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Potential Tensions Between New York's Climate Change Laws and Historic Preservation Laws

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Environmental Law

Expert Analysis

Potential Tensions Between New York's Climate Change Laws and Historic Preservation Laws

For many years, designated historic buildings have been exempt from most energy conservation codes. However, with increased attention to the perils of climate change, some cities—including New York—are adopting strong laws on building energy use that do not have this exemption. Historic preservation laws that have not caught up, and some fire codes, may pose obstacles to the installation of rooftop solar and some other methods to reduce building energy consumption.

One of the major rationales for this longstanding exemption was the idea that older buildings are more energy efficient than new ones, and thus should not have to undertake further energy conservation measures. This rationale has been called into doubt by a study published in October by Erica Avrami, Jennifer



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L. Most, Anna Gasha and Shreya M. Ghoshal (Avrami study) of the Graduate School of Architecture, Planning, and Preservation of Columbia University.

The Avrami study shows that a 1977 report “served as an essential, and seemingly singular, source of evidence for preservationists at the time, and it formed a central theme of the preservation community’s narrative about older buildings and energy performance.” However, that 1977 report had serious methodological issues. Moreover, a building must generally be at least 50 years old before it can be listed on the National Register of Historic Places; today buildings erected as recently as 1971 can receive such designations, and many of those have poor energy efficiency.

Rooftop Solar

Rooftop solar presents particular issues. The electric grid that serves New York City became much more dependent on a fossil fuel (natural gas) in April 2021 with the permanent closure of its principal source of non-fossil power, the Indian Point nuclear power plant in Westchester County. The state is undertaking a major program to develop new onshore and offshore wind farms and utility-scale solar, but this program will take decades to complete. Meanwhile, even after aggressive energy efficiency measures, electricity demand will soar as we electrify our vehicle fleets and building heating systems.

Recognizing the importance of rooftop solar as one element of cleaning up the grid and achieving our climate goals, in 2019 the New York City Council enacted Local Laws 92 and 94, which together require solar panels or green roofs on all new construction, and on buildings undertaking major roof renovations. These laws cover all building types and sizes.

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They require a “sustainable roofing zone” on all available roof area, meaning they must have either solar photovoltaic systems, a vegetated green roof, or both. There are exceptions for fire code setbacks, mechanical equipment, storm-water management, terraces, recreational space, and a few other items, but not for landmarked buildings. Outside of these exceptions, 100% of the available roof area must have solar panels or vegetation.

The Department of Buildings has issued an official technical bulletin with details on implementation of Local Laws 92 and 94. Significantly, the bulletin says that for existing buildings, these laws require solar or green roofs only if the entire existing roof deck—the structural surface (usually plywood) to which the roofing and waterproofing system are applied—is being replaced.

The regulations of the New York City Landmarks Preservation Commission (LPC) treat solar panels as “mechanical equipment,” and they encourage placing such equipment on landmarked buildings so that it is not visible or only “minimally visible” from “its maximum point of visibility, when viewed from any public thoroughfare.” The regulations specify in some detail how this is determined. 63 RCNY §2-21.

The LPC’s guidelines provide that “solar panel installations should set back from the roof edge and/or be positioned

behind existing architectural features such as parapets, dormers, and chimneys to minimize or eliminate visibility from public thoroughfares.”

If a solar panel is not visible or is only minimally visible, the LPC staff may give it a “certificate of no effect.” Otherwise the application must be presented to local Community Board for one or two public hearings, and then to the full LPC for another hearing for a “certificate of appropriateness.” This process is so arduous that few solar companies want to undergo it. This limits the installation of solar panels, especially because the pre-existing intrusions on many roofs (chimneys, skylights, roof-mounted equipment, etc.) would require the panels to be on elevated racks that would be visible from the street. The LPC and its staff have been working for years to ease the burden that their procedures impose on those who would like to install rooftop solar or more energy efficient windows and take other “green” actions, but many difficulties remain.

