POLICY BRIEF DECEMBER 2019

NYC'S SUSTAINABLE ROOF LAWS

Two new laws to spur solar and green roofs across NYC's skyline.

The rooftops of New York City's one million buildings cover about 40,000 acres. Some roof space is already in use, but this massive expanse presents many opportunities to help mitigate climate change and adapt to a world with more frequent and intense heat waves, storms and floods. Using clean energy and vegetation, New Yorkers can leverage rooftops to lower energy bills, cut carbon emissions, create habitat, reduce the urban heat island effect and better manage stormwater.

Two new laws passed as part of NYC's **Climate Mobilization Act**, Local Laws 92 and 94, provide a major boost to the city's sustainable roof policies. Together, the laws require solar panels or green roofs on all new construction as well as buildings undertaking major roof renovations. They also increase the roof reflectiveness required by the existing cool roofs law.

The new requirements are subject to a number of exceptions based on the many competing priorities for NYC roof space, including fire code setbacks, mechanical equipment and recreational spaces. The laws apply to projects approved on or after November 15, 2019. Detailed requirements are specified in the NYC Department of Buildings **bulletin**.

HIGHLIGHTS

- Covers all building types and sizes
- Applies to all new construction, plus major roof renovations on existing buildings
- Requires a "sustainable roofing zone" on all available roof area, which means either solar photovoltaic (PV) systems, a vegetated green roof, or both
- Includes a five-year grace period for some affordable housing and **distressed buildings**
- Strengthens NYC's cool roofs requirements in line with **LEED v4**
- Applies to projects approved on or after November 15, 2019

SUSTAINABLE ROOFING ZONE

A "sustainable roofing zone" is a new term in the Building Code for an area of roof with solar panels or green roofing—or a combination of the two.

For new construction and major roof renovations, building owners must install a sustainable roofing zone on 100 percent of available roof area. Specific requirements depend on roof slope, connected area and solar capacity.

On low-slope (<2:12) roofs:

- For each connected area smaller than 200 square feet, solar PV is required if 4kW of capacity is feasible (green roof is required if not)
- For each connected area 200 square feet or larger, building owners can choose to install either solar or a green roof, or both
- The area threshold drops to 100 square feet for residential buildings under six stories

On high-slope (>2:12) roofs:

- Solar PV is required if 4kW of capacity is feasible (the roof is exempt if not)

EXCEPTIONS

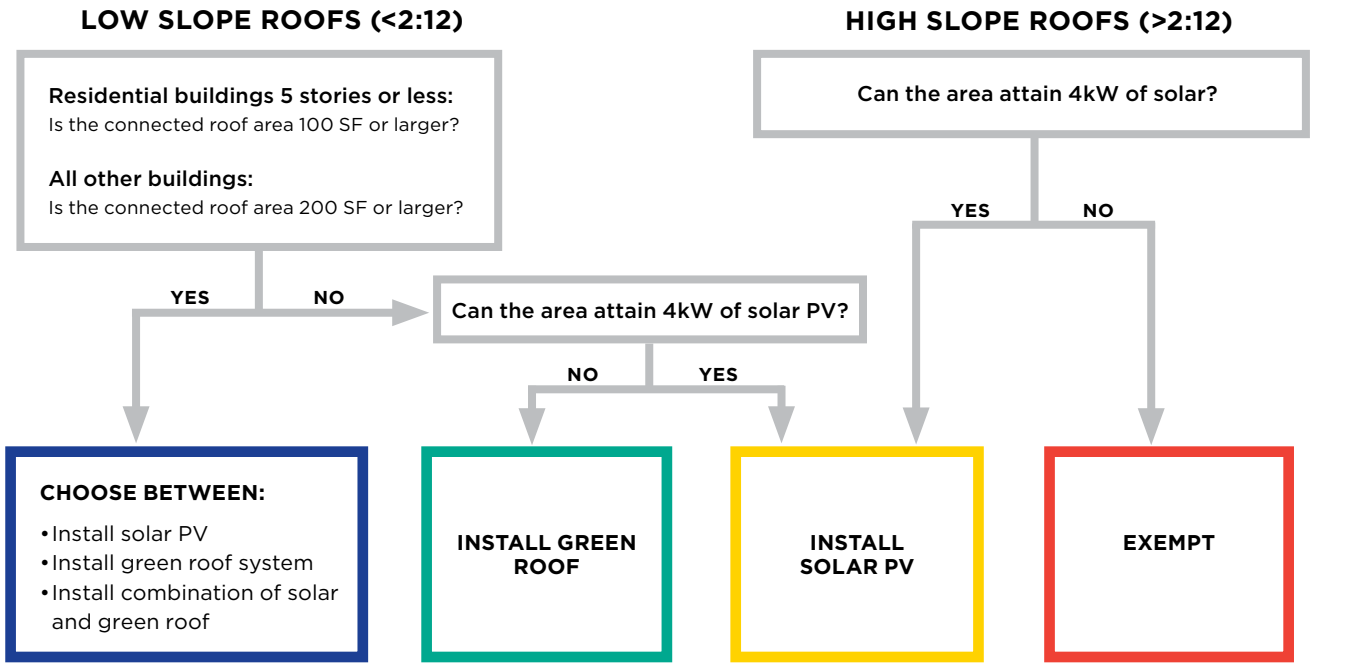
NYC rooftops have many overlapping uses, and solar and green roofs are not required in areas used for:

- Access or setbacks required by codes or zoning laws
- Rooftop structures and mechanical equipment
- Stormwater management
- Terraces (up to a size threshold)
- Recreational space
- Any other area DOB determines is not feasible

The laws also allow a five-year discretionary exemption for some income-limited housing and distressed buildings while the Department of Housing Preservation and Development studies affordability impacts.

Compliance Pathways for Sustainable Roofing Zones

Applies to new buildings or existing buildings undergoing a roof enlargement, roof deck replacement, or a roof assembly replacement.[1]



GREEN ROOFS IN NYC

Green roofs absorb **stormwater** and give buildings an extra layer of insulation, which can keep indoor spaces more comfortable, improve energy efficiency and lower carbon footprints. The added vegetation improves local air quality and promotes biodiversity. It also reduces the urban heat island effect, which can raise summer temperatures by **up to 22°F** due to: (1) heat absorbed by building materials and roads; and (2) waste heat from energy use and transit.

New York State recently passed a green roof **tax abatement** of up to $15 per square foot. For eligible non-mandated projects, NYC offers subsidies through the **Green Infrastructure Grant Program**.

50-90% **reduction in stormwater runoff after installing a green roof.[2]**

$1,000 **average annual savings from a 4kW solar rooftop installation.[3]**

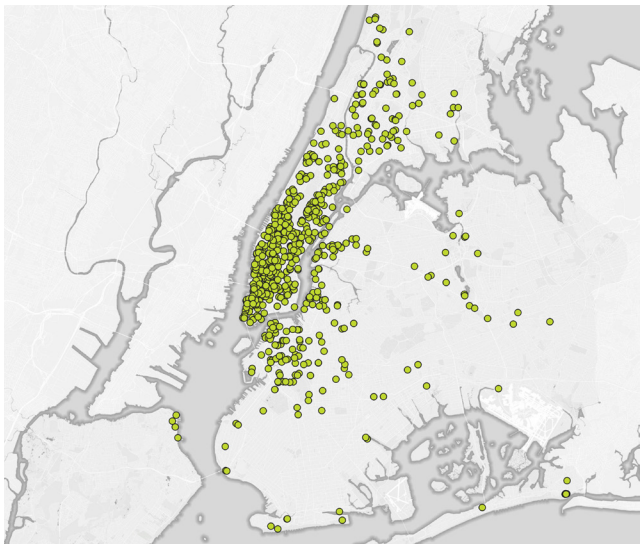
SOLAR IN NYC

Solar PV generates carbon-free electricity that reduces greenhouse gas emissions, helps improve local air quality, lowers utility bills and relieves strain on the local electricity grid. It can also help building owners comply with the carbon emissions caps in **Local Law 97**.

New York State maintains a **solar portal** with details on incentives and financing options in NYC.

