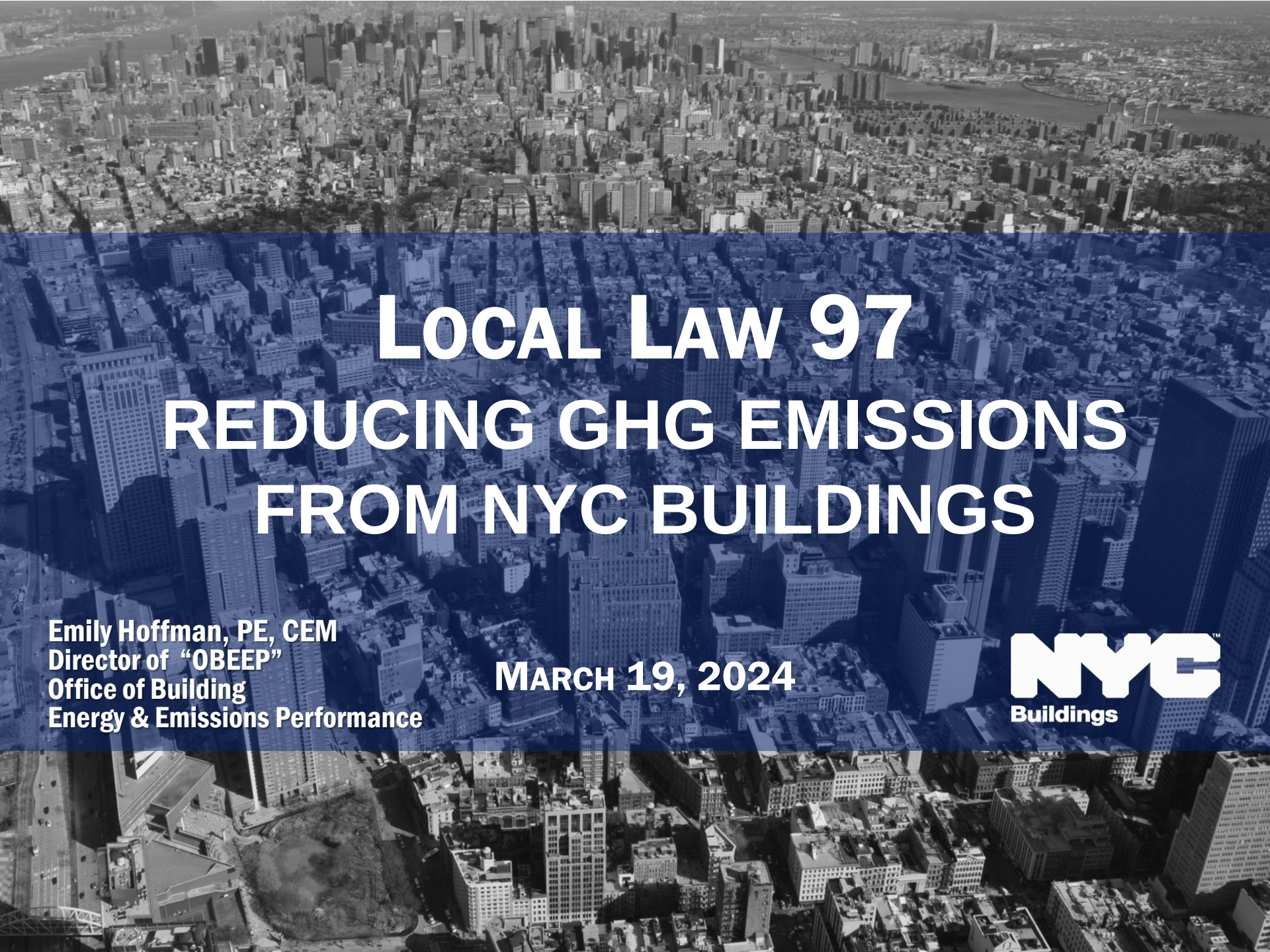


LOCAL LAW 97
REDUCING GHG EMISSIONS FROM NYC BUILDINGS

Emily Hoffman, PE, CEM
Director of "OBEEP"
Office of Building
Energy & Emissions Performance

MARCH 19, 2024

NYC Buildings

DECARBONIZE OUR BUILDING STOCK

Our buildings are NYC's biggest source of CO_2 emissions

see: **2019 NYS CLCPA**

To decarbonize our building stock, virtually every one of our city's 1,000,000+ buildings will need to be retrofit.

