

NYC Climate Mobilization Act

OneNYC 2050

30 initiatives across 8 goals
to secure our city's future



Achieve carbon neutrality and 100% clean electricity
Require buildings to cut their emissions
Hydro-power City government



LOCAL LAWS 92 AND 94

requiring that the roofs of certain buildings be covered in green roofs or solar PV systems

LOCAL LAW 95

a building energy efficiency grade

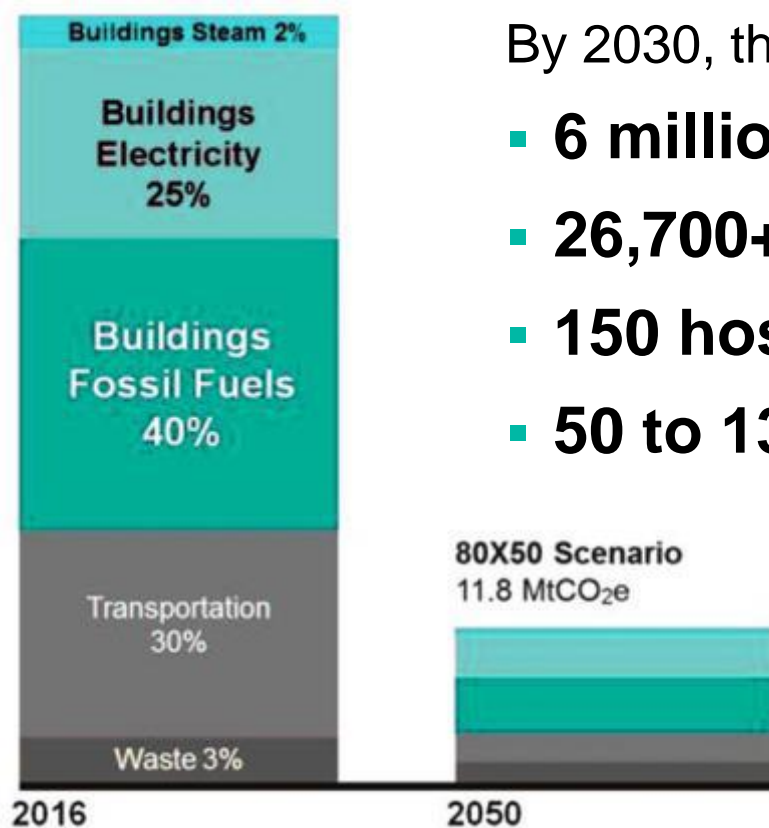
LOCAL LAW 96

establishing a sustainable energy loan program (ie. PACE)

LOCAL LAW 97

the commitment to achieve certain reductions in greenhouse gas emissions by 2050

NYC emissions: 51.7 MtCO₂e



By 2030, the Climate Mobilization Act will achieve:

- **6 million tons of CO₂e reduced**
- **26,700+ jobs created**
- **150 hospitalizations avoided per year**
- **50 to 130 deaths prevented per year**

LOCAL LAW 92 & 94

requiring that the roofs of certain buildings be covered in green roofs or solar PV systems



New construction and substantial renovations required to install solar PV, green roofs, or both

LOCAL LAW 92 & 94

requiring that the roofs of certain buildings be covered in green roofs or solar PV systems

- Applies to all new buildings, building expansions, and structural roof work.
- All available roof space must be covered in green roofs, solar or both.
- Roofs will have a required reflectance & emittance to mitigate urban heat island effect, including pitched roofs.
- Affordable housing has alternative compliance for 5 years while HPD studies the bills' impacts.
- Feasibility exemptions available.
- State, local and federal incentives for solar and flexible ownership models

