets the limit and the fines
 - **Title 28** (NYC Construction Codes, administered by DOB) sets scope

LL 154 of 2021

- From Title 24 (NYC Air Pollution Control Code, administered by DEP)
 - §24-177.1 Prohibited emissions
 - a. *Buildings shall be subject to the emission limits set forth in this section in accordance with Section 28-506.1*
 - b. *No person shall permit the combustion of any substance that emits 25 kilograms or more of carbon dioxide per million British thermal units of energy, as determined by the United States energy information administration, within such building.*
 - c. *Notwithstanding the prohibition in subdivision b, combustion of a substance that emits 25 kilograms of carbon dioxide per million British thermal units of energy or more shall be permitted for use within such a building where the combustion of such substance occurs in connection with a device that contains no connection to a building's gas supply line or fuel oil piping system, is used on an intermittent basis, and is not used to supply a building with heat or hot water.*

LL 154 of 2021

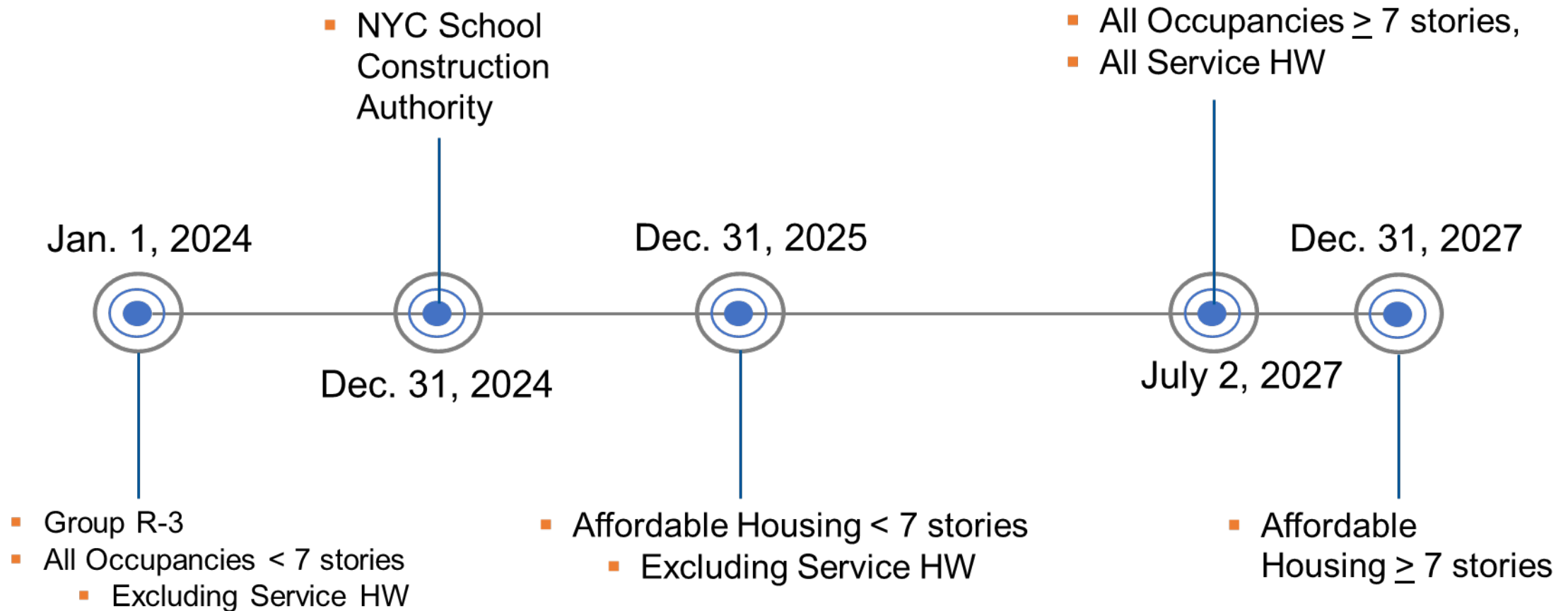
- From Title 28 (NYC Construction Codes, administered by DOB)
 - §28-506.1 New buildings shall be subject to the emissions limits set forth in section 24-177.1. The commissioner shall not approve an application for the approval of construction documents, nor issue any permit in connection therewith, for a new building that does not comply with section 24-177.1
 - *Prohibits on-site combustion of fuels that emit more than 25kg CO₂/MMBTU*
 - *APPLIES ONLY TO NEW CONSTRUCTION*
 - *Section 101.4.5 of the Administrative Code covers alterations that must be filed as New Buildings (Buildings Bulletin 2016-012) – aka ALT-CO New Building with Existing Elements to Remain*