Though Local Laws 92 and 94 call for solar panels on roofs with a slope greater than 2:12 (which is too steep for vegetated roof), it appears that almost all the solar panels approved by LPC have been on flat roofs. The LPC guidelines state that “solar panel installations occurring on sloping roofs or on historic roofing materials like slate or clay tile may have additional visual and physical impacts on

the building, and such proposals generally have little or no precedent in terms of past LPC review.”

Many building owners who install solar panels also want battery systems so they can have solar-generated electricity at night. Certain battery systems may pose fire hazards, and the New York Fire Department has imposed restrictions on where some kinds of battery systems can be placed.

Greenhouse Gas Emission Caps

The Climate Mobilization Act passed in 2019 by the City Council included not only Local Laws 92 and 94, but also the even more important Local Law 97. As we discussed in a previous column, this law sets caps on greenhouse gas (GHG) emissions from buildings. It applies to buildings larger than 25,000 gross square feet. An estimated more than 50,000 buildings, amounting to 60% of the city’s total building footprint, are covered by the law. Landmarked and historic buildings are not exempt. The law’s initial requirements take effect in 2024. Buildings that have not achieved the mandated reductions in emissions by 2030 face substantial penalties. By 2050, an 80% reduction in GHG emissions is required.

Solar panels are one way to reduce a building’s emissions and ease compliance with Local Law 97 (as well as to lower electric bills and gain some tax benefits). The owners of some

large distribution centers and other buildings with expansive flat roofs are installing solar panels to help from comply with Local Law 97. (These are not landmarked buildings.)

The New York State and City energy conservation codes exempt buildings that are listed or eligible for listing on the National Register of Historic Places. (These are different lists than the landmarks designated by the LPC, but there is substantial overlap.) The Avrami study found that New York City buildings on 3,821 tax lots, with a total of 578,583,769 square feet of built area, are on or eligible for the National Register and are also subject to Local Law 97. The built area that is subject to Local Law 97 amounts to 68% of all the National Register listed or eligible buildings in the City. Just about all these buildings will now be subject to energy efficiency requirements for the first time. According to 2018 benchmarking reports, approximately 25% of these National Register buildings currently exceed Local Law 97's 2024 emission limits, and these limits become more stringent through 2050.

Of the National Register buildings that are subject to Local Law 97, 77% are in Manhattan, as measured by built area, with Brooklyn a distant second at 14%.

The Avrami team found that 87.9% of National Register properties in New York City are residential, and that residents of National Register properties

are more likely to be White and less likely to be in poverty than the City's population as a whole. The authors conclude that "from an energy justice perspective ... the more privileged population is bearing less burden in addressing energy efficiency due to the [energy] code exemptions afforded historic properties." However, these properties are not exempt from Local Law 97. Of the larger National Register properties that must comply with Local Law 97, 62.5% are residential. Local Laws 92 and 94 do contain reduced requirements for some low-income buildings until 2024.

As first enacted, Local Law 97 exempted buildings that had at least one rent regulated unit. However, in 2020 the City Council amended the law so that it exempts only buildings where more than 35% of the units are rent regulated.

LPC has not announced any plans to modify its restrictions on solar panels in order to ease compliance with Local Law 97. Retrofitting buildings to change their heating from natural gas or fuel oil may require the installation of other rooftop equipment such as air source heat pumps and battery and thermal storage, raising questions about their visibility from the street. It remains to be seen whether these or other efforts to reduce GHG emissions and improve building energy efficiency to comply with Local Law 97 will be impeded by other LPC restrictions, such as those

concerning the appearance of windows. However, LPC has indicated that it is considering amending its rules to allow some changes in certain windows to be approved at the staff level (rather than going to the full Commission with a public hearing), at least for "passive houses"—those with very high energy performance and certain other features.

Conclusion

Doing everything reasonably possible to reduce GHG emissions will require many tradeoffs, and the sacrifice of some things of great value in service of the greater goal of meeting the climate threat. Among these sacrifices may be some of the strictures of laws that protect New York City's landmark buildings that were adopted before the gravity of the risks of climate change, including to the built environment, became as clear as they are now.