An open letter to Mayor de Blasio, Council Speaker Johnson and Councilmember Constantinides calling for a reset of energy efficiency letter grades:

We have united to request a reset of New York City Local Law (LL) 33 and its LL95 amendment, which call for buildings of 25,000+ square feet to prominently post A-to-D letter grades indicating their energy efficiency. In compliance with the city LL84 energy benchmarking regulation, these buildings must submit annual energy usage to the U.S. Environmental Protection Agency's online Portfolio Manager, which generates 1-to-100 Energy Star scores that are the basis for city letter grades. Although we share the goal and intent of New York City's Climate Mobilization Act and related legislation, we strongly feel that the October 2020 execution of LL33/LL95 with respect to multifamily housing is imprecise and invalid from technical and social science viewpoints. In the worst case, it will do more harm than good.

Energy Star scores are based on a curve of sample buildings nationwide that are presumed to be comparable regarding their relative energy efficiencies. The primary metric used to determine energy efficiency is energy usage as measured in British thermal units (Btu) per square foot. Actual energy usage is not solely determined by energy efficiency but rather a series of technical and socioeconomic factors, whose consideration would improve the accuracy of LL33 scores for multifamily buildings:

- Cubic feet representing the volume of space in a building should be the metric employed rather than simple square feet that only account for floor area.
- Density of a residential building is not differentiated by the number of apartments per square foot (or cubic foot, as we propose).
- Buildings that include energy-intensive commercial spaces are not differentiated from those that are 100 percent residential.
- Electrical usage by individual occupants is outside the control of building owners or managers, despite its overwhelming impact on a building grade.
- No demographic distinctions exist between buildings with residents of vastly different income levels or with different density and use patterns.

Intended to promote transparency, the initiative equips consumers with data about a building's energy use. Consumers are expected to use this data to make informed decisions when choosing an apartment or commercial space, just as they weigh other specifications and attributes of a building. Owners and property managers are encouraged to make energy upgrades to achieve higher scores and attract environmentally conscious tenants or residents, thus, reaping financial benefits while the city reaps environmental benefits.

The intent is simple: the most efficient buildings will receive the highest scores and receive grades of A and B while buildings that are less efficient will be required to post Cs and Ds in their entranceways. A preliminary analysis of scores by neighborhood, however, indicates that buildings in areas where more low- and moderate-income residents live receive lower grades than buildings in upper-income neighborhoods. The projected disparities have relatively little to do with energy efficiency, which is the presumptive heart of LL33. As a result, seriously misleading information is provided to prospective tenants and purchasers of apartments.

Unfortunately, the lack of accuracy and proportionality in the assignment of letter grades, in which an Energy Star score of 1 – 54 is a D, assures that high-density buildings with families of low-to-moderate income will receive far lower grades than supposedly comparable buildings with large apartments and wealthy residents. As a result, a majority of smaller and low-to-moderate income buildings would earn a D grade, regardless of their energy efficiency, as would comparable buildings with energy-intensive commercial spaces.

We hold that the law, which seeks to identify buildings with low Energy Star scores for all to see, emanates from a seriously flawed system that affects Energy Star calculations and the distribution of letter grades. To restore the credibility of the grading system, we propose that LL33/LL95:

1. Use Volume Rather than Surface Area to Calculate Energy Usage. Any responsible energy evaluation of a building should account for its height since space heating and air conditioning are based on volume, or cubic footage, rather than floor area, or square footage. Buildings with high-ceilinged apartments, for example, would require more energy for space conditioning than units with low ceilings even if square footage is the same.
2. Consider Density. Density and apartment size are primary determinants of energy usage. Apartments in wealthy neighborhoods can be considerably larger – by a ratio of more than two-to-one – than in communities where low- and moderate-income residents live in smaller apartments. Buildings with smaller units will have more kitchens along with the attendant appliances and other electrical equipment. More occupants mean more personal electronics, as well as more showers, washing, cooking and cleaning that translate into greater domestic hot water loads and the energy needed to satisfy them. As a consequence, buildings with small apartments generally use more energy per square foot than those with larger units. In these cases, energy efficiency has little to do with energy use per square foot.
3. Account for the Impact of Commercial Space. Multifamily buildings with ground floor commercial spaces that use considerably more energy than apartment units are treated the same as apartment buildings without commercial spaces. Restaurants, for example, utilize large amounts of energy to refrigerate, freeze and cook food, and wash pots, pans, dishes and silverware. The impact of restaurants and other energy-intensive retail spaces disproportionately increase energy use per square foot, most frequently earning the entire building a much lower grade. This disparity especially impacts buildings of fewer floors in which a ground floor restaurant with basement space for storage and kitchens can represent more than 20 percent of a building's floor space. The same restaurant in a 20-story building, however, might represent less than 10 percent of the space.
4. Recognize Emphasis of Electrical over Thermal Energy in Score. In determining the score, the use of electricity carries greater weight than the use of gas or oil combusted at a building's site since almost all electricity in the city is generated by burning fossil fuel. This is because Portfolio Manager measures energy by what is called "source" Btu rather than site Btu. One kilowatt hour contains 3,412 Btu at the site, however, the Environmental Protection Agency has determined that it takes a national average of 2.8 times (280 percent) as many Btu to generate and deliver electricity from power plants to their sites. Most of the required heat to spin the turbines goes up the power plant stack and, thus, the agency calculates it takes 9,554 Btu to produce 1 kilowatt hour. Conversely, a therm of natural gas, which contains 100,000 Btu at the site, only requires an additional 5 percent, or 105,000 Btu at the source, to account for transmission losses. On average, electricity consumed within apartments is about 75 percent of all electricity consumed within the building with the remaining 25 percent of electricity used within public spaces, exclusive of commercial space. This will obviously vary building by building. Property owners and managers cannot directly influence electricity use within private spaces.
5. Consider Demographics. The primary disparity in the social science category is the issue of demographics as related to resident income level. New York City has several neighborhoods in which an abundance of "one-percenters" live; the city also has neighborhoods at the opposite end of the income scale in which predominantly low- and moderate-income residents live. The occupant density in higher income buildings is considerably lower, given that these residents are frequently out of town for weekends and even months at a time during slushy winters and humid summers. Their school-age children are often in "sleep-away" camps for long stretches of the summer, and college-age students are at out-of-town schools. These buildings exhibit lower average energy use not because they are especially efficient but rather because of significantly lower occupancy.

On the other hand, residents with low-to-moderate income levels are generally home more often. Their summer vacations are confined to two weeks and weekend outings tend to be local. As a result, air-conditioning units may be working longer hours. When people are home, their apartments will consume more energy than when an apartment is empty or underoccupied.

6. Lack of Greenery. On August 24, 2020, a front-page New York Times article, "How Decades of Racist Housing Policy Left Neighborhoods Sweltering,"* reported that many low-income neighborhoods are devoid of trees and parks, which causes local ambient temperatures to rise fully 5-12 degrees above city averages. As a result, air conditioners require more energy to reduce indoor temperatures to comfortable levels than in cooler urban areas. This condition can be deemed an environmental justice issue given that higher temperatures resulting from a lack of greenery occur most frequently in disadvantaged neighborhoods.
7. Lack of Proportionality in Letter Grades. The way letter grades are calculated requires a major makeover, even if the above disparities are corrected. The system defies any sense of proportionality when, in a scale of 1-to-100, a D grade represents Energy Star scores of 1 to 54. Clearly, a building that scores between 1 and 10 would use far more energy than a building that scores 50 to 54 and outscores the nationwide average. In another questionable instance, New York City has opted to set the bar for an A grade at Energy Star scores of 85 and above, while the EPA makes buildings that score 75 or higher eligible for coveted Energy Star status.

Despite best intentions, we respectfully request that the City Council take this legislation back to the drawing board. Energy efficiency is simply not equivalent to energy use. Residential buildings that use more energy per square foot because a restaurant is on the ground floor or because of higher density or because their residents cannot escape to weekend homes should not be blemished by a D at their entranceways. It is both unfair and illogical.

Unfortunately, the shortcomings of the city's letter grades as well as the E.P.A.'s Energy Star scoring system are not only misguided but inconsistent. The grades are counterproductive in stimulating realistic improvements in energy efficiency and will instead cause many property owners and managers to "throw up their hands" and do nothing except blame New York City for a missed opportunity.

Sincerely,

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* **https://www.nytimes.com/interactive/2020/08/24/climate/racism-redlining-cities-global-warming.html?searchResultPosition=1**

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