Existing Green Roofs of NYC

Fewer than 750 buildings had green roofs as of 2016.[4]



COOL ROOFS IN NYC

The NYC Building Code requires a reflective "cool roof" coating on many new and renovated rooftops. Local Law 94 increases the SRI (solar reflectance index) of cool roofs to keep up with LEED v4. The law also adds new reflectance requirements for sloped roofs.

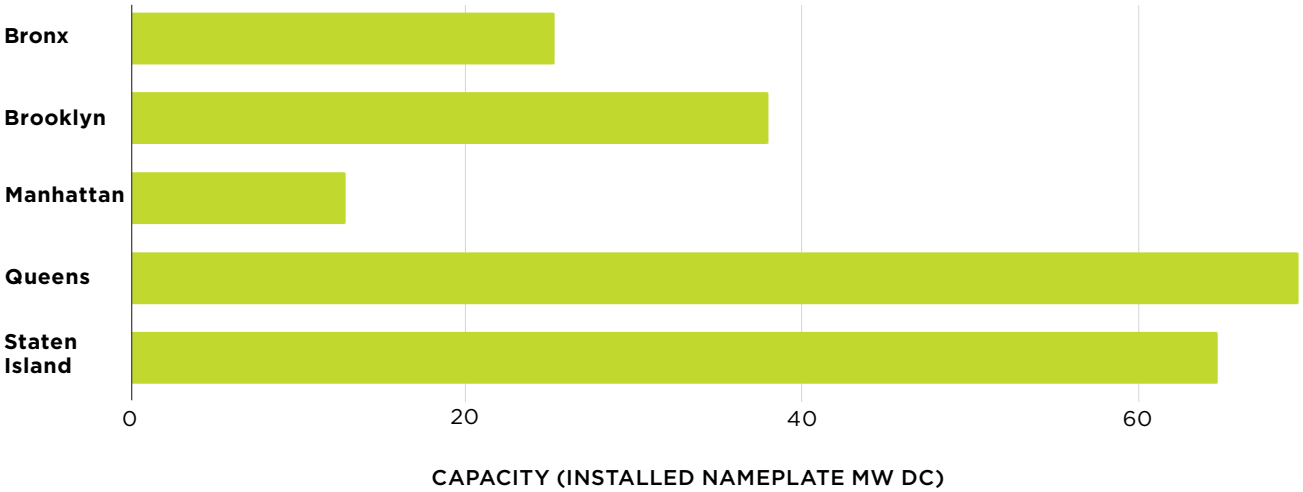
Coatings are readily available, inexpensive and easy to apply. On hot summer days, cool roofs lower energy bills and carbon emissions by reducing air conditioning needs by **10 to 30 percent.**

WHERE CAN I FIND THE LAWS?

- **Local Law 92**
- **Local Law 94**

Installed NYC Solar Capacity

Across the city, NYSERDA incentives have supported 210 megawatts of solar capacity.[5]



Urban Green Council transforms buildings for a sustainable future in New York City and around the world.

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The Nature Conservancy conserves the lands and waters on which all life depends.

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NOTES

1. Based on the NYC Department of Buildings Bulletin 2019-010, available at: https://www1.nyc.gov/assets/buildings/bldgs_bulletins/bb_2019-010.pdf.

2. Based on the NYC Parks Department's 2013 Green Roof Handout, available at: https://www.nycgovparks.org/pagefiles/53/Citywide-Services-Green-Roof_2.pdf.

3. The projected annual savings for a 4kW system was calculated using the median predicted energy output per installed DC power on all NYSERDA solar projects in NYC at a utility rate of $0.22.

4. Map created by The Nature Conservancy; basemap courtesy of the City of New York; green roof data available at: https://zenodo.org/record/1469674. Further analysis is available at: https://www.nature.org/en-us/about-us/where-we-work/united-states/new-york/stories-in-new-york/green-roofs-new-york-city/.

5. Based on the nameplate capacity of NYSERDA-supported solar projects since 2000, available at: https://www.nyserda.ny.gov/All-Programs/Programs/NY-Sun/Solar-Data-Maps/NYSERDA-Supported-Solar-Projects.

This summary is for informational purposes only. For details and questions related to compliance, please contact the NYC Department of Buildings.