LL 154 of 2021

■ EXCEPTIONS

- Buildings used by a regulated utility for energy generation
- Buildings operated by DEP for the treatment of sewage or food waste
- Spaces within buildings in which fossil fuels are necessary for a manufacturing use or purpose:
 - Laboratories
 - Laundromats
 - Hospitals and Crematoria
 - Commercial Kitchens
 - For emergency or standby power

LL 154/2021 COMPLIANCE DATES



LL 154 of 2021

- **Affordable Housing**

- 50% or more of the units are subject to a regulatory agreement, restrictive declaration, or similar instrument with a federal, state, or local government entity or instrumentality for the creation or preservation of affordable housing.

STUDIES

■ Building Electrification and Heat Pumps

- Centralized air source heat pumps with storage tanks
- Ground source heat pumps and multi-source heat pumps
- Solar thermal with storage tanks and air source heat pumps; **and**
- On-demand electric water heaters, both with tank and tankless, whichever is applicable based on building

STUDIES

■ Building Electrification and Grid Reliability and Resiliency

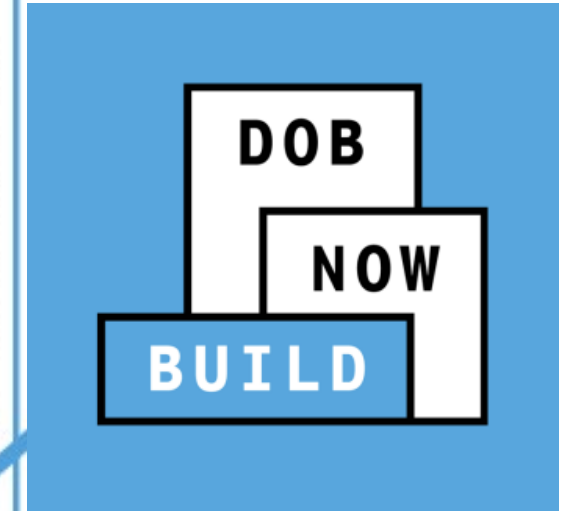
- Current and projected 2030 load for both winter and summer
 - Identification of factors that may affect demand
 - Specific recommendations regarding capacity to meet projected demand
 - Actions to be taken
- Projected 2030 transmission electricity flows into Zone J of the NYISO electrical grid
- Projected 2030 load due to anticipated electrification
- Opportunities for incentivizing
- Recommendations for improved infrastructure coordination and planning

FILING DETAILS

- NB and Alt-CO New Building with existing elements to remain to be filed in **DOB NOW: *Build***
- Probability that there will be changes to the PW1 and/or the initial filing for specific work types

The image shows a screenshot of the NYC Buildings PW1: Plan / Work Application form. The form is titled 'NYC Buildings PW1: Plan / Work Application' and includes sections for Location Information, Applicant Information, Filing Representative, Filing Status, Job Project Types, and Work Types. A blue box highlights the 'Job Project Types' section, which lists various building types and their corresponding codes.