LOCAL LAW 95

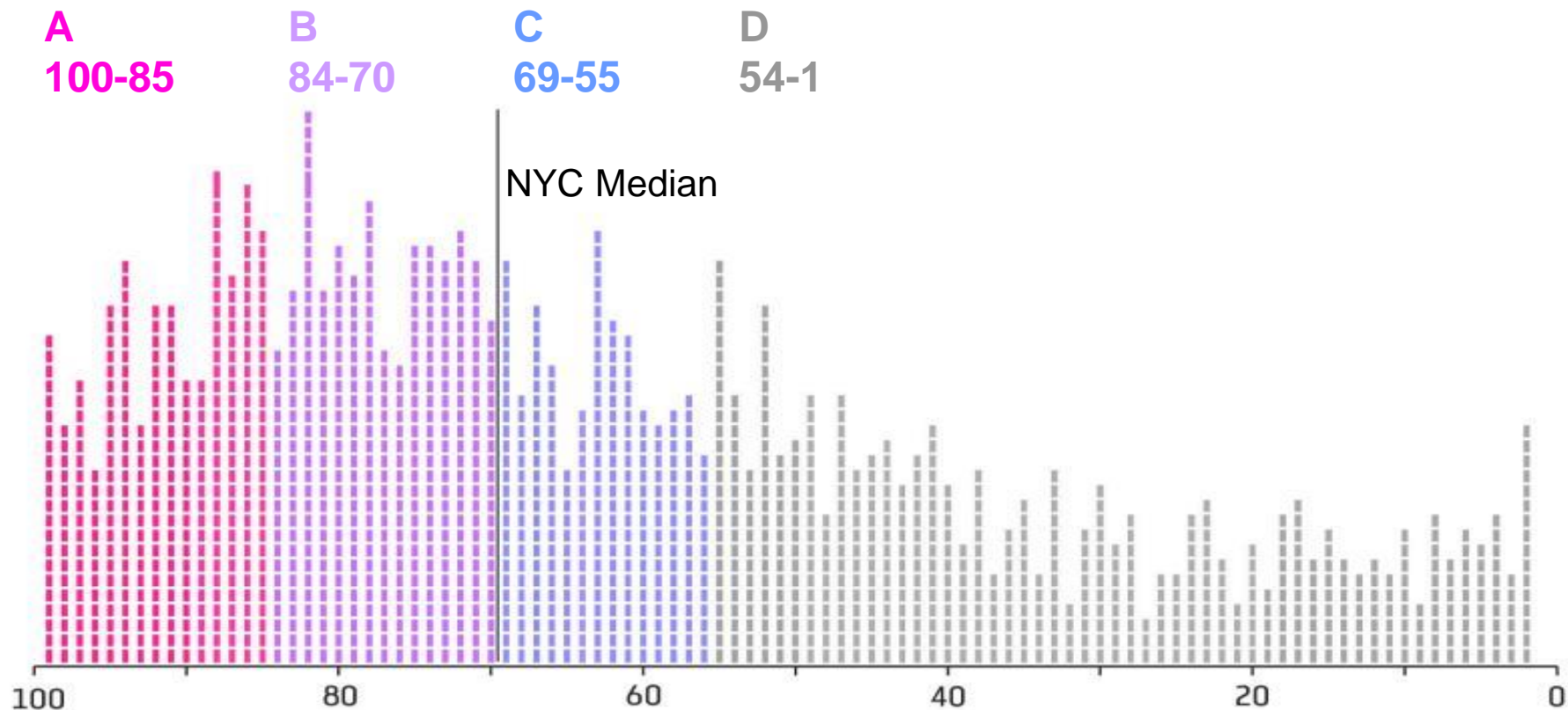
a building energy efficiency grade



Energy grades to be posted on buildings larger than 25,000sf in size, beginning October 2020

LOCAL LAW 95

a building energy efficiency grade



LOCAL LAW 96

establishing a sustainable energy loan program (ie. PACE)

**Financing for energy efficiency and renewable energy projects
with long terms and little or no money down**



LOCAL LAW 96

establishing a sustainable energy loan program (ie. PACE)

- Loans are made using private funds through pre-qualified capital providers
- Loans are repaid as a charge on a building's property tax bill
- Debt service is sized to the savings from the efficiency/clean energy project
- Debt remains on the property and is transferrable upon sale of the property

LOCAL LAW 97

the commitment to achieve certain reductions in greenhouse gas emissions by 2050



BUILDINGS LARGER THAN 25,000SF IN SIZE:

Greenhouse gas emissions limits must be met starting in 2024

LOCAL LAW 97

the commitment to achieve certain reductions in greenhouse gas emissions by 2050

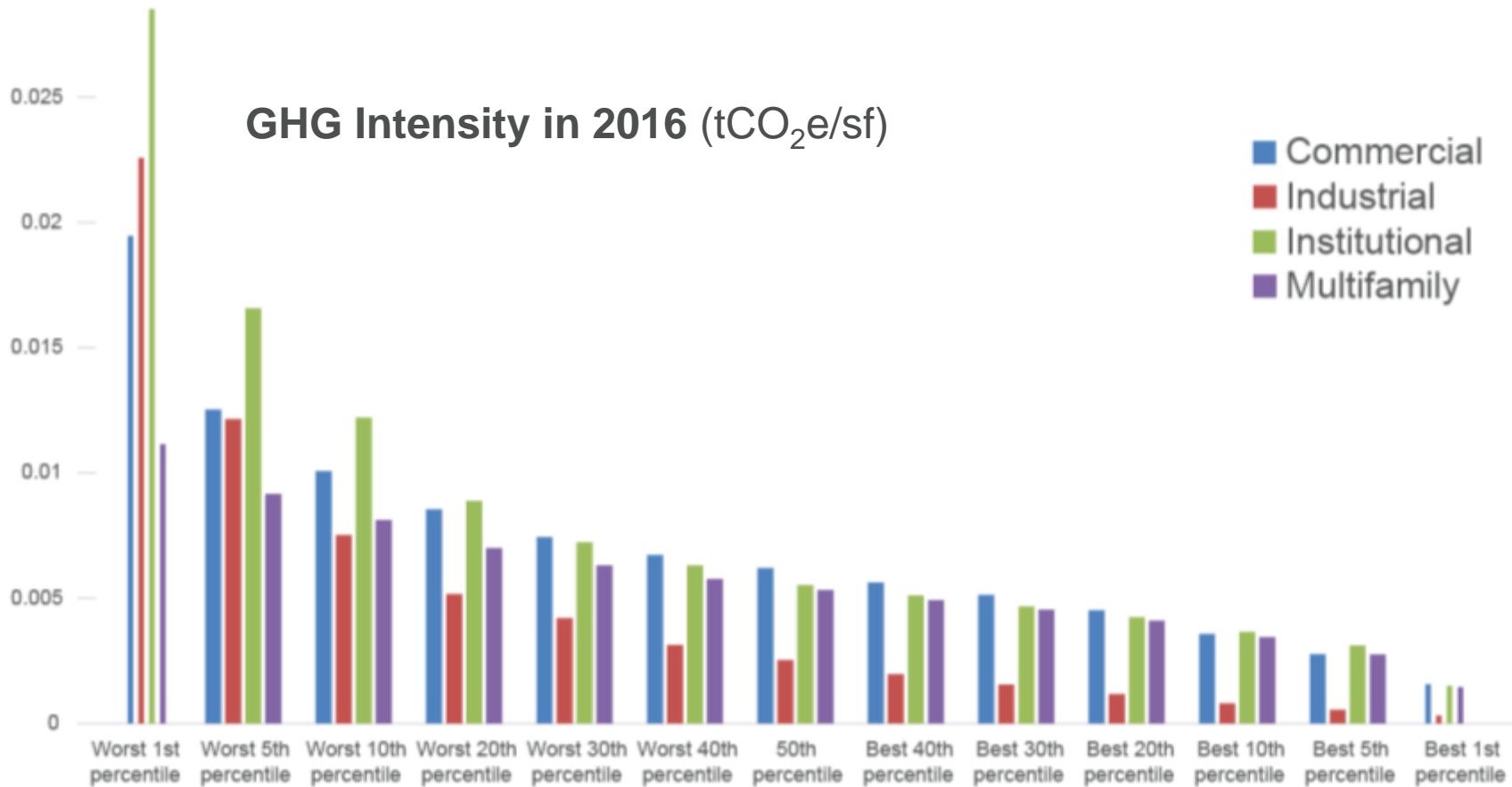
- GHG emissions limits for all buildings >25,000 square feet
- Creation of a DOB “Office of Building Energy and Emissions Performance”
- Convening of an advisory group on future limits
- Study for a building carbon trading scheme
- City operations GHG reductions of 40% by 2025 and 50% by 2030
- NYCHA properties need to meet GHG reductions of 40% by 2030

