

Your Guide to NYC Local Law 97



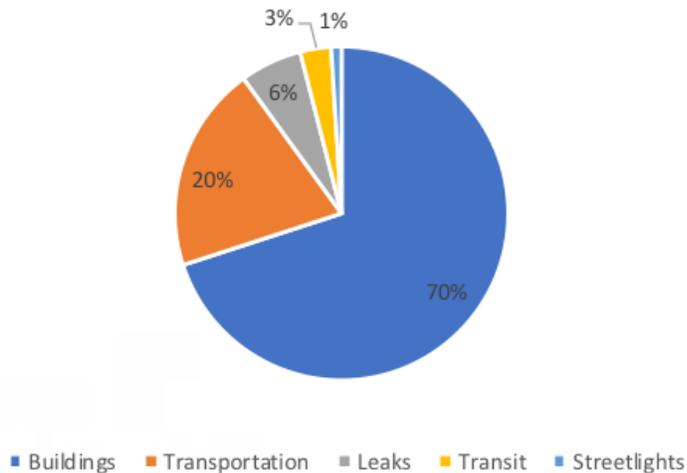
NYC Carbon Emissions - What is Local Law 97?

New York City has passed their own bill into law that includes several environmentally focused initiatives. The part of the bill that is going to impact building owners most directly, Intro 1253, is a complex law that creates carbon emissions limits for most buildings over 25,000 square feet and alternative compliance paths for certain types of buildings.

On May 18th, Intro 1253 was passed into law as Local Law 97 of 2019. This law impacts over 57,000 buildings across the city with the goal of reducing building-based emissions 40% by 2030 from a 2005 baseline.

The city has pledged to reduce Greenhouse Gas (GHG) emissions by 80% by 2050 (80 x 50). To assist in achieving this, the interim goal of a 40% reduction by 2030 has been put in place.

Greenhouse Gas Emissions by Type



Source: One City Built to Last

The very worst performing buildings will have to act by 2024 to curb their emissions. Hefty fines will be enforced starting in 2024 and will build until the goals are reached. You must act fast and have a plan in place by 2024.

Certain building types including city-owned buildings, affordable housing, hospitals and houses of worship will have alternative compliance options if they cannot hit the carbon intensity limits. To comply, building owners must submit an emissions intensity report stamped by a registered design professional every year starting in 2025 or pay substantial fines.

What Does This All Mean?

A threshold has been set for Greenhouse Gas (GHG) Emissions for buildings based on their usage type and square foot area. Buildings GHG emissions are calculated using their annual energy usage. Buildings which exceed their GHG emissions thresholds will be fined.

Local Law 97 sets detailed requirements for two initial compliance periods: 2024-2029 and 2030-2034 and requires the City to clarify the requirements for future periods through 2050.

Buildings over 25,000 gross square feet must meet annual whole-building carbon intensity limits during each compliance period based on building type or prorated for mixed-use buildings.

Carbon emissions intensity limits by building/space type:

Occupancy Group	Space Use	Carbon Limit (kgCO ₂ e/sf)	
		2024-2029	2030-2034
B - Ambulatory Health	Medical Office	23.81	11.93
M - Mercantile	Retail	11.81	4.3
A - Assembly	Assembly	10.74	4.2
R1 - Hotel	Hotel	9.87	5.26
B - Business	Office	8.46	4.53
E - Educational	School	7.58	3.44
R2 - Residential	Multifamily Housing	6.75	4.07
F - Factory	Factory	5.74	1.67
S - Storage	Storage/Warehouse	4.26	1.1

What are the Greenhouse Gas Emissions Thresholds?

