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Testimony of Cecil Scheib, PE, CEM, LEED AP Chief Sustainability Officer, New York University before New York City Council Committee on Environmental Protection November 17, 2021

Thank you Chair Gennaro and Committee members for the opportunity to submit testimony. My name is Cecil Scheib, and I am Chief Sustainability Officer at NYU, a licensed Professional Engineer in the State of New York, and a Certified Energy Manager.

At NYU, we are committed to making the University one of the nation's greenest campuses and have launched renewed effort to achieve this goal. Since 2007, NYU has reduced its emissions by 30% - an amount equivalent to planting enough trees to cover all of Manhattan, and all of Brooklyn, in forest. We have pledged to achieve a 50% reduction from the baseline by 2025 and carbon neutrality by 2040. This reduction in emissions is something the University has voluntarily undertaken not only because we believe it is part of NYU's role as an anchor institution in New York but also because it positively impacts our community. We support the City's strong leadership in addressing emissions from buildings, the principal source of NYC carbon emissions, as it will take a concerted and collective effort across the city to effectively combat climate change.

NYU has proven deep carbon reductions are possible. In 2014 we renovated Brittany Hall, a student residence on Broadway at East 10th Street. During the process we removed heavy #4 fuel oil boilers from the basement, a source of unhealthy airborne particulates, and replaced them with light natural gas boilers on the roof, far from any potential flood risk. They are ready to be replaced with electric heat pumps when required. In all, we reduced fossil fuel needs for heating by 81%. That's right – not 8% - not 18% - 81%. It is not a passive house project – just run of the mill engineering. Reasonable efforts can achieve deep results. And it's effective in reducing costs: Brittany Hall cut its energy operating costs in half because of the renovation.

To achieve carbon neutrality, NYU must achieve deep energy reductions in our buildings, as over 99% of NYU's onsite greenhouse gas emissions are building related. Electrifying energy uses, replacing the use of fossil fuels, gives us the opportunity to buy clean and renewable energy to reach our 2040 goal, relying on credits or offsets to the minimum possible extent. For instance, we are currently exploring an all-electric, passive house level design for Rubin Hall, a student residence on 5th Avenue at 10th Street. This is a renovation of a 100-year-old building in an historic district, and we have found that full electrification is technically feasible even for this challenging project.

Electrification will produce cost savings over time that will help offset the initial investment in electric equipment. But as important as energy savings are, perhaps the health, comfort, and productivity benefits of this effort will outweigh the energy savings. By reducing building energy needs through adding insulation and better windows, and sealing cracks and holes, we eliminate the energy wastage and high carbon emissions from heating and cooling air that is



immediately lost through drafts. In addition, it may be feasible to add filtered outside air to apartments in the building. Taken together, these will not only save energy, but also help people think more clearly, which is our mission.

Of course, it is contradictory to prevent infiltration of unconditioned outdoor air and to provide clean, filtered outside air in order to improve occupant health, while simultaneously burning natural gas in stoves in individual residences. This requires residents to breathe the toxic combustion byproducts that contribute to [health problems](#) such as asthma. As an institution dedicated to furthering knowledge about the environmental and public health implications of building design, construction, and operations, we support the City's efforts to study the health impacts of gas stoves, as required by Introduction 2196-2021.

With regard to Introduction 2317-2021, given my expertise as a Professional Engineer and experience successfully achieving emissions reductions across our institution's building stock, I have identified areas where the text could be made clearer, giving owners and operators more certainty about the legislation's intent and implementation:

1. An exception is made "Where required for emergency standby power". What is "required" (as opposed to, say "allowed")? If a building could use a battery bank for emergency standby power, would fossil fuels then be "required" or "optional"?
2. An exception is made "in connection with a device that contains no connection to a building's gas supply line and is used on an intermittent basis". #2 fuel oil has no connection to the building's gas supply line, and fuel is drawn from the tank on an intermittent basis. Similarly, heating might be provided by propane from an external tank delivered by truck. If this is not the intention of the legislation, unintended consequences may occur from the draft language.
3. The units used to determine impermissible substances would preferably be CO₂ equivalent (CO₂e), not simply CO₂. As combustion of fuel produces nitrous oxide and methane in addition to carbon dioxide, these should be included in the global warming potential defined in the law. The term CO₂e is already defined in the NYC Code, §28-320, and is commonly used in the industry – in fact, it would probably be more familiar to most professionals to use it than not use it.

We are pleased that the City Council is taking up this important issue of electrification of the City's buildings. NYU would be happy to share the results of our analyses about the costs and benefits of electrification of existing buildings during renovations, as well as faculty expertise in health effects from indoor combustion of fossil fuels.

NYU hopes to continue to partner with the City Council as we work to make New York more sustainable and reduce the impacts of climate change on our City. We would be happy to respond to any questions members of the committee might have.