2015 Roadmap to 80x50

Windows and walls will need to be improved or replaced with new efficient ones.

Boilers and furnaces will need to be replaced with all-electric heat pumps

Large buildings (> 25,000 sf) that fail to cut their CO_2 emissions will face steep fines

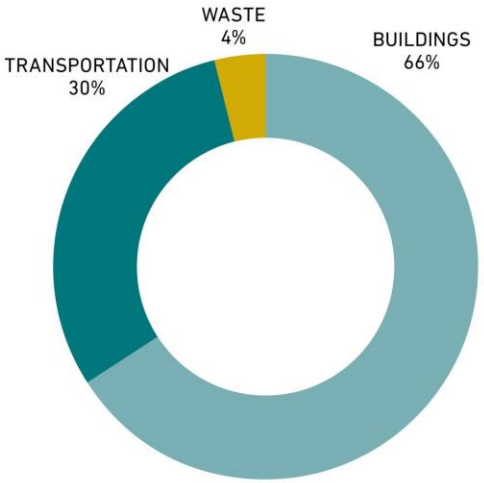
2019 NYC Climate Mobilization Act (Local Law 97)

New buildings will be prohibited from installing fossil-fuel equipment

Local Law 154

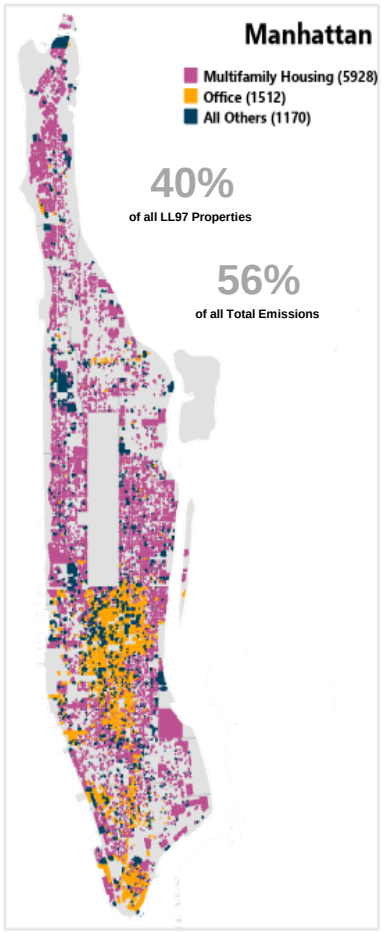
SCOPE & IMPLICATIONS OF LL97

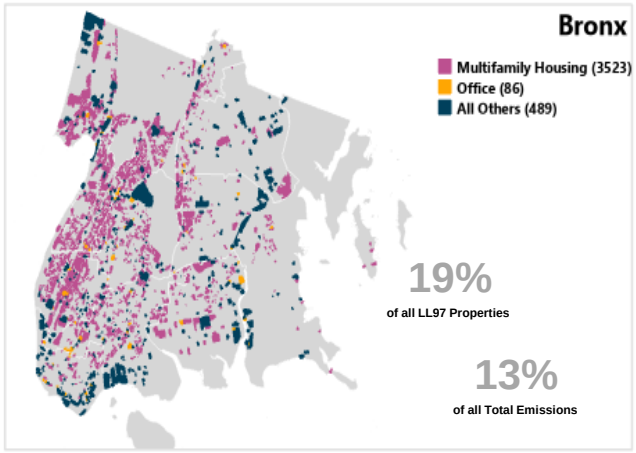
- Buildings account for approximately two-thirds of greenhouse gas emissions in New York City.
- **Local Law 97** aims to reduce our overall emissions by putting 50,000 largest of the City's 1.1 million buildings on the path to carbon neutrality by 2050.
- **34,000** buildings must start meeting emissions limits in **2024.** An estimated **5,300** buildings will be out of compliance with the law and may starting receiving penalties in **2025.** These numbers grow as emissions limits get more stringent and penalties increase starting in **2030.**
- NYC is leading the fight on climate change with implementation of **Local Law 97.** Cities, states and national governments are watching and following NYC's lead

