TESTIMONY OF THE MAYOR'S OFFICE
BEFORE THE NEW YORK CITY COUNCIL
COMMITTEE ON
ENVIRONMENTAL PROTECTION
November 17, 2021

I. Introduction

Good afternoon. My name is Ben Furnas and I am the Director of the Mayor's Office of Climate and Sustainability. I am joined by Anthony Fiore, the Deputy Commissioner and Chief Energy Management Officer at the Department of Citywide Administrative Services and Gina Bocra, the Chief Sustainability Officer at the Department of Buildings. I want to thank Chair Gennaro and members of the committee for this opportunity to testify on building electrification and Introductions 2317, 2196, and 2091.

II. Climate Crisis

A recent report by the Intergovernmental Panel on Climate Change (IPCC) found that unless there are immediate and large-scale reductions in greenhouse gas emissions, the world will continue to see increases in the frequency and intensity of extreme weather events and heat waves that would imperil global agriculture and health. New Yorkers are already too familiar with the serious consequences of extreme weather, most recently managing the impacts of Tropical Storm Henri and Hurricane Ida.

As world leaders convened in Glasgow for the U.N. climate change negotiations over the past weeks, it was clear that cities are leading the way in the fight against climate change. The federal Infrastructure Investment and Jobs Act provides support for major new investments in decarbonization and signals that cities will be critical in our country's work against climate change.

Cities are taking ambitious action to confront the climate crisis and build a green and just world, and New York City is leading the charge.

Together with Council, we have taken bold action to cut greenhouse gas emissions from all sectors as fast as possible, including requiring buildings to undergo retrofits, transitioning to renewable energy, accelerating the shift to cleaner modes of transportation, and creating green jobs; but there is more we can do and we must take every opportunity to reduce greenhouse gas emissions for our city and our planet.

III. Electric Buildings

New York City is committed to achieving carbon neutrality by 2050.

The fossil fuels used to heat, cool, and power our buildings are responsible for nearly 70% of greenhouse gas emissions in New York City. They also emit a wide range of air pollutants that harm the health of New Yorkers, especially our most vulnerable.

New York City has already been a global leader in building emission reductions, notably through the passage and implementation of the Climate Mobilization Act and its centerpiece, Local Law 97, which places caps on greenhouse gas emissions from existing large buildings.

With the legislation being proposed here today, we can lead again.

The next generation of buildings is electric. Setting ambitious targets for new buildings to be built without reliance on fossil fuels presents an opportunity for us to shape the future of our city and lead the world in developing the high-efficiency, electric buildings of the future.

To meet our carbon-neutrality goals, improve air quality, and create a city that is cleaner and greener, it is time for new buildings to be built without on-site combustion of fossil fuels. Gas or oil heating systems lock buildings into fossil fuel infrastructure for years to come – years that we do not have to waste.

All-electric buildings are a solution to improving the climate and the health of our residents. Buildings with efficient electric heating and cooling have existed for decades and are currently being built all over the world, including in New York City. The technology is reliable and functional, even in very cold weather.

Cold climate air source heat pumps provide clean electric interior comfort well-suited to New York's weather. These systems offer efficient cooling, heating from temperatures below -10°F and operate at more than double the efficiency of resistance or gas systems.

These benefits to New Yorkers come with a reasonable price tag. The cost to construct a new all-electric building is relatively similar to that of constructing a new building that heats with gas, and because the building can be designed climate-friendly from the beginning, they can avoid costly retrofits down the line as we race towards carbon neutrality.

The International Energy Agency reports that globally, almost 180 million heat pumps were used in 2020, and that to reach net zero emissions, heat pump use will need to increase significantly. The IEA has also noted the importance of setting a date certain when new buildings will be electric buildings in order to keep the world on what they describe as the "narrow but achievable" path to carbon neutrality by mid-century.

Electrifying buildings to cut greenhouse gas emissions is also in line with recommendations by the New York State's Climate Action Council.

In 2021, the City conducted a study entitled P*athways to Carbon Neutral NYC,* in partnership with our utilities Con Edison and National Grid. The study found that electrifying heating and domestic hot water systems can provide immediate emissions benefits in efficient buildings, even with today's grid, and that these buildings get greener as the grid gets cleaner.

In 2019, New York State passed the Climate Leadership and Community Protection Act (CLCPA). The CLCPA committed to 100% zero-emission electricity by 2040. Even today, before the projected increase in renewable energy, a building drawing electricity from the grid creates lower greenhouse gas emissions and less air pollution than one burning fossil fuels on-site for heat.

IV. Assist Building Owners

We are committed to working with building owners to provide them with the support they need to shift away from fossil fuels buildings. We have already launched a number of programs providing personalized, technical assistance and connecting building owners and operators with financing.

The NYC Accelerator is a $33M commitment to support a rapid transition toward decarbonizing our city's buildings – including electrification and other alternative technologies to reduce emissions from existing building system.

As part of this citywide effort, the Accelerator has expanded its training and technical assistance offerings to support high-performance new construction electric buildings that will set a new precedent for the future of our homes, schools, and offices.

We're also ready to support these changes with financing. Property Assessed Clean Energy (PACE) financing gives building-owners access to loans with no upfront capital with payments that are tied to the property tax bill.

I'm also pleased to share that staring in January, thanks to legislation passed by the City Council, PACE financing will be available for new construction of electric buildings. We believe this shift will continue to grow the electric building industry in New York, support the next generation of high-efficiency buildings without fossil fuels on site, and would help developers and builders comply with Int. 2317.

V. Legislation

Now I'll speak briefly about each of the bills that are being heard today.

a. Int. 2317 (in relation to the use of substances with certain emissions profiles)

We are excited to testify today on Int. 2317. This bill represents a major shift in how new buildings will use energy to provide heating and cooling, and we support this critical climate action. We are looking forward to working with the Council to ensure that the bill is as ambitious as possible, while still being achievable for builders and developers throughout the City.

b. Int. 2091 (in relation to studying the feasibility of electrifying existing buildings)

Int. 2091 would require a study to determine the feasibility of electrifying existing buildings. The NYC Accelerator does a lot of work to assist existing buildings in efforts to electrify. We would like to continue to work with buildings to eliminate, as much as possible, fossil fuels on site. The bill as currently drafted adds this study to the Long-Term Energy Plan. We believe this is an important topic that warrants further detailed study, but the Long-Term Energy Plan is well underway, so we are happy to discuss with the Council an alternative mechanism to get this work done.

c. **Int. 2196 (in relation to a study of the health impacts from gas stoves)**

Int. 2196 would require a study on the health impacts of gas stoves and a recommendation as to whether it would be appropriate to phase-out gas stoves. Robust research exists on the health impacts of gas stoves at the national level, and we support producing a report on the existing research in this

space – at both the national and local level and inclusive of equity implications – to inform policy recommendations and implementation in residential settings.

VI. Conclusion

We look forward to working with the Council on leading the way. Thank you. I am now happy to answer any questions.

Submitted Testimony of Con Edison
City Council Environmental Protection Committee
Oversight Hearing re: Building Electrification
November 17, 2021

- *Con Edison is committed to climate action and to leading the orderly transition to the clean energy future that our customers deserve and expect.*
- *We support changes to building codes that reduce the use of fossil fuels in buildings. Below, we propose some improvements to Intro. 2317-2021 that we believe will foster such a reduction.*
- *We also support Intro. 2091-2020 that would require the City of New York to study building electrification as part of its Long-Term Energy Plan.*

Con Edison's expanded Clean Energy Commitment sets forth our vision to facilitate a net zero economy by 2050. Our commitment builds upon our past successes as a climate leader and boldly expands on that work by providing actionable metrics and targets. It is supported by five pillars – including one tied to decarbonizing and reducing the use of fossil natural gas specifically - which we will discuss in more detail as an example of how we can support the intended goals of this legislation.

We will continue to seek support for our investments in advancing electrification and ensuring an inclusive and accessible clean energy transition leaves no one behind. To secure an orderly transition we believe that strategically deploying the gas system in support of wide-spread electrification can provide several benefits while meeting City and State emissions reduction goals.

Building the Grid of the Future

The first pillar of our commitment is to build a resilient 22nd century electric grid that delivers 100% clean energy by 2040. This is the keystone to decarbonizing New York City's economy.

Our company's efforts are focused on building and maintaining the grid of the future and we have managed many successful energy transitions throughout our long history. Con Edison does not anticipate any issues in meeting our customers' energy needs as we transition to the clean energy future.

We are making significant investments in our energy infrastructure to meet our society's net zero goals. These investments include the development of distributed energy resources like energy efficiency and energy storage, proposed "clean energy hubs" to facilitate delivery of 6,000 MWs of offshore wind to New York City, new substations, local transmission projects (e.g., Reliable Clean City projects), and peak demand reduction strategies.

Our electric grid is well-poised to support the transition to heating electrification. Because our system is built to serve our customers' energy use during the hottest summer afternoon (about 13,000 MW) and energy use is currently lower in the winter (about 8,000 MW), many parts of our system can easily support the growth of heating electrification for the coming years. We are already looking ahead to future winter peak demands driven by heating electrification as well as higher summer peak demands driven by electric vehicle adoption, electric hot water heaters, dryers and stoves, and economic growth, and are planning system investments that will support that growth. We are also preparing for more extreme weather – and are acting today to begin investing more than $2 billion over the next 10 years to increase resiliency and reduce future peak demand through energy efficiency, battery storage, and managed electric vehicle charging, among others. We are also investing today in the tools, technologies, and processes that will allow us to anticipate and manage future demands so that we are able to continue to offer the safe and reliable electric service that New Yorkers deserve and expect.

Reimagining the Gas System

Our Clean Energy Commitment sets forth a vision for a reimagined gas system. We will decarbonize and reduce the utilization of fossil natural gas and explore new ways to use our existing, and resilient gas infrastructure to serve our customers' future needs. We are working with customers to consider cleaner alternatives to natural gas for their heating and cooking needs and exploring a low-carbon fuels portfolio to serve hard-to-electrify customers. Notably, the recent Pathways to Carbon-Neutral NYC report jointly published with the City of New York, identified role for 24-38 tBtu of low-carbon fuels by 2050. To that end, the final text of this legislation should not preclude the use of such low-carbon fuels, which can be a part of an "all of the above strategy" we need during this transition.

Maintaining the gas system provides various benefits, such as lowering costs of the overall clean energy transition while also providing resiliency to the entire energy system and individual buildings. Resiliency benefits include the following:

- Enabling dispatchable low carbon generation when there is no or limited wind and solar output due to weather conditions
- Lowering peak electric demand, which reduces stress on the electrical system on peak heating days
- Providing a secondary source of heating for buildings with dual heating configurations
- Emergency backup power generation for critical functions (e.g., hospitals, elevators) with a longer available run time than on-site battery storage.

Con Edison has a responsibility to provide service to millions of people who depend on our gas system every day. We are legally obligated to serve our customers, right up until there is only one customer on that system. To that end, we have a few suggestions to improve the legislation itself as well as issues to contemplate regarding implementation:

1) Clarity for power generating facilities

Our understanding of the legislation is that it is intended for individual buildings not an industrial facility primarily used for the generation of electric power or steam. This legislation should make clear that it does not include buildings under the exclusive control and use of electric, steam, and gas utilities regulated by the New York State Public Service Commission that are used exclusively for the purpose of generating, storing, transmitting, regulating, and delivering these energy commodities. Con Edison operates steam generating plants, fueled by natural gas -- some of which produce electricity. The Con Edison steam system – the largest district steam system in the world - provides significant environmental benefits by reducing the need for on-site boilers and chimneys at customer premises and aligns with the spirit of this legislation by avoiding approximately 1 million tons of building CO2 emissions per year through the use of cogeneration. As part of our Clean Energy Commitment, we are aiming for net zero emissions by 2040, focusing on decarbonizing our steam system and other company operations.

2) Clarity regarding who is covered by the legislation

The bill as currently written is unclear who is covered by the mandate. Also, the provision of exceptions may be problematic and does not provide the clarity that utilities, business owners, and customers need. Exceptions to the bill that maintains low volume customers on the system make planning and operating the gas system difficult and costly for those customers that are left on the system. It also makes non-pipe alternatives more difficult to identify and execute. We strongly encourage that the final law is simple, understandable and does not leave the process left to future rulemaking and an advisory committee.

3) Coordination with stakeholders is key

As our society continues to electrify, we need to assess various existing policy and regulations that will support its success. We want to collaborate with interested stakeholders, including local municipalities and the real estate community, to identify key changes needed to foster a more "electrification ready" environment so that infrastructure investments, planning, land use, building code, and other policies are in place to ensure a seamless energy transition. Intro 2091-2020 may help identify some of these changes needed and we stand ready to support the City's study should the legislation be passed.

4) Ensure equitable access to the clean energy transition

Related to the above but important to spell out separately, the clean energy transition must include disadvantaged communities. We are committed to increasing access to the benefits of clean energy in underserved communities and support the Climate Leadership and Community Protection Act's goals of providing benefits of investments to

disadvantaged communities. We are currently working with housing agencies and other stakeholders to develop protections for low- and moderate-income renters so that heating electrification does not disproportionately increase their housing and energy costs. The company supports the development of new regulatory and policy measures that will help enable electrification in low- to moderate-income buildings. Continued availability of customer incentives and new strategies, such as an electrical "make ready" program for distributed energy expansion, will be critical to offset the costs for customers to transition to electrification.

We look forward to working with the Council and other stakeholders, please do not hesitate to reach out to us.

NEW YORK STATE ASSOCIATION FOR AFFORDABLE HOUSING

Testimony for the New York City Council Committee on Environmental Protection
Re: Int. 2317
November 17, 2021

The New York State Association for Affordable Housing (NYSAFAH) like to thank Chair Gennaro and members of the Committee for the opportunity to provide the following testimony today.

NYSAFAH is the trade association for New York's affordable housing industry, with nearly 400 members, including private and nonprofit developers, contractors, lenders, investors, attorneys, contractors, architects and others active in the financing, construction, and operation of affordable housing.

Int. 2317 — Support; Recommended Changes and Clarity

Climate change is the existential threat, and we believe that all those who contribute in some way to the built environment must be moving quickly towards sustainable and carbon neutral solutions. The affordable housing industry has been leading in this space, following aggressive Enterprise Green Communities standards, being innovators in Passive House, all-electric projects, solar energy and green roofs. As an industry association, we push our members to support and meet these goals, and work with City and State agencies to ensure they are supported and underwritten.

More must be done, both in new construction and in major rehab projects. To that end, we support Int. 2197 and applaud the Council for taking these steps away from reliance on fossil fuels in the multifamily residential space.

However, there are a few changes we recommend to ensure this mandate is successful:

- Greater clarity is needed on what constitutes major renovations. This is not a term that correlates to the DOB code and is up for too much interpretation. While we understand the intent to be Alt 1 major gut renovations, this must be made explicit in the bill language so it is not left up to future interpretation.
- NYSAFAH supports the provided 2 year phase in as it relates to electric heat. However, the technologies available on the market for air source heat pump for electric hot water are currently limited. The market will need time to catch up to the greatly increased new demand. For hot water, we recommend a 5 year phase in.

With our members committed to the goal of electrification and having the experience in executing these projects, they understand that implementation must be clear and feasible. With

these changes, we can work to ensure New York City is a leader in reducing reliance on fossil fuel infrastructure.

Thank you for your consideration.

Contact: Patrick Boyle, Director of Policy, patrick@nysafah.org

Submitted Testimony of National Grid
City Council Environmental Protection Committee
Oversight Hearing re: Building Electrification
November 17, 2021

Good afternoon Chair Gennaro and members of the committee. My name is Bryan Grimaldi and I am the Vice President of Corporate Affairs at National Grid. I am also a New York City resident and a National Grid customer. My employer is an international energy delivery company, but our roots here in New York go back 100 years. We have nearly 2 million customers and over 4,000 employees who live and work in the New York metro area.

National Grid shares New York City's and New York State's goals for economy-wide decarbonization, so we are transforming our energy networks to deliver smarter, cleaner, and more resilient energy solutions. The central goal of our clean energy vision is achieving a Net Zero carbon-free future that will meet New York City's growing energy demands, ensure that none of our 2 million customers are left behind, and continuing to provide safe, reliable and affordable service while taking the necessary steps to protect our climate and environment.

In fact, National Grid just released the first annual update on our Net Zero plan, showing our progress on our goals so far across our U.S. operations. Since 1990, we've reduced our direct (Scope 1 and 2) emissions by over 70%, and we are increasing our efforts in five distinct areas.

First, to ensure we are on track to addressing global climate change, we partnered with the Science Based Target initiative (SBTi) to determine what targets we would need to meet to do our part in keeping the Earth's temperature below the two-degree Celsius threshold, which the Intergovernmental Panel on Climate Change (IPCC -- United Nations body for assessing the science related to climate change) reports is necessary to avert the most catastrophic effects of climate change. These new verified interim targets are in addition to our end goal of Net Zero by 2050 for direct and indirect emissions. This ambition includes scopes 1, 2, and 3, making us the first investor-owned distribution utility in the country to have SBTi verified targets for all three scopes.

Second, we are making strides to facilitate equitable access to clean transportation choices and building a reliable network that benefits all customers and enables the market, including:

- Installing more than 1,700 charging ports in New York and nearly 1,500 are in progress across the state. Our goal is to install 16,000 ports across Upstate New York to support the State's goal of 50,000 by 2025.
- Transitioning to a 100 percent electric fleet by 2030 for our light-duty vehicles while also pursuing the replacement of our medium- and heavy-duty vehicles with zero carbon alternatives.

Third, National Grid is focused on connecting clean, renewable energy to the grid, partnering with our states to reach clean energy targets by enabling the deployment of cost-effective zero-carbon generation resources, ranging from large-scale offshore wind projects to smaller distributed solar generation. We're doing that by investing in transmission infrastructure and other technology, while making long-term commitments to purchase clean power from renewable generators.

- As of December 2020, we have interconnected more than 105,000 distributed generation projects across our footprint. We have interconnected the 2nd largest amount of large-scale, non-residential solar of any utility in the U.S.
- National Grid is planning to develop and construct nearly $5 billion in necessary transmission and distribution upgrades to help meet the renewable energy targets in our states and create 6,200 MW of clean energy capacity in the region.

Fourth, our low-carbon fuels strategy includes renewable natural gas (RNG) and green hydrogen. RNG is a carbon-neutral gas produced by upgrading methane from already existing methane emission sources like landfills and wastewater treatment plants. We are only considering RNG from sustainable sources. We are researching how zero-carbon, renewable green hydrogen can supplement our gas network as a zero-carbon fuel.

- We launched a hydrogen blending study with NYSERDA and Stony Brook University to understand the details of delivering hydrogen through our distribution networks.
- We are facilitating over a dozen customer requests to produce and interconnect about 10 million dekatherms/year of RNG and we intend to have 5 percent of our gas supply come from RNG by 2030.

National Grid is also ramping up installations of heat pumps in residential locations, thus far in upstate New York, approximately 840 were installed in 2020 and over 1,500 in 2021. We are offering incentives to our customers in New York for installing heat pumps to reduce reliance on oil, propane, inefficient electric baseboard, or natural gas heating equipment.

- We are striving to have nearly 6,500 heat pumps installed in commercial and industrial facilities and some 13,000 heat pumps installed in residential buildings in upstate New York.
    - This effort in upstate New York strives to achieve over 10 Million mmBtu equivalent savings over the lifetime of installed equipment.
    - It's estimated that the work through the Clean Heat Program will deliver over 1 Million Lifetime CO2 Savings.
    - In downstate New York, National Grid is also ramping up collaboration with electric distribution companies to encourage heat pump installations in Brooklyn, Queens, Staten Island and on Long Island.
    - This effort in downstate New York strives to on average refer over 500 customers a year to our neighboring electric company's electrification programs to install heat pumps.
        - If half of those customers proceed to installing heat pumps by 2025, it's estimated to provide over 1 Million mmBtu equivalent savings over the lifetime of installed equipment.