LOCAL LAW 97

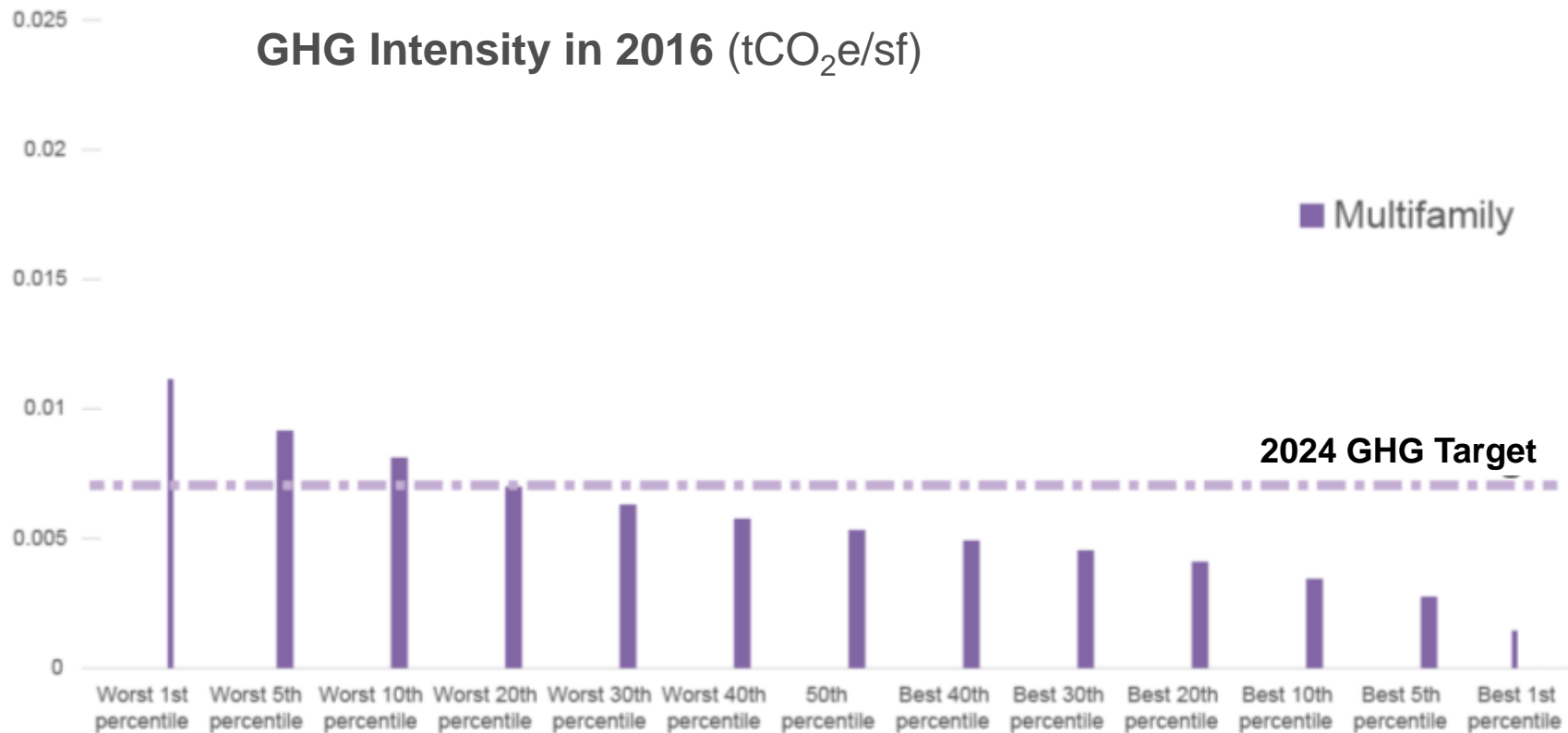
the commitment to achieve certain reductions in greenhouse gas emissions by 2050

- By May 1, 2025, building owners must report emissions from CY 2024
 - Emissions are reported every year for each full calendar year
-
- The emissions target is more stringent beginning in CY 2030
 - The 2030-2034 target aligns buildings with the City's 40X30 goal
 - For 2035 and beyond, targets will be set by DOB rulemaking based on recommendations from an advisory committee
 - Prescriptive energy conservation measures for rent regulated housing

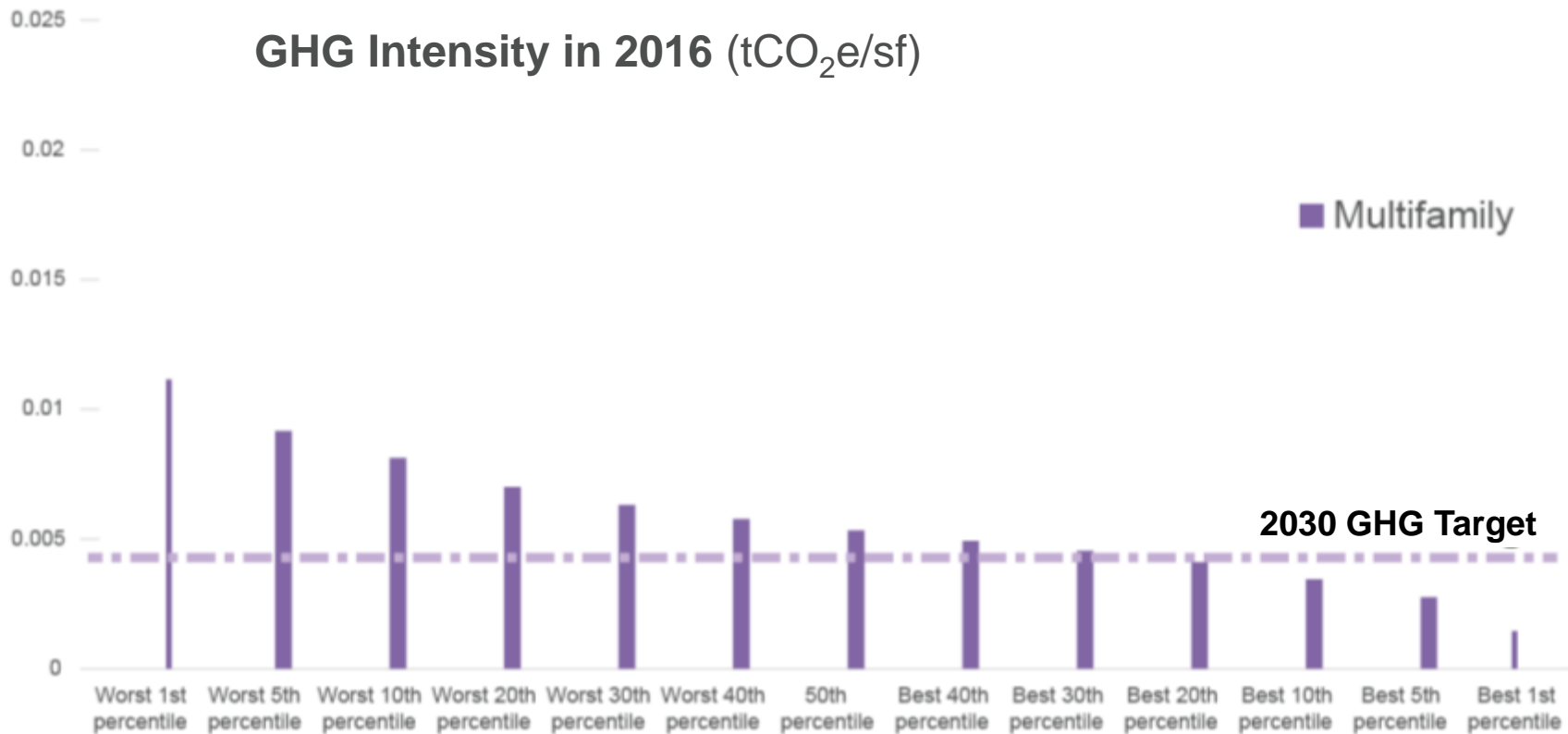
GHG Intensity in 2016 (tCO₂e/sf)



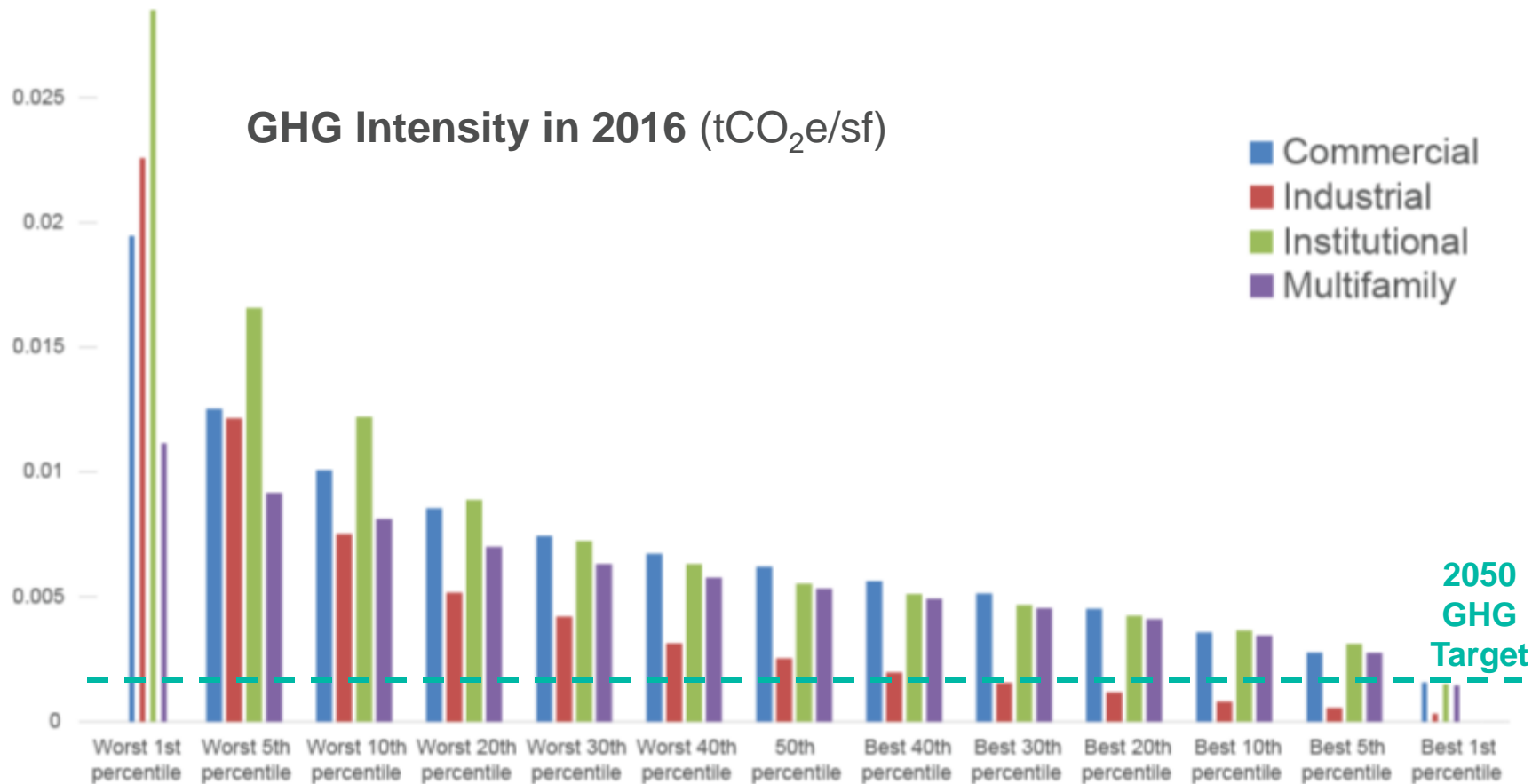
GHG Intensity in 2016 (tCO₂e/sf)



