



# **EnergyStar Portfolio Manager: Property Types & LL97/19**

**Winter 2023**

**Presented by  
Office of Building Energy and  
Emissions Performance (OBEEP)**

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# AGENDA

- Ground Rules, Course Description & Learning Objectives
- Building Emissions Limits
- Conversion Process & Property Types
- Building Emissions Limits – Example Calculations
- Effects of Conversion
- Case Study
- DOB Outreach
- Questions

# COURSE DESCRIPTION

- This course presents an overview of EnergyStar Portfolio Manager Property Types as they pertain to LL97/19 Building Energy and Emissions Limits. Also covered are the basic components of LL97/19 with emphasis on emissions limits and including how Property Types may be selected for buildings covered under the law.

# LEARNING OBJECTIVES

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

- Learn about compliance reporting under Local Law 97/19 and be able to explain how this law will help achieve greenhouse gas emissions reduction goals.
- Learn about the process of “mapping” to EnergyStar Portfolio Manager “property types” as it pertains to LL97/19 Building Energy and Emissions Limits.
- Review the components of the Building Emissions Reduction Law (LL97/19), including how buildings identify their Property Types, and how emissions limits are calculated.
- Discuss how using Energy Star Portfolio Manager Property Types may affect compliance under LL97/19 Building Energy and Emissions Limits.

# **BUILDING EMISSIONS LIMITS UNDER LL97**



# BUILDING EMISSIONS LIMITS

## *Who?*

- Applies to most buildings over 25,000 sf (about 27,000 BBLs or 48,000 buildings)
- Prescriptive pathway for certain affordable housing

## *What? and How?*

- Requires owners to report building info, energy use, and emissions to DOB
- Must hire a Registered Design Professional (RDP) to prepare the submission