Fifth, National Grid is also taking responsibility for emissions related to the natural gas we distribute and sell to our customers. We are committed to reducing methane leaks from our entire gas supply chain including our own gas networks.

- The leak resistant gas main replacement work helps reduce emissions from our distribution mains and the company has been replacing 220 miles of pipe per year across the state.
- As a member of the EPA's Methane Challenge, we continue to offer public transparency on our mains' leaks and replacement efforts.

We have a responsibility to keep our 2 million customers safe, so we must ensure that a decarbonized economy is one that is affordable and one that leaves no customer or community behind. Electric and gas energy efficiency and demand response are foundational elements of the pathway to Net Zero. By 2030, we will need to double the rate of energy efficiency retrofits across our region and reduce peak energy consumption, which can reduce the need for new infrastructure. So, our success depends on a shared sense of responsibilities and on transparency. As we continue to decarbonize, National Grid will remain honest and transparent about our progress, acknowledging when challenges or new opportunities arise.

Reaching Net Zero is an obligation we are proud to share with New York, so thank you for the opportunity to testify on INTRO 2317 today. We applaud the intent of this bill to reduce greenhouse gas emissions. However, the proposed legislation takes viable options to decarbonize off the table at a time when we need more paths to Net Zero, and not fewer.

The most affordable, reliable, and practical way for New York City to achieve its Net Zero goal is through a holistic approach that decarbonizes building heating through 1) increased energy efficiency; 2) heat electrification that includes dual fuel heating (i.e., relying on electric heat pumps and adding low-carbon gas when it is severely cold), and 3) leveraging existing gas infrastructure to deliver new low-carbon fuels like renewable natural gas and hydrogen. These findings are supported by studies such as the *Pathways to a Carbon-Neutral NYC* study, a joint project from the NYC Mayor's Office, Con Ed, and National Grid.

As we adopt innovations to deliver carbon-free energy solutions, we know that issues of affordability and reliability are top of mind for our customers and your constituents. That is why we want to preserve multiple ways to fulfill our duty to provide affordable, reliable energy and ensuring our existing system is resilient to extreme events.

We have real concerns that, as envisioned, these bills may result in increased energy costs for customers, which will have a disproportionate impact on low- and fixed-income families.

One system. Two networks. Net Zero emissions.

If we enable the opportunity to achieve Net Zero goals through hybrid heating, as well as modernizing existing National Grid infrastructure networks, we can combine electrification – air source and ground source heat pumps - with decarbonized fuels utilization and expansion of energy efficiency for electric and gas customers. We believe that through innovation and efficiencies, the energy we deliver today can be decarbonized, which is why existing energy delivery infrastructure should play an integral role in our Net Zero future, including complementing heat electrification via hybrid heating.

We are not resting on our current delivery systems. National Grid is also making significant investments in solar, wind, and battery energy storage projects through our National Grid Ventures division across the U.S. We can use these fuels in our existing infrastructure, which will help keep cost pressures down.

The technology to scale these low-carbon and renewable energy sources are all viable and on the verge of wide-ranging breakthroughs. It's an exciting time and limiting the technical options at this early stage could result in stunting economic growth, interrupt the transition of the skilled workforce to green jobs, and the ability to explore the most cost-effective solutions. Worse, it could prove to be cost-prohibitive.

Elected officials and policy makers have taken a long view in decreasing the reliance on the internal combustion engine (i.e. most agreeing to targets in 2035) which will allow for expanding EV adoption over time. Solutions for heating require the same long view, which is not afforded by the proposed legislation.

It's important to highlight that these solutions are not in competition with one another, but rather complementary. In depth technical analysis is indicating that all these solutions will be needed to achieve Net Zero. The solutions to a carbon-neutral future must include all options, as every tool in the toolkit is needed to meet the goal, including extensive dual fuel heating, which INT. 2317 appears to specifically prohibit.

As previously mentioned, a report published in collaboration with Con Edison and the Mayor's office of Sustainability, the *Pathways to a Carbon-Neutral NYC* examined in detail smart and cooperative approaches to Net Zero. The *Pathways* study showed that 40 to 70 percent of the buildings in New York City would likely not be electrified in 2050, underscoring the fact that we will need all options and technologies to get to Net Zero. Moreover, the *Pathways* study found that hybrid heating systems could substantially reduce the costly impacts on electricity networks from higher winter heating electricity demand.

We need to continue to invest in heat pumps, renewable gas, hydrogen blending and geothermal networks, and integrate them with off-shore wind, solar, hydropower, battery storage – all integral parts of the equation that will help drive down our emissions. We should use every tool available to us.

The potential is real, the technology is evolving, and we look forward to policy and regulation that will help us achieve our shared goal of Net Zero while also ensuring the vital reliability and affordability that our customers expect and want.

It is our sincere desire to work with the prime sponsor and the council on finding a solution that achieves our shared goals. We would welcome any opportunity to discuss in more detail and answer any questions that you might have. Thank you very much for the opportunity to offer this testimony.

REBNY Testimony | November 17, 2021

The Real Estate Board of New York to

The New York City Council Committee on Environmental Protection

The Real Estate Board of New York (REBNY) is the City's leading real estate trade association representing commercial, residential, and institutional property owners, builders, managers, investors, brokers, salespeople, and other organizations and individuals active in New York City real estate. REBNY thanks the City Council for the opportunity to discussion legislation to advance our shared climate goals.

REBNY appreciates the City Council's interest in pursuing legislation to reduce the use of onsite fossil fuel combustion in buildings. Reaching the objectives set out in the New York State Climate Leadership and Community Protection Act (CLCPA) requires building emissions to be reduced, which includes the curtailment of fossil fuel combustion in buildings.

Realizing this goal require policy makers to carefully analyze several issues that will ultimately impact the effectiveness of the legislation. These issues include:

- **The reliability of our electricity systems,**
- **The ability of technology to cost-effectively deliver efficient electric solutions to all types of buildings, and**
- **The financial impact on tenants and residents.**

Furthermore, to be successful such policies must be based on clear and consistent regulation at both the State and City levels and provide both financial support and technical assistance for buildings that need these tools. If implemented poorly, well-intentioned policies that seek to reduce emissions would fail to balance the competing needs of the city to grow our housing stock – including affordable housing – and create high quality office buildings that are critical to the City's employment and tax base.

Comments on the specific bills under consideration follow.

BILL: Int 2317-2021
SUBJECT: Use of substances with certain emissions profiles
SPONSORS: Council Member Ampry-Samuel, Rivera, Public Advocate Williams, Van Bramer, Reynoso, Lander, Rosenthal, Kallos, Levin, Dromm, Diaz, Ayala, Menchaca, Adams, Barron, Chin, Cornegy Jr., Rodriguez, Levine, Riley, Cumbo, Koslowitz, Dinowitz, and Louis

Int 2317 would prohibit the combustion of any substance in a building whose emissions exceed a certain limit established by the legislation. As proposed, the limit would prohibit the combustion of

natural gas or fuel oil, which are commonly used heating sources in buildings. Certain exemptions are provided including for emergency standby power, certain operations including manufacturing, laboratories, commercial kitchens, laundromats, and hospitals, or other undue hardships. The prohibition would apply to both new construction and major renovations (an undefined term in the proposal) and would go into effect in two years.

REBNY supports the goals of Int 2317 but believes that changes are necessary for the proposal to succeed. This is the case because policies around building electrification and the elimination of onsite fossil fuel combustion have trade-offs and raise many critical policy issues that need to be balanced. Key issues include:

- Can the electricity system – including generation, transmission, and distribution – provide reliable low-emission power to buildings?
- How can building electrification best deliver emissions reductions?
- Is efficient electric heating technology able to meet the needs of all types of buildings that are required to meet the needs of the city?
- Who will pay the costs that result from using higher cost electricity?

Each of these topics merit detailed analysis on their own. However, one can imagine the potential impacts of implementing Int 2317 in two years for every building in New York City by looking closely at the challenges left unaddressed by the current legislation. These include:

- It would take effect before the deployment of any significant renewable energy into New York City. New York City's electricity will be largely supplied by fossil fuels until the completion of offshore wind generation and transmission and large scale transmission projects that are yet to be fully permitted or constructed meaning that carbon emissions stemming from electricity usage will remain elevated for many years to come.
- It would add potentially significant load to the electricity system at a time when the city's electricity provider is already unable to reliably supply electricity on the peak days.
- It would result in the adoption of inefficient electric heating systems, such as electric resistance heat. This is because much more costly and less proven heat pumps are currently not able to meet the needs of very tall buildings or certain uses, including domestic hot water or shared drying facilities. As a result, the implementation of less efficient all-electric technology could lead to increased emissions short-term due to New York's reliance on fossil fuels for electricity generation.
- It would substantially increase utility bills for New Yorkers. Families across the city would face higher electricity costs because of heating costs becoming borne by the tenant.

These risks can be mitigated by thoughtful improvements to Int 2317. These improvements should include the following:

1. A phased in effective date that better accounts for the cost and effectiveness of efficient electric-based systems, the realities of the electricity system, and the City's need to grow our housing supply.

Important Note

REBNY believes an appropriate phase-in would be 2025 for buildings under 3 stories and single family homes, 2027 for all buildings under 10 stores, and 2030 for all buildings over 10 stories.

Such a phase in has numerous advantages. First, in requiring smaller buildings to go first it reflects the reality that heat pump technology is already cost-competitive and proven in small buildings. As electric heat pump systems are less proven and more costly for taller buildings, this phase in would give time to ensure product manufacturers provide high quality cost competitive systems for these buildings. This would help to avoid buildings utilizing inefficient electric systems that would quickly overburden the electric grid if used widely. REBNY believes that this suggested timeline will allow for more efficient and reliable electric heat pumps to become more readily available for large scale buildings.

Second, it would align this mandate with other aspects of State and City policy that are important to drive efficient construction and low-carbon performance. In particular, this phase in would allow time for a new performance based energy code to come into effect and closely follow the compliance periods set under New York City's Local Law 97. Further, it would also provide additional time for on-site energy storage systems, which are on the verge of finally being approved, to provide buildings with the resilience and redundancy needed to protect against electric blackouts or brownouts.

Finally, a phased-in approach allows for the electrification of buildings to better align with the greening of the electric grid, which as aforementioned would allow for a much more holistic approach to eliminating fossil fuel emissions.

2. An "electric ready" requirement on buildings constructed prior to the full effective date of the law.

   A phased approach should also include an "electric ready" requirement for buildings will ensure that new buildings are designed to more easily facilitate conversion to efficient electric systems in the future when more appropriate.

3. A focus on new construction.

   This legislation will be more effective if it focuses on new construction, rather than existing buildings. It is substantially easier to eliminate onsite fossil fuel combustion from a building that is not yet completed than an existing building, even if that existing building is undergoing major renovations. Indeed, major renovations can occur without impacting the building's boiler or HVAC system and some existing buildings simply may not have the space to accommodate electric systems at all.
   However, if this requirement is to be extended to major renovations, the term "major renovations" must be much more carefully defined. Unless major renovation is more appropriately defined, there will likely be scenarios where tenants remaining in place during construction could face significant hardship due to the invasive and challenging process of converting an existing building to all-electric systems.

REBNY looks forward to a continued conversation with the City Council on this proposal.

Important Note

BILL: Int 2196-2021
SUBJECT: Study of the health impacts from gas stoves
SPONSORS: Council Member Louis

Int 2196 requires a study be conducted by a mayoral appointee into the health impacts of gas stoves and further require a recommendation be made as to whether gas stoves should be phased out. REBNY believes such a study is prudent and supports this legislation.

BILL: Int 2091-2020
SUBJECT: Studying the feasibility of electrifying existing buildings
SPONSORS: Council Members Kallos and Cornegy, Jr.

Int 2091 would require a study be conducted into the feasibility of electrifying existing buildings as part of the long term energy plan and analysis that is required to be completed by June 30, 2022.

REBNY believes studying the feasibility of electrifying existing buildings is urgently needed. While Local Law 97 appears to be designed to encourage buildings to electrify, the challenges for existing buildings to do so are immense and merit more careful evaluation.

CONTACT:

Zach Steinberg

Senior Vice President of Policy
Real Estate Board of New York

212.616.5227
zsteinberg@rebny.com

Important Note

Testimony of Carlos Castell Croke
Associate for NYC Programs
New York League of Conservation Voters

City Council Committee on Environmental Protection
Hearing on Intros 2317, 2091, and 2196
October 26, 2021

Good afternoon, my name is Carlos Castell Croke and I am the Associate for New York City Programs at the New York League of Conservation Voters (NYLCV). NYLCV represents over 30,000 members in New York City and we are committed to advancing a sustainability agenda that will make our people, our neighborhoods, and our economy healthier and more resilient. I would like to thank Chair Gennaro for the opportunity to testify today.

Buildings are the number one source of emissions in New York City, which is why building emissions have been such an important policy issue over the past decade. In 2019, we passed the historic Local Law 97 and just last year we expanded the law to include even more rent regulated buildings. Unfortunately, the City has still been too slow to act on building decarbonization. We have only seen our building emissions decrease 18% from the year 2005 to 2019, meaning that we are not on pace to meet any of our citywide emission reduction goals. New York City must implement ambitious legislation and programs to fight climate change, and a bill like Introduction 2317 will help us get there by requiring a phase out of the use of fossil fuels.

This legislation is important because building electrification will not only reduce emissions and fight climate change directly, but will also create tens of thousands of clean, green jobs. An overwhelming majority of clean energy jobs in New York are in the building sector, mostly due to policies and programs like this that focus on clean electricity and energy efficiency. We can rapidly increase the number of green jobs with policies that scale efficiency and electrification. Building electrification will also let us utilize local renewables for fuel and keep our energy dollars in New York State's economy.

However, building electrification will not be an easy task. It will require thoughtful and pragmatic policy that considers multiple different variables including the rate of technological advancement and lead times needed to implement a new way to build buildings.

Therefore we agree with our colleagues at Urban Green Council (and others who testified before me) with the following list of recommendations for introduction 2317:

1. Phase in requirements by building height to allow more time for taller buildings and market ramp-up.
2. Clearly define a high threshold for major renovations to be covered.
3. Lower the permitted CO2 emissions limit.
4. Add “electrification-ready” requirements for all new construction and major renovations in the interim.
5. Add detail to keep exceptions limited and justified.

We also support the passage of Intros 2091 and 2196 to help us study the feasibility of electrifying existing buildings in order to further decarbonize and to study the health impacts of gas stoves so we can fully understand how important electrification may be not only to climate change but to public health.

Thank you for the opportunity to testify today.

NYLPI
JUSTICE THROUGH COMMUNITY POWER

New York Lawyers for the Public Interest, Inc.
151 West 30th Street, 11th Floor
New York, NY 10001-4017
Tel 212-244-4664 Fax 212-244-4570
TTY 212-244-3692 www.nylpi.org

Comments of Kaitlin Morrison, Staff Attorney of New York Lawyers for the Public Interest on November 19, 2021 to the New York City Council Committee on Environmental Protection regarding building electrification

My name is Kaitlin Morrison and I am a staff attorney in the Environmental Justice program at New York Lawyers for Public Interest ("NYLPI"). NYPLI works with communities across New York to combat inequality, injustice, and infringements of civil rights. As part for our approach to community lawyering, NYLPI's Environmental Justice program confronts environmental racism, works to eliminate disproportionate exposure of environmental justice communities to environmental hazards, and seeks to create a more equitable and sustainable city.

We write in support of Intro. 2317. Banning gas hookups in new buildings and major renovations will help to reduce indoor and outdoor air pollution that disproportionately impacts environmental justice communities. We strongly support the passage of this bill with the following changes, in agreement with our colleagues at WE ACT: (1) accelerating the implementation timeline to 1 year after enactment; (2) lowering the threshold from 50kg or more of CO2 per million BTU to 25; and (3) making clear that major alterations are included. Swift implementation is technologically feasible now, and is necessary to avoid building out more fossil fuel infrastructure that will soon be outdated. The current threshold of 50kg or more of CO2 per million BTU creates a possible loophole for hydrogen fuel blends, which when combusted generate NOx emissions that have similar negative respiratory impacts to fossil fuels. These additions to the bill will strengthen and clarify its crucial protections.

We also support Intro. 2191, a bill to study the feasibility of electrifying existing buildings. We must commence plans to electrify existing buildings and find feasible pathways for equitable electrification. It is critical that the study center and prioritize NYCHA housing, and as proposed by WE ACT, the study should be broken down by race and neighborhood.

New York Lawyers
for the Public Interest, Inc.
151 West 30th Street, 11th Floor
New York, NY 10001-4017
Tel 212-244-4664 Fax 212-244-4570
TTY 212-244-3692 www.nylpi.org

We urge the Council to pass Intros. 2317 and 2191 with the aforementioned suggestions. This is a tremendous opportunity for New York City to continue leading the fight against the climate crisis and serve as a model for other major cities to follow. Thank you for your attention to these comments, and we look forward to continuing to work with the Council to ensure this bill is strengthened and passed.

Kaitlin Morrison, Staff Attorney
New York Lawyers for the Public Interest
151 West 30th Street, 11th floor
New York, NY 10001
kmorrison@nylpi.org
(212) 244-4664

Building Owners and Managers Association of Greater New York's Testimony on Int. 2317-A, A Local Law to Amend the Administrative Code of the City of New York, in Relation to the Use of Substances with Certain Emissions Profiles

The Building Owners and Managers Association of Greater New York (BOMA New York) represents more than 750 property owners, managers, and building professionals who own or manage 400 million square feet of commercial space in New York City. We are an association within BOMA International, a federation of 90 US associations and 19 international affiliates that own and operate approximately 10.5 billion square feet of office space in the United States.

Int. No. 2317-A would prohibit, with some exceptions, the combustion of all or almost all fossil fuels in a building. The intent of the bill is to shift new and substantially renovated buildings to rely on electricity for heating, cooling, and cooking. As the electric grid becomes significantly "greener," the result would be lower emissions from operating buildings.

BOMA New York supports the intent of this legislation, although we would ask for changes and clarifications to make this effort feasible and reasonable.

First, the bill needs to be specific about which buildings it applies to. As stated above, our understanding is that it would apply only to new buildings, and perhaps to substantial renovations. If buildings undergoing substantial renovations are included, we think that term should be defined as renovations that cost over 50% of the property's value.

We would also argue that the implementation schedule in the existing bill, which is two years after passage of the law, is not reasonable or workable. We would call for a phase-in over a longer period of time, with the mandate applying to smaller buildings first, then medium-sized buildings, and then large buildings. The final phase in should be 7 years out from the enactment of the legislation. Buildings built in the latter years of the phase-in period should be designed as electric-ready, to the degree feasible.

This phase-in period would confer several advantages. First, under the current circumstances, many owners, especially of larger buildings, might opt for electric resistance over heat pumps, as heat pumps are more expensive and take up a lot of space. Electric resistance, combined with electric supply that is not yet green, would lead to higher emissions in the short term. The phase in could allow for better, smaller heat pump technology to be developed, and would allow more time to green the grid.

Electrifying significant numbers of buildings could eventually put a significant strain on the grid, both in terms of electricity supply and infrastructure needs. During the phase-in period, there should be a third-party study on how electrification will impact the grid over time. The study should include supply needs, infrastructure upgrades, and costs to ratepayers, at a minimum. It should also look at both the big picture as well as more local impacts such as at substations.

The bill should allow for hybrid electric and natural gas systems. Heat pumps are not always effective or efficient, especially in colder weather. Efficient natural gas equipment could be deployed during these less-than-ideal periods. They could also provide backup in the case of failures in the electric system. The total usage of natural gas systems could be limited by statute or rule, but Local Law 97 emissions reductions mandates, and their associated fines, would also keep such usage to a minimum.

The bill should spell out the process by which a building owner can get a hardship waiver. These waivers should include a situation whereby Con Edison cannot feasibly or affordably extend sufficient electrical service to a building.