GHG Intensity in 2016 (tCO₂e/sf)



GHG Intensity in 2016 (tCO₂e/sf)



LOCAL LAW 97

the commitment to achieve certain reductions in greenhouse gas emissions by 2050

2024-2029 Targets

Use Group	GHG target (tons/sf)	GHG Target (kg/sf)
Group I-2 – Hospital, Group B – Laboratories, Group H – High Hazard, Group B – Civic Emergency	0.02381	23.8
Group M - Mercantile	0.01181	11.8
Group I-1 – Senior Assisted Living	0.01138	11.3
Group A - Assembly	0.01074	10.7
Group R-1 – Hotels and Dormitories	0.00987	9.8
Group B - Business	0.00846	8.7
Group E – Education, Group I-4 - Daycare	0.00758	7.6
Group R-2 – Residential, multifamily	0.00675	6.8
Group F – Factory & Industrial	0.00574	5.7
Group S – Storage, Group U - Parking	0.00426	4.3

LOCAL LAW 97

the commitment to achieve certain reductions in greenhouse gas emissions by 2050

2030-2034 Targets

Use Group

GHG target
(tons/sf)

GHG Target
(kg/sf)

Group I-2 – Hospital, Group B – Laboratories, Group H – High Hazard,
Group B – Civic Emergency

0.01193

11.9

Group M - Mercantile

0.00403

4.3

Group I-1 – Senior Assisted Living

0.00598

6.0

Group A - Assembly

0.00420

4.2

Group R-1 – Hotels and Dormitories

0.00526

5.3

Group B - Business

0.00453

4.5

Group E – Education, Group I-4 - Daycare

0.00344

3.4

Group R-2 – Residential, multifamily

0.00407

4.1

Group F – Factory & Industrial

0.00167

1.7

Group S – Storage, Group U - Parking

0.00110

1.1

NYC Energy & Water Benchmarking Map

Map About Data Publications

EUI WUI GHG

Reporting Year 2017

250 Broadway



Office

7.86

GHG Intensity
(kgCO₂/ft²)

GHG Intensity Target*

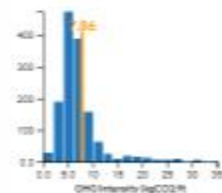
2025 Target 8.46 kgCO₂/ft²

2030 Target 4.53 kgCO₂/ft²

*Estimated to be verified by a professional engineer or architect

Building Information

Distribution Comparison



All Office Peer Buildings

Time Series Comparison

Building Type Breakdown

250 Broadway, New York



GREENHOUSE GAS INTENSITY (kgCO₂/ft²)

+1

12+

LOCAL LAW 97

the commitment to achieve certain reductions in greenhouse gas emissions by 2050

GHG coefficients

Energy Source

2024-2029
(tons CO₂e/kBtu)

Utility electricity

0.0000847

Additional rules for campus-style electricity systems that share on-site generation, but make use of the utility distribution system and for buildings not connected to the utility distribution system to come

Natural gas combusted on-site

0.00005311

#2 fuel oil combusted on-site

0.00007421

#4 fuel oil combusted on-site

0.00007529

District steam

0.00004493

Other, including distributed energy resources

TBD

LOCAL LAW 97

the commitment to achieve certain reductions in greenhouse gas emissions by 2050

- Each property has a “GHG budget” based on the occupancy classifications of the spaces within the property.
- A registered architect or engineer will need to calculate the building’s GHG budget and report annual GHG emissions total for the property.
- GHG emissions that exceed the building’s GHG budget is subject to penalty at \$268 per metric ton of CO₂e.

CALCULATING A BUILDING'S GHG BUDGET - 2024

EXAMPLE: Mixed-use building, 230,928 sf in size

30,034 sf retail space on ground floor

200,894 sf residential and accessory spaces

- The bill sets GHG building emissions intensity limits by occupancy classification in 2024:

Group M (mercantile) limit is 0.01181

Group R (residential) limit is 0.00675

- The 2024 GHG budget for the building is calculated as:

$$(30,034 \times 0.01181) + (200,894 \times 0.00675) = \mathbf{1,711 \text{ metric tons CO}_2\text{e}}$$

CALCULATING A BUILDING'S GHG BUDGET - 2024

EXAMPLE: Mixed-use building, 230,928 sf in size

The 2024 GHG budget for the building is 1,711 tCO₂e

- In 2024, the building reports energy consumption as:
 - 4,145,742 kbtu of Gas
 - 15,214,348 kbtu of Electricity
- The 2024 GHG budget for the building is calculated as:
 $(30,034 \times 0.01181) + (200,894 \times 0.00675) = \mathbf{1,711 \text{ metric tons CO}_2\text{e}}$
- Portfolio Manager applies GHG coefficients to the electricity and gas consumption to generate a total of **1,632 metric tons CO₂e for 2024**

CALCULATING A BUILDING'S GHG BUDGET - 2030

EXAMPLE: Mixed-use building, 230,928 sf in size

30,034 sf retail space on ground floor

200,894 sf residential and accessory spaces

- The bill sets GHG building emissions intensity limits by occupancy classification in 2030:
 - Group M (mercantile) limit is **0.00403**
 - Group R (residential) limit is **0.00407**
- The 2030 GHG budget for the building is calculated as:
 $(30,034 \times 0.00403) + (200,894 \times 0.00407) = \mathbf{939 \text{ metric tons CO}_2\text{e}}$

CALCULATING A BUILDING'S GHG BUDGET - 2030

EXAMPLE: Mixed-use building, 230,928 sf in size

The 2030 GHG budget for the building is 939 tCO₂e

- If in 2030 the building generates a total of 1,632 tCO₂e, the building exceeds the GHG budget by 693 tCO₂e and does not comply
- The penalty is calculated by multiplying \$268/metric ton CO₂e by the extent which the 2030 GHG emissions exceed the GHG budget
\$268 x 693tCO₂e = \$185,724 penalty for CY 2030 emissions

PRESCRIPTIVE MEASURES FOR AFFORDABLE HOUSING

- 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.

SPECIAL CIRCUMSTANCES

- Variance to adjust a building's 2024 GHG target based upon excessive emissions attributable to high-intensity uses and not the building condition
- Alternate GHG target set for hospitals and healthcare facilities with excessive emissions

LOCAL LAW 97

the commitment to achieve certain reductions in greenhouse gas emissions by 2050



City operations 40% GHG reduction by 2025 and 50% by 2030

NYCHA goal of 40% by 2030

NYC Energy Efficiency Programs



Free, personalized advisory services to streamline the process of energy efficiency improvements



- Trusted advisor to buildings
- Insights into building needs
- Custom approach
- Simplified process
- Ongoing assistance

NYC Energy Efficiency Programs

Building Community

New technology, networking
inspiring stories, community

Everyday Efficiency

Incremental measures, focus
on systems and products

High Performance

Long term, holistic, integrated
retrofit plans



Large and Mid-size Existing Buildings

FOCUS:

Buildings larger than 25,000sf

All affordable housing



Small Buildings in Targeted Neighborhoods

FOCUS:

Buildings 5,000 - 25,000sf in size

Upper Manhattan and Central Brooklyn

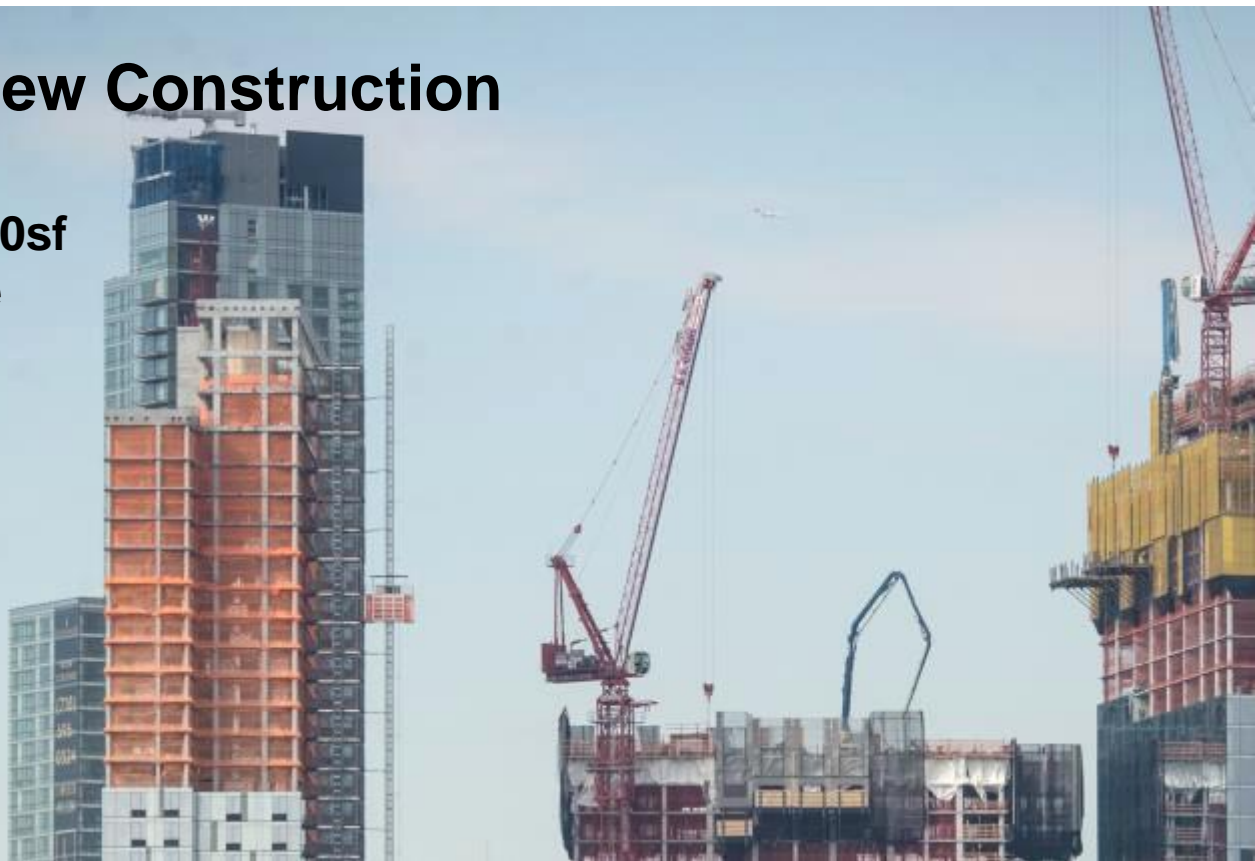


NYC Energy Efficiency Programs in 2019

High Performance New Construction

FOCUS:

**Buildings larger than 25,000sf
to exceed the Energy Code**



High Performance Retrofit Track

FOCUS:

High performance retrofits as part of
capital planning



NYC Energy Efficiency Programs in 2019

NYC Building Operator Training

FOCUS:

30-hour no-cost training on multifamily building energy equipment and operations

Maintenance Staff

Management

Superintendents

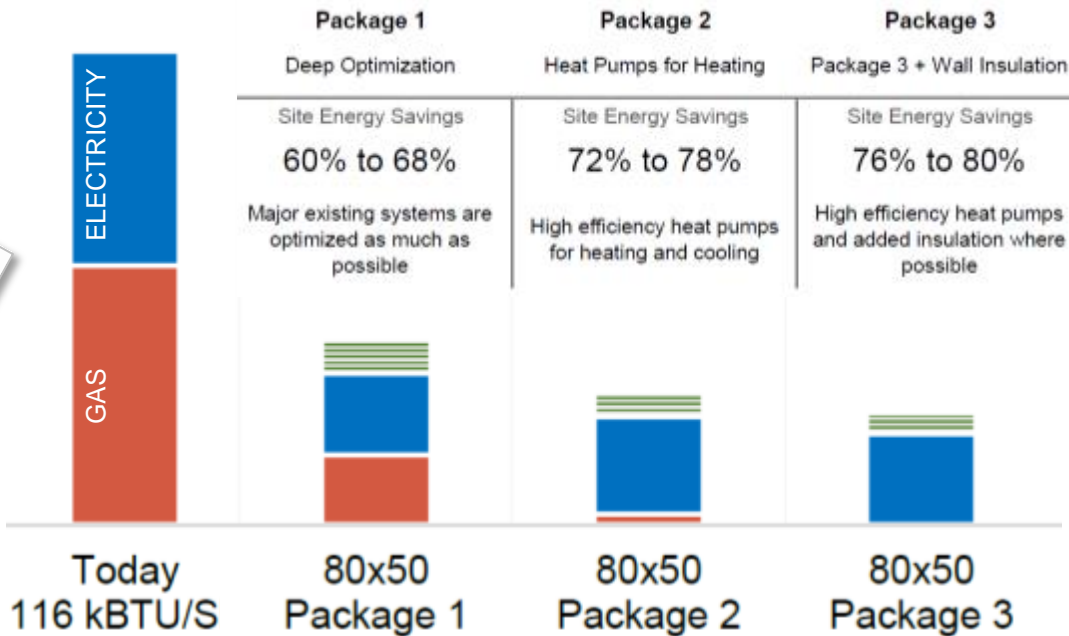
Owners

Co-op Boards

Deep Energy Retrofit Planning Analysis



Potential Site Energy Use Reductions for Your Building 850 WEST 553 STREET





Lighting Systems



Adding exterior insulation, better windows, and air sealing



Conversion to Heat Pumps for Heat and Hot Water



Investments in Carbon-Free Power



Operations and Maintenance



Tenant Engagement and Coordination



NYC Climate Mobilization Act