Job Project Type	Description	Code
Alteration Type 1 (see Section 24-209)	Alteration Type 1 (see Section 24-209)	101
Alteration Type 2 (see Section 24-210)	Alteration Type 2 (see Section 24-210)	102
Alteration Type 3 (see Section 24-211)	Alteration Type 3 (see Section 24-211)	103
Alteration Type 4 (see Section 24-212)	Alteration Type 4 (see Section 24-212)	104
Alteration Type 5 (see Section 24-213)	Alteration Type 5 (see Section 24-213)	105
Alteration Type 6 (see Section 24-214)	Alteration Type 6 (see Section 24-214)	106
Alteration Type 7 (see Section 24-215)	Alteration Type 7 (see Section 24-215)	107
Alteration Type 8 (see Section 24-216)	Alteration Type 8 (see Section 24-216)	108
Alteration Type 9 (see Section 24-217)	Alteration Type 9 (see Section 24-217)	109
Alteration Type 10 (see Section 24-218)	Alteration Type 10 (see Section 24-218)	110
Alteration Type 11 (see Section 24-219)	Alteration Type 11 (see Section 24-219)	111
Alteration Type 12 (see Section 24-220)	Alteration Type 12 (see Section 24-220)	112
Alteration Type 13 (see Section 24-221)	Alteration Type 13 (see Section 24-221)	113
Alteration Type 14 (see Section 24-222)	Alteration Type 14 (see Section 24-222)	114
Alteration Type 15 (see Section 24-223)	Alteration Type 15 (see Section 24-223)	115
Alteration Type 16 (see Section 24-224)	Alteration Type 16 (see Section 24-224)	116
Alteration Type 17 (see Section 24-225)	Alteration Type 17 (see Section 24-225)	117
Alteration Type 18 (see Section 24-226)	Alteration Type 18 (see Section 24-226)	118
Alteration Type 19 (see Section 24-227)	Alteration Type 19 (see Section 24-227)	119
Alteration Type 20 (see Section 24-228)	Alteration Type 20 (see Section 24-228)	120
Alteration Type 21 (see Section 24-229)	Alteration Type 21 (see Section 24-229)	121
Alteration Type 22 (see Section 24-230)	Alteration Type 22 (see Section 24-230)	122
Alteration Type 23 (see Section 24-231)	Alteration Type 23 (see Section 24-231)	123
Alteration Type 24 (see Section 24-232)	Alteration Type 24 (see Section 24-232)	124
Alteration Type 25 (see Section 24-233)	Alteration Type 25 (see Section 24-233)	125
Alteration Type 26 (see Section 24-234)	Alteration Type 26 (see Section 24-234)	126
Alteration Type 27 (see Section 24-235)	Alteration Type 27 (see Section 24-235)	127
Alteration Type 28 (see Section 24-236)	Alteration Type 28 (see Section 24-236)	128
Alteration Type 29 (see Section 24-237)	Alteration Type 29 (see Section 24-237)	129
Alteration Type 30 (see Section 24-238)	Alteration Type 30 (see Section 24-238)	130
Alteration Type 31 (see Section 24-239)	Alteration Type 31 (see Section 24-239)	131
Alteration Type 32 (see Section 24-240)	Alteration Type 32 (see Section 24-240)	132
Alteration Type 33 (see Section 24-241)	Alteration Type 33 (see Section 24-241)	133
Alteration Type 34 (see Section 24-242)	Alteration Type 34 (see Section 24-242)	134
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Alteration Type 37 (see Section 24-245)	Alteration Type 37 (see Section 24-245)	137
Alteration Type 38 (see Section 24-246)	Alteration Type 38 (see Section 24-246)	138
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Alteration Type 40 (see Section 24-248)	Alteration Type 40 (see Section 24-248)	140
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Alteration Type 45 (see Section 24-253)	Alteration Type 45 (see Section 24-253)	145
Alteration Type 46 (see Section 24-254)	Alteration Type 46 (see Section 24-254)	146
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Alteration Type 100 (see Section 24-308)	Alteration Type 100 (see Section 24-308)	200



LL 154 of 2021 TAKEAWAYS

- Only for new construction or large alterations
 - *NOT EXISTING BUILDINGS*
- Dates of applicability depend on the **submitted** date
 - Determined by NB/I-1 date
 - Not applicable to ‘pre-filed’
 - ‘in objection’ status is ok
- affordable housing given more time to comply
- there are exceptions for certain uses

QUESTIONS?



**This concludes the
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A low-angle photograph of several skyscrapers under construction against a blue sky with light clouds. The buildings are covered in orange and yellow safety netting and scaffolding. Several white tower cranes are positioned around the construction site. The text 'nyc.gov/buildings' is overlaid in the center in a blue, outlined font.

nyc.gov/buildings

build safe | live safe

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