The Greenhouse Gas (GHG) Emissions thresholds are calculated based on the occupancy type and the square footage of the building:

Emissions Limits for Occupancy Groups				
Occupancy Group	2024-29	2030-34	2035-49	2050
(Tons of CO ₂ e per SF)				
Occupancy Group R-2 (includes apartments)	0.00675	0.00407	0.002735	0.0014
Occupancy Group B (includes offices)	0.00846	0.00453	0.002965	0.0014
Occupancy Group R-1 (includes hotels)	0.00987	0.00526	0.00333	0.0014

The Greenhouse Gas (GHG) Emissions for a property are calculated from the building's energy usage. As different fuels (electricity, natural gas, fuel oil and district steam) pollute at different rates, different factors are applied to each of the various fuel sources:

Emissions Factors	
GHG Coefficients	2024-29
Energy Source	(Tons CO ₂ e/kBTU)
Utility Electricity (per kWh)	0.000288692
Natural Gas combusted on site	0.00005311
#2 Fuel Oil combusted on site	0.00007241
#4 Fuel Oil combusted on site	0.00007529
District Steam	0.00004493
Other	TBD

How Does it Affect You?

Are you required to report your energy and water usage each year under Local Law 84? If you are then the chances are that you will be required to comply with the Greenhouse Gas Emissions (GHG) limits mandated in Local Law 97 or face a fine for non-compliance.

To comply, building owners must submit an emissions intensity report stamped by a registered design professional every year starting in 2025 or pay substantial fines.

What happens if I don't comply?

The City has set steep fines for buildings that do not comply. Buildings must pay \$268 per metric ton that their carbon footprint exceeds the limit, annually. There are also fines for not submitting a report and for submitting a false report. Ryan Soames was recently contracted to assist one of our clients by recommending Energy Conservation Measures (ECM's) which if installed would reduce energy consumption at the property, improve their Local Law 33 energy efficiency letter grade and reduce the potential fines under Local Law 97.

Energy Usage:

Energy Source	Annual Use	Emissions (T CO ₂ e)	Emissions (%)	Energy Use (%)
Utility Electricity (kWh)	1,622,400	468.4	69.2%	56.5%
Natural Gas combusted on site (kBTU)	3,929,400	208.7	30.8%	43.5%
#2 Fuel Oil combusted on site (kBTU)	0	0.0	0.0%	0.0%
#4 Fuel Oil combusted on site (kBTU)	0	0.0	0.0%	0.0%
District Steam (kBTU)	0	0.0	0.0%	0.0%

Annual Fines Calculation:

Period	Site Emissions (T CO2e)	Site Emissions Limit (T CO2e)	Violation (T CO2e)	Total Fine (\$)
2024-29	677	1,446	0	\$0
2030-34	677	774	0	\$0
2035-50	677	507	170	\$45,650
2050	677	239	438	\$117,330

A number of Energy Conservation Measures (ECM's) were recommended by Ryan Soames, ranging from HVAC equipment control upgrades to lighting replacement measures. The total cost for the recommended measures was around \$175,000. It was predicted that they would save around 25% of the building's annual energy consumption and were predicted to save \$75,000 per year from lower utility consumption.

The tables below show the reduction in energy consumption and the effect this would have on reducing the potential fines that the building would be liable for under Local Law 97:

Energy Usage:

Energy Source	Annual Use	Emissions (T CO2e)	Emissions (%)	Energy Use (%)
Utility Electricity (kWh)	959,715	277.1	57.0%	43.4%
Natural Gas combusted on site (kBtu)	3,929,400	208.7	43.0%	56.6%
#2 Fuel Oil combusted on site (kBtu)	0	0.0	0.0%	0.0%
#4 Fuel Oil combusted on site (kBtu)	0	0.0	0.0%	0.0%
District Steam (kBtu)	0	0.0	0.0%	0.0%

Annual Fines Calculation:

Period	Site Emissions (T CO2e)	Site Emissions Limit (T CO2e)	Violation (T CO2e)	Total Fine (\$)
2024-29	486	1,446	0	\$0
2030-34	486	774	0	\$0
2035-50	486	507	0	\$0
2050	486	239	246	\$66,058

What Next?

Building owners will be required to report their Greenhouse Gas (GHG) Emissions starting on May 1st, 2025. The reports must be performed and submitted by a licensed Professional Engineer (PE) or a Registered Architect (RA). The GHG emissions thresholds set by the city will punish the worst performing buildings first and punitively punish more adequately performing buildings thereafter.

The time to act is now. The first reports to be submitted in 2025 will be based on the building's energy usage over the calendar year 2024. Engage a Professional Engineer now to help determine the energy conservation measures that will give the greatest energy savings for the least capital expenditure. Don't wait until it is too late and risk non-compliance, violations and fines. The information needed to calculate the building's current annual GHG emissions is contained in the Statement of Energy Performance (SEP) generated when the Local Law 84 Energy Benchmarking is performed. If you send us the most recent SEP, we will perform the analysis and let you know how Local Law 97 will affect your property.

How do I reduce my carbon emissions and prepare for compliance?

All buildings should start developing long-term energy and carbon reduction strategies today to meet or exceed the emissions performance targets. This process takes time and to be successful, requires input from numerous stakeholders including internal and external experts, tenants, building operations, ownership and management. A proper energy and carbon management plan should evaluate all potential energy and carbon reduction initiatives in the near, medium, and long term:

- Base building HVAC
- Common area lighting
- Sensors and controls
- Tenant lighting, plug loads and HVAC
- Retail and ground-floor tenants
- Operator and occupant training

If you are completing or recently completed your Local Law 87 energy audits, that can be a good place to start. If you haven't started Local Law 87 yet, we can help you to consider longer-term energy savings strategies in the analysis even if it expands the scope or cost of the energy audit. It's worth it since we will already be analyzing your systems looking for energy saving opportunities.

What about my tenants?

Tenant energy consumption plays a big role in overall energy use and therefore also represents a huge opportunity for savings.

Reducing your building's overall energy and carbon intensity will not be possible without collaboration with your tenants. Meet with tenants to discuss energy efficiency when they are moving in and building out their spaces. Also meet with existing tenants to discuss energy upgrades that can be performed mid-lease that could lower their energy bills. NYSERDA has an incentive program, the Commercial Tenant Program, that will pay for some or all of the cost of identifying energy reduction opportunities in new and existing tenants' spaces.

Contact Us

To ensure that your building is in full compliance with the requirements of NYC Local Law 97 or you need discuss further how we can assist you with the design please do not hesitate to reach out to our office.

Ryan Soames Engineering can help

DR. WILLIAM SHOARD

P.E., CEM, LEED AP, WELL AP



RYAN SOAMES ENGINEERING

242 WEST 30TH STREET, 5TH FLOOR
NEW YORK, NY 10001

TEL: +1 (917) 720-3696

CELL: +1 (646) 369-7804

EMAIL: WSHOARD@RYANSOAMES.COM

Dr. William Shoard has 30 years' experience in the HVAC industry with over 20 years in New York City. Will performs and oversees the energy audits carried out by Ryan Soames Engineering. Being passionate about low energy buildings, Will has a wealth of engineering knowledge having performed more than 200 energy related studies for buildings in New York City. In addition, Will has designed MEP systems for some of the most prestigious low energy buildings globally.

As a licensed Professional Engineer (PE), a LEED Accredited Professional (LEED AP), a Certified Energy Manager (CEM) and a PhD in low energy buildings from the University of Manchester, Will's knowledge extends beyond New York City. He was a member of the UAE Green Building Council when debating a LEED system for the Middle East and sits on a panel at the National Academies in Washington DC evaluating renewable energy options as future revenue generation streams.

Qualifications:

- PhD in Thermal Modeling of Buildings
- Professional Engineer (P.E.)
- Chartered Engineer in the UK (CEng).
- LEED Accredited Professional (LEED AP)
- WELL Buildings Accredited Professional (WELL AP)
- Certified Energy Manager (CEM)