As written, it is not clear if the bill would apply to new buildings owned by the City, or those undergoing substantial renovation. The legislation should be amended to clarity City buildings must also comply.

As written, the bill applies to combustion within the building. As such, the bill would exclude new buildings or substantial renovations that utilize district heating/cooling systems, including Consolidated Edison's district steam system. With Consolidated Edison's commitment to decarbonize their stream generation over time, it is important to exempt new buildings that use steam from the law, if they are not already.

BOMA New York's Testimony on Int. 2091, A Local Law to Amend the Administrative Code of the City of New York, in Relation to Studying the Feasibility of Electrifying Existing Buildings

As the bill title suggests, this bill would call for a study on a range of issues related to electrifying existing buildings. BOMA New York believes that there are major barriers to electrifying existing buildings. We would want to be directly involved in such a study, as our expertise would be critical. In addition, the study needs to look closely at how electrifying existing buildings would impact the demand for electricity, the need for additional grid infrastructure, and the costs to ratepayers for meeting such demand and building such infrastructure.

Natural Resources Defense Council Testimony
Before the New York City Council Committee on Environmental Protection
Re: Int. No. 2317

November 17, 2021

Good afternoon Chair Gennaro, Council Member Ampry-Samuel and members of the Environmental Protection Committee:

My name is Donna De Costanzo and I am Eastern Regional Director for the Climate & Clean Energy Program at the NRDC, an environmental organization that has been advocating for clean energy policies and programs in New York for more than 50 years. We want to thank the Council for its leadership, and especially thank Chair Gennaro for his years of dedication on these important issues and longstanding legacy of helping to make New York City a more sustainable city and national leader.

Among our priorities, NRDC is focused on equitable building decarbonization and, specifically, on delivering clean, healthy, all-electric, highly efficient, affordable buildings for New York City. Efficient electrification of building systems is the best, cheapest way to deliver the health, climate, and jobs benefits of a net-zero green energy economy to all New Yorkers. This hearing on all-electric, efficient buildings is a testament to the ongoing leadership of New York City in undertaking the difficult, but critical, work of tackling climate change by decarbonizing the building sector. We need do so in a way that is as ambitious as feasible, prioritizes disadvantaged communities, and improves affordability. NRDC strongly supports Int. 2317 and moving it forward as soon as possible and supports the recommendations of Urban Green Council as detailed earlier.

To reach the goal of equitably decarbonizing New York City's building sector, we'd like to highlight a few important points:

1. New buildings are easiest and cheapest to make all-electric and highly efficient; we should not be putting dirty fossil-fueled systems that last decades in our new buildings.

2. The more gas infrastructure we build now, the longer all gas customers will be saddled with the expense of stranded assets that will not be in use after 2050. [It's like putting new floors on a hotel that's going to be replaced next year.]

3. We need to continue to prioritize energy efficiency, in addition to electrification – it's not "either/or". Energy efficiency will remain an essential pillar of affordable decarbonization: it saves people money on their utility bills and increases grid resilience, making it easier and cheaper to meet additional power needs and to meet our renewables targets.

4. So-called “renewable” “natural” gas, or biomethane, which has been put forward as a building decarbonization solution in various contexts, is, rather, a dead-end solution for buildings. There isn’t enough of it now or expected for the future, it’s too expensive, and we need to use what little there is sparingly and strategically for hard-to-electrify sectors, such as industrial processes, aviation, and long-distance transportation, NOT buildings. In addition, and most importantly, it also produces the exact same toxic air pollution as fossil gas.

5. Similarly, boosterism for green hydrogen in buildings is the worst type of tech-crastination, diverting attention and resources from electrification. We would need all new pipes to distribute it AND all new equipment to burn it, and burning it in buildings may be as bad or worse for toxic air pollution as methane. Green hydrogen is a woefully inefficient and risky solution to decarbonize buildings relative to proven and readily available high-efficiency electric heat pumps. It will also have much higher and better uses for hard-to-electrify sectors in a fully decarbonized New York.

Thank for you the opportunity to testify today in strong support of Int. 2317 and the equitable, efficient electrification of New York’s buildings. We look forward to working with the Council and the Administration to advance this policy and continue New York City’s strong climate legacy.

Thank you,
Donna De Costanzo

Additional Information:

The state Climate Leadership and Community Protection Act's (CLCPA) Climate Action Council has spent the last year looking at the paths to reach the statewide net zero by 2050 climate goal. Their recommendations include having all new construction be highly efficient and all-electric, as Int. 2317 will provide, and huge acceleration of efficiency and electrification of existing buildings.

The Climate Action Council has also recalculated the state's GHG emissions as required by the CLCPA, incorporating the much higher 20-year global warming potential of methane gas and its upstream leakage, yielding climate impacts from methane gas, fossil and biogenic, that are more than 50% higher than current NYC accounting. The new CLCPA accounting also counts biogenic methane's climate impact at the same level that fossil gas was previously counted at (117 lbs/mmbtu CO2e).[1] Any potential uses of biomethane must happen within a statewide framework that includes robust environmental requirements to screen the resources used and differentiate among different sources through active monitoring and reporting of life-cycle carbon dioxide and methane emissions, accounting for both short-term and long-term climate impacts. It must also include strict standards for how one can claim the environmental attributes. The State Department of Environmental Conservation should have a lead role in developing environmental standards for biogas, in consultation with the Department of Public Service, NYC agencies and NYSERDA.

Green hydrogen production and combustion is profoundly inefficient and higher risk versus proven and available high-efficiency electric heat pumps, including the likelihood of producing higher levels of toxic air pollution than fossil gas combustion in buildings.[2]

Links:

NRDC blog, "Report: "Renewable" Gas – A Pipe Dream or Climate Solution?" https://www.nrdc.org/experts/merrian-borgeson/report-renewable-gas-pipe-dream-or-climate-solution

---

[1] New York State Climate Action Council meeting presentation, July 22, 2021, slide 26, available at https://climate.ny.gov/-/media/Migrated/CLCPA/Files/2021-07-22-CAC-Meeting-Presentation.ashx

[2] As detailed in the UN Climate Champions 'guiding principles' for climate-aligned hydrogen, incumbent corporations have a vested interest in repurposing and expanding their existing systems; to them, every climate solution should include pipes.
https://racetozero.unfccc.int/un-climate-champions-launch-guiding-principles-for-climate-aligned-hydrogen/
"Hydrogen also offers a second life to incumbents in the production, transport, and utilization of carbon-intensive energy sources, conferring an apparent opportunity to maintain and expand assets and infrastructure to support delivery of a decarbonized global economy [Principle 4]. As such, policy and investment agendas advanced by incumbents with stakes in the widespread deployment of hydrogen must be scrutinized for their degree of alignment with the public interest and compatibility with steps towards net-zero greenhouse gas production."

NRDC Issue Brief: A Pipe Dream or Climate Solution?
https://www.nrdc.org/resources/pipe-dream-or-climate-solution

NRDC blog, “Hydrogen in Buildings: The Poster Child of Tech-Crastination”
https://www.nrdc.org/experts/rachel-fakhry/hydrogen-buildings-poster-child-tech-crastination

BTEA
THE ASSOCIATION OF
NEW YORK'S LEADING CONTRACTORS

Building Trades Employers' Association
1325 Avenue of the Americas • 10th Floor • New York, N.Y. 10019
212.704.9745 • www.bteany.com
Louis Coletti, President & CEO

NEW YORK CITY COUNCIL

COMMITTEE ON ENVIROMENTAL PROTECTION

HEARING ON INTRO 2317-A

11 / 17 / 2021

The Buildings Trades Employer's Association (BTEA) represents some 1,100 construction managers, general contractors and specialty trade contractors, including 108 M/WBE contractors (the most of any trade association in NYS), who put in place some $50 billion worth of construction in NYC annually. Thank you for the opportunity to discuss Intro 2317-A, concerning the use of substances with certain emissions profiles.

Intro 2317-A would prohibit the combustion of a substance that emits 50 kilograms or more of carbon dioxide per million British thermal units of energy in any new building or any building that has undergone a major renovation. The bill provides an exception for emergency standby power, a hardship preventing compliance with the bill, where the combustion of the substance is required by certain enumerated industries, and where the combustion of the substance is used on an intermittent basis in connection with a device that is not connected to the building's gas supply line.

While we applaud opening the discussions on the phase out of fossil fuels as they affect buildings in NYC, we believe more study is necessary in order to be fully engaged on this one aspect of the that issue. Notwithstanding the good intentions of the legislation, and an appreciation for an aggressive timeline as a call to action, we would like to see more engagement with the science behind the issue, the logistics of replacement, and, a slower more phased in approach.

Members of the Committees, we would like to work with the Council on this issue. However, without more study of the issue and timeline for implementation, we do not support moving the bill out of Committee at this time. Thank you.

Council of New York Cooperatives & Condominiums

TESTIMONY TO THE NEW YORK CITY COUNCIL
COMMITTEE ON HOUSING & BUILDINGS
September 13, 2021

The Council of New York Cooperatives & Condominiums (CNYC Inc.) is a membership organization providing information, education and advocacy for housing cooperatives and condominiums located throughout the five boroughs of New York City and beyond. More than 170,000 New York families make their homes in CNYC member buildings, which span the full economic spectrum from very modest, income-restricted housing to solid middle class apartment complexes to upscale dwellings. The shareholders and unit owners who make their homes in New York cooperatives and condominiums are not only the collective owners of their buildings, they are also responsible for meeting all costs of operating the building and complying with the law. The boards that govern cooperatives and condominiums are elected by their neighbors; their volunteer job includes planning prudently to run their buildings safety and efficiently, in compliance with all applicable laws, and budgeting to meet expected needs, with a regard for the ability of all their neighbors to meet ever growing costs.

To protect New York City buildings from possible gas hazards, Local Law 152 of 2016 was enacted, requiring inspection of exposed gas lines from the gas main up to individual tenant spaces. There has been confusion in the implementation of this well-intentioned law and concern that complying buildings have had the gas shut down in instances where the inspection revealed conditions that were non-Code compliant but that did not pose any immediate threat to life or property, and where remediation could easily have been performed without shutting down the gas. CNYC respectfully suggests that Local Law 152 be amended to clearly distinguish the circumstances that would require full shut downs.

CNYC strongly supports Int. 2259 and 2321 which extend compliance deadlines in the light of delays caused by the Covid-19 pandemic and by the confusion described above regarding the intent and possible ramifications of Local Law 152.

Council of New York Cooperatives & Condominiums

Int. 2361 instructs the Department of Buildings to create a questionnaire for the public and to report annually in March to the Council on comments it receives on Local Law 152. We would respectfully suggest that these comments are likely to be rather harsh if Int. 2377 is passed in its present form.

CNYC has serious concerns with Int. 2377, which would extend the scope of physical gas pipe inspections. Local Law 152 requires inspection of exposed gas lines from the point of entry up to individual tenant spaces. This allows for regular inspection without burdening building owners or management (often the resident owners in the case of smaller housing cooperatives and condominiums) with the task of securing entry into each individual tenant space for the inspection. It is our understanding that the framers of Local Law 152 never intended it to require inspection inside individual units. This modification is invasive; compliance will be costly in time and effort; with an outcome of minimal benefit at best. CNYC respectfully requests that the Council amend Int. 2377 to eliminate from inspection requirements all individual dwelling units that are not the point of entry into the building for gas lines. This would greatly alleviate the significant costs and burdens of testing buildings covered by LL152.

We strongly support Int. 2309 and the registration of short-term rentals. We would like to see language added that would require any short-term rental in a coop or condo building present written approval by the Board of that building prior to registration.

Thank you for the opportunity to testify today.

Mary Ann Rothman
Executive Director

UNITED BROTHERHOOD OF CARPENTERS AND JOINERS OF AMERICA
NEW YORK CITY & VICINITY DISTRICT COUNCIL OF CARPENTERS

JOSEPH A. GEIGER
Executive Secretary - Treasurer

PAUL CAPURSO
President /Asst EST

DAVID CARABALLOSO
Vice President Pro Tem /Asst EST

395 HUDSON STREET - 9TH FLOOR
NEW YORK, N.Y. 10014
PHONE: (212) 366-7500
FAX: (212) 675-3118
www.nycdistrictcouncil.com

Opposition Memo from the NYCDCC on Gas-Free NYC Bill Intro 2317

The New York City District Council of Carpenters (NYCDCC), a labor organization consisting of 9 union locals representing 22,000 working men and women throughout the New York City metropolitan region opposes Intro 2317 (the Gas-Free NYC bill) which would prohibit new and renovated buildings from using fossil fuels during construction.

The NYCDCC fully supports the transition to a green energy economy. We have been a proud and proactive partner in ensuring a just transition that will allow us to fight climate change, lower energy prices, and protect the sustainability of New York's power grid. While Intro 2317's goal is laudable, we believe the implementation of the bill will raise energy costs, reduce the reliability of New York's power grid, and threaten job opportunities for New Yorkers.

Intro 2317's impact on the reliability of New York's power grid is a grave concern. We've seen the effects of an unreliable power grid play out in Texas in 2021.[1] According to a draft report from the New York State Independent System Operator, we are pushing our power grid to the limit due to the loss of Indian Point and the subsequent rejection of several pipelines and power plants meant to replace that lost energy capacity and meet increasing demand. While renewable energy battery capacity has advancements, it has not matured enough to sufficiently replace all fossil fuels.[2] New York City is responsible for protecting its citizens from extreme weather events. A reliable and resilient power grid is essential to carrying out that responsibility. As currently written, Intro 2317 puts that in jeopardy.

Compounding these problems, forecasters are predicting a nearly 100% or more increase in energy costs this winter, a potentially unaffordable amount for both our most vulnerable New Yorkers and the middle class.[3] This proposed legislation will not only fail to lower costs, but also will likely lead to higher bills. To meet the standards of Intro 2317, the distribution systems operated by the utilities will require enormous investments in a too-compressed timeframe if they are to comply with the accelerated electrification mandated. As always, those costs will be passed

[1] Clifford Krauss et al. "Texas Power Grid Run by ERCOT Set Up the State for Disaster", *New York Times,* May 13th, 2021
[2] New York Independent System Operator, "New York's Clean Energy Grid of the Future", January 19th, 2021
[3] Talmon J. Smith, "Winter Heating Bills Loom as the Next Inflation Threat", *New York Times,* November 8th, 2021

not onto the utilities, but your constituents. We believe placing those costs on New Yorkers already struggling with the cost of living is inequitable and unjust -- especially when this transition has already begun at an equally ambitious, but more responsible timetable. New York State's landmark Climate Leadership and Community Protection Act has already put us path to reducing 85% of all greenhouse gas emissions by 2050.[4] No one should have to choose between keeping the heat on in the winter, or buying groceries, medicine, or paying their rent.

Of equal concern to the NYCDCC is the lack of job protections contained within the bill. As we transition to a green energy economy, opportunities need to be provided to workers to train in new green energy jobs. The NYCDCC believes that this bill will impact the jobs of hundreds if not thousands of our brother and sister carpenters working in New York City. For generations, elected officials have spoken of government's failure to deliver on promises to provide a just transition for workers. Intro 2317 would be tragic addition to that litany of broken promises and policy failures.

The New York City District Council of Carpenters believes combatting the catastrophic effects of climate changes requires shared sacrifice, holistic solutions, and smart and effective policies that can inspire other localities and governmental entities to act. Intro 2317 does not currently do that. If passed as written, it will burden your constituents with higher energy and housing costs, reduce the reliability of the power grid, and eliminate jobs for workers without offering any alternatives. For those reason, the NYCDCC opposes the Intro 2317 and urges that it is not adopted.

We are happy to further discuss this bill, and any modifications to improve it with your office. Please reach out to **Kevin Elkins at 212-366-3398** with any questions.

[4] Rebecca Lewis, "New York has a long road ahead to meet its climate goals", *City & State,* June 14th, 2021

NYPIRG NEW YORK PUBLIC INTEREST RESEARCH GROUP

TESTIMONY
OF THE
NEW YORK PUBLIC INTEREST RESEARCH GROUP
BEFORE THE
NEW YORK CITY COUNCIL
COMMITTEE ON ENVIRONMENTAL PROTECTION
November 17, 2021
New York, N.Y.

Good afternoon. My name is Sadiya Hoque, and I am the Chairperson of the Board of Directors for NYPIRG, the New York Public Interest Research Group. I am also a CUNY Brooklyn College student studying biology and biochemistry. NYPIRG is a non-partisan, not-for-profit research and advocacy organization. Environmental protection, public health, consumer protection, higher education equity, and civic empowerment are our principal areas of concern.

Thank you, Committee Chair Gennarro and members of the Committee on Environmental Protection, for the opportunity to testify in support of Intro 2317, the Gas Free NYC bill.

The need to pass Intro 2317 could not be more urgent. We are already seeing more frequent extreme weather in New York City from climate change. Hurricane Ida flooded streets and storefronts and shut down our subway system. Basement homes were submerged in water and too many people across the city were tragically killed.

It was scary, and it was shocking, but this wasn't an unexpected event. We have known the science for decades and reports regularly come out warning that if we don't take immediate and dramatic climate action that things will only get worse.

Yet, the Glasgow Climate Summit has ended with reviews including "weak," and falling "far short of what scientists say is needed." As one of the largest cities and the nation's financial capital, New York City's leadership on climate change can shape U.S. policy. And now it must -- we're depending our futures on it. The policy decisions made by the NYC Council now will impact my future more than my parent's, or yours.

Intro 2317 is the strongest climate legislation in front of the City Council right now and must be passed. It will combat climate change, cut deadly air pollution, reduce gas explosions, create clean energy jobs, and promote environmental justice.

Burning fossil fuels for heat and hot water in New York City buildings contributes to poor air quality and over 1,000 premature deaths every year—particularly among communities of color. By stopping new gas infrastructure from being built, Intro 2317 will avoid locking-in decades of future pollution from many thousands of new buildings and gut renovations. The bill would prevent millions of metric tons of climate pollution from heating the climate and making people sick.

Shifting New York City's buildings away from fossil fuels will also reduce the risks of deadly gas explosions. Just this past February, a gas explosion in the Bronx injured nine people, including critically injured children. Gas explosions in Harlem and the East Village over the past few years have been deadly -- destroying whole buildings and displacing dozens of families.

The International Energy Agency recently urged worldwide adoption of laws to end all sales of new gas boilers and furnaces for buildings by 2025.[1] This bill has a two-year enactment for new buildings and gut renovations. We believe that's too slow and enactment should be changed to one-year after passage. All-electric buildings of all sorts are being developed and built all over the City right now. We are hearing expert testimony today saying that the technology is here, construction costs are comparable, and clean technology costs are dropping fast.

Along with our partners in the #GasFreeNYC campaign, we also urge you to amend the bill so that it clearly covers gut renovations. This bill should end gas and oil use in any gut renovation, that is when effectively everything other than the shell and joists are replaced. Just like with a new building, that's the best moment to go fossil free.

We have attached other changes to the bill besides the two above that the #GasFreeNYC campaign supports below.

What are the costs of not passing Intro 2317? Superstorm Sandy caused $19 billion in damages in New York City and damaged 305,000 housing units, mostly due to flooding.[2] After Hurricane Ida, the MTA alone estimated up to $100 million in damages from the storm, according to MTA Acting Chair Janno Lieber. Deteriorating air quality will result in more costly emergency room visits, illnesses and deaths. Heat and frequent severe weather will increase demands placed on the City's infrastructure, from damage to our mass transit system to sewage overflows from increased precipitation.[3]

The fact that the world's leaders are falling short on climate action is even more reason for NYC to lead the charge. Please pass Intro 2317 without delay.

Thank you.