## *When?*

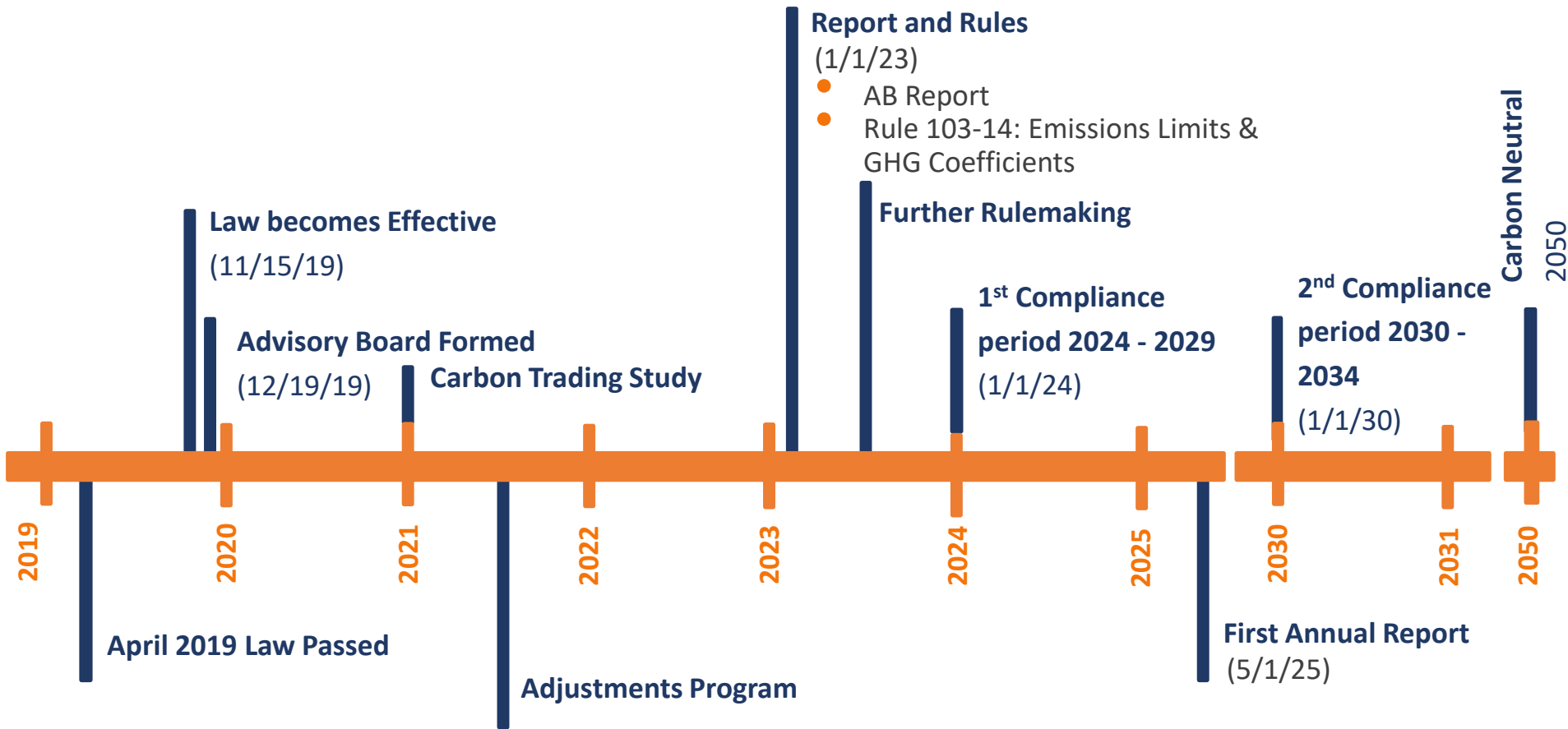
- Annually by May 1 – starting in 2025

## *Why?*

- To meet 80 x 50 goals (80% reduction in GHG levels over 2005 levels by 2050)



# BUILDING EMISSIONS LIMITS





# BUILDING EMISSIONS LIMITS

- Using NYC benchmarking data Local Law 84 of 2009 (LL84)
- Path to 80 x 50 charted from 2005
- Selecting building categorization
- 2024-2029 “warm-up” period
- 2030-2034 limits closer to 80 x 50 path

# BUILDING EMISSIONS LIMITS

- [§28-320.3.1](#). Annual building emissions limits 2024-2029...items 1 through 10 of this section....the department shall provide a method for converting categories of uses under the United States environmental protection agency Portfolio Manager tool to the equivalent uses and occupancy groups set forth in this section.
  - The “method for converting” relies on “equivalent use” based on performance.
- [1 RCNY 103-14](#). **Emissions factor**. An emissions factor is the *building emissions intensity limit* for an occupancy group or property type as determined in accordance with [§28-320.3](#) of the NYC Administrative Code.

# BUILDING EMISSIONS LIMITS

- [§28-320.3.1](#) – Items 1 through 10: 2024 - 2029
- BC: building emission intensity limits | GHGI Limit (tCO<sub>2</sub>e/ft<sup>2</sup>)

Group	Occupancy Type	GHGI Limit (tCO <sub>2</sub> e/ft <sup>2</sup> )
1	A: Assembly	0.01074
2	B: Business	0.00846
3	E: Educational & I-4: Custodial Care Facilities	0.00758
4	I-1: 24 Hour Residential Care	0.01138
5	F: Factory and Industrial	0.00574
6	B: emergency services, non-production laboratory, ambulatory health care, H: high hazard, I-2: 24 hour medical, I-3: 24 hour under restraint	0.02381
7	M: Mercantile	0.01181
8	R-1: transient residential	0.00987
9	R-2: apartments	0.00675
10	S: Storage and U: Utility and Miscellaneous	0.00426



# CONVERSION PROCESS & PROPERTY TYPES

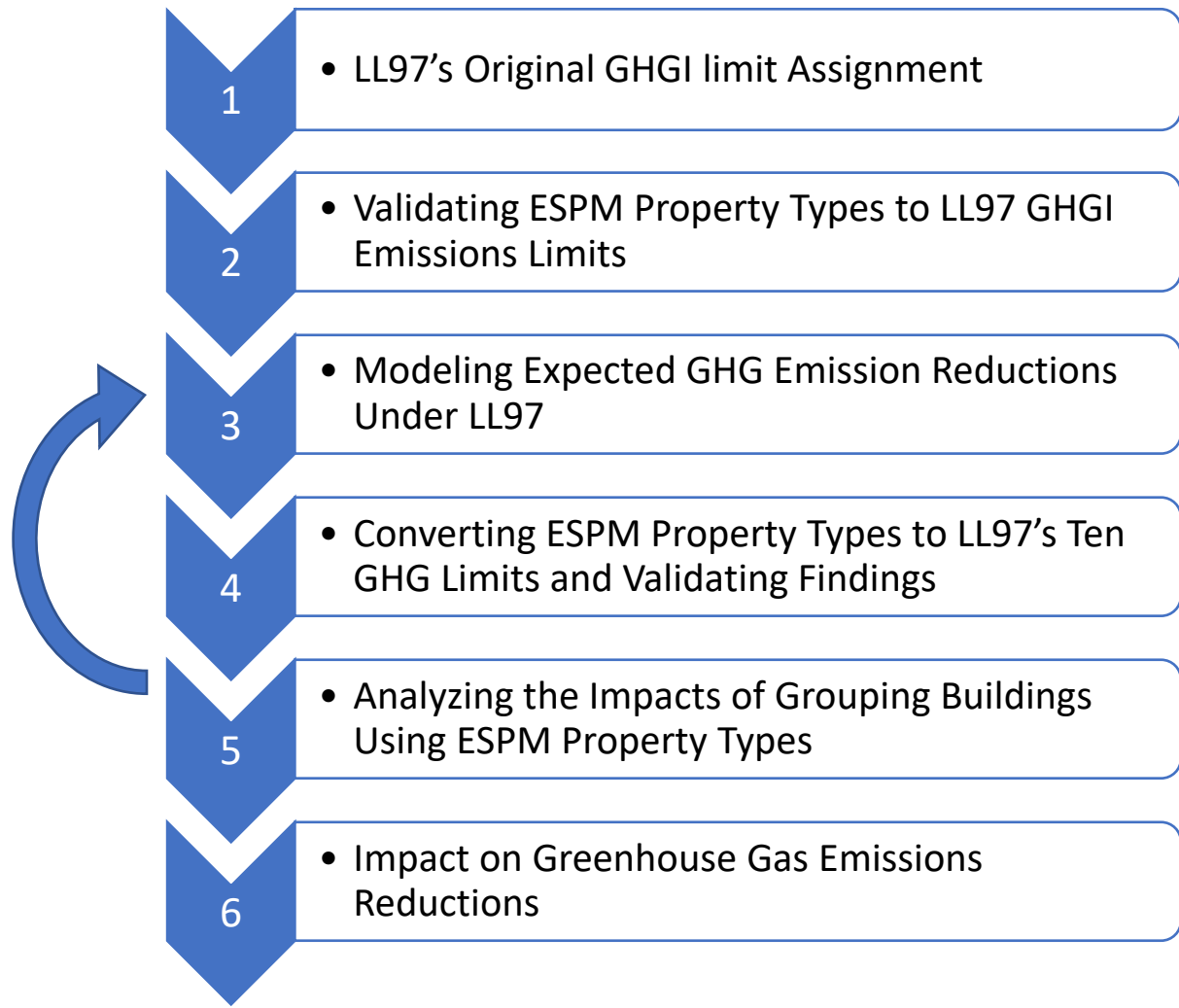
# CONVERSION PROCESS

Maintains expected emissions reductions for building sector

- Analysis in partnership with MOCEJ and peer reviewed (report [methodology](#))

Align emissions limits with property types in ESPM

- Reporting system for compliance with (LL84) and (LL95/16)



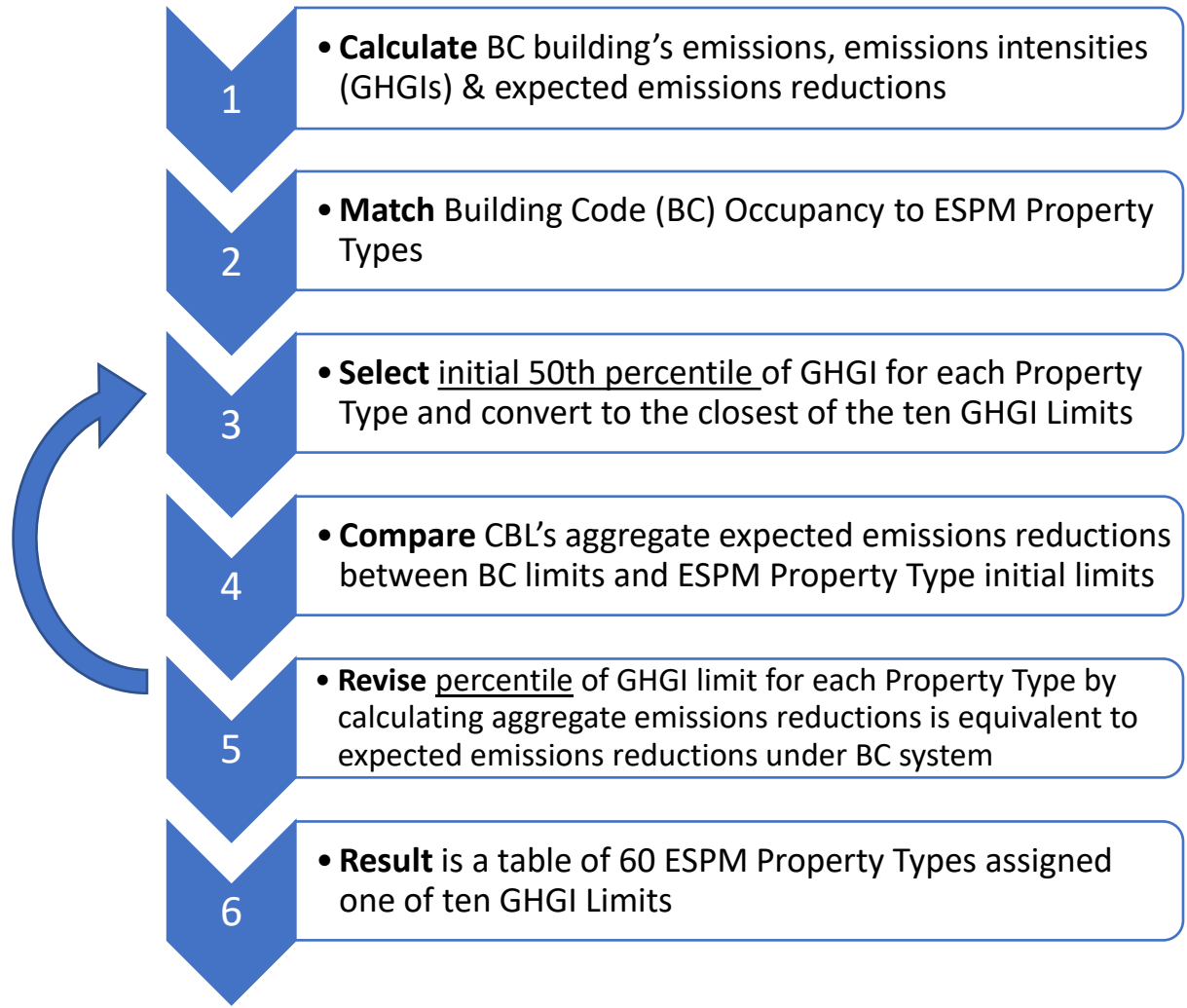
# CONVERSION PROCESS

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# PROPERTY TYPES

[ABOUT](#)[FOR PARTNERS](#)[Find Products](#)[Save at Home](#)[New Homes](#)[Commercial Buildings](#)[Industrial Plants](#)

[https://www.energystar.gov/buildings/benchmark/understand\\_metrics/property\\_types](https://www.energystar.gov/buildings/benchmark/understand_metrics/property_types)

## Commercial Buildings

[Benchmark](#)[Get Started](#)[Understand Metrics](#)[Property Types in Portfolio Manager](#)[Property Types Eligible to Receive a 1-100 ENERGY STAR Score](#)[How the 1-100 ENERGY STAR Score is Calculated](#)[Eligibility Criteria for the 1-100 ENERGY STAR Score](#)

## Property Types in Portfolio Manager

You can use Portfolio Manager to benchmark the performance of any type of building. There are more than 80 choices for building type. This makes it easy for you to identify and compare your building to others.

Click on the category below that best describes the use for the majority of your building types within each category and how they're defined.

Twenty-one of the more than 80 property types are also eligible to receive a 1 – 100 ENERGY STAR score.

### Choose your category

- Banking/financial services
- Education
- Entertainment/public assembly
- Food sales and service
- Healthcare
- Lodging/residential

## Retail

- Automobile Dealership
- Convenience Store with Gas Station
- Convenience Store without Gas Station
- Enclosed Mall
- Lifestyle Center
- Retail Store
- Strip Mall
- Supermarket/Grocery Store
- Wholesale Club/Supercenter
- Other – Retail/Mall

## Retail Store

Retail Store refers to individual stores used to conduct the retail sale of non-food consumer goods such as Department Stores, Discount Stores, Drug Stores, Dollar Stores, Hardware Stores, and Apparel/Specialty Stores (e.g. books, clothing, office products, sporting goods, toys, home goods, and electronics). Buildings containing multiple stores should be classified as enclosed mall, lifestyle center, or strip mall.

[Intensity \(EUI\)?](#)[The Difference Between Source and Site Energy](#)[How Portfolio Manager Calculates Greenhouse Gas Emissions](#)[Document Performance](#)

- Religious worship
- Retail
- Technology/science
- Offices
- Manufacturing
- Warehouse/storage
- Other (select this option if your property doesn't fit into any of the categories above – read more)

# PROPERTY TYPES

## Emissions Intensity Limits | Emissions factors

### [Reference Guide Table 2.1](#)

#### ESPM Property Types – Listed Alphabetically

Energy Star Portfolio Manager (ESPM) Property Types	Building Code (BC)	Section 28- 320.3.1 Item #	2024 - 2029 BC Building Emissions Intensity Limit (tCO2e/sf)	Section 28- 320.3.1 Item #	2024 - 2029 ESPM Building Emissions Factor (tCO2e/sf)
Adult Education	B	2	0.00846	3	0.00758
continues....	.....	.....	.....	.....	.....
Retail Store	M	7	0.01181	3	0.00758
continues....	.....	.....	.....	.....	.....
Worship Facility	A-3	1	0.01074	5	0.00574

# PROPERTY TYPES

## Assigning Property Types within a Building

- The covered building uses should be assigned per the descriptions in the [Property Types](#) section of the Energy Star Portfolio Manager (ESPM) [glossary](#). Every space use on every floor in the building must be assigned to a property type.
- Where ancillary spaces, including but not limited to shafts, stairwells or egress paths, mechanical spaces, and incidental uses, are associated with a single building use, they should be assigned that property type. Where ancillary spaces serve multiple building uses, the ancillary space should be prorated and assigned proportionally across the different property types in a building.



# PROPERTY TYPES

## Buildings with a Single Property Type

- For buildings with a single property type, match the building use to one of the property types listed in ESPM.

## Buildings with Multiple Property Types

- For buildings with multiple property types, match each of the building uses to the property types listed in ESPM.

# PROPERTY TYPES

## Gross Floor Area (GSF)

- 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, 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.

# BUILDING EMISSIONS LIMITS

## *Example Calculations*



# BUILDING EMISSIONS LIMITS

## RULE 103-14

- [1 RCNY 103-14](#): Requirements for Reporting Annual Greenhouse Gas (GHG) Emissions for Covered Buildings

# BUILDING EMISSIONS LIMITS

## Buildings with a Single Occupancy Group or Property Type

- Buildings with a single occupancy group. The building emissions limit for a covered building with a single occupancy group or property type must be calculated as:
  - the gross floor area ( $s$  = the total floor area in square feet) multiplied by the emissions factor ( $l$  = the emissions factor) for the building's occupancy group or property type.

# BUILDING EMISSIONS LIMITS

## Buildings with Multiple Occupancy Groups or Property Types

- Buildings with multiple occupancy groups. The building emissions limit for a covered building with multiple occupancy groups or property types must be calculated as:
  - the sum ( $\sum k$ ) of the emissions factor ( $l_k$ ) for each occupancy group or property type multiplied by the floor area ( $s_k$  = the total floor area in square feet) of each occupancy group or property type in the covered building.

# BUILDING EMISSIONS LIMITS

Calculations. An annual building emissions report submitted pursuant to subdivision (b) of this section must be prepared using the calculation methodologies set forth in this subdivision.

$$B = \sum l_k \cdot s_k \quad (\text{Equation 103-14.1})$$

Where:

- $B$  = the total building emissions limit for a covered building with multiple occupancy groups
- $l_k$  = the emissions factor of each given occupancy group or property type,  $k$ , as specified in Article 320 or in the rule, in tCO<sub>2</sub>e per square foot
- $s_k$  = the total floor area in square feet of each property type or occupancy group,  $k$ , in a covered building



# BUILDING EMISSIONS LIMITS: EXI

Example 1 – Building containing *residential apartments, drug store, and supermarket*

## [Reference Guide Table 2.1](#)

### ESPM Property Types – Listed Alphabetically

Energy Star Portfolio Manager (ESPM) Property Types		Building Code (BC)	Section 28- 320.3.1 Item #	2024 - 2029 BC Building Emissions Intensity Limit (tCO <sub>2</sub> e/sf)	Section 28- 320.3.1 Item #	2024 - 2029 ESPM Building Emissions Factor (tCO <sub>2</sub> e/sf)
Multifamily Housing		R-2	9	0.00675	9	0.00675
Retail Store		M	7	0.01181	3	0.00758
Supermarket/Grocery Store		M	7	0.01181	6	0.02381

# BUILDING EMISSIONS LIMITS: EXI

Example 1 (contd.) – *residential apartments, drug store, and supermarket:*

## [Reference Guide Example 4.1](#)

### Multifamily with Retail and Supermarket/Grocery Store

Example 4.1 - Multifamily with Retail and Supermarket/Grocery Store:			
ESPM Property Type	GFA (SF)	Emissions Factor (tCO <sub>2</sub> e/sf)	Emissions Limit (tCO <sub>2</sub> e)
Multifamily Housing	90,000	✗ 0.00675	= 608
Retail Store	10,000	0.00758	76
Supermarket/ Grocery Store	15,000	0.02381	357
<b>Total:</b>	<b>115,000</b>	-	<b>1040</b>

Total Building  
Emissions Limit

# EFFECTS OF CONVERSION

# EFFECTS OF CONVERSION

**NOTE:** Owners whose building emission limit have been lowered (made more stringent) by this conversion, have the option of following either the original limits based on New York City Building Code occupancy groups, or the limits based on ESPM property types, for calendar years 2024 and 2025. Beginning in 2026, all owners must calculate their building emissions limit using the emissions factors based on ESPM property types. If you believe that your building includes a property type that is not listed, please contact DOB's sustainability team at [GHGEmissions@buildings.nyc.gov](mailto:GHGEmissions@buildings.nyc.gov).



# EFFECTS OF CONVERSION

## Emissions Limits

- *Emissions limits may change*

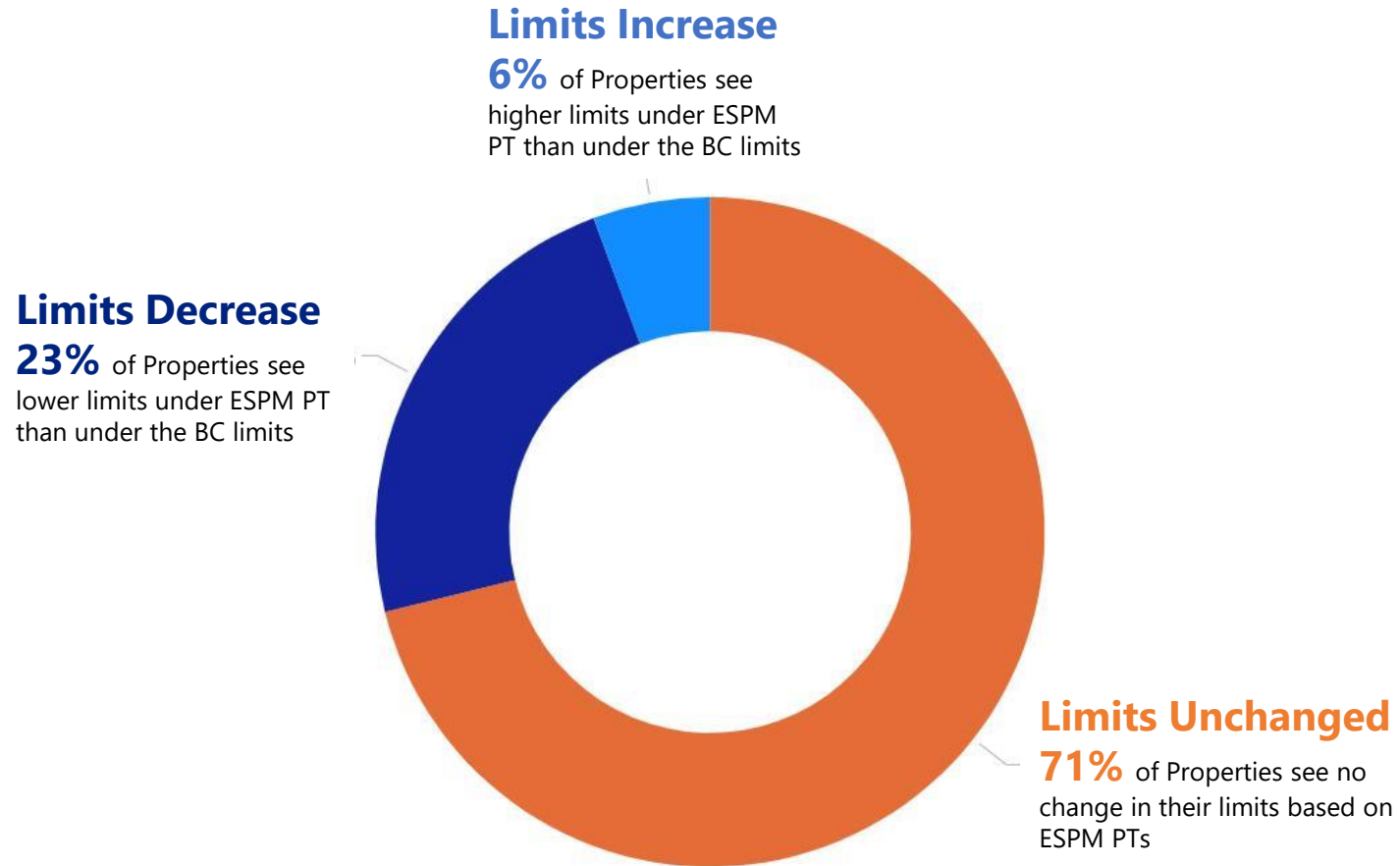
## Compliance

- *Compliance may change*

## Penalty Amount

- *Penalties may change*

# IMPACT ON 2024-2029 LIMITS



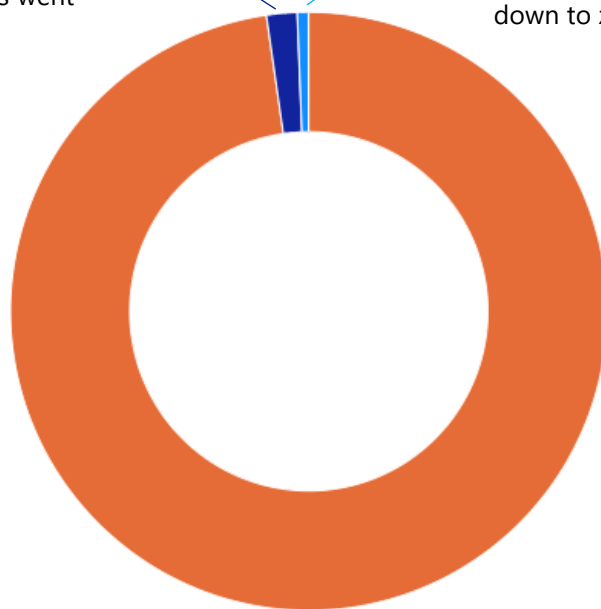
# IMPACT ON 2024-2029 COMPLIANCE

## Change to Non-Compliant

**1.65%** of Properties that were compliant under BC occupancy type limits but became non-compliant under their new ESPM property type limits (Penalties went up from zero)

## Change to Compliant

**0.61%** of Properties that were non-compliant under BC occupancy type limits but became compliant under their new ESPM property type limits (Penalties went down to zero)



## No Change

**97.74%** of Properties did not experience a shift in compliance. If they were compliant under their BC occupancy type limits, then they remained compliant under their new ESPM property type.

# CASE STUDY

NOTE: In many cases, occupancy uses in the building fall under the same Building Code Occupancy Group but are assigned to different ESPM Property Types.



# CASE STUDY

Table 5.1.1 Establishing Building Emissions Limit per Building Code Occupancy Groups

Occupancy Types in Building	BC Occupancy Group	Section 28-320.3.1 Item #	Building Emissions Intensity Limit (tCO <sub>2</sub> e/sf)
Rental Apartments	Occupancy Group R-2	9	0.00675
Drug Store	Occupancy Group M	7	0.01181
Supermarket	Occupancy Group M	7	0.01181

Table 5.1.2 Establishing Building Emissions Limit per ESPM Property Types

Occupancy Types in Building	Energy Star Portfolio Manager Property Types	Section 28-320.3.1 Item #	Emissions Factor (tCO <sub>2</sub> e/sf)
Rental Apartments	Multifamily Housing	9	0.00675
Drug Store	Retail Store	3	0.00758
Supermarket	Supermarket/ Grocery Store	6	0.02381

# CASE STUDY

Example 1 - Multifamily with Retail and Supermarket/Grocery Store:

Aggregate Gross Floor Area (SF) 115,000

Total Actual Building Emissions (tCO<sub>2</sub>e): **1035**

Occupancy Types in Building	GFA (SF)	BC Occupancy Group	Building Emissions Intensity Limit (tCO <sub>2</sub> e/sf)	Emissions Limit (tCO <sub>2</sub> e)	ESPM Property Type	Building Emissions Intensity Limit (tCO <sub>2</sub> e/sf)	Emissions Limit (tCO <sub>2</sub> e)	Change in Building Emissions intensity Limit
Rental Apartments	90,000	R-2	0.00675	608	Multifamily Housing	0.00675	608	Same Limit
Drug Store	10,000	M	0.01181	118	Retail Store	0.00758	76	Lower Limit
Super market	15,000	M	0.01181	177	Supermarket/Grocery Store	0.02381	357	Higher Limit
<b>Total:</b>	<b>115,000</b>	<b>Total:</b>		<b>903</b>	<b>Total:</b>		<b>1040</b>	<b>Overall Higher</b>
2024-2029 Compliant								

# DOB OUTREACH

- DOB Communication Channels
  - Service notice
  - [Reference Guide](#), and detailed [report](#) on methodology
  - Buildings News
  - Sustainability newsletter
  - DOB Websites
  - Email blast
  - Training
- Partnerships: Urban Green, BE-EX, NYC Accelerator, Sustainability Help Center, AIA, ACEC, REBNY, etc.
- DOB Rules: [1 RCNY 103-14](#) and others forthcoming
- Targeted outreach to impacted properties

# DOB OUTREACH – ONLINE TOOLS

- BUILDING ENERGY EXCHANGE (BE-EX) LL97 CALCULATOR
  - ESPM LL97 CALCULATOR
  - BC LL97 CALCULATOR



# QUESTIONS

**CONTACT US AT:**

**[GHGEMISSIONS@BUILDINGS.NYC.GOV](mailto:GHGEMISSIONS@BUILDINGS.NYC.GOV)**

**OTHER RESOURCES:**

**[NYC ACCELERATOR](#)**

**[1 RCNY 103-14](#)**

**[NYC SUSTAINABLE BUILDINGS WEBPAGE](#)**

**[LL97 2022 COVERED BUILDINGS LIST](#)**





QUESTIONS?