

When Is a Building Not a Building? Technical Reporting Challenges in LL97 Implementation

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ABSTRACT

New York City’s Local Law 97 (LL97) is one of the most ambitious plans for reducing greenhouse gas (GHG) emissions. Buildings account for 70% of NYC’s citywide GHG emissions, and LL97 targets the largest contributors: approximately 40,000 of the city’s largest buildings covering 3.3 billion square feet. With the first compliance reports due in 2025, NYC is serving as a nationwide leader in implementing building performance standards as part of the city’s push toward net zero by 2050.

This paper will unpack the technical and data-driven challenges in operationalizing LL97, especially in defining and managing “building-level” emissions across a complex and varied built environment. This paper will outline key challenges including transitioning from tax lot-level (identified by a “Borough-Block-Lot” or “BBL”) to building-level data, aggregating and prorating utility data across shared systems, and navigating differences in definitions between LL97, ENERGY STAR Portfolio Manager® (ESPM), and other tools. Further complexities arise in campus-style properties, which often span multiple lots and compliance pathways.

Additionally, the paper will outline the mechanics of the reporting platform, including the administration of adjusted emissions limits, custom emissions factors, deductions (e.g., solar, storage, electric vehicle chargers), and specialized methodologies for cogeneration and beneficial electrification. We will offer practical insights into the data, policy, and technical considerations needed to translate bold climate mandates into enforceable, scalable compliance. Given New York City’s scale and national visibility, the operationalization of LL97 provides an important case study in how large-scale climate regulations can be implemented across a diverse building stock.

Introduction

New York City’s (NYC’s) amended [Local Law 97 of 2019 \(LL97\)](#),¹ one of the most comprehensive building performance standards in the United States, requires buildings over 25,000 gross square feet (GSF) to meet building-level emissions limits. Buildings account for 70% of citywide greenhouse gas (GHG) emissions, and the NYC Department of Buildings (DOB) oversees implementation and enforcement for the largest contributors: 40,000 privately owned buildings covering 3.3 billion square feet (The City of New York 2023; P&L 2025). These buildings fall into two primary regulatory categories—Article 320 (covers most private

¹ Local Law 97 of 2019 includes both Article 320 Building Energy and Emissions Limits and Article 321 Energy Conservation Measure Requirements for Certain Buildings. See the [Chapter 3 Admin. Code](#).

buildings) and Article 321 (covers certain affordable housing & houses of worship) of NYC’s Administrative Code—with the majority required to comply with GHG limits based on building use type and Gross Floor Area (GFA).² The first compliance reports, covering calendar year 2024 energy use, were due in 2025, marking the beginning of mandatory emissions reporting under the law. In the first year of reporting, more than 90% of Article 320 buildings submitted emissions reports, with over 90% reporting emissions below their emissions limits. Article 321 buildings demonstrated a 94% filing rate for the required one-time report. Achieving this level of participation required significant technical infrastructure and industry engagement to translate statutory requirements into a functional reporting system.

Given New York City’s scale and national visibility, the operationalization of LL97 provides an important case study in how large-scale climate regulations can be implemented across a diverse building stock. To administer the requirements of LL97, DOB developed the [Building Energy Analysis Manager \(BEAM™\)](#),³ a reporting platform designed to integrate property records, benchmarking data, and emissions calculations across a large portfolio of buildings. In LL97’s first reporting year, the system processed over 100,000 BEAM™ ticketing transactions, incorporated over 40,000 financial transactions from [NYC DOB NOW](#), their host platform that collected filing fees for each report, and integrated utility data from more than 30,000 ESPM profiles (OBEEP 2026).

LL97 offers a case study in operationalizing a flexible regulatory framework across a large, highly diverse building stock. This paper examines how NYC translated the flexible statutory framework of LL97 into a scalable reporting and verification system capable of managing emissions compliance across tens of thousands of buildings. In particular, it focuses on the technical challenges of defining “building-level” emissions within legacy property and utility data systems that were not originally designed for building-level climate regulation including: (1) reconciling tax lot-based property records with building-level emissions reporting requirements; (2) aligning automated utility data reporting systems with building-level compliance calculations; (3) allocating energy use across buildings with shared energy infrastructure; and (4) administering multiple compliance pathways, adjustments, and deductions within a standardized reporting platform. The sections below detail how NYC addressed these challenges in developing an auditable and scalable reporting framework and this analysis draws on DOB implementation records, system architecture documentation, and first-year reporting data from the BEAM platform.

Defining the “Building” in Building Performance Standards

Building performance standards (BPS) regulate energy use and emissions at the level of individual buildings. In practice, however, defining what constitutes a “building” is not always straightforward within municipal and utility data systems. Property taxation, permitting,

² Per [§103-14](#), gross floor area is the total area in square feet of all floors and spaces in a covered building, as measured between the exterior surfaces of the enclosing fixed walls. Gross floor area includes vent shafts, elevator shafts, flues, pipe shafts, vertical ducts, stairwells, light wells, basement space, cellar space, mechanical/electrical rooms, and interior parking. Gross floor area does not include unroofed courtyards or unroofed light wells. For atria, gross floor area only includes the area of atrium floors. For the purposes of calculating gross floor area in tenant spaces, interior demising walls should be measured to the centerline of the wall. [1 RCNY 103-14](#).

³ [Building Energy Analysis Manager \(BEAM\)](#) is an online platform that runs on the Standard Energy Efficiency Data (SEED) engine developed by Lawrence Berkeley National Laboratory (LBNL) with funding from the U.S. Department of Energy. [Learn more](#).

benchmarking, and utility records often rely on different identifiers, each developed for distinct administrative purposes. These systems may define buildings at the tax lot-level⁴, the structure level, or through utility metering configurations that do not correspond to physical buildings. As a result, a single physical building may appear as multiple regulatory entities, while multiple buildings may be aggregated into a single record. Implementing LL97 required reconciling these differences to establish a consistent framework for building-level emissions reporting.

“Legacy” Sustainability Laws

NYC has been a leader in climate regulations focused on the built environment for nearly two decades. In 2009, the City enacted its first major climate legislation, the Greener, Greater Buildings Plan, which included a suite of laws that set the baseline for future BPS—namely NYC’s Benchmarking Law ([Local Law 84 of 2009 \(LL84\)](#)) (MOCEJ 2014).⁵

Across NYC’s sustainability laws, the definition of “covered building” has referred to the size of the building “As it appears in the records of the department of finance (DOF)...” Because DOF maintains GSF only at the tax lot-level, DOB’s Sustainability Covered Buildings Lists (CBLs) have historically been organized using the City’s Borough-Block-Lot (BBL) parcel number system which also serves as the foundation for property taxation and other municipal datasets.⁶ LL84 requires owners of covered buildings to report annual energy and water use to DOB, with utilities automatically uploading energy data to the U.S. Environmental Protection Agency’s [ENERGY STAR Portfolio Manager® \(ESPM\)](#) at the BBL level.⁷ Compliance has exceeded 98 percent since 2017 (OBEEP 2025). Prior to LL97, this meant building-level energy use could only be reviewed clearly when a lot contained a single building. LL97 introduced building-level compliance using Building Identification Numbers (BINs), requiring each structure to demonstrate its own compliance status. Buildings on a BBL may follow different compliance pathways or qualify for exceptions, but all buildings’ square footage counts toward the BBL’s GSF threshold.

The floor area metric used to determine whether a property is subject to NYC’s sustainability laws differs from the metric used to calculate emissions limits under LL97. DOF determines whether a building is “covered” based on GSF recorded in tax records, while LL97 emissions limits are calculated using GFA, as defined in DOB rules and the New York City Construction Codes respectively.⁸ GFA includes all floors and spaces within a building and must be verified by a Registered Design Professional (RDP) and often differs from the tax-recorded GSF.⁹

⁴ A portion or parcel of land classified as such by the department of finance. Where a tax lot line shifts in a vertical plane, the commissioner shall determine the manner in which provisions of this code apply with respect to measurements to or from such tax lot lines, in order to protect public safety. See the [Chapter 1 Admin. Code](#).

⁵ Learn more via [LL84 Benchmarking – Buildings](#).