<u>Additional changes to Intro 2317 to make before passage:</u>

1. **Lower the threshold of the air pollution limit to 25 kilograms of carbon dioxide per million British thermal units of energy to prevent gamesmanship.** The limit in the bill of 50 kg of CO2 per BTU will prevent combustion of natural gas use as it is currently formulated or applied. However, given that the federal standards are just over 53 kg, we are concerned about the potential abuse of this provision through various potential blends, such as biomethane or

[1] International Energy Agency, Net Zero by 2050, https://www.iea.org/reports/net-zero-by-2050.
[2] *2014 New York Hazard Mitigation Plan*, New York State Division of Homeland Security and Emergency Services (January 4, 2014) at 3.12-12. Accessed at www.dhses.ny.gov/oem/mitigation/documents/2014-shmp/Section-3-12-Hurricane.pdf.
[3] Fetters, Ashley, "How worried should New Yorkers be about sewage ending up in city waterways?," Curbed New York, March 30, 2018, https://ny.curbed.com/2018/3/30/17178662/new-york-waterways-combined-sewer-overflow-risks

hydrogen blends. As written, this could become an unintended loophole to escape the anti-pollution limit. We recommend that this level be brought down to 25 kg to eliminate any possible loophole and changing the intent of the law.

2. **Tighten and define "undue hardship" to avoid opening a loophole and give appropriate agency guidance.** Some deference and flexibility ought to be granted to the department to cover unanticipated, unusual circumstances. However, the blanket "undue hardship" term currently in the bill is vague and overbroad. After all, any entity that is building a new building or undertaking a gut renovation in New York City is not facing financial hardship. These are deep pocketed developers. We could perhaps see some sort of hardship due to some unusual logistics or physical limits on a building project or structure. The Council could address this by creating a process for applicants to demonstrate physical or technological impossibility that would have to be certified by a registered design professional and then approved by the department as an exemption. The current "undue hardship" language is simply overbroad. It would create confusion and could be abused to grant undeserved exemptions to favored applicants.
3. **Sunset all exemptions in five years (2026).** Fossil free technology is advancing so rapidly that in a few years there may be no need for any exemptions. The burden ought to be on the real estate industry to show why any exemption written into this law should be continued after 2025.
4. **"Commercial kitchens" is an overly broad loophole that should be struck and replaced with a tight definition that applies only to large baking ovens.** Large ovens for commercial bakeries and other high-energy use ovens should be defined and exempted because they may currently be uneconomical to electrify. (this could be done with a BTU standard for the size of the oven, for example) However, a normal new restaurant kitchen *should* be electrified. There are already restaurants throughout the city that only use induction stoves. More and more professional chefs are adapting to induction cooking, and they come to prefer it. Typically, restaurants currently use a mix of induction and gas stoves. It is not an unjustified burden for restaurants to move to induction stoves. Moreover, this legislation only affects *new* buildings and gut renovations..
5. **Hospital language is confusing and needs better definition so that hospitals are allowed to use gas for redundancy in the case of emergency and grid failure.** The bill currently allows new hospital buildings to use gas for operations. Hospitals may need gas as a backup power source, since redundant power in case of blackout or other emergency is a public health necessity. However, new buildings, including health care facilities, should not operate from gas. Air pollution caused by fossil fuels causes death and sickness, so it would be ironic and inappropriate to wholly exempt health care facilities. Instead, they should operate as other buildings would under this legislation, but be permitted to install and use gas for emergency power and redundancy to the grid.
6. **"No connection to a building's gas supply line" and "intermittent" use should be tightened.** This definition is confusing and could conceivably open the door to fuel oil use, which is not connected to a building by a gas supply line and arguably is used intermittently. We recommend tightening this definition and ensuring it does not create unintended loopholes.
7. **"Manufacturing" is overbroad and should be tightened**. This bill's intention is not to end gas use where it is still prohibitively expensive or impractical to go electric. Processes such as concrete-making are uneconomical without fossil fuel use. However, manufacturing that is economically viable without reliance on gas should be covered. Therefore, we recommend only specific exclusions for manufacturing or industrial processes that are, in fact, uneconomical to

electrify. If some other process is not specifically defined by the bill, it could be taken in via an application process to the department where the applicant could show that this specific application needs gas (with certification from a relevant expert).

8. **"Laboratories" make us go hmmmm** - this is a section that ought to be tightened. Is this a chemistry lab with bunsen burners? Does that need a gas hookup? Are super villains creating super weapons in super secret labs that need lots of gas? In all seriousness, this definition may create an unnecessary loophole and should be tightened.

PARTNERSHIP for New York City

Testimony of the Partnership for New York City

New York City Council
Committee on Environmental Protection

Int 2317-21 – Use of substances with certain emissions profiles

November 17, 2021

Thank you Chair Gennaro and members of the committee for the opportunity to testify on Int. 2317 which would prohibit the use of fossil fuels in new buildings and buildings that undergo major renovations. The Partnership for New York City represents private sector employers of more than one million New Yorkers. We work together with government, labor and the nonprofit sector to maintain the city's position as the preeminent global center of commerce, innovation and economic opportunity.

The Partnership has actively engaged in efforts to reduce the city's carbon footprint, increase resiliency and support transition to renewable energy. We have participated in the city's OneNYC 2050 Advisory Board, One City: Built to Last Technical Working Group and Urban Green Council's 80x50 Buildings Partnership. We support Int. 2317's goal of reducing greenhouse gas emissions from buildings. We are concerned, however, that there is little clarity around the potential volatility of operating costs of all-electric buildings. We also believe that the timeline for compliance is too short and that the inclusion of building renovation will impose hardship on owners and tenants of older buildings that require upgrading but cannot manage the conversion to all-electric.

Requiring conversion to all-electric buildings at this time is particularly risky since it corresponds to emergence from a global pandemic that has disrupted the supply chain and unleashed inflation. These factors, along with the transition to renewables as our energy source, will introduce a lot of uncertainty in the costs of construction and building operations in the next few years. Int. 2317 should be amended to provide greater flexibility in the time for implementation and to allow the shift to all-electric buildings to be halted or slowed if it turns out that implementation will retard the city's economic recovery goals or place additional hardship on homeowners and tenants, who pay 50% more for electricity than the national average.

The two-year timeline for implementation of Int. 2317 could also result in higher emissions in the short term since most of New York City's electricity is currently generated from fossil fuels. Until a greater share of the grid is powered by renewable energy sources, increased electricity use will require greater reliance on older and dirtier power plants.

The legislation should phase in the fossil fuel ban over a longer period, perhaps using a schedule based on building height. The idea would be to electrify taller and larger buildings,

which are more complex and expensive to build and operate, more gradually. Many large new developments that will seek building permits in two years are already far along in design, planning and land use approvals. Moreover, advancements in designs, equipment and technology are necessary to successfully electrify taller buildings and may also help to reduce costs. Additional time will also allow for energy code updates to ensure efficiency in all-electric construction and the expansion of the renewable energy grid needed to support these buildings.

Int. 2317 should also be modified to ensure that the fossil fuel ban only applies to new buildings. Electrifying existing buildings – such as NYCHA and older regulated affordable housing -- could impede repairs and make financing difficult.

We urge the Council to consider these important modifications to Int. 2317 and we look forward to working together to ensure that the city's transition to all-electric buildings is successful.

32BJ SEIU
Stronger Together
SERVICE EMPLOYEES
INTERNATIONAL UNION
CTW, CLC

KYLE BRAGG
President

MANNY PASTREICH
Secretary Treasurer

JOHN SANTOS
Assistant to the President

EXECUTIVE VICE PRESIDENTS

SHIRLEY ALDEBOL
KEVIN BROWN
JAIME CONTRERAS
ROB HILL
DENIS JOHNSTON
GABE MORGAN
ROXANA RIVERA

VICE PRESIDENTS

MARGARITA ALONZO
DEAN DEVITA
ISRAEL MELENDEZ
ROCHELLE PALACHE
KEVIN STAVRIS
CANDIS TALL

Capital Area District
Washington 202.387.3211
Baltimore 410.244.6299
Virginia 202.387.3211

Connecticut District
Hartford 860.560.8674
Stamford 203.674.9965

District 1201
215.923.5488

Florida District
305.672.7071

Hudson Valley District
914.328.3492

Mid-Atlantic District
215.226.3600

National Conference of Firemen and Oilers
276.706.3210

New England District 615
617.523.6150

New Jersey District
973.824.3225

Western Pennsylvania District
412.471.0690

www.seiu32bj.org

Testimony of Kyle Bragg, President of 32BJ SEIU
New York City Council, Committee on Environmental Protection
Int. 2317
November 17, 2021

Good afternoon Chair Gennaro, Council Member Ampry-Samuel, and members of the committee. My name is Kyle Bragg I am the President of SEIU Local 32BJ. 32BJ is the largest building service union in the country, with 85,000 of our members living in the New York City metro area.

32BJ knows how important it is to reduce emissions from buildings in our City. My colleague Candis Tolliver, 32BJ Political Director, is a member of the City's Climate Advisory Board, and every year our Training Fund's "Green Supers" program equips members with the skills to contribute to the more efficient and sustainable operations of their buildings.

I am myself a director of Urban Green, whose mission is to ensure that the City's buildings are sustainable. Urban Green are the subject matter experts on how we can best move our buildings towards a clean energy future. On behalf of the union, I am pleased to support the technical amendments Urban Green have proposed to Int. 2317.

As we consider details of this law, I ask the council to keep in mind that the City's real estate industry is the source of many family-sustaining jobs for working class New Yorkers, including 32BJ members. Covid-19 has had major impact on the industry, but there is no doubt that New York's iconic buildings, new and old, will play an important role in our continued path to recovery. Building service jobs, like doorpersons, janitors, security officer and window cleaners, is work that cannot be done remotely, it is work done by New Yorkers living and raising families here in the City, It is imperative that the industry continue to be able to support the good jobs our families rely on.

We support Int. 2317 provided it is amended in line with the recommendations proposed by Urban Green, including a two-phase approach to buildings based on size. A five-year compliance period for buildings of eight stories or more will give a more feasible transition for larger, more-complex projects and allow sufficient time for the market to adapt with increased heat pump equipment availability and industry training.

I thank you for considering this matter and undertaking the thoughtful work in moving our City forward. I urge you head the advice of the technical experts on this matter and support reasonable amendments that will help to ensure New York's working families have a place in the clean energy future of our City. Thank you.

Testimony on Intro 2317 & Intro 2091
New York City Council, Committee on Environmental Protection
November 17, 2021

Good morning, Chair Gennaro and members of the Committee.

My name is Josephine Zurica, P.E., LEED AP, CPHC. I am a Principal at Dagher Engineering, and Chair of ACEC New York's Energy Code Committee, on whose behalf I am appearing today.

Members of our Committee are licensed professional engineers serving on a volunteer basis to analyze City laws and proposals that affect or relate to engineering work in the built environment. Thanks for the opportunity to testify today.

ACEC New York represents around 300 engineering and affiliate firms and 30,000 employees throughout New York, with a concentrated presence in the city. Our members are the professionals who plan and design the energy, structural, mechanical, electrical, plumbing, civil, environmental, fire protection and technology systems for buildings and infrastructure throughout New York City.

ACEC New York evaluated Intro 2317 pursuant to our "Principles for Reviewing New York City Energy Legislation" which state: *"New York City should strive to be a leader in sustainability, green building, energy efficiency and carbon emissions reduction. In doing so, the city must take into account scientific principles, operational uncertainties within buildings, and must have reasonable expectations regarding future advances in technology."*

Bearing these principles in mind, ACEC New York supports the goals of **Intro 2317** and appreciates your leadership on this important and complicated issue, though we have concerns with the way this bill is currently drafted. Our Energy Code Committee respectfully offers the following observations and recommendations:

- Maintain the general structure of the bill which limits on-site combustion emissions over a limit.
- We are in agreement that the bill should apply to new buildings. However, the intent of the bill as it relates to existing buildings should be clearly defined. If this legislation is intended to apply to existing buildings, it should reference an accepted definition from building and/or Energy codes to define the applicability of the law; for example, "substantial improvement" or "alteration". Depending on the intended applicability of the bill, the level of challenges and recommended timeline for application to existing buildings should be revisited. We support **Intro 2091** as a measure to study the preceding considerations.
- The effective dates should be phased in to relieve pressure on the grid, give time for a new performance-based energy code to come into effect, and provide time for readily available and cost-effective products to come to market that can meet the needs of all the building stock. The absence of a phase-in could result in many buildings using electric resistance heating rather than heat pumps, which would tax the grid and result in an increase in short term emissions and operating costs given the inefficiencies of those systems. Consequently, an appropriate phase-in for new construction would be 2 years from enactment of the bill for structures under 3 story residential/single family homes, and a later date, no sooner than 2027, for all other buildings. It is also important to recognize that the effectiveness of this bill in reducing carbon emissions is critically linked to the NY State goals for increased renewable energy available through the electric grid. Currently the carbon emissions for electric are 1.5 times that of natural gas. If the grid is not greened, moving towards all-electric buildings will not reduce carbon emissions and

may, in fact, increase them. Accordingly, the generation mix of the grid must be considered in the context of phase-in for larger buildings.

- The effective timeline for existing buildings should be evaluated differently than new construction, depending on the legislative intent.
- Within 2 years of enactment, all new construction should be constructed to be "electrification ready," meaning that the building has been built in such a way that the conversion to all-electric can be done without major changes to the building. DOB should be required to issue rules to define the electrification ready requirements.
- The City should commission a study by an independent third party to evaluate the preparedness of the electrical transmission and distribution infrastructure and whether it can support electrified building stock increases the bill will cause. The study should analyze any infrastructure investments that are needed along with the costs of such investments.
- We agree that there should be an exemption for backup power systems. DOB and FDNY must issue regulations to articulate the requirements for backup systems.

Thank you.

Association of Energy Engineers®

November 17, 2021

Dear Council Members:

AEE is a nonprofit professional society, established in 1977, dedicated to promoting the principles and practice of energy conservation and energy-efficient system design, and fostering action for sustainable development. AEE membership is made up of over 18,000 energy professionals in over 100 countries who spend their careers working and making a difference in facilities of all types in this country and across the globe. The NY Chapter of the Association of Energy Engineers has been in continuous operation since 1979, with a membership of professionals specialized in energy efficiency in facilities of all types. As such, we represent one of the deepest knowledge resources on this topic for the city.

While the New York Chapter of the Association of Energy Engineers fully supports the city council's goal of minimizing the impact of building energy use on our environment we are concerned about the specifics of the approach being proposed in this legislation, (Int 2317-2021 "Use of substances with certain emissions profiles").

To start there is no such thing as a silver bullet and so no singular fix or answer to the problem we face. Rather, the answers lie in the proper mix of technologies and technological solutions; what works well in one location or area may be different than what works best in another.

While full-scale electrification MAY at some point be an answer, forcing that on the population of buildings in New York by way of a gas ban is misdirected and will only result in a set of some foreseen and other unforeseen problems for buildings, residents, and most importantly the city as a whole. If New York is to succeed in achieving its goals the policies and regulations it puts in place must be practical. The ones proposed in this bill are not.

More directly, there is insufficient "green" electricity available in the City now to power all of the its current electrical load. Electricity is the highest form of energy and the computers we are using

right now, our lights, refrigerators, and appliances can only be powered by electricity. Heating, on the other hand, requires lower forms of energy available from many energy sources, even burning the papers that are in front of us on our desks right now. We should first secure adequate supply of "green" electricity to handle the existing electric loads and then, and only then, should we should attempt to heat with electricity.

Even with an adequate supply of "green" electricity available for heating, the electric distribution system capacity in in the streets will require reinforcement to deliver the "green" electricity from suppliers to buildings. Additionally, even if there were enough capacity in the streets, the wiring in most existing buildings doesn't have the capability of delivering that amount of electricity for heating to the apartments. The vast majority of NYC residents are going to be unwilling to let their walls be torn apart for the required electrical service upgrades and terminal unit reconfigurations. Maybe in rental units, where the resident has no stake, this may be possible but not in the City's countless coops and condos where this conversion cost, disruption to their lives and alteration of their homes will be a significant factor.

Moreover, there is the issue of cost, both for the major equipment/systems change, and the monthly cost of electric heating. EPRI projects such an increase in load will increase the cost of electricity by 30% added to the extremely high current cost of power that.

Those of us who have been working in the energy and environmental fields for decades now know the wisest and most intelligent move is to first conserve/reduce waste/increase the efficiency of our buildings. This has and always will remain the most effective and financially and technically responsible approach for buildings, and as a society and needs be done before undertaking any major change or new supply (renewable or other) system. While we applaud the City's attempts to address this last point with LL87, it unfortunately has missed this mark.

However, there is a tool already within your toolbox that can be enhanced to be even more effective in meeting this goal. That is LL97 which directly encourages buildings to cut their Carbon emissions. However, it provides a free pass during the first phase to too many buildings. More aggressively ramping up the fines, reducing the allowable emissions would cause many more

buildings to act sooner. Like investing in a retirement account, what one does now is much more effective (at meeting long term goals) than what one can do in future years. The beauty of LL97 is that it has already demonstrated an ability to begin to motivate building owners and operators. It promotes efficiency and reduces waste with opportunities that exist NOW in almost every NYC building.

We urge the Council to reconsider their actions, make doing what is technically and economically feasible, in fact attractive to do right now, and not forcing a single (electrification) approach on New York City and it's building stock.

Please reach out to us as we would be happy to share our *real world experience* with the Council to help you meet your goals.

Respectfully,

Fredric S. Goldner, C.E.M.
NY-AEE Chapter Board Member
CEM Board Chair
Past International President, AEE

PS: I can be reached directly at fgoldner@emra.com

From: Amber Ruther <aruther.ny@gmail.com>
Sent: Thursday, November 18, 2021 12:05 PM
To: Testimony
Subject: [EXTERNAL] AGREE Testimony in favor of Intro 2317

Intro 2317 Public Hearing Testimony
November 17, 2021

Hello, my name is Amber Ruther, and I work at Alliance for a Green Economy, also known as AGREE. We've been working for years to phase fossil fuels out of buildings and have helped over 100 New Yorkers switch to heat pumps through the HeatSmart CNY program.

AGREE urges the Council to honor the rights of New Yorkers to good quality housing, clean air, and a livable climate by passing Intro 2317 immediately. We also encourage you to work with New York's disadvantaged communities to ensure that implementation is equitable and affordable, that emissions standards in this bill are strengthened, that loopholes are tightened, and that expensive, polluting, and false solutions like so-called renewable natural gas, biofuels, and hydrogen are avoided in favor of all-electric buildings. These false solutions are being pushed by the fossil fuel industry so that we will be forced to continue using their infrastructure, but countless studies show that heat pumps are a safer, healthier, and more cost-effective way to decarbonize the heating sector.

The technology for heat pumps is ready, and cold climate models can operate efficiently below -10 degrees. Very cold countries like Sweden already get 75% of their heat from heat pumps, including geothermal district heating systems designed to capture waste heat. This is not a technical problem, it's a political one.

Burning fossil fuels in buildings contributes to 70% of NYC's emissions. We need to stop heading in the wrong direction on climate and work as fast as possible to get fossil fuels out of our buildings. Each year that we have inaction, more and more people are displaced, dispossessed, or killed by climate disasters. These are disasters that we could avoid today if our Council stands together to ignore misinformation from monied interests like REBNY and the American Petroleum Institute, and instead listens to the people, who desperately want real climate action.

AGREE also intervenes in utility rate cases around the state, and spending billions building new gas infrastructure that will soon become stranded assets is coming at a great cost to ratepayers at a time when over 1 million New Yorkers already can't afford their utility bills. National Grid is already raising their rates an average of $125/year, and this winter, homes that heat with fossil fuels are projected to see an increase in their fuel bills ranging from 22 - 94%, while homes that heat using electricity will see an increase of only 4 - 15%. This bill is essential for protecting New Yorkers from high utility bills and volatile fossil fuel prices and to prevent the buildout of more stranded assets.

This bill is also essential to protect public health and safety. New York leads the nation in premature deaths resulting from the air pollution caused by fossil fuels in buildings, and indoor air pollutants are often 2-100 times greater than outdoor air pollutants, but most people don't even know they're being poisoned in their own homes. Many of my loved ones have asthma, and are now at a heightened risk of dying from COVID.