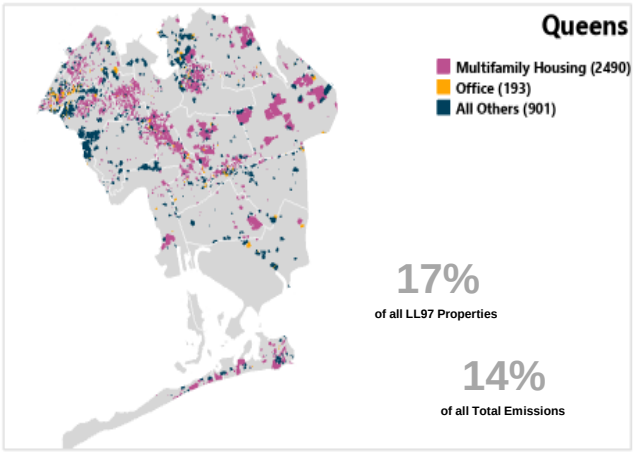


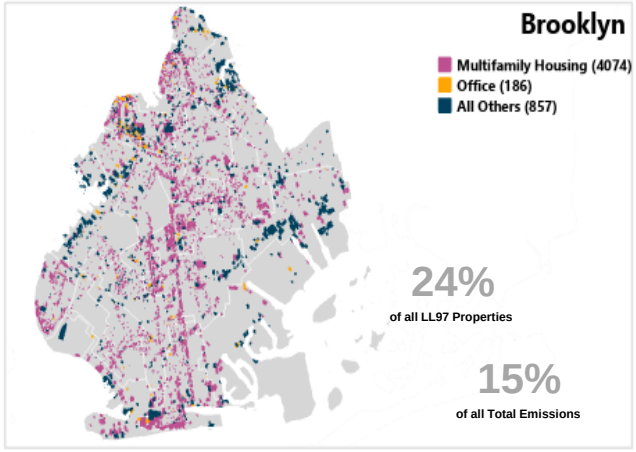
Reference: OneNYC 2050 – Building a Strong and Fair City, Volume 7