⁶ A BBL is a unique, ten-digit number with the first digit representing the borough (1 = Manhattan, 2 = Bronx, 3 = Brooklyn, 4 = Queens, 5 = Staten Island), the next five digits identifying the block, and the remaining four depicting the lot.

⁷ Learn more via [Benchmark Your Building With Portfolio Manager | ENERGY STAR](#).

⁸ Rules of the City of New York. *City Administrative Procedure Act (CAPA)*. www.rules.cityofnewyork.us/capa/; NYC Department of Buildings [2022 Construction Codes](#).

⁹ An architect or engineer, as per the [Chapter 1 Admin. Code](#). The code defines architects and engineers as individuals who are licensed and registered to practice the profession of architecture or engineering under the education law of the state of New York. See pages 4-5 and 10.

In practice, this means that a building may appear on the LL97 Covered Buildings List based on DOF tax records, while the emissions limit calculations used for LL97 compliance rely on a different floor area value verified during reporting. The divergence between DOF's GSF and DOB's GFA has created substantial confusion, requiring extensive documentation and audit efforts to reconcile discrepancies between the two measures.

Background on Local Law 97

LL97 establishes five compliance pathways based on building ownership and affordable housing.¹⁰ Most privately owned buildings fall under Article 320 and have annual emissions reporting obligations. Approximately 22,000 of those buildings began reporting in 2025 using 2024 energy data. Certain rent-regulated and income-restricted buildings will begin reporting in 2027 (~4,000 buildings) and 2036 (~3,500 buildings). Buildings under Article 321, primarily affordable housing properties and houses of worship, must submit a one-time report in 2025 and may comply either through prescriptive energy conservation measures (PECMs) or by meeting 2030 emissions limits (~10,500 buildings). As noted previously, City-owned buildings follow a separate portfolio-based compliance pathway and are outside the scope of this paper.

Under Article 320, buildings must meet annual emissions limits calculated as the product of GFA per property use type and the corresponding carbon coefficient specified in the regulations. This approach accounts for higher energy intensity across spaces that typically consume more energy, such as data centers within office buildings or fitness centers within multifamily buildings. Annual emissions are determined by multiplying energy consumption by fuel-specific carbon coefficients. Buildings with emissions below their assigned limits are considered compliant, while those exceeding their limits are subject to penalties of \$268 per ton of carbon above the threshold.

LL97 emissions limits decline in five-year intervals through 2050. The first compliance period (2024–2029) establishes baseline reporting, with more than 90% of buildings expected to comply. The second compliance period (2030–2034) introduces a substantial decrease in emissions limits, with current estimates suggesting only about 57% of buildings would achieve compliance without additional efficiency measures (UGC 2026). The third compliance period (2035–2040) further reduces limits, though at a slower rate, until carbon neutrality is achieved in 2050. In addition to these mandated reductions, the emissions coefficients for electricity and district steam were set to reflect anticipated decarbonization of the NYC grid and district steam systems, including the expansion of renewables and upgrades to Con Edison's district steam network.

Although the underlying emissions calculations are straightforward, the law required DOB to convene an Advisory Board to identify ambiguities in the law and recommendations for rulemaking (NYC DOB 2022). DOB promulgated three separate rule packages that introduced essential flexibility to accommodate NYC's diverse building stock and also increased reporting, verification, and compliance complexities (NYC DOB 2023). These rules addressed issues including annual emissions calculations; lots with multiple buildings; changes in ownership, demolition, and changes in use; methodologies for reporting under time-of-use (TOU) emissions factors; limited use of renewable energy credits (RECs) for electricity emissions; deductions for clean distributed energy resources (DERs); the penalty framework, including provisions for

¹⁰ Local Law 97 [Covered Buildings List \(CBL\) Matrix](#).

good-faith efforts (GFE); credits for beneficial electrification (BE); and alternative treatment for cogeneration systems, fuel cells, and biofuels.

Core Data and Implementation Challenges in Building-Level Emissions Reporting

Building Level Reporting

Implementing LL97 required the resolution of two major technical challenges: aligning legacy property data systems with building-level reporting requirements and reconciling energy consumption data with the physical realities of shared energy infrastructure across buildings.

DOB identifies properties using their corresponding BBL and BIN, but neither identifier consistently reflects the physical boundaries of individual buildings. A single BBL may contain multiple buildings with multiple BINs; a single building may span multiple BBLs; a single building may contain multiple BINs; and a single building may also be associated with obsolete or administrative BINs. Resolving the mismatch between regulatory definitions and physical building boundaries became one of the central technical challenges in the rollout of LL97.

DOB uses BINs as a proxy for individual buildings, requiring all BINs associated with covered buildings on a BBL to report emissions. When a BIN does not correspond to a physical structure, owners must provide supporting documentation explaining the differences. Because LL97 relies on ownership and property records maintained by the DOF, owners may be required to update DOF records before DOB can reconcile reporting discrepancies. Although this framework continues to evolve, it illustrates the operational complexity of translating statutory definitions and legacy property data systems into accurate, enforceable building-level emissions reporting.

In the first year of compliance, DOB compiled the LL97 CBL by aggregating BINs from multiple data sources to create a comprehensive inventory. The process revealed numerous inconsistencies, including multiple or obsolete BINs assigned to individual structures, requiring owners to request corrections. DOB established a [CBL dispute process](#) for owners and RDPs to reconcile discrepancies at their discretion---contingent upon legal review---but some BIN records remained unresolved due to the novelty of the BEAM platform and technicality of the overall reporting process. At the start of mandatory emissions reporting in 2025, DOB did not have a single definitive count of covered buildings and instead operated with a range of buildings.

Automated Utility Data Reporting

Local Law 97 relies on benchmarking data drawn from ESPM, including automated utility uploads of annual energy consumption. Because the Benchmarking law (LL84) reporting was structured at the tax lot (BBL), NYC utilities (Con Edison and National Grid) configured their automated reporting systems to aggregate meter data by BBL, regardless of ownership structure or the number of buildings on a lot (NYC DOB 2011). As a result, energy consumption data is not inherently aligned with building-level reporting requirements.

To support Local Law 97 compliance on the building level, DOB configured the BEAM™ reporting platform to connect directly to the City's ESPM account and import property use and annual utility data for each building that granted access to DOB's ESPM account. In order for data to successfully transfer from ESPM to BEAM, the BBL and BIN identifiers entered into ESPM must perfectly align with what appears on the LL97 CBL. Automated error

notifications are issued when there is a mismatch between ESPM and the CBL. While single buildings with one BIN on a single BBL integrated seamlessly, single buildings associated with multiple BINs on a single BBL were instructed to designate a single reporting BIN and contact DOB to remove (or ignore) inaccurate identifiers. Inconsistent adherence to this guidance from the RDPs produced data alignment challenges and, in some cases, uncertainty where the BINs on the CBL were not aligned with a single physical building.

The challenge of defining building-level emissions is further complicated by the prevalence of shared energy systems among BINs and/or BBLs. Many buildings are served by central boilers, shared chillers, master-metered electricity, or district steam without submetering on individual buildings. To address this, LL97 allows aggregate reporting in the first compliance period (2024-2029) for buildings with shared ownership, shared energy systems, and same or adjacent BBLs to aggregate both their emissions and emissions limits, provided they follow identical compliance pathways. This provision simplifies reporting for buildings that meet the requirements to aggregate their emissions; however, many buildings with shared energy systems, particularly those with a mix of building types such as affordable housing or houses of worship, contain buildings subject to different pathways and compliance timelines, complicating emissions allocation and verification.

Emissions Calculations for Buildings with Shared Energy Systems

When a lot with multiple buildings appears on a CBL, each individual building may follow its own compliance pathway. Because the LL97 CBL does not specify which buildings on a lot follow which pathway, each building must submit its own LL97 compliance report, except when all buildings follow the same pathway and combined reports are allowed during the initial compliance period.

If one building on a lot is larger than 25,000 GSF, the entire lot will be pulled onto the CBL even when the aggregate area is less than or equal to 50,000 GSF (the threshold at which every building on the lot must comply with LL97). In this case, the buildings smaller than 25,000 GSF could be considered non-covered.

Figure 1 illustrates a scenario in which a single tax lot contains two non-covered buildings. In this example, the annual utility data is transmitted by the utility to ESPM at the BBL, reflecting the aggregate energy consumption of all three buildings. The RDP must disaggregate the total energy use attributable to Buildings 2 and 3, relying either on building-specific metered data or on a defensible methodology, such as an area-weighted average for similar property types, or an emissions limit weighted average that builds in different property types.

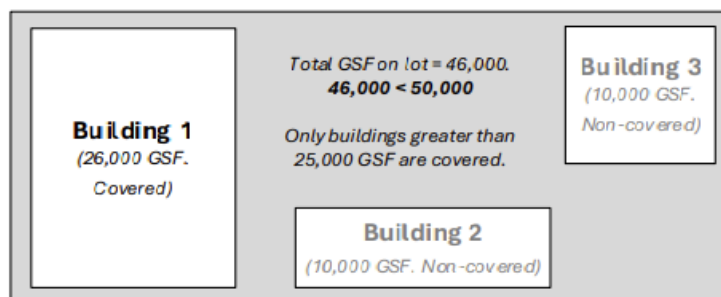


Figure 1. Example of a BBL with one covered building and two buildings that are non-covered. *Source:* NYC DOB 2025.

In other cases, a single lot may include buildings with different compliance pathways. Figure 2 illustrates an example of a lot with four buildings. Building 1 is required to report annually beginning in 2025. Buildings 2 and 3 are subject to Article 321 and required to submit a one-time report in 2025. Building 4 meets an exception under the definition of covered building and is not required to report.

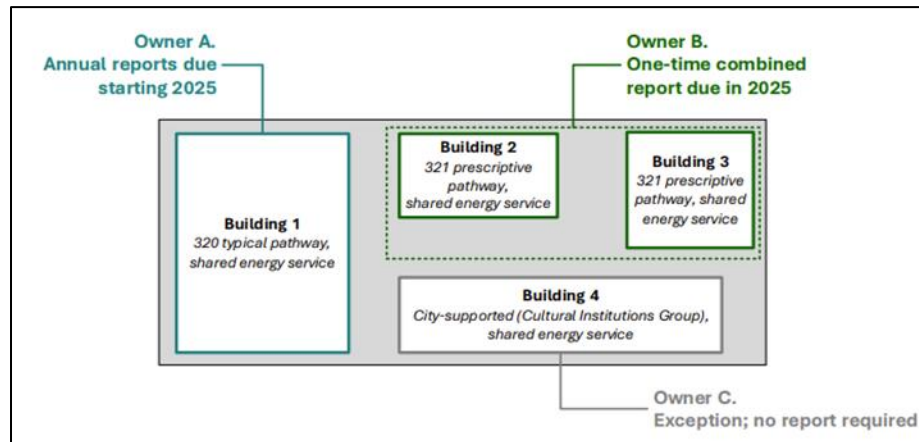


Figure 2. Example of a BBL with four buildings: one following the Article 320 pathway, two following the Article 321 pathway, and one not required to report. *Source:* NYC DOB 2025.

In this example, the annual utility data transmitted by the utility reflects the aggregate energy consumption of all four buildings. The RDP must then disaggregate the total energy use attributable to each building, utilizing the emissions limit methodology. Building 1 has an emissions limit to meet while buildings 2 & 3 can choose to either comply with the prescriptive method approach or the 2030 pathway approach. Since Buildings 2 & 3 share energy service, they can report the two buildings together and use the 2030 coefficients to determine the limit and emissions. The usage for Building 4 is excluded in the report.

The BEAM reporting platform takes in the energy/emissions reported at each lot and apportions automatically based on weighted emissions limits per BIN. The emissions limit per BIN is determined by the formula: $\text{BIN-level emissions limit} = \text{GFA} \times \text{property type emissions factor}$. If the automatic proration is not accurate according to the RDP, BEAM allows users to submit the emissions allocation by BIN to manually adjust the percentage of total emissions (in tCO₂e) per BIN. DOB utilized BEAM™ to integrate property records, utility data, and compliance calculations into a single reporting platform for LL97.

Managing Data Intake

The LL97 reporting process through the BEAM system relies on the BBLs and BINs listed on the LL97 CBL as the foundation for reporting. A static copy of the LL97 CBL is uploaded into the NYC DOB NOW system and separately into the BEAM platform. First, the building owner and/or owner's representative creates an NYC.ID and a profile in the DOB NOW

online system.¹¹ This process authenticates the building owner to their property. Then the owner or owner's representative selects the type of LL97 filing they are completing for their property and completes the filing fee payment. Once the payment is completed, the data is automatically transferred to BEAM. BEAM and DOB NOW data are matched on the BBL and BIN. The email addresses associated with the payment allow those users to view that building's data in BEAM. Separately, building owners are required to share their building's ESPM profile with the NYC DOB ESPM account¹². Each building must include the BBL and BIN of the building they are reporting on. ESPM relies on the user's ability to input the correct 10-digit BBL and 7-digit BIN, as it appears on the LL97 CBL, in the proper format (no dashes, spaces) into ESPM. There are frequent errors, especially for BBLs with multiple BINs. If a building is reporting on multiple BBLs and/or BINs, the risk of user error multiplies as it requires the input of multiple 10-digit BBLs, multiple 7-digit BINs, in the proper format with a semi-colon separating each BBL or BIN.

Data in BEAM can be viewed by authenticated users. While the ESPM data provides the annual energy consumption, property use types and associated GFA, the LL97 report requires NYC specific emission factors and property use type breakdown. All emissions and emissions limits are calculated internally in BEAM. Because of the legacy laws, many owners have LL84 service providers that submit the annual energy consumption to the city. Many of these providers specialize in benchmarking and are not Registered Design Professionals (RDPs), New York State licensed engineers or architects required for LL97 reports. For the 2025 reporting period, DOB had nearly 33,000 ESPM connections and approximately 40,000 payment transactions in BEAM (OBEEP 2026).

The BEAM reporting platform organizes submissions through a structured ticketing system that allows users to complete specific components of LL97 compliance. The majority of reports are submitted through:

- [Ticket #4](#) – Article 320 building emissions reporting
- [Ticket #5](#) – Article 321 compliance reporting
- [Ticket #15](#) – Aggregated emissions reporting for buildings sharing energy systems

Additional tickets support specialized circumstances such as emissions deductions, alternative coefficients, or alternative methodologies (Tickets [#6](#) and [#6a](#)), penalty mitigation and good faith efforts (Tickets [#8](#) and [#9](#)), emissions limit adjustments (Tickets [#10](#) and [#16](#)), and administrative processes such as Covered Buildings List disputes or filing extensions (Tickets [#1](#) and [#3](#)). Each ticket contains structured data fields paired to the building's BBL or BIN identifiers, allowing the system to associate submitted information directly with the property's reporting record.

The tickets were designed to be simple, user friendly and incorporated dropdowns or checkboxes to minimize data errors. Table 1 shows the total number of tickets paired to BINs in the 2025 reporting period, the maximum number of data fields per ticket, the number of mandatory data inputs, and the data identifier by which the tickets are paired to the property. Most tickets have additional fields that are nested and appear if one of the compliance pathway drop-down options allows for additional inputs. The design of this ticketing system creates minimal fields for most reports while also allowing additional flexibility if needed.

¹¹ Learn more in the Local Law 97 [DOB NOW User Guide](#).

¹² Learn more in the Local Law 97 [ESPM User Guide](#).

Table 1. 2025 LL97 Reporting System describing data collected

Ticket #	Ticket Name	Total BINs paired	Total data fields	Total Mandatory Data Inputs	Key Pairing Identifier
1	CBL Disputes	15,324	70	7	BIN
2	Offset Calculator	NA	NA	NA	no pairing
3	LL97 Extension Request	29,647	36	6	BIN
4	LL97 Building Emissions Limit & RDP Attestation (Article 320)	10,200	102	9	BIN
5	LL97 Compliance Report (Article 321)	9,671	113	8	BIN
6	LL97 Deductions and Alternatives to Calculating Annual Building Emissions	63	61	8	BIN
6a	LL97 Aggregate Deductions and Alternatives to Calculating Annual Building Emissions	660	56	6	BBL or multi-BBL
7	LL97 Emissions Allocation by BIN	198	204	5	BBL or multi-BBL
8	LL97 Penalty Mitigation (Article 320)	259	39	8	BIN
9	LL97 Penalty Mitigation (Article 321)	2,589	34	6	BIN
10	LL97 Application for §320.7 Adjustment (Article 320 and Article 321)	50	36	7	BIN
11	LL88 Lighting (Article 310)	26,759	58	7	BIN
12	LL88 Sub-Metering (Article 311)	25,053		7	BIN
13	Verify Fee Exempt Status	1,442	32	5	BIN
14	BEAM Account Update Users	8,174	40	4	BIN

Ticket #	Ticket Name	Total BINs paired	Total data fields	Total Mandatory Data Inputs	Key Pairing Identifier
15	Aggregate Emissions and Emissions Limit Attestation	12,370	39	8	BBL or multi-BBL
16	LL97 Application Approved for 320.8 (Special Circumstance) or 320.9 (Not-for-profit Hospital) Adjustment	53	39	5	BBL or multi-BBL

2025 Reporting Year data collected from BEAM. *Source:* OBEEP 2026.

Critical to achieving high first-year compliance was ensuring that RDPs understood how to navigate the reporting system and submit accurate filings. To support users, DOB implemented an extensive education and support program alongside the launch of BEAM. Within the first month of the launch, DOB produced five detailed Technical Guides, sixteen step-by-step User Guides describing the filing process, and a 35-page Frequently Asked Questions document.¹³ The agency also hosted nine technical webinars focused on specific reporting pathways, with the kickoff webinar alone reaching the platform’s capacity of 1,000 attendees.¹⁴

DOB complemented these resources with direct technical support. A dedicated team of auditors and technical specialists were assigned to assist filers. Buildings submitting multiple BBL or BIN reports were paired with case managers to navigate complex filing scenarios. DOB also held recurring meetings attended by approximately 200 RDPs to answer questions and gather feedback. Because the LL97 reporting process has a steep learning curve, this combination of training, direct support, and iterative system improvements was critical to enabling successful filings and achieving high compliance in the program’s first year.

Managing Compliance Pathways, Adjustments, and Specialized Methodologies

LL97 includes provisions to adjust emission limits to address financial and physical constraints. These adjustments allow buildings facing documented financial hardship, or unique operational circumstances to temporarily modify their emissions limits. Each adjustment requires documentation and has defined eligibility criteria and duration limits, ensuring that flexibility does not undermine the program’s accountability framework.

LL97 includes deductions to emissions for certain measures, such as solar photovoltaic (PV) systems, energy storage, electric vehicle infrastructure, and cell towers located on the building site. These deductions are intended to incentivize specific investments while recognizing their contribution to emissions reductions. Because each deduction requires supporting documentation and verification, the reporting system must track both the claimed deduction and the associated technical documentation to ensure consistent application across buildings.

¹³ All of these LL97 resources can be found on NYC DOB’s [LL97 landing page](#).

¹⁴ [DOB Sustainability Webinar Series](#), hosted by ASHRAE New York City.

Specific technologies, including cogeneration and beneficial electrification projects, are eligible for specialized emissions accounting methodologies. Beneficial electrification projects that replace fossil-fuel heating with high-efficiency heat pumps are eligible for time-dependent emissions credits designed to encourage early adoption. These credits can be banked and applied in future compliance years, requiring the reporting system to track both the timing of installation and the years in which credits are applied. Figure 3 shows that buildings that install beneficial electrification equipment in 2026 or before, get an early action benefit (-0.0013 tCO₂e/kWh shown in Figure 3 with the dark shading) compared to if they installed starting in 2027 (-0.00065 tCO₂e/kWh shown in Figure 3 with light shading). Equipment that was installed in 2024 or earlier may apply the banked credit, using the early action coefficient, any 6 years between 2024 and 2036.

		year in which Beneficial Electrification savings can be applied										
		2024	2025	2026	2027	2028	2029	2030 to 2034	2035	2036		
year in which qualifying equipment is first installed	2024 or earlier											← any 6 years
	2025											← any 5 years
	2026											← any 4 years
	2027											← any 3 years
	2028											← any 2 years
	2029											← any 1 year

Figure 3: Illustration of when the LL97 Beneficial Electrification deduction can be used based on the year the deduction was generated. Darker hatch indicates the larger “early action” negative coefficient.

LL97 also allows limited use of offsets and renewable energy credits (RECs). Buildings may purchase offsets through the Affordable Housing Retrofit Fund to reduce excess emissions up to 10% of the emissions limit, directing funds toward efficiency improvements in local affordable housing projects. RECs may also be used to offset electricity emissions, but they are not yet available. These mechanisms introduce additional data tracking requirements, as each credit must be verified and associated with the correct reporting year and building.

Each adjustment and deduction is reported through the ticketing process along with the required supporting documentation. The data is collected in a streamlined way so that the auditing team is able to review and ensure the integrity of the application.

Conclusion

Implementing LL97 required translating a flexible yet complex statutory framework into a reporting infrastructure capable of processing building-level emissions data across 40,000 buildings. New York City successfully operationalized these requirements by building reporting systems that embed structured data fields, validation protocols, and transparent calculation logic directly into the compliance process. This allowed DOB to track, verify, and administer multiple compliance pathways at scale while accommodating diverse building and lot configurations plus emerging energy technologies within a single, standardized reporting framework.

A defining strength of LL97 is its policy flexibility, which is necessary to accommodate the wide variation across roughly 40,000 reporting buildings; however, that flexibility requires equally rigorous accountability, with highly specific and detailed tracking on the implementation

side. This balance is only achievable when complex policy structures are translated into reporting processes that users can navigate and complete reliably. New York City successfully managed this tradeoff, as reflected in the 90+% compliance rate in the inaugural compliance year.

New York City's experience implementing LL97 provides several lessons for jurisdictions considering building performance standards. First, the availability and structure of underlying data systems can significantly influence how climate policies are implemented. Prior to LL97, much of the City's building and energy data infrastructure was not designed for building level regulation. Utility and tax data systems operated at the lot level, while LL97 requires compliance at the building level. Establishing building-level data connections is essential for accurate emissions accounting and efficient enforcement.

Second, jurisdictions should clearly define the regulated entity, such as what defines a building. NYC encountered thousands of discrepancies between administrative building records and the physical configuration of buildings. Resolving these issues required a process for owners to challenge existing records and provide professional certification of building configurations. Establishing clear definitions and maintaining accurate building inventories are foundational elements of any building performance standard.

Third, shared energy systems and campus-style properties require early consideration in regulatory design. LL97 implementation revealed challenges in allocating emissions among buildings with shared energy systems, particularly when individual buildings have different ownership structures or compliance pathways. Allowing coordinated reporting approaches for campuses or shared energy systems may improve administrative efficiency while maintaining accountability.

Finally, successful implementation of large-scale climate regulation depends on ongoing communication and collaboration with regulated entities. During the initial rollout, DOB received hundreds of similar technical questions each week. Establishing recurring industry meetings created a structured forum for stakeholders to receive guidance, identify system issues, and provide feedback that informed program improvements. This engagement was critical to resolving implementation challenges and supporting successful first-year reporting.

New York City's experience demonstrates that effective building performance standards require more than ambitious emissions targets. They require robust data infrastructure, clear regulatory definitions, transparent calculation methodologies, and sustained engagement with the stakeholders responsible for implementation. As jurisdictions nationwide adopt building performance standards, these operational considerations will be just as important as the policy requirements themselves in achieving measurable emissions reductions.

Acronyms

BBL	Borough-Block-Lot	PECM	Prescriptive Energy Conservation Measure
BE	Beneficial Electrification	PV	Photovoltaic
BEAM	Building Energy Analysis Manager	REC	Renewable Energy Credit
BIN	Building Identification Number	RDP	Registered Design Professional
BPS	Building Performance Standards	TOU	Time-of-Use
CBL	Covered Buildings List		
DER	Distributed Energy Resource		
DOB	NYC Department of Buildings		
DOF	NYC Department of Finance		
ESPM	ENERGY STAR Portfolio Manager®		
GHG	Greenhouse Gas		
GFA	Gross Floor Area		
GFE	Good Faith Effort		
GSF	Gross Square Footage		
LL84	Local Law 84		
LL97	Local Law 97		

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