Several other large cities have already implemented gas bans, so the trail forward has already been blazed. These other cities have found workable solutions to technological challenges while refusing to delay climate action, and so can New York.

AGREE urges the Council to listen to the tide of voices rising to demand the passage of this bill. Thank you for your time and for the opportunity to testify on this critical issue. Thank you, Amber Ruther Alliance for a Green Economy

Thank you to the City Council for holding this important hearing today. I am Ben Prosky, the Executive Director of the American Institute of Architects New York, also known as AIA New York. We represent New York City's public and private sector architects, who are passionate about building a more sustainably designed city.

AIA New York strongly supports Int. 2317, which would stop new and retrofitted buildings from being powered by fossil fuels. Architects have been designing fossil-fuel-free buildings in Europe, East Asia, and many other parts of the country for years. Even in our own city there are many examples, ranging from new construction high-rises in Brooklyn to NYCHA's electrification program for existing buildings. Yet, many public and private building owners in the city remain insistent on continuing fossil fuel use. A mandate is needed to move our city towards the electrification of buildings.

Eliminating fossil fuel use in buildings and transitioning to electric power would have many positive effects. Since most of NYC's carbon emissions originate from buildings, cleaner power would mitigate climate change and improve air quality. Electric power provided by renewable sources such as wind, solar, and geothermal is also more reliable. A few years ago, our state's utility companies instituted a gas moratorium, illustrating how our limited supply of fossil fuels can be manipulated against the public's interest. Lastly, fossil fuels are incredibly dangerous. Too many New Yorkers have been killed or permanently injured from gas fires and carbon monoxide poisoning. Gas puts architects, tradespeople, firefighters, and others at risk, and the threat of these risks has become greater as violent storms increasingly disrupt our city's gas lines.

While AIANY is strongly supportive of Int. 2317, we do believe there are ways it should be improved. First, we recommend that this bill should take effect in one year for smaller buildings, since architects already design small electric buildings regularly, particularly outside the city. Second, the bill's language applying to retrofits should be clarified. To ease compliance, it should align with terminology used by the NYC Department of Buildings to state that the bill applies to buildings underdoing, "major alterations that will change use, egress, or occupancy," also known as Alteration Type 1. Lastly, the exemption process should require that applications, signed and sealed by registered architects, be required to prevent owners from asking for and receiving exemptions that are not necessary.

While this bill will cover many buildings in the city, most existing buildings will not be impacted by these requirements. Additional action should be taken by the City Council and DOB to mandate the replacement of outdated and hazardous equipment like aging boilers and the adoption of safe carbon-free technology across our city.

Again, thank you to the Council for holding this critical hearing today.

Thank you to the City Council for holding this important hearing today. I am AJ Pires, President of Alloy Development, an architecture and development company based in Brooklyn. I'm here today as a licensed architect and an owner of a real estate development company to express my strong support for banning new natural gas connections in NYC.

Designing and building fossil-fuel-free buildings in NYC is both possible today and cost-effective in the long run. My company, Alloy Development, is building the first all-electric skyscraper in NYC at 100 Flatbush in Downtown Brooklyn. The building will be 44-stories tall and contain 440 units of market rate and affordable housing and retail. It will rely on off-the-shelf technologies that are widely-available to heat and cool the building – water source heat pumps, electric boilers, heat pump dryers, and induction cooktops. And it will do so at a similar cost as a conventional building.

When its operational in 2024, 100 Flatbush will be 20% more efficient than a conventional new building, but by 2030, it will be 200% more efficient given the electrical grid's transition to renewable energy. It will have superior indoor air quality, an air-tight building envelope, and most-importantly, it will be "future proofed", that is designed to operate in the carbon-free future we must create. Installing a natural gas system in a new building today is a bit like installing a land line telephone a decade ago. The technology is approaching the end of its useful life. The future will not and cannot rely on burning natural gas to heat our homes and cook our food.

We are living in a climate emergency, and its time for leaders in both government and industry to respond accordingly. Banning new natural gas connections will not only significantly reduce new carbon emissions and improve air quality in our neighborhoods, it will also make New York City a leader in sustainable development nationally and internationally.

There are several climate problems that we don't yet have solutions for: how to make low-carbon steel or low-carbon jet fuel. This is not one of those problems. The technologies and the knowledge exist today to prepare our buildings for a carbon-free future. All we need now is the political will to achieve it.

American Petroleum Institute
Northeast Region

David O'Donnell
Associate Director
odonnelld@api.org

November 17, 2021

James F. Gennaro, Chair
Committee on Environmental Protection
New York City Council
250 Broadway Suite 1773
New York, New York, 10007

Re: Int. No. 2317, A Local Law to amend the administrative code of the city of New York, in relation to the use of substances with certain emissions profiles

Chairman Gennaro and Members of the Committee:

Thank you for the opportunity to offer the following comments in opposition to Int. No. 2317 (the "bill"). I am providing these comments on behalf of the American Petroleum Institute ("API"). API opposes Int. No. 2317 as introduced because the bill effectively prohibits the combustion of fossil fuels in a building where *any* work occurs that requires a permit from New York City's Department of Buildings. API does not believe that the bill as drafted limits this prohibition to new buildings or buildings that have undergone major renovations. A more detailed analysis (*see* "Section IV: Additional Analysis" starting on page 6) follows these comments. As discussed below, API is concerned with the cost impact, unintended consequences, and the broad-based applicability associated with the bill. Additionally, while API understands the desire to act, we believe that effective and equitable environmental policy must be flexible and technology neutral – allowing residents to choose the solution which best works for them. API also believes that natural gas will remain a useful tool for ongoing emissions reduction plans as an alternative to existing, higher-emissions fuels.

API represents all segments of America's natural gas and oil industry, which supports more than eleven million U.S. jobs and is backed by a growing grassroots movement of millions of Americans. Our nearly 600 members produce, process, and distribute most of the nation's energy, and participate in API Energy Excellence, which is accelerating environmental and safety progress by fostering new technologies and transparent reporting. API was formed in 1919 as a standards-setting organization and has developed more than 700 standards to enhance operational and environmental safety, efficiency, and sustainability. *See* www.api.org/.

I. Summary

Int. No. 2317 ("[a] Local Law to amend the administrative code of the city of New York, in relation to the use of substances with certain emissions profiles") would, according to the plain language summary provided by the New York City Council:

> prohibit the combustion of a substance that emits 50 kilograms or more of carbon dioxide per million British thermal units of energy in any new building or any building that has undergone a major renovation. The bill provides an exception for emergency standby power, a hardship

David O'Donnell
Associate Director
odonnelld@api.org

preventing compliance with the bill, where the combustion of the substance is required by certain enumerated industries, and where the combustion of the substance is used on an intermittent basis in connection with a device that is not connected to the building's gas supply line.

The prohibition on combustion takes effect two years after Int. No. 2317 becomes law but will not apply to any building permit application filed and pending before its effective date. Based on their emissions profile it would apply to heating oil, propane, and natural gas.[1]

But contrary to the City Council's summary, a plain reading of Int. No. 2317, together with the sections of New York City's administrative code that it would amend, leads to the conclusion that its proposed prohibition on combustion of fossil fuels is not limited to "any new building or any building that has undergone a major renovation" but subject to exceptions would include all buildings where any work occurred that required a permit from New York City's Department of Buildings. Most work in New York City, for both commercial and residential structures, encompassing more than minor do-it-yourself "construction" projects requires a permit. Put differently, if Int. No. 2317 were to become law as drafted, in each of the buildings where the permitted work occurred fossil fuel use for heating or other purposes would be prohibited unless the building qualified for an exception. This, of course, would require retrofitting to install heating equipment such as electric heat pumps or other non-fossil fuel combusting devices.

For an example of Int. No. 2317's broad potential impact, there are 1.2 million buildings in New York City. In Fiscal Year 2020, nearly 104,000 construction jobs (permit requests) were filed with the Department, and it issued approximately 148,000 initial and renewal construction permits combined.[2] This activity appears to be consistent every year.[3]

II. Discussion

Requiring all heating, cooling, and cooking in new buildings to be electric rather than natural gas- or oil-powered is straightforward enough legally, although electrification is presently most viable in new buildings located in milder climates - where a single electric heat pump can replace both existing heating and cooling units that are at or near retirement - and especially where local gas infrastructure installation costs can be avoided.[4] But requiring existing buildings to retrofit is entirely another matter. The costs are often exceptionally high,

[1] Different fuels emit different amounts of carbon dioxide (CO_2) in relation to the energy they produce when burned. Pounds of CO_2 emitted per million British thermal units (Btu) of energy for various fuels: Diesel fuel and heating oil: 163.45 lbs. x 0.453592 = 74 kilograms; Propane: 138.63 lbs. x 0.453592 = 63 kilograms; and Natural gas: 116.65 lbs. x 0.453592 = 53 kilograms. See https://www.eia.gov/tools/faqs/faq.php?id=73&t=11.

[2] See *Testimony of Melanie E. La Rocca, New York City Department of Buildings Commissioner*, New York City Council Committee on Housing and Buildings Fiscal Year 2022 Preliminary Budget Hearing March 5, 2021.

[3] The Department issues 140,000 work permits annually. See *2006-2009 Strategic Plan*. New York City Department of Buildings.

[4] Deason, J., Borgeson, M. Electrification of Buildings: Potential, Challenges, and Outlook. *Current Sustainable Renewable Energy Rep* 6, 131–139 (2019). https://doi.org/10.1007/s40518-019-00143-2.

David O'Donnell
Associate Director
odonnelld@api.org

potentially in the tens of thousands of dollars per unit.[5] Beyond more obvious capital and operating cost considerations, converting existing direct fuel equipment to electric may also require an expensive upgrade to a building's electricity service feed to power the new equipment.[6]

In fact, several weeks before Int. No. 2317 was first introduced, San Francisco's Board of Supervisors determined that requiring electrical retrofits of city residences (furnaces, water heaters, ovens and cooktops, and laundry appliances) would result in substantial costs to the home owners from disposal of old appliances, purchase of new appliances, labor, and electrical panel upgrades.[7] Estimated costs of retrofitting ranged from $14,363 per housing unit up to $19,574 for multi-family units and $34,790 for single family homes. Applying these cost estimates to an estimated 240,231 housing units (76,470 single family homes and 163,761 multi-family), the citywide cost to retrofit all residential units currently using natural gas-fueled appliances with those fueled by electricity ranges from $3.5 to $5.9 billion. Accordingly, less-costly measures for reducing emissions were recommended that included mandatory electrification for all newly constructed residences, mandatory electrical retrofits of gas-fueled appliances for all residences at the time of sale, and/or mandatory electrical retrofits of gas-fueled appliances for all residences when they need to be replaced.[8]

The potential costs for retrofitting in New York City are comparable. *Diversified Energy Specialists* is a renewable energy consulting company that has completed case studies on residential air-source heat pump rebate programs in New York. The New York State Energy Research and Development Authority previously offered a residential Air-Source Heat Pump Rebate Program from 2017-2019. The average square footage of the residence was 1,663 sq. ft., and the average project cost for electric retrofitting (heat only) was $16,272.[9]

Additionally, consider that in April 2019, the New York City Council adopted a major law, Local Law 97, that sets limits for 2024 and 2030 on the amount of greenhouse gas emissions per square foot for different kinds of buildings. The penalty for emissions above the limit is $286 per metric ton of carbon dioxide equivalent per year. Approximately 75 percent of covered buildings do not comply with the 2030 emissions limits, resulting in close to 37,500 buildings required to undertake some level of retrofit before then. These costs alone are estimated to reach $24 billion, requiring an exponential growth in the number of architects, engineers, consultants, builders, and regulators.[10] New York City's commercial and residential property owners must already comply with both

[5] *See* 20 No. 3 New York Zoning Law and Practice Report NL 1. Also, Representative Alexandria Ocasio-Cortez filed legislation to appropriate $172 billion over 10 years for energy efficiency upgrades and building electrification retrofits to 950,000 public housing units. See *Sanders, Ocasio-Cortez bill would fund public housing efficiency retrofits*, 2021 WL 1523875.

[6] For example, to accommodate electric space heating in California, TRC estimates a cost of $4700 to upgrade the electricity service for an existing single-family building and $35,000 for a low-rise multifamily building. See *Palo Alto Electrification Study*, TRC Energy Services November 16, 2016. https://www.cityofpaloalto.org/files/assets/public/development-services/advisory-groups/electrification-task-force/palo-alto-electrification-study-11162016.pdf.

[7] Many factors impact potential construction costs. For instance, some buildings would require sidewalk transformers to be installed to handle the increased loads demanded by electrification. And most homes in San Francisco would require electric panel conversions to support electric appliances.

[8] *See:* https://sfbos.org/sites/default/files/BLA.ResidentialDecarbonization.042221.pdf.

[9] *See:* https://www.smartheatnj.com/wp-content/uploads/2021/09/Cost-of-Residendial-Air-Source-Heat-Pumps-Uglietto.pdf.

[10] Big Questions (and Some Answers) About the Climate Mobilization Act (PowerPoint), April 23, 2020, NYCBAR 44.

David O'Donnell
Associate Director
odonnelld@api.org

legislative and regulatory obligations at the local, state, and federal level while also addressing the needs of their building occupants in an extremely competitive real estate market. These competing needs limit the amount of capital on hand to spend on electric retrofitting. And for many buildings owners, this type of project financing may be unavailable.

And increased electricity loads resulting from electrification, without corresponding investments in the electric grid, could compromise reliability of the system. While incremental changes in specific buildings are unlikely to have impacts, an accretion of smaller changes in the same area could require distribution system upgrades and, in the long run, transmission system upgrades.[11] Moreover, to the extent that using electricity costs more than natural gas or oil per unit of energy, electric retrofitting could significantly raise utility bills. And natural gas combusted on-site is currently cleaner per unit of energy than electricity from the grid because of the energy losses occurring during the generation, transmission, and distribution of electricity.[12] And, of course, emissions reductions require the electric grid to be supplied by zero-emissions electricity. But based on assumptions that the Indian Point nuclear power plant would be replaced with 2,000 megawatts of renewable power - with the resulting gap in power generation from lower renewable energy capacity factors filled by natural gas-fired power plants - its recent decommissioning could result in as much as an eight percent increase in greenhouse gas emissions from electricity use in buildings, even with a significant increase in renewable generation by 2050.[13]

III. Conclusion

Energy-efficient, low-carbon buildings could be powered by an innovative combination of natural gas and renewable energy (such as hydrogen) to both lower emissions and utility bills. This is the type of all-of-the-above energy strategy that the New York City Council should be embracing to keep costs affordable for property owners while keeping the city and state on track to meet their emissions reduction goals. API believes that natural gas, in combination with hydrogen or other renewable gases, provides both with an economical tool for doing so.

Lastly, "the most radical change to building and energy codes would be to require that all heating, cooling and cooking be electric rather than through natural gas or oil."[14] For example, such retrofitting for very large commercial buildings relies heavily on technology that remains largely untested in buildings of that magnitude and complexity. Accordingly, the city council should perform a thorough quantitative analysis on Int. No. 2317's potential impact on homeowners, tenants, building owners, utilities, ratepayers, lenders, and other stakeholders before it takes any further action on the bill.

---

[11] *See* Hopkins AS, Horowitz A, Knight P, Takahashi K, Comings T, Kreycik P, et al. *Northeastern regional assessment of strategic electrification: Northeast Energy Efficiency Partnerships* 2017/06/29.

[12] City of New York Mayor's Office of Sustainability, *One City Built to Last: Transforming New York City Buildings for a Low-Carbon Future*, 34 (2016).

[13] *See One City Built to Last: Transforming New York City Buildings for a Low-Carbon Future* at 30 (ft.10).

[14] 20 No. 3 New York Zoning Law and Practice Report NL 1.

David O'Donnell
Associate Director
odonnelld@api.org

I appreciate this opportunity to provide comments and at your request I would be happy to provide the committee with additional information.

Very truly yours,

David J. O'Donnell
Associate Director, Northeast Region
American Petroleum Institute

David O'Donnell
Associate Director
odonnelld@api.org

IV. Additional Analysis

As a threshold matter, New York City has the ability to adopt building code provisions separate and apart from that required by the New York State Uniform Fire Prevention and Building Code Act. The Uniform Fire Prevention and Building Code requirements apply to all municipalities in New York State save the City of New York, which can (and does) maintain its own separate building and housing code standards.[15]

Int. No. 2317 amends two distinct sections of the city's administrative code: Title 24 - Environmental Protection and Utilities, and Title 28 - New York City Construction Codes. Section 1 of the bill amends a subchapter (setting fuel standards) within chapter one of title 24, known as the "New York city air pollution control code" by adding the following (language underlined):

> § 24-177.1 Prohibited emissions a. Where required by article 506 of title 28, no person shall permit the combustion of any substance that emits 50 kilograms or more of carbon dioxide per million British thermal units of energy within a building within the city as determined by the United States energy information administration.

Exceptions are provided by allowing such combustion for emergency power; to prevent undue hardship, where required for manufacturing, operating a laboratory, laundromat, hospital, or a commercial kitchen; or in connection with a device not connected to a building's gas supply line that is used intermittently. The bill provides the city's Department of Environmental Protection and Department of Buildings with enforcement power.

Section 2 amends title 28 of the administrative code (the city's construction codes) by adding the following new article (as they are called) to chapter 5, which currently contains several miscellaneous articles:

> § 28-506.1 General. Buildings covered by this code must comply with section 24-177.1.

Nothing in Int. No. 2317 limits its application to only "new building or any building that has undergone a major renovation." The prohibition on combustion created in section 1 of the bill through the addition of new section 24-177.1 applies "[w]here required by article 506 of title 28", and article 506 of title 28 requires "[b]uildings covered by this code [to] comply with section 24-177.1." But what is the effect of such language, i.e. the impact of the bill's language that prohibits combustion in "buildings covered by this code" on both new and existing buildings?

---

[15] The Legislature recognized that the State Uniform Code should not be made automatically applicable in large municipalities such as New York City (Executive Law § 383[1][c]). Rather, § 383(1)(c) provides that in cities with a population of over one million:

> the existing building and fire prevention codes shall continue in full force and effect ... unless the council, after analysis and consultation with the building and fire officials of such cities, shall determine that said local code provisions are less stringent than the uniform code. Existing local [codes] of such cities shall continue in full force and effect unless the foregoing is determined by the council.

See Morrison v. New York State Div. of Hous. & Cmty. Renewal, 241 A.D.2d 34, 672 N.Y.S.2d 2, 6 (1998), rev'd, 93 N.Y.2d 834, 710 N.E.2d 267 (1999).

David O'Donnell
Associate Director
odonnelld@api.org

The city's construction codes, as referenced, are contained in title 28 of the administrative code, and include the building code, plumbing code, mechanical code, fuel gas code, energy conservation code, and general administrative provisions containing permitting, licensing, fees, and other provisions that apply universally to all the individual codes. Generally, all buildings are subject to the administrative and enforcement provisions of title 28, while construction of new buildings and certain types of alterations to existing buildings must comply with the technical codes through the administrative and enforcement provisions requiring permits, etc. [16]

As this applies to Int. No. 2317 with its "buildings covered by this code must comply with section 24-177.1" included within title 28, that title (28) specifically provides that "any reference in this title to 'this code' or 'the code' shall be deemed to be a reference to this title and all of the codes comprising the New York city construction codes unless the context or subject matter requires otherwise." [17]

The codes require most construction in New York City to receive approval and permits from the Department of Buildings (applications for a project may result in the issuance of one or more permits). [18] The Department of Buildings has the responsibility to enforce all laws that govern the construction, alteration, maintenance, use, safety, mechanical equipment, and inspection of buildings in New York City. All applications for construction work must be submitted to the Department of Buildings at the appropriate borough office.