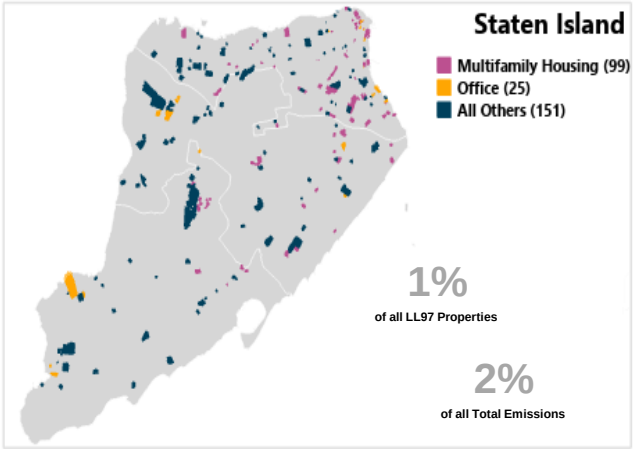
SUMMARY OF PROPERTIES











SUSTAINABILITY LAWS

LL 84/09
Energy Benchmarking

LL 97/19
Building GHG Emissions

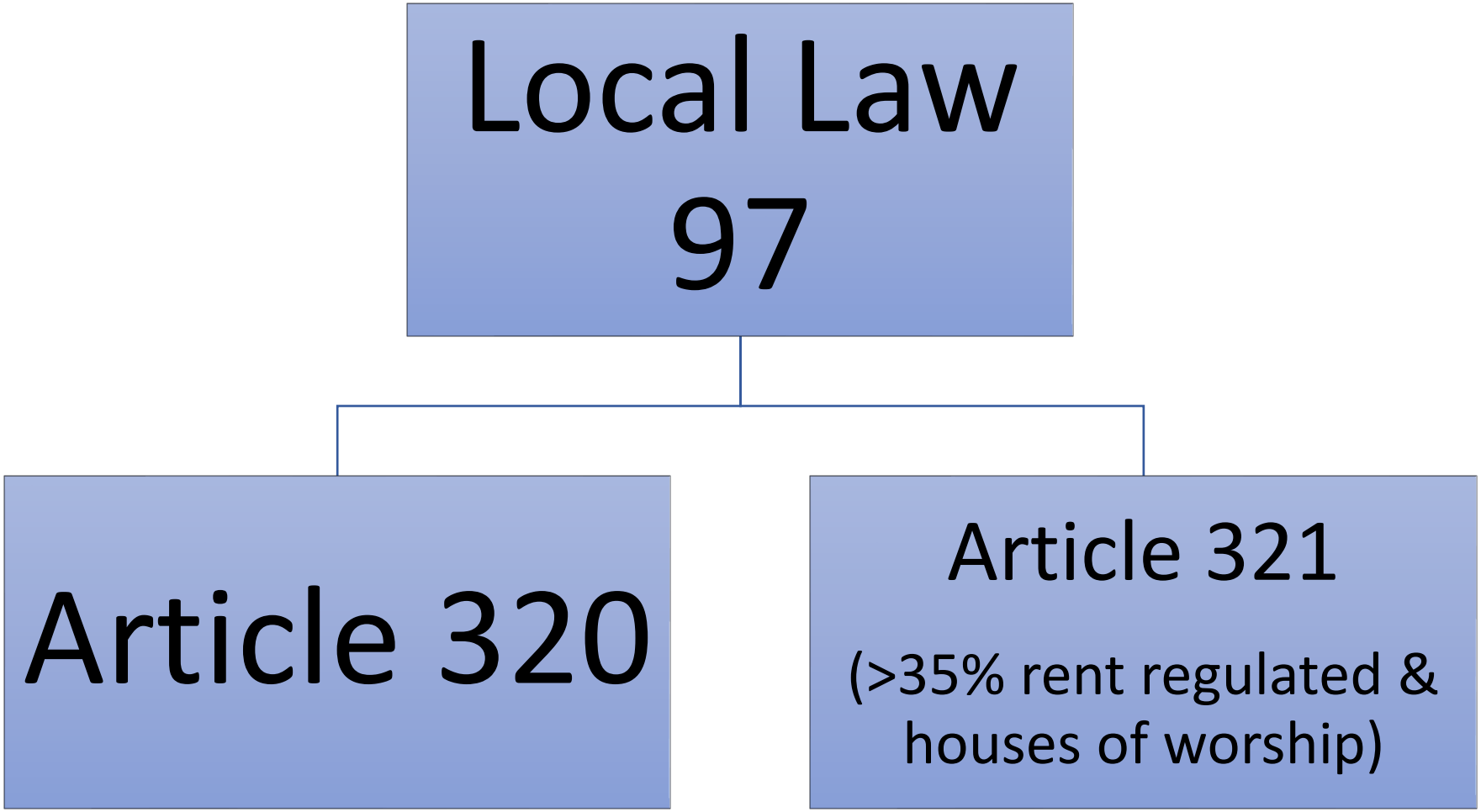
LL 87/09
Audits & Retro-commissioning

LL 88/09
Lighting Upgrades & Sub-metering

NOTE: DOB enforcement of all Sustainability Laws is transitioning to the building/BIN level, except for shared systems.

Article 309 - LL 84/09 Energy Benchmarking
Article 308 - LL 87/09 Audits & Retro-commissioning
Article 310 & Article 311 - LL 88/09 Lighting Upgrades & Sub-metering
Article 320 & Article 321 - LL 97/19 Building GHG Emissions

LOCAL LAW 97 OVERVIEW



LOCAL LAW 97 COMPLIANCE BUCKETS

Annual Emissions Limits (§ 320) 34,000 buildings	Lower Cost One-Time Compliance (§ 321) 8,500 buildings	Portfolio-Wide Reduction 5,500 buildings
Private sector, non-rent regulated buildings*	• Rent-regulated buildings • Houses of worship	• City buildings • NYCHA
Buildings must reduce emissions by retrofitting to promote energy efficiency. Reduce energy waste and demand, electrify equipment, and improve building operations and maintenance practices.	Meet all applicable measures from a list of Prescriptive Energy Conservation Measures or comply with the 2030 annual emissions limit.	DCAS buildings must reduce emissions by 40% by 2025 and 50% by 2030. NYCHA buildings must reduce emissions by 40% by 2030 and 80% by 2050.
Compliance begins in **2024.** Penalties begin in **2025.** Cap becomes more stringent in **2030**, and so on.	Implement prescriptive measures by **2024** and submit one-time report by **2025.**	DCAS to meet portfolio-wide caps starting in **2025**, NYCHA starting in **2030**.

**Adjustments available for hospitals, nonprofits, landmarks and buildings with financial hardship.*

LOCAL LAW 97 – AFFORDABLE HOUSING PATHWAYS

Article 321: The Prescriptive Pathway

If building includes any of the following:

- > 35% of units subject to rent regulation (regardless of any income restrictions), OR
- Is an HDFC co-op (not a rental), OR
- Has 1+ units that participate in a federal project-based housing program (e.g., Section 8, Section 202, Section 811, or CoC), OR
- Participates in NYCHA PACT

The building must:

- Demonstrate that emissions are below the applicable 2030 limits, OR
- Show that applicable Prescriptive Energy Conservation Measures have been fully implemented

And file a one-time report by May 2025*

**Note that new rules may give some buildings additional time to comply if they can demonstrate progress*

*Further information is available here: §28-321

Article 320: The 2026 Pathway

If building :

- Has 1+ rent regulated units and no more than 35% of units subject to rent regulation (regardless of any income restrictions)

The building must:

- Meet emission limits starting in 2026, or face penalties of $268 per ton of carbon for exceeding the limits

And file annual reports starting May 2027*

*Further information is available here: §28-320.3.10.1

Article 320: The 2035 Pathway

If building:

- Is a Mitchell-Lama with no units that participate in a federal project-based housing program, OR
- Has no rent regulated units and has 1+ units that are income restricted through certain* loans, grants, real property tax benefits (e.g., 420-c, Article XI, UDAAP), or property disposition programs

Units with an income restriction imposed solely through the Zoning Resolution (e.g., Inclusionary Housing programs) do not count as "income restricted" for the purposes of this path.

The building must:

- Meet emission limits starting in 2035, or face penalties of $268 per ton of carbon for exceeding the limits

And file annual reports starting May 2036*

*Further information is available here: §28-320.3.9

†LL97 generally covers, with some exceptions: buildings that exceeds 25,000 gross square feet; two or more buildings on the same tax lot that together exceed 50,000 square feet; two or more condominium buildings governed by the same board of managers and that together exceed 50,000 square feet.

LL97 RULES

- Rule 103-14- Informs Article 320 compliance
  - Guidance on how to report and calculate emissions
  - Penalty Framework (Definition of Good Faith Effort)
  - Credit for Beneficial Electrification
- Rule 103-17- Informs Article 321 compliance
  - Guidance for Inspection and Documentation of Prescriptive Energy Conservation Measures
  - Penalties for Non-compliance
- Rule 103-18- Informs LL88 of 2009 compliance
  - Requirements for lighting upgrades and electric submetering

ARTICLE 320 COMPLIANCE

RCNY 103-14

ESPM Property Type	2024 – 2029 Emissions Factor in tCO_2e per sf
Adult Education	0.00758
Ambulatory Surgical Center	0.01181
Automobile Dealership	0.00675
Bank Branch	0.00987
Bowling Alley	0.00574
College/University	0.00987
Convenience Store without Gas Station	0.00675
Courthouse	0.00426
Data Center	0.02381
Distribution Center	0.00574
Enclosed Mall	0.01074
Financial Office	0.00846
Fitness Center/Health Club/Gym	0.00987

‡‡‡ **§28-320.3.1.1 Greenhouse gas coefficient of energy consumption for calendar years 2024 through 2029.** The annual building emissions of a covered building in accordance with this section, greenhouse gas emissions shall be calculated as follows for calendar years 2024 through 2029:

1. Utility electricity consumed on the premises of a covered building that is delivered to the building via the electric grid shall be calculated as generating 0.000288962 tCO_2e per kilowatt hour or, at the owner's option, shall be calculated based on time of use in accordance with referenced emissions factors promulgated by rules of the department. The department, in consultation with the office of long-term planning and sustainability, shall promulgate rules governing the calculation of greenhouse gas emissions for campus-style electric systems that share on-site generation but make use of the utility distribution system and for buildings that are not connected to the utility distribution system.
2. Natural gas combusted on the premises of a covered building shall be calculated as generating 0.00005311 tCO_2e per kbtu.

- Each property has a **GHG limit** based on the property types of the spaces within the property.
  - *GHG Limit = Gross Floor Area X Emissions Factor*
- RDP will need to calculate the building's GHG limit and report annual GHG emissions total for the property.
  - *GHG Emissions = annual fuel use & fuel coefficient*
- Penalty is $268 per metric ton of CO_2e over the GHG limit

BENEFICIAL ELECTRIFICATION

- Owners that replace fossil fuel equipment early with high-efficiency space conditioning or water heating equipment receive a credit against emissions limits for the first or second compliance period
- A negative coefficient may be applied against a building's emissions reducing penalties for buildings that convert to heat pumps:
  - Double the emissions reduction for owners taking action between 2021-2026
  - 1x the emissions reduction for owners taking action between 2027-2029

BENEFICIAL ELECTRIFICATION

- **Draft electricity emissions calculation with BE "Credit":**

GHG Emissions for Annual Electric Consumption	=	((Total annual kWh – BE kWh) x 0.000288962)	+ (Beneficial kWh x -0.00065)

- **Calculation examples will be provided in DOB's LL97 Filing Guide**
  - **Deemed approach, based on capacity, for smaller installations**
  - **Metered approach, based on actual kWh, for larger installations**
- **Banking of BE Credits**
  - **BE credit for one year must be applied in whole to a future year**
  - **Multiple BE credits may not be combined for use in a single year**
  - **BE credits can be applied for each year of operation**

LL97 Article 320 Penalty Framework

Properties have two main compliance responsibilities

Submit building emissions report $Penalty = (Floor\ Area\ x\ \$0.50)/month$

Meet emissions limits $Penalty = ((Emissions - Limit)\ x\ \$268)/yr$

Penalty mitigation opportunities (2024-2029)*

Unexpected or Unforeseeable Event

Good Faith Efforts

Building Emissions Report and Compliance with Any Adjustment

Benchmarking

Lighting & Sub-metering (LL88 rule)

Complete all of these AND one of these

- Decarbonization Plan **(see next slide)**
- Complete Application for the Work Approved by DOB
- Building out electrification readiness
- Previous Compliance with Emissions Limits
- Critical Facility
- Financing (28-320.7 (2) Adjustment)

*Adjustments available for hospitals, nonprofits, landmarks and buildings with special circumstances or financial hardship.

DECARBONIZATION PLAN PATHWAY

A plan for reaching net zero carbon emissions by 2050, including:

- Energy audit
- Inventory of major equipment
- List of alterations needed for compliance, consisting of:
  - Timeline
  - Financing plan
  - Expected emissions reductions

Additionally:

No RECs in the first compliance period.

Important Decarb Plan Dates:	
Submit the decarb plan by:	May 1, 2025
Meet the 2024 emissions limit by:	May 1, 2027
Demonstrate* that the work for 2030 compliance is underway by: *Complete Application for the Work Approved by DOB	May 1, 2028

320 ADJUSTMENTS

- **Available Adjustments**

  28-320.7 Adjustment to Applicable Annual Building Emissions Limit

  - Applications: requirements for the application are still in development

- **28-320.8 Adjustment to Applicable Annual Building Emissions Limit for Calendar Years 2024 - 2029**

  Application due by January 1, 2025, by an RDP

- **28-320.9 Adjustment to Applicable Annual Building Emissions Limit for Not-for-Profit Hospitals and Healthcare Facilities**

  Application due by January 1, 2025, by an RDP

28-320.8 ADJUSTMENT FOR CY 2024-29

- Adjusted Limit - 70% of CY 2018 emissions
- 2018 Emissions are 40% above 2024-2029 emissions limit
- ALL excess emissions attributable to a Special Circumstance
- Energy performance equivalent to 2014 NYCECC compliant building
- Plan to Reduce GHG to Meet 2030 Limit
- C of O Unchanged after December 31, 2018

"… **special circumstances** related to the use of the building**, including but not limited to**

- **24 hour operations,**
- **operations critical to human health and safety,**
- **high density occupancy,**
- **energy intensive communications technologies or operations, and**
- **energy-intensive industrial processes** …"

28-320.9 ADJUSTMENT FOR NOT-FOR-PROFIT HOSPITALS

- Building Classified on November 15, 2019 as
  - Not-for-profit hospital,
  - Not-for-profit health center, ***or***
  - Not-for-profit HIP center
- Adjusted Limit
  - 2024-2029: 85% of CY 2018 emissions
  - 2030-2034: 70% of CY 2018 emissions
- Not-for-profit status
- For Healthcare owners and healthcare facilities *ONLY*
  - other not-for-profit organizations do not qualify for this adjustment

ARTICLE 321 COMPLIANCE

- **Meet the Article 320 emissions limits for 2030 in 2024**
- **Prescriptive Energy Conservation Measures (One-time report due May 1, 2025)**

- Adjusting temperature set points for heat and hot water
- Repairing all heating system leaks
- Maintaining heating systems
- Installing individual temperature controls or insulated radiator enclosures with temperature controls
- Insulating all pipes for heating and/or hot water
- Insulating steam system condensate tank or water tank
- Installing indoor and outdoor heating system sensors and boiler controls
- Replacing or repairing all steam traps
- Installing or upgrading steam system master venting
- Upgrading lighting
- Weatherizing and air sealing
- Installing timers on exhaust fans
- Installing radiant barriers behind all radiators.

ARTICLE 321 COMPLIANCE

- Rule clarifies that reporting may be submitted by a "qualified" RCx Agent
  - Registered design professional, OR,
  - Certified refrigerating system operating engineer, OR,
  - Licensed high-pressure boiler operating engineer
- PECMs documentation requirements
  - 9 PECMs require attestations
  - 4 PECMs require detailed inspection reports
- DOB will be issuing a guide for Article 321 with sampling requirements and additional clarification along with reporting templates for the 4 detailed PECMs

LL97 Article 321 Penalty Framework

Properties have two requirements

Submit required report — Penalty = $10,000

Demonstrate compliance — Penalty = $10,000

- *Failure to file results in both penalties*
- *DOB has discretion to issue recurring penalties until violations are corrected*

Penalty mitigation opportunities

- Unexpected or Unforeseeable Event
- Eligible Energy Conservation Project
- Mediated Resolution

NEXT STEPS

- Guidance
- Future Rules
  - Cogen / DER
  - 320.7 Adjustments (financial hardship and legal limitations)
  - Alignment of sustainability laws


NYC
Buildings
build safe | live safe
nyc.gov/buildings