Typically, New York State licensed Professional Engineers, Registered Architects, and licensees such as plumbers or electricians are required to file plans and pull permits before work begins. But construction as it is referred to under the codes is not limited to new structures or buildings that have undergone major renovations. There are many permit types, such as construction, boiler, elevator, and plumbing. [19] The Department of Buildings accepts applications based on the project scope of work, plan review, approval, permit inspections, and sign-off process. To assess the risk level, construction projects are categorized based on the nature and purpose of the proposed work. The Department has grouped these project applications into the following categories: Building Systems Installation & Modifications; Renovations; Construction Equipment; Alterations; Demolition, and New

[16] Section 28-101.1.

[17] Section 28-101.3.

[18] *See* Section 28-105.1 General. It shall be unlawful to construct, enlarge, alter, repair, move, demolish, remove or change the use or occupancy of any building or structure in the city, to change the use or occupancy of an open lot or portion thereof, or to erect, install, alter, repair, or use or operate any sign or service equipment in or in connection therewith, or to erect, install, alter, repair, remove, convert or replace any gas, mechanical, plumbing, fire suppression or fire protection system in or in connection therewith or to cause any such work to be done unless and until a written permit therefore shall have been issued by the commissioner in accordance with the requirements of this code, subject to such exceptions and exemptions as may be provided in section 28-105.4.

[19] *See* section 28-105.2. for a more complete description, including new building permits for the construction of new buildings; alteration permits for the alteration of buildings or structures and partial demolition; foundation and earthwork permits; full demolition permits; plumbing permits, including gas piping and permits for limited plumbing alterations; sign permits for the erection, installation or alteration of signs; service equipment permits for the installation or alteration of service equipment, including but not limited to air conditioning and ventilating systems, boilers, elevators, escalators, moving walkways, dumbwaiters, mobile boilers and mobile oil tanks and permits for limited oil burner/boiler alterations; temporary construction equipment permits for the erection, installation and use of temporary structures to facilitate construction; fire protection and suppression system permits; and crane and derrick permits.

David O'Donnell
Associate Director
odonnelld@api.org

Buildings.[20] The primary permit applications are for New Buildings, Alteration-CO (or Alteration Type 1), and General Construction (Alteration Type 2 & 3). New Building permits allow the construction of new structures; Alteration-CO permits allow for major alterations that will change the buildings use, egress or occupancy; General Construction permits allow multiple types of work, not affecting the buildings use, egress or occupancy, or only one type of minor work, also not affecting use, egress or occupancy. General Construction permits are the type of permit most often applied for and are common for interior renovations or exterior repairs and restoration. In addition to a building department permit, "[f]or virtually all construction projects it is necessary to obtain permits from other City agencies as well."[21]

Essentially, only where the work is exempt from permit requirements under the code can it be legally performed without such a permit.[22] And the code provides that permits are not required for the following: emergency work; minor alterations and ordinary repairs; certain work performed by a public utility company; ordinary plumbing work; sign installation; geotechnical investigations; installing, altering or removing alternative automatic fire extinguishing systems; installing, altering or removing fire alarm systems, and other categories as described in any department rules.[23]

The code defines one such type of work that does not first require a permit, 'minor alterations and ordinary repairs', as minor changes or modifications in a building and replacements or renewals of existing work or parts of equipment with the same or equivalent materials or equipment parts that are made in the ordinary course of maintenance.[24] Conversely, the code provides that minor alterations or ordinary repairs does not include cutting away part of a load bearing wall; cutting or modifying structural supports; affecting any exit requirements; changing any light, heat, ventilation, elevator, accessibility, or fire suppression system requirements; any

---

[20] *See* Heiberger Harrison, Jamie, *NYC Requirements for Renovation vs. Building Construction/Maintenance*, (January 17, 2021) available at https://www.sdkhlaw.com/continuing-education-1.

[21] Department of General Services, City of New York, Permit Construction Handbook 11 (1985). The Handbook was revised in 1991. Currently, the New York City Buildings Department website contains an online publication, "Required Items Reference Guide," which appears to be a good source of information and includes a list of some of the agencies from which permits are required. Some of these permits include:

1. Department of Environmental Protection (sewage disposal and connection, operation of certain types of equipment, incinerators, spray booths);
2. Department of Transportation (temporary walkways and street closures, placement of building materials and equipment on streets and walkways, pavement work, tree planting, street openings, curb work, sidewalk work, canopies);
3. Fire Department (blasting, fuel storage, tar kettles, electrical work, fire alarm and detection systems, torch operations, large air compressors);
4. Department of Ports and Terminals (waterfront property development including dredging, filling, construction);
5. Department of Health (private drainage systems, solid waste processing and disposal facilities);
6. Department of General Services, Bureau of Electrical Control (electrical inspections, roadway or sidewalk transformer vault operations);
7. Transit Authority (if building within 200 feet of an existing transit facility);
8. Office of Economic Development, Department of Development (if work is within an urban renewal area); and
9. Landmark Preservation Commission (if work is or will be a designated landmark).

See 33 N.Y. Prac., New York Construction Law Manual § 1:28 (2d ed.).

[22] Section 28-105.4.

[23] *Id.*

[24] Section 28-105.4.2

David O'Donnell
Associate Director
odonnelld@api.org

changes to a standpipe or sprinkler system, water distribution system, house sewer, private sewer, drainage system, or any gas distribution system; any plumbing work other than repairing fixtures, and sign repair.[25]

Accordingly, painting, plastering, installing new cabinets, plumbing fixture replacement, resurfacing floors, and non-structural roof repair would not require a construction permit. But such a permit may be required for kitchen and bathroom renovations, for example, depending upon the complexity of the work. Any renovations that involve adding a new bathroom, moving a load-bearing wall, or rerouting gas pipes and adding electrical outlets would first require a General Construction (Alteration Type 2) permit application. As such, most kitchen and bathroom renovations require permits in New York City.[26]

In essence, then, through its application of the prohibition on combustion to all buildings covered by the New York City construction codes, and since most construction in New York City requires a permit from the Department of Buildings, Int. No. 2317 would, subject to certain listed exceptions, prohibit the combustion of fossil fuels for heating and other purposes in any buildings in the city (new or existing) where such work was performed by permit.[27]

[25] The Building Department has issued RCNY 101-14 to clarify exactly what is exempt from filing.

[26] Heiberger Harrison, Jamie, *NYC Requirements for Renovation vs. Building Construction/Maintenance*, at https://www.sdkhlaw.com/s/14-NYC-Requirements-for-Renovation-vs-Building-Construction-Maintenance-Handout-M14308.pdf.

[27] Since all buildings are subject to the administrative and enforcement provisions of title 28, it could be argued that the prohibition extends to *all existing buildings* regardless of any permit being issued, but the following language explains that code changes do not apply retroactively to such buildings unless explicitly provided for:

> §28-102.4 Existing buildings. The lawful use or occupancy of any existing building or structure, including the use of any service equipment therein, may be continued unless a retroactive change is specifically required by the provisions of this code or other applicable laws or rules.

BCA NY
BUILDING CONTRACTORS ASSOCIATION

451 Park Avenue South
4th Floor
New York, NY 10016

Tel: 212-683-8080
Fax: 212-683-0404

www.ny-bca.com

November 17, 2021

Honorable James F. Gennaro., Chairman
Committee on Environmental Protection
New York City Council
250 Broadway Suite 1773
New York, NY 10007

Re: Intro 2317-2021

Dear Chairman Gennaro and Members of the Committee on Environmental Protection:

I am the Managing Director of Building Contractors Association, Inc. ("BCA") (see enclosed "Who Are We" document). The BCA and its contractor members have reviewed Intro 2317-2021 and **oppose** this proposal. I have enclosed a Statement for the Committee's review.

The BCA appreciates your anticipated consideration of our positions on this proposal. We are always willing to meet with you and the Committee to discuss any and all issues related to New York City's construction industry. If you have any questions, please feel free to call.

Yours truly,

John O'Hare
Managing Director

BCA NY BUILDING CONTRACTORS ASSOCIATION

451 Park Avenue South
4th Floor
New York, NY 10016

Tel: 212-683-8080
Fax: 212-683-0404

www.ny-bca.com

BUILDING CONTRACTORS ASSOCIATION, INC.

STATEMENT IN OPPOSITION TO INTRO 2317-2021

Intro 2317-2021: A Local Law to amend the administrative code of the city of New York, in relation to the use of substances with certain emissions profiles.

The plain language summary accompanying Intro 2317-2021 states:

"This bill would prohibit the combustion of a substance that emits 50 kilograms or more of carbon dioxide per million British thermal units of energy in any new building or any building that has undergone a major renovation. The bill provides an exception for emergency standby power, a hardship preventing compliance with the bill, where the combustion of the substance is required by certain enumerated industries, and where the combustion of the substance is used on an intermittent basis in connection with a device that is not connected to the building's gas supply line."

The BCA and its 200 plus construction contractor members **oppose** Intro 2317-2021for the reasons:

1. The limitation on combustion should apply to new construction only. Including major renovations is complicated and will raise more question than it answers.

2. The effective dates should be phased in to relieve pressure on the grid, give time for a new performance based energy code to come into effect, and provide time for products to come to market that can meet the needs of all segments of the building stock. The absence of a phase in could result in many buildings using electric resistance heating rather than heat pumps, which would tax the grid and not limit emissions given the inefficiencies of those systems. Consequently, an appropriate phase in for new construction would be 2025 for structures under 3 stories/single family homes, 2027 for all buildings under 10 stories, and 2030 for all other.

3. Within 2 years of enactment all new construction should be constructed to be "electric ready," meaning that the building has been built in such a way that the conversion to all electric can be done without major changes to the building. DOB should be required to issue rules to define the electric ready requirements.

4. Currently the Climate Action Council (CAC) is engaged in a comprehensive review of environmental and energy policies, including considering an array of building reforms for the state; the city should allow the CAC to act and not preempt the deliberate and thorough policy work being developed by industry experts in a holistic fashion.

5. If passed, this bill would create an incentive for unqualified do-it-yourself repairs and the use of untrained professionals, to avoid pulling permits in order to circumvent time, cost, applicability, and requirement of this law; this in turn creates significant safety concerns (when building permits are not chronicled, firefighters lose control of knowing what is in a building and their safety is at risk).

BCA NY BUILDING CONTRACTORS ASSOCIATION

451 Park Avenue South
4th Floor
New York, NY 10016

Tel: 212-683-8080
Fax: 212-683-0404

www.ny-bca.com

BUILDING CONTRACTORS ASSOCIATION, INC.

Who Are We?

The Building Contractors Association, Inc. ("BCA") is Metropolitan New York's leading membership association of unionized construction contractors. Since its formation in 1933, the BCA has represented and promoted the general welfare and interests of its construction industry employer members. The BCA provides the unified contractor voice needed to address and enter equitable long-term labor-management relationships. We are dedicated to establishing public confidence that a BCA member is a contractor of the highest integrity and responsibility. The BCA's purposes also extend to the workers themselves. Long before it was required by law, BCA contractors have "encourage[d] the use of such means as will tend to reduce injury and death to building construction workers."

The 200 plus members of the BCA represent the finest of New York's builders. Forty percent of the Metropolitan areas largest construction firms are BCA members.[1] Many more are small family owned businesses. One multi-generational company has been in business for over 125 years. Other members represent the continuing growth of minority and women owned construction firms. Almost twenty five percent of BCA members are certified MWBE contractors. BCA member projects line the streets and skyline of the City of New York. They have employed generations of unionized construction workers providing solid, well-paying jobs to thousands of New Yorkers. They represent the proud tradition of New York's quintessential construction industry.

The projects BCA contractors perform encompass every aspect of the construction process including high-rise office buildings, residential structures, hospitals and schools. In addition, BCA members have extensive experience in the fields of restoration, renovation, alteration and tenant changes. Our members perform work in both the public and private sectors of the construction industry.

[1] Crain's, 2020 List of NY Area's Largest Construction Firms, July 27, 2020, pages 1-12.

Studies show that even during the current pandemic and resulting economic downturn, New York City's construction industry will generate approximately $55.5 billion in total spending with expectations that spending will reach $168.5 between 2020 and 2022.[2] New York City's construction industry is an essential economic engine.

BCA members are actively interested in promoting and protecting the varied interests and issues related to New York's building and construction industry. The BCA is committed to the strength of the City of New York.

What we believe:

- Continued commercial and residential development is critical to maintaining the City of New York as the world's greatest city
- City and State support for public works projects is essential
- Stable labor-management relationships are essential to the well-being of the construction industry
- Construction industry is fully committed to safety first
- Developers, contractors and labor must work together to address high costs of construction work
- Opportunity is the gateway to success

[2] New York Building Congress October 2020 report.

November 17, 2021

New York City Council
Committee on Environmental Protection
250 Broadway
New York, NY 10007

RE: Bill 2317

Dear Committee Members:

On behalf of Bradford White Corporation (BWC), thank you for providing an opportunity to comment on Bill 2317 hearing.

BWC is an American-owned, full-line manufacturer of residential, commercial, and industrial products for water heating, space heating, combination heating, and water storage. In New York City, a significant number of individuals, families, and job providers rely on our products for their hot water and space heating needs. As a manufacturer of water and space heating products, we have made substantial investments in products that provide significant energy and environmental benefits, such as heat pump water heater (HPWH) technology and Ultra Low NOx gas water heaters. As a testament to these efforts, our company was recognized as both a 2020 and 2021 ENERGY STAR® Partner of the Year.

Bill 2317 would prohibit the combustion of a substance that emits 50 kilograms or more of carbon dioxide per million British thermal units of energy in any new building or any building that has undergone a major renovation. As such, Bill 2317 is an effective ban on any natural gas appliance in these types of buildings.

While we appreciate the exceptions provided in the bill, they neither cover the variety of building stock nor business applications in New York City. BWC has concerns that the magnitude of the transition proposed by Bill 2317, as well as the aggressive effective date, will place significantly more stress on an already constrained supply chain, while also impacting grid stability and infrastructure needs.

We further encourage New York City to consider consumer equity in its decarbonization policies. Policies dependent upon building electrification for reducing emissions, if not carefully executed, may place an undue burden on low-income housing. Cost impacts from this switch are likely to disproportionately affect low-income households. We therefore recommend that New York City perform a holistic cost-benefit analysis of any decarbonization policy and ensure that any recommendations are equitable to all its residents. As responsibly completing this necessary process would take time, we believe the Council, or committee, should not consider Bill 2317 during its present lame duck session,

and should instead, reconsider this legislation in future sessions where the Council and committee will be allowed more time to address the numerous concerns and nuances that are inherited in this legislation.

The bill's proposal to fast-track a market transformation to 100% electric for all new buildings and any building that has undergone a major renovation, likely will overlook installation, technology, and financing challenges that have yet to be identified and outpace the market's ability to adopt 100% all-electric technology. BWC would like to pose the following considerations to the Committee:

- What feedback has the Committee received from equipment wholesalers, plumbers, electricians, mechanical contractors, and mechanical design engineers on the practical feasibility of Bill 2317?
- Has the Committee considered that increasing market share goes beyond incentive programs and must also focus on contractor training, financing, and the supply chain?
- Has the Committee considered the extra cost burden to ratepayers to fund a large-scale market shift to an all-electric policy?

Performance-based decarbonization policies that allow for technologies such as dual-fuel heating systems can substantially decrease greenhouse gas emissions from buildings in the city, while also ensuring reliability for New York City's individuals, families, and job providers. Dual-fuel heating systems are comprised of an electric heat pump and a natural gas furnace. The heat pump is used to meet the heating load of a building until it reaches capacity, at which point the gas furnace is used to meet the supplemental building heating load and maintain the heating setpoint temperature.

New York City, a leader in energy code performance, adopted as Local Law 048 of 2020 the 2022 Energy Conservation Construction Code of New York State. This code became effective May 12, 2020. The 2020 New York City Energy Conservation Code (2020 NYCECC), based on the 2020 ECCCNYS, aligns with certain provisions of the NYSERDA NY Stretch Energy Code-2020 (as required by Local Law 32 of 2018), and further modified, also became effective on May 12, 2020. New York City Local Law 84 requires annual benchmarking of energy and water use for certain city-owned and large privately-owned buildings. These requirements neither require all-electric appliances nor ban those fueled by natural gas, and we recommend New York City continue this glidepath to net zero buildings in 2030.

We applaud New York City's progression in reducing greenhouse gases. To reduce emissions, we strongly encourage the Committee take into account stakeholders such as manufacturers, energy suppliers, engineers, plumbers, electricians, and contractors. These stakeholders have a fundamental understanding of the technology, market, and resources that will be required to assist New York City. What we are seeing in the global supply chain disruption should be a cautionary tale about getting the timing right, as other states roll-back dates on emission and energy code requirements due to labor, material, and part shortages. We strongly recommend the Committee continue the direction of Local Law 48 and Local Law 84 towards reduction in greenhouse gases, and to consider all-electric appliances for new buildings or any building that has undergone a major renovation not as a requirement, but as an aspirational goal.

Bradford White Corporation thanks the Committee on Environmental Protection for the opportunity to provide feedback on Bill 2317. Should you have any questions regarding this submission, please do not hesitate to contact me.

Sincerely,

Bradford White Corporation

Eric Truskoski
Senior Director of Government and Regulatory Affairs

CC: R. Wolfer; B. Ahee; M. Corbett

BROOKLYN
CHAMBER OF COMMERCE

October 27, 2021

New York City Council
250 Broadway
New York, NY 10007

Dear Honorable Council Members,

The Brooklyn Chamber of Commerce is the borough's leading economic development organization. I am writing to ask that you consider the potential negative impacts that sweeping changes to the city's energy policies through Bill 2317 could have on our city and business community.

The City Council needs to take a hard look at the added costs this measure would impose on homeowners and businesses alike. Further, with large-scale commercial wind and solar still years out, mandatory electrification could have the unintended consequence of increasing the city's reliance on an aging fleet of natural gas- and oil-fired power plants. As New York begins to bounce back from the economic toll that COVID took on the entire city, this anti-natural gas and heating fuel bill would serve as a setback to the progress that has been made.

Such a ban would undoubtedly increase the cost of power for all city residents, not to mention the cost of transitioning in-home systems. This could drive many businesses and residents out of the city to places where costs are lower and there are options as to what energy sources they can use to power their businesses, heat their homes, and run backup generators when the power goes out.

The estimated cost of retrofitting a home with a new heating system exceeds $25,000. When coupled with the projected increase in energy costs created by switching from natural gas or heating fuel to electricity, less affluent communities and already-struggling businesses will suffer the most.

Increased electrification will create greater demand on one of the country's oldest power plant fleets. Electrifying city homes and businesses before there is a low or zero-emission grid to support the effort, could result in increased emissions from inefficient (non-peaking) power plants located in our city's overburdened communities. This increased demand on aging plants will also lead to high energy costs for all residents and business, including those in less-affluent communities. Furthermore, Local Law 97 already imposes a significant compliance burden as it requires buildings larger than 25,000 square feet to meet new greenhouse gas emission caps starting in 2024, with even stricter limits by 2030.

Unfortunately, this proposal that effectively bans natural gas and heating fuel is being pushed through the process in the eleventh hour. The City Council should not look to rush a measure that will have environmental and economic consequences for decades to come. I believe this approach, and closer consideration between the City Council and the business community across the City, would only strengthen and help the process of rebuilding New York City's economy for the future.

Sincerely,

R. a. P

Randy Peers
President & CEO

253 36th Street, Mailbox Unit: 17
Brooklyn, NY 11232

T: (718) 875 – 1000
F: (718) 222 – 0781

www.brooklynchamber.com
info@brooklynchamber.com

CATHOLIC COMMUNITY RELATIONS COUNCIL

191 Joralemon Street, 2nd Floor, Brooklyn, New York 11201

Testimony of Joseph Rosenberg
Executive Director, Catholic Community Relations Council
City Council Committee on Environmental Protection
Int. 2317
November 17, 2021

Good morning Chair Gennaro and Members of the NYC Council Committee on Environmental Protection. I am Joseph Rosenberg, Director of the Catholic Community Relations Council, representing the Archdiocese of New York and the Diocese of Brooklyn on local legislative and policy matters. I appreciate the opportunity to submit testimony on Int. 2317.

This legislation, which aims to reduce the use of fossil fuels that have a certain combustion limit, pursues an important principle but is overbroad and unworkable in its current format. If passed, it would require owners to shift from natural gas and fuel oil to electric based systems for heating and cooling buildings. Int. 2317 covers both new construction and buildings undergoing major renovation, an undefined term in this bill. It is unclear what is contemplated by major renovations triggering building electrification, and the cost and difficulty in complying with this measure can be staggering. We therefore urge that if the bill were to be passed, it be restricted to new construction. The legislation also does not address ongoing concerns that the current electricity grid system can provide sufficient power to heat and cool the large number of new construction projects and existing developments covered by this bill.

Passage of Int. 2317 would result in significant and overwhelming financial burdens for the nonprofit sector and religious institutions. Properties owned by these entities include landmarked houses of worship, schools, low-income housing, and buildings used for charitable programs that assist the elderly, the hungry, the homeless, the immigrant, and the refugee. Such conversion from natural gas to electrification would be tremendously costly but there are few, if any, financial programs in existence that would assist this sector in complying with this law. The bill also does not contain any financial loan or grant programs that would assist nonprofits and faith-based organizations in absorbing the costs of installing heating/cooling electrification systems. The faith-based and nonprofit sectors are not profit-based and constantly face considerable financial challenges. We struggle to keep our operations and programs working and receive little financial assistance from the government sector.

Int. 2317 already recognizes that certain operations should be exempted from these mandates. These currently include laboratories, laundromats, hospitals, and other uses. Considering the financial burdens caused by the bill and the nature of the properties owned by religious organizations and charitable institutions, we urge that nonprofits and faith-based organizations be exempted from this bill as well.

The bill also requires building owners to comply with its requirements two years after it becomes law. This unrealistic time frame does not recognize the distinctive challenges that building owners will face in order to comply with this mandate.

We understand and embrace the need to reduce the use of fossil fuels, but Int. 2317 is a flawed approach. We urge that it not be passed by the City Council.

Chair Gennaro and Members of the Environmental Protection Committee,

My name is Wendy Hijos and I'm the New York Executive Director for Consumer Energy Alliance. I appreciate the opportunity to share our comments today.

Founded in 2006, CEA is a nonpartisan, nonprofit organization with more than 350 member companies and more than 550,000 individuals in our nationwide network. Our mission is to help ensure American families and businesses have access to reliable, affordable, and environmentally sound resources.

We believe in an environmentally sustainable energy future that includes both traditional and renewable resources that create the best energy mix to meet the needs of our nation's families and businesses, environment, and economy.

We support U.S. energy in all forms so we can continue to meet our climate expectations, continue progress toward net-zero, and maintain our energy security while keeping the cost and reliability needs of families and businesses in mind.

As the Committee considers its legislative agenda today, it is important to highlight New York's incredible environmental progress while natural gas use and infrastructure have expanded across the state. According to state data, total emissions from the electricity generation sector fell 42% while natural gas use for power generation increased more than 150% from 1990 to 2015.

Additionally, the Department of Energy reports that New York's energy-related carbon dioxide (CO_2) emissions decreased a remarkable 18% from 1990 to 2018.

CEA is concerned about the harmful economic impacts that the suite of bills being considered today could have on working families, small businesses, and those struggling to get by –especially with today's inflationary environment and soaring energy prices.

The latest Department of Energy Winter Outlook projects:

- 30% increases in natural gas prices;
- 54% spikes for propane;
- 43% surge for home heating oil;
- Winter gas heating bills could be $746 & $1,268 for electric heating.

CEA recently issued a "Heat or Eat" Report which found that consumers would pay over $13.6 billion in additional higher winter energy costs as a result. Before these numbers were released, the Department of Labor found that New York area households paid nearly 57% more for electricity in August 2021 than the national average.

These excessively high and unnecessary costs have real-life impacts for those living at or near the poverty line, and in September of this year, the New York City region's unemployment rate was twice the national average.

That is why CEA shares its concerns with the suite of bills being considered because they could potentially lead to higher energy costs and reduce consumer choices.

For example, CEA issued an analysis that found that a natural gas ban could cost upwards of $35,000 for a homeowner. An ill-conceived mandate like this could be ruinous for a family, small business, restaurants, or those living on fixed incomes. In addition, of forcing electrification of "everything" onto consumers and communities overlook the expensive burden and need for building out tremendous amounts of infrastructure across the state that will run into the billions of dollars.

We urge the Committee to consider decarbonization options that can help green our existing infrastructure and employ technologies that can help reduce emissions without the blunt instrument of a harmful energy ban. Promising technologies like renewable natural gas (RNG) and hydrogen can be blended into our existing infrastructure for buildings and industries that can make a substantial reduction in carbon emissions and provide economic opportunity.

As a recent study from Columbia University noted, "investing more in the domestic natural gas pipeline network could help the US reach net-zero emission goals more quickly and cheaply….Fortifying and upgrading the system could prepare the existing infrastructure to transport zero-carbon fuels as they become available and, in the meantime, reduce harmful methane leaks from natural gas."

Further, the state recently selected Tier 4 Projects that will bring tremendous amounts of carbon-free energy into New York City over the next few years. In short, New York City's environment is clean and getting cleaner – now is not the time to force expensive, obtrusive, and potentially harmful mandates onto energy consumers.

Thank you for the opportunity to share our perspective today.

Before the New York City Council Committee on Environmental Protection
Hearing on Building Electrification and Intro. 2317
November 17, 2021

Written Testimony of Amy Turner
Associate Research Scholar, Columbia Law School
Senior Fellow, Sabin Center for Climate Change Law

Thank you to Chair Gennaro and to the entire committee for allowing me to participate in today's hearing.

My name is Amy Turner. I am an Associate Research Scholar at Columbia Law School and Senior Fellow at the Sabin Center for Climate Change Law, where I lead the Cities Climate Law Initiative. I research city decarbonization law and policy and advise cities across the country on building decarbonization and building electrification policies.

I am here today to testify in support of Intro. 2317. This is critical legislation not only to New York City's decarbonization goals, but also to building a climate-forward, resilient, and equitable building stock in New York City. I'll let others here today speak about the imperative to electrify our City's buildings, and the many climate, public health, and equity benefits to doing so. I am here to speak specifically to the City's legal authority to enact Intro. 2317.

As you know, local laws and other requirements enacted by New York City must be authorized by some delegation of authority from the State of New York. The local law or other requirement must also not be preempted by state or federal law. Intro. 2317 passes both of these tests, as I'll describe in further detail.

New York City is Duly Authorized to Enact the Requirements of Intro. 2317

Municipal Home Rule & the Police Power

First, New York City has ample police powers delegated by New York State's Municipal Home Rule Law, specifically the authority to govern in relation to the public health and welfare and "the protection and enhancement of [the City's] physical and visual environment." N.Y. Municipal Home Rule Law §§ 10(1)(ii)(a)(11) & (12). Intro. 2317 relates to the built and natural environments, local air pollution and global greenhouse gas pollution, public health, and housing quality – all well within the scope of the City's police power as delegated by the State's Municipal Home Rule Law.

Air Pollution Control Authority

Second, New York City, like other municipalities in the State, is permitted by the New York State Air Pollution Control law to enact local laws relating to air pollution so long as they "comply with at least the minimum applicable requirements set forth in" State air pollution laws and regulations. N.Y. Envt'l Conserv. L. § 19-0709. Intro. 2317 would regulate carbon dioxide emissions from buildings in New York City. As there is no State law or regulation limiting building carbon dioxide emissions, Intro. 2317 therefore "compl[ies] with at least the minimum applicable requirements set forth in" State law. In other words, there is no State air pollution lawthat would preempt the building carbon dioxide limit proposed by Intro. 2317.

Building Code Authority

Finally, New York City also has the authority under State law to set and amend its own building code provisions. As you know, the City maintains its building code in Title 28 of the City's Administrative Code. While the City's municipal home rule authority, police powers, and air pollution control authority are sufficient for an air emissions limit on newly constructed buildings, the City's building code authority buttresses that authority and provides a statutory home for Intro. 2317's requirements.

Intro. 2317 Would Not Be Preempted by State or Federal Law

Local authority may be curtailed through preemption by State and federal laws. There are two main preemption concerns that arise in the context of building electrification policies, neither of which would lead to preemption of the requirements in Intro. 2317.

First, much is made of the so-called "obligation to serve" provision found in Section 30 of the New York State Public Service Law. N.Y. Public Service L. § 30.[1] I generally take issue with the broad readings of the obligation to serve that some put forth, but in the case of Intro. 2317, the question of preemption is not a close one. Section 30, like the Public Service Law as a whole, relates to the *energy distribution system* in New York State. Intro. 2317 would regulate *buildings*. Intro. 2317 does not conflict with gas utilities' ability or obligation to serve customers, nor does it regulate in the field of energy distribution. Therefore, neither Section 30 nor the new York State Public Service Law would preempt the requirements of Intro. 2317.

Second, in some formulations building electrification policies may invite preemption scrutiny under the U.S. Energy Policy & Conservation Act, or EPCA (42 U.S.C. §§ 6201 et seq.), which preempts state and local standards relating to "the energy conservation [or] energy use of" building appliances like furnaces, HVAC systems, and more. 42 U.S.C. § 6297(b). It is important to be clear about what EPCA does and does not preempt. ECPA preempts *energy* standards for *appliances*. It does not preempt *air emissions* standards for *buildings*, as are set by Intro. 2317. Therefore, EPCA would not preempt the requirements of Intro. 2317.

Conclusion

New York City has ample legal authority to enact Intro. 2317 and its building carbon dioxide emissions limit, or any other building emissions limit that revised versions of Intro. 2317 may contain, and no provision of State or federal law preempts the City's authority with respect to Intro. 2317.

What's more, New York City has the legal authority to require new building electrification *today*. There is no reason why the City cannot require that new building permit applications meet Intro. 2317's proposed code requirement as soon as it is enacted. And the City will already be behind if it does not. More than fifty all-electric building requirements of various kinds are *already in effect today* in the U.S. A long time horizon for implementation signals that New York City is a follower, not a leader, on building decarbonization.

I encourage the Council to demonstrate New York City's leadership on climate change by exercising its clear authority to require that new buildings in New York City be built to the standard set in Intro. 2317.

[1] N.Y. Public Service L. § 30 declares it "to be the policy of this state that the continued provision of all or any part of such gas, electric and steam service to all residential customers without unreasonable qualifications or lengthy delays is necessary for the preservation of the health and general welfare and is in the public interest."

COLUMBIA UNIVERSITY
IN THE CITY OF NEW YORK

Testimony by Daniel A. Zarrilli

November 17, 2021: City Council Hearing on Intro 2317

Good afternoon. I'd like to thank Chair Gennaro and all the members of the Environmental Protection committee for this opportunity to testify today about Intro 2317. My name is Daniel Zarrilli and I'm the Special Advisor for Climate and Sustainability at Columbia University.

Much will already have been said today about the climate crisis that has already arrived on our doorstep. The growing ferocity of storms, heat, and sea level rise are only going to continue to challenge our infrastructure and communities with devastating consequences. And we know that burning fossil fuels is the single largest contributor to the global warming that is causing climate change.

At Columbia University, we have led the way in understanding this crisis. Scientists at our Lamont-Doherty Earth Observatory first coined the term 'global warming' based on the observations they recorded. And it was James Hansen at our Goddard Institute for Space Studies that gave seminal testimony in front of Congress in 1988 and put this issue on the front page. Now, we are marshalling all of our capabilities to address this challenge. Last year, we made an extraordinary commitment to confronting the climate crisis, creating a world-leading Columbia Climate School, the first new school at the university in 25 years, dedicated to advancing climate science and research, delivering impact through partnerships and climate solutions, and empowering the next generation of climate leaders.

Our commitment shows up in our labs and classrooms - and we are walking the talk on our campuses as well.

The university has in recent years dramatically decreased its greenhouse gas emissions through ongoing investments in renewable energy, building retrofits, electric vehicles, shifts in commuter behavior, and composting of organic materials. Building on prior work, Columbia released in April 2021 our Plan2030 - a roadmap for the university to achieve net zero emissions by 2050 or sooner. Plan2030 was developed

in conjunction with Columbia scientists and faculty, using guidance from the Science Based Target initiative and the United Nations Environment Programme to establish measurable targets for achieving the university's goals.

And most relevant to this hearing - just this past September, coinciding with Climate Week NYC, Columbia University announced that it will no longer install new fossil fuel connections in any new construction, refresh, or renovation projects on our campuses. To support this transition, we are already in the process of evaluating how to fully electrify the campus by replacing the onsite combustion of fossil fuels with clean, renewable energy sources. This work is challenging, yes, but it's feasible and it's necessary.

Additionally, the university is already enhancing its planning, design, and construction practices to expedite the end of fossil fuel combustion on campus. This is how we will remain within maximum cumulative emissions targets on the way to becoming net zero by 2050 or sooner, aided as well by actions across New York State to green the electric grid and to achieve the State's goals of 70% of electricity from renewable sources by 2030, and 100% carbon-free electricity by 2040.

This is the critical decade to achieve deep reductions in carbon pollution and avoid the most catastrophic impacts of climate change. By ending the expansion of fossil fuel infrastructure on our campuses and pursuing electrification, we are taking the necessary steps to align the university with the goals of the Paris Agreement, clean the air in our surrounding communities, and end the world's addiction to fossil fuels—all part of our commitment to empowering the next generation of climate leaders.

We applaud the City Council and CM Ampry-Samuel for taking on this important challenge and putting forward Intro 2317. This is an eminently feasible, and critically necessary, step for New York City to take in order to achieve the City's carbon neutrality goals and to avoid the worst consequences of our climate crisis.

Thanks for the opportunity to testify and I look forward to your questions.

The Community Preservation Corporation
28 East 28th Street, 9th Floor
New York, New York 10016

Testimony of Atalia Howe
Assistant Vice President, Initiatives and Impact Investing
The Community Preservation Corporation

New York City Council Environmental Protection Committee
Int. 2317 Hearing

November 17, 2021

Thank you, Chair Gennaro and other distinguished members of the New York City Council, for the opportunity to speak today. My name is Atalia Howe; I am the Assistant Vice President of Initiatives and Impact Investing at the Community Preservation Corporation (CPC), a nonprofit affordable housing and community revitalization finance company that uses its unique expertise in housing finance and public policy to: (i) expand access to housing and drive down the costs of affordable housing production, (ii) advance diversity and equity within the development industry, and (iii) help minimize the effects of climate change on our communities through the financing of sustainable housing. Over our 47-year history, CPC has deployed nearly $12 billion in private and public capital for affordable housing and community development, leading to the creation and preservation of nearly 220,000 units of residential housing. CPC is a recognized leader in promoting sustainability in the industry and has a deep expertise in supporting the needs of small building owners. CPC is focused on decarbonization because we recognize the urgency and necessity of reducing carbon emissions from buildings, which are responsible for approximately 70% of the city's total carbon footprint. Building electrification is a vital step in this process, and we must commit resources to make decarbonization a top priority.

CPC supports the intent of Introduction 2317 and shares the desire to significantly reduce the city's greenhouse gas emissions. Whole-building electrification (also referred to as "carbon-neutral ready") represents an important step towards reaching the city and state's established climate goals.

While we are generally supportive of the bill, there are two main areas of concern. The first is that while electric heating/cooling and domestic hot water solutions exist and are reaching cost parity with conventional building systems, large buildings are complex and appropriate solutions for large loads are not yet widely available. As such, we stand with our affordable housing industry partners and recommend the Council adopt a five-year phase in period for large buildings to electrify domestic hot water systems. Our second main concern is that the current

bill summary references new construction and “major renovations” as the two categories to which the legislation would apply; “major renovation”, however, is not defined and should be clarified in the bill text as it is only referenced in the summary.

This mandate should initially only apply to new construction, as electrification in existing buildings is significantly more complex and therefore requires a more intentional approach to address the different cost and administrative burdens. In the event that the Council decides to *include* existing buildings in the legislation, CPC has outlined the following issues for consideration:

Adequate Infrastructure

When requiring electrification in renovations, we have to be careful to avoid disincentivizing the renovation of properties. Owners of small buildings and others who operate on thin margins and lack the requisite financial and technical resources, including many owners of rent regulated properties and unsubsidized affordable multifamily, will be particularly affected by a law like this and least able to comply.

Adequate Resources

The task of electrifying the city’s existing building stock is not a simple one and will require additional capital to cover the incremental costs associated with the types of performance and systems improvements buildings will need to achieve to lower operational carbon emissions. The Council must make it financially feasible for building owners to retrofit their properties to improve the performance of building systems, upgrade electrical service (where necessary) and convert to all electric systems.

They will need the support of City Council – something that has a clear precedent in our city’s past. When New York City needed to revamp its housing stock in 1955 to install hot water and plumbing in all buildings, the Council created the J-51 tax abatement to offset costs and encourage building owners to renovate their properties. It worked! Electrification of the building stock, particularly the existing building stock, is no different. Now, we once again need to upgrade our housing and building stock, something that is both undeniable and urgent in the face of climate change. City Council should look to the early success of J-51 as a blueprint, and recognize that it will not be enough to mandate electrification, particularly in existing buildings.

Additionally, the Council should consider the impacts of heat and hot water, utilities that are traditionally the responsibility of building owners, being transferred to tenants. This has the

potential to increase the rent burden on tenants, and could impact owners' ability to recapture their investment as a result of improved performance. The Council should seek a deeper understanding of these impacts and explore ways to mitigate unintended consequences.

Energy Performance

Electrification of building systems, alone, will not solve the energy demand and emissions issues we face in New York City. Requiring electric heating, cooling, and domestic hot water production without any consideration of systems or whole building energy performance will not only place an additional operational cost burden on owners and tenants, it will increase demand on the already over-taxed electric grid.

To establish a consistent and appropriate building performance standard for electrifying buildings, we recommend that the timeline for compliance with this bill align with the adoption of the 2025 NYC Energy Conservation Code.

In conclusion, there is perhaps no more urgent goal than to decarbonize our economy and mitigate the effects of climate change, which is why efforts to decarbonize must be appropriately resourced, planned, and prioritized, to ensure a successful, equitable implementation that benefits all New Yorkers in the years to come. Thank you for your consideration and I would be happy to answer any questions you may have.

EARTHJUSTICE

Testimony of Hillary Aidun to the New York City Council

Hearing on Intro 2317

My name is Hillary Aidun and I am an attorney at Earthjustice, a national environmental law organization. We support Intro 2317 and urge the Council to adopt the bill but lower the emissions threshold.

Electrifying buildings is a key component of addressing both climate change and the even more immediate public health threats posed by fossil fuels, which disproportionately harm communities of color. In New York City, buildings are responsible for approximately 70% of greenhouse gas emissions—we simply cannot be a climate leader without addressing fossil fuel use in buildings.

Additionally, burning fossil fuels in buildings contributes to dangerous air pollution. Stoves and heating appliances that use gas or oil emit nitrogen dioxide—which causes learning deficits, increased susceptibility to asthma and allergies, aggravated respiratory symptoms, and changed lung function—as well as particulate matter—which can increase the risk of heart and asthma attacks, and lead to premature death. A study by the Rocky Mountain Institute found that children living in homes with a gas stove are 42% more likely to experience asthma symptoms. Chronic exposure to air pollution also increases the risk of death from COVID-19. Indoor fossil fuel combustion is also a significant source of *outdoor* air pollution, including particulate matter and smog. Communities of color are exposed to higher levels of this pollution than the general population.

Intro 2317 will make a meaningful contribution to addressing these problems, and complement the Climate Mobilization Act, by supporting the transition to a more sustainable building stock rather than further entrenching reliance on natural gas and other harmful fuel sources. But we urge the Council to revise the bill to make sure that this outcome is achieved.

The bill's current emissions threshold would prohibit the combustion of pure natural gas in new buildings. However, we are concerned that an emissions rate of 50 kilograms of carbon dioxide per million BTU creates a loophole that could unintentionally allow continued reliance on natural gas, and incentivize the use and expansion of other unsustainable and dangerous fuel sources like hydrogen.

Because combusting hydrogen does not produce carbon dioxide, blending hydrogen with natural gas is often touted as a way to make natural gas "cleaner." But nearly all hydrogen is produced using fossil fuels through an energy-intensive industrial process that generates significant greenhouse gas emissions. And when combusted, hydrogen can emit even higher quantities of nitrogen dioxide than natural gas. An emissions standard that could be met by a hydrogen-natural gas fuel blend would threaten New Yorkers' health by increasing nitrogen dioxide emissions, *and* allow the use of natural gas in new buildings.

For these reasons we urge the Council to pass Intro 2317, but reduce the emissions threshold so that the bill will preclude the use of hydrogen-natural gas fuel blends in addition to preventing the use of pure natural gas in new buildings, and we therefore join those who are asking the Council to consider an emissions rate of 25 kilograms of carbon dioxide per million BTU rather than 50. Thank you.

Testimony of Baaba K. Halm
Vice President and New York Market Leader
Enterprise Community Partners, Inc.

To the New York City Council
Committee on Environmental Protection
Hearing on Intro 2317
November 17th, 2021

My name is Baaba Halm and I am the Vice President and Market Leader for the New York office of Enterprise Community Partners, a national nonprofit that exists to make a good home possible for the millions of families without one. We support community development organizations on the ground, aggregate and invest capital for impact, advance housing policy at every level of government, and build and manage communities ourselves. Since our New York office opened in 1987, we have committed more than $3.9 billion in equity, loans and grants to affordable housing and community to create or preserve over 73,000 affordable homes across New York State.

On behalf of Enterprise, I want to thank the New York City Council's Committee on Environmental Protection for the opportunity to provide testimony today. We are very supportive of efforts to reduce greenhouse gas emissions as it is critical to ensuring New York City's health and climate resiliency. That's why, nearly fifteen years ago, we created the Enterprise Green Communities Initiative to bring the health, environmental, and economic benefits of green building to affordable housing, extending these benefits to low-income families. We welcome legislation like Intro 2317 as it will speed along the necessary process of transitioning to cleaner energy and will spur innovation and ways to lower the cost of electrification.

To ensure this legislation has the greatest impact, we recommend the following:

- Performance standards for energy efficiency should be required prior to electrification. While there is a cost to this, standards will ensure that systems are made energy efficient prior to electrification, leading to necessary reductions in fuel consumption.
- We would recommend a slightly longer implementation timeline of four years after passage as opposed to two years, to better align with the development process and to make this mandate achievable for more projects.
- On major renovations of existing affordable housing buildings, we ask that the City be willing to further subsidize the work to electrify the building, as it can be very costly.

- We support this bill's inclusion of cooking gas as a substance that would be phased out, as cooking gas is a significant source of indoor air pollution, which also must be minimized.
- We encourage the City to promote "point of sale" subsidies that allow developers to buy products at a discount as opposed to a less efficient system of providing loans.
- The City must pair this mandate with associated utility allowances. Given the cost of these upgrades as well as rising operating costs, there must be increased utility allowances that take into account the desire to limit rent increases to tenants' and manage costs for owners. For any affordable building with a regulatory agreement that goes all-electric, HPD should develop a separate rent utility allowance based on utility costs and expected usage at that time.

Thank you again for the opportunity to testify today and we look forward to further partnership with you to ensure the city's affordable housing stock is green, healthy and resilient.

ENTERPRISE COMMUNITY PARTNERS, INC.
One Whitehall Street ■ 11th Floor ■ New York, NY 10004 ■ 212.262.9575 ■ www.EnterpriseCommunity.org

Testimony in favor of Intro 2317
November 17, 2021
Rabbi Hody Nemes
Jewish Climate Action Network NYC

I'm Rabbi Hody Nemes, a co-founder and co-leader of Jewish Climate Action Network NYC, a group of New York Jews of many backgrounds, ages, and opinions who agree on one thing: we must act on climate change now. We stand upon the teachings, laws, and prophetic voices of Jewish tradition.

I'm here today because of my wife. On the night of September 1st, I thought she was going to die.

My wife is a pediatric emergency room doctor. Hurricane Ida was raging that night. But sick kids at the hospital needed her, so she went out into the storm.

She called me soon after leaving our house, frightened. She was on the Major Deegan and floodwaters were rising around her. Her car stalled twice. The waters kept rising, and rising. She called 911 and 311, but no one answered. For two hours, we wondered if she would survive. At home with our young children, I prayed. When EMTs finally rescued her, I cried. The car was lost, but my wife was saved.

She was lucky. Tragically, over fifty people died that night, in a storm that was certainly turbocharged by climate change.

I've studied climate change for years, but this was the first time it threatened my family directly. I finally understood that climate change can come for *any one of us*. We may not be the "stranger, the orphan, or the widow" right now, but we might be tomorrow.

That's why we, like our partners in #GasFreeNYC, ask you to pass Intro 2317 this session. And to strengthen it, by (a) making it take effect in one year, not two, and (b) amending its text to ensure it more clearly covers gut renovations.

I'm not only afraid of drowning in storms, I'm afraid of suffocation. As an ER doctor, my wife has seen countless children threatened by asthma, particularly children from the South Bronx. According to the Rocky Mountain Institute's estimate, more than 1,000 New Yorkers are killed annually by building pollution in this city.

That's 1,000 New Yorkers too many.

Jewish tradition is obsessed with saving lives, from the very first chapters of Genesis onwards. In the words of our theologian Rabbi Yitz Greenberg, “The Torah’s central value — expressed in ritual and ethics — is to increase life and the quality of life in every act that we do.”

I ask you today - remember the people who died in Ida, remember the thousand choking to death on our air pollution, remember my wife terrified for her life.

Pass this bill.

Testimony of Laurie Kerr, FAIA, LEED AP
President, LK Policy Lab
Before the New York City Council Committee on Environmental Protection

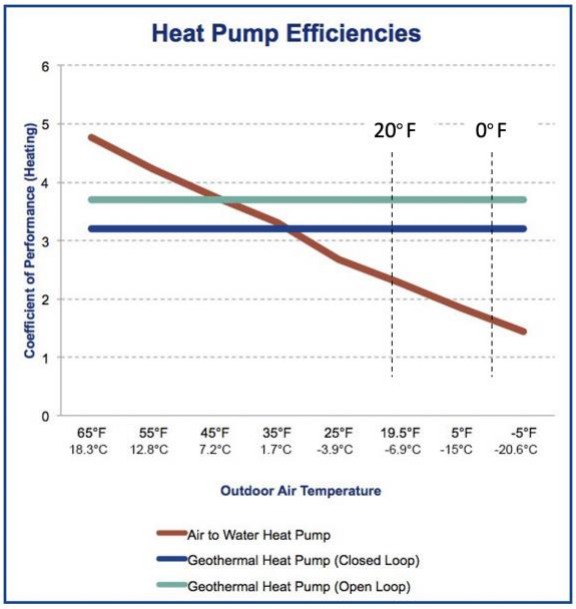
Re: Int. No. 2317, Use of Substances with Certain Emissions Profiles

November 17, 2021

Good afternoon, James Gennaro and members of the Committee. I am Laurie Kerr, an architect and a former Deputy Director of the Mayor's Office of Long-Term Planning and Sustainability, responsible for helping to shape many of New York City's first wave green building policies.

In general, I am strongly in favor of Int. 2317. We need to stop making new buildings now that are dependent on fossil fuel and that will be very expensive to transition to clean electricity later. However, I agree with many of the modifications that have been suggested by others, such as a slower phase in for large buildings and lowering the cap on the allowable carbon dioxide emissions per unit energy. And I want to propose a possible exemption for consideration that could make this measure much more cost effective for everyone.

As you probably know, air source heat pumps, which will likely be the main technology used to electrify, become decreasingly efficient the colder it gets – see graph of heat pump efficiency vs temperature to the right. This has two major downsides.



- The first is at the building level. Buildings that are entirely electric will have to size their heat pumps to be able to supply enough heat at the coldest expected temperature. Because of the inefficiency of heat pumps, sizing for very low temperatures can lead to a significant increase in the size of the heat pumps, adding to the first cost of such systems and becoming potentially burdensome, especially for low-income properties.

- The second is at the level of the electrical grid. If New York City is successful in achieving substantial electrification of heat and hot water, it will experience a winter peak electrical demand that will eventually dwarf its summer peak. The higher that peak, the more expensive the grid will be at every level – supply, transmission, and distribution. The citizens will ultimately have to pay for this in terms of increased electrical rates.

One way to address this problem would be to allow fuel to be burned when it's very cold and the heat pumps are least efficient – say below 20° F. Systems that can run on both electricity and fuel are called hybrid systems. A rough calculation shows that the heat pumps in buildings

could be downsized by 45% if they were sized to heat to 20° F versus 0° F. The savings on the cost of heat pumps and on the size of New York's grid would be significant if many buildings used hybrid systems.

What would the carbon penalty be? It turns out the temperature does not go below 20° F very often in New York City. A rough analysis of a year's worth of weather shows that, if buildings only burned fuel when it was below 20°, their heating fuel use would reduce by 93% compared to year-round fuel use -- although this exact number would vary with each years' weather. So, the carbon penalty would be quite small. And if the gas grid became cleaner, it would ultimately be even smaller.

A major concern about this proposal is how could it be enforced. Here are some thoughts.

- For buildings subject to benchmarking, excess fuel burning should be easy to detect from the fuel data entered. Larger buildings are already required to benchmark annually, and an addendum might be added to this bill to require buildings < 25k sf that installed hybrid systems to annually benchmark, too. It should be fairly easy for the city to create an algorithm to detect likely scofflaws burning excess fuel, and that subset could be more carefully analyzed. Significant fines could be imposed to discourage violations.

- The prohibition against burning fossil fuel at higher temperatures might be self-enforcing at least for sophisticated buildings. That's because as temperatures increase and the heat pumps become increasingly efficient, it becomes more cost effective to run them.

- A final strategy would be to look for the telltale plumes of smoke or vapor emitted from fuel burning equipment above 20° F.

Thank you for this opportunity to submit this testimony to the committee. Please feel free to contact me through my email or fax below if you want to discuss this further.

Magnusson Architecture and Planning PC
42 West 39th Street 15th Floor New York NY 10018
212 253 7820 t 212 253 1276 f
www.maparchitects.com

November 17th, 2021
New York City Council
Committee on Environmental Protection
RE: Intro 2317 Prohibiting Combustion in New Construction and Major Renovation

Dear Council Members,

Thank you for allowing me to speak in full support for Intro 2317, prohibiting combustion in New Construction and Major Renovations. I'm an Associate Principal and Director of Sustainability at Magnusson Architecture and Planning. We focus on affordable, supportive, and senior housing in the greater New York city area.

We are the architects for 3 new buildings currently in construction that are all electric, and another eight all electric new buildings that are in design. This represents a total of approximately 1,500 units, for both private and not for profit developers. Many of our affordable and supportive housing renovations are also converting their old combustion systems for heating, stoves, and hot water, to heat pump and all electric systems. The vast majority of our recently completed projects have all electric heating and cooling systems.

In fact, heat pump technology and full electrification is what we recommend first on all projects and is quickly becoming standard in our work - and from what we can see, in many other affordable housing design firms as well. The costs are coming down as the industry becomes more comfortable with the technology that is very much the norm in many places globally. Often heat pump systems do not cost much more than unhealthy and inefficient combustion equipment and has a coefficient of performance many times greater than fossil fuel equipment will ever have because it does not generate heat, just moves it around. We typically pair heat pump systems with a building enclosure that is slightly more energy efficient than current code, which greatly reduces owners operating costs and therefore from a more realistic life cycle perspective, is the wiser choice economically. It is important to note that the refrigerant in these systems must be managed properly due to their high GWP if they are inadvertently released. If we empower building owners and operators with the right tools this is not an issue.

Removing combustion equipment throughout buildings is wise and certainly achievable for major renovations and new construction. It is a critical strategy to preserve the health of the people that occupy our buildings, and our environment in general upon which the viability of our society depends.

Thank you,

Sara Bayer, AIA CPHC LEED AP
Associate Principal / Director of Sustainability

Testimony in support of Intro 2317

by Eric Liftin, AIA
principal, MESH Architectures, Brooklyn, NY.

I'm Eric Liftin, principal of MESH Architectures, based in Brooklyn.

I'm the architect and also a partner in the development of a new condo building at 670 Union Street, Brooklyn.
At MESH we have been capping gas lines and converting cooking and heating over to electricity for several years, with great results. This year we've completed two all-electric row houses.

In our new 6-story building on Union Street, which is nearly complete, we will have no gas. Our heating and cooling will be done by electric heat pumps, we will heat our water with heat pumps, and our cooking will be done on amazing induction cooktops. These systems work very well and are not particularly expensive. We will also have solar panels generating electricity on the roof.

The key thing to keep in mind is that today's buildings are different from old buildings. Our buildings are insulated and air sealed -- they don't need as much heat as buildings of the past. Burning fuel in our buildings is an obsolete practice. It requires exhaust flues and a steady supply of oxygen, which greatly detract from a building's energy efficiency. The old model of air leaking in and out of the building while a huge furnace blasts heat into it is long over.

Today's heat pumps are incredibly efficient and effective. Cooking on induction stovetops is much safer, easier to maintain, and more reliable than gas, and is a pleasure to cook upon.

Going all-electric is very easy to do, it doesn't cost too much, it's healthier, and it prepares a building that will be around for many decades to use increasingly sustainably produced electric power. The bill should prohibit all combustion in new buildings and in renovations that replace heating systems and have an opportunity to modernize insulation.

||| | | | | | |

Eric Liftin, AIA, LEED AP, CPHD
principal
MESH Architectures
architecture + environments + web spaces

mesh.nyc
Instagram: **@mesharchitectures**
Medium: **@ericliftin**

212 989 3884 x1
68 Jay Street Suite 501
Brooklyn, NY 11201

||| | | | | | |

Master Plumbers Council

of the City of New York, Inc.

Aka

Licensed Plumbing Association of New York City, Inc.
240-21 Braddock Avenue, Bellerose, NY 11426
Phone: (718) 793-6300 • Fax: (516) 677-5374 Website: www.nycmpc.org

November 17, 2021

To: NYC Council Committee on Environmental Protection

From: George Bassolino Master Plumbers Council of the City of New York Code Committee Chairman

Re: Testimony in Opposition to the Gas Ban Bill - Intro. No 2317

Good afternoon my name is George Bassolino and I am Code Committee Chairman for the Master Plumbers Council and a NYC licensed Master Plumber.

I believe climate change is real and must be addressed immediately. At some point, the use of all fossil fuels in New York City must be eliminated. While that may be coming shortly, it is not tomorrow or even next week. While the intent of this Intro is to halt the use of all fossil fuels in NYC is laudable, if enacted as written, this bill would have the opposite effect. It would immediately increase the carbon release into the atmosphere and create an economic burden for New York City's most vulnerable residents.

Electricity production is responsible for about 25% of all greenhouse gas emissions and produces the second largest share of greenhouse gas emissions. Producing and delivering electricity for NYC releases four times the carbon into the atmosphere as does the equivalent amount of natural gas being utilized in NYC buildings. The generation and delivery of electric power consumes almost 2/3 of the primary energy delivered to the grid. Electricity loses a large amount of energy in the production and delivery stages. Over forty percent of all electric production in NYS is generated by burning natural gas or a combination of gas with another fuel. Regardless of the intent, any attempt to ban natural gas prematurely will astronomically spike costs and jeopardize the safe and reliable fuel that is already helping to reduce harmful emissions in NYC.

With the proposal of this bill, the Council is thinking globally but ignoring the fact that they only govern locally. What has not been taken into account and cannot be overcome is the fact that NYC lacks the proper electrical infrastructure to support the new loads this bill would create. The Council has no control over how renewable energy will be created or how the infrastructure needed to deliver it will be provided. An example of this is that there is a large surplus of clean hydroelectricity available from Canada. The delivery of that electricity would help create a gas free NYC a reality, as well as lower costs. Currently, customers receiving hydro generated power upstate pay half the cost that NYC residents do for the same electricity. Why is this not happening now? Are some of the same people who want to ban gas also banning the required infrastructure work from being completed? Passing this bill will greatly increase NYC resident's electrical costs and possibly cause short term brown and black outs during hot summer months. These costs will be borne by the most vulnerable who struggle with higher energy bills and disruptions. Many NYC businesses have been unable to pay rent in full during the pandemic and are struggling to survive especially restaurants which depend on natural gas to cook. If enacted as written, this bill will eliminate hundreds of gas related, high paying construction and maintenance jobs. These are jobs your constituents are counting on to support their families.

Besides protecting the health of the nation, licensed Master Plumbers have been at the forefront of reducing carbon emissions for decades. The clean air we breathe today is due in part to our work replacing dirty fossil fuels with clean and reliable natural gas. As few as thirty short years ago, NYC was still installing coal fired boilers in our schools. Today, they have been replaced with modern equipment burning natural gas. On a daily basis, licensed Master Plumbers replace existing appliances with new, more efficient appliances further reducing NYC's carbon footprint. The vehicles we drive today are 99% more efficient

Master Plumbers Council

of the City of New York, Inc.

Aka

Licensed Plumbing Association of New York City, Inc.
240-21 Braddock Avenue, Bellerose, NY 11426
Phone: (718) 793-6300 • Fax: (516) 677-5374 Website: www.nycmpc.org

than when I started. The point I am trying to make is that we are making measurable progress and doing so in a responsible manner. Our work benefits BOTH the environment and the consumer.

This bill will ultimately be regulated by the NYC Department of Buildings under our Construction Codes. The purpose of the New York City construction codes is to provide reasonable, minimum requirements and standards based upon current scientific and engineering knowledge, experience and techniques, and the utilization of modern machinery, equipment, materials, and forms and methods of construction, for the regulation of building construction in the city of New York in the interest of public safety, health, welfare and the environment, and with due regard for building construction and maintenance costs.

The Council has an obligation to their constituents to take all of these factors into consideration when they propose any energy related legislation, including considering the potential costs to their constituents. Some reports have calculated that banning natural gas could cost over $25,000 per household in NYC. Today In reality, a complete gas ban is impractical at this time. It is undeniable that it will make energy providers richer and NYC residents poorer.

As written, this bill would not only prohibit the utilization of natural gas in new construction and major renovations, it would also ban its use whenever a permit is required. The New York City Administrative Code requires a work permit for all gas related work. This would effectively ban any repair, replacement or upgrade work. I am sure this was not the intent but it could be interpreted and enforced that way.

The MPC will continue to support all balanced options to meet NYC's ambitious climate goals. Hydrogen is increasingly recognized as a valuable pathway for meeting that goal. Today, most hydrogen is produced with natural gas. The United States Department of Energy expects that hydrogen production from natural gas will be augmented with production from renewable energy. Perhaps the Council should study this emerging science as an alternative to attempting to ban gas outright.

While large scale renewable opportunities from solar, wind and hydropower along with battery storage will someday make this technology reliable and affordable, today is not that day. We believe that natural gas is essential to reasonably get to a net zero carbon future while not leaving our most vulnerable citizens in the cold or dark. The Council must look to Albany and Washington to provide the necessary infrastructure and funds to create the renewable energy and the grid to deliver it. The Council must also be vigilant to ensure that the infrastructure is resilient to avoid incidents such as the one that occurred in Texas last winter.

NYC needs solutions that allow for continued growth and development while maintaining our high standard of living and quality of life. Our economy and daily life depends on reliable energy generation and distribution. NYC is depending on you to provide that in responsible ways that are compatible with reducing greenhouse gas emissions. If the Council wants to make an immediate impact on carbon emissions, why not propose legislation to help NYC homeowners remove their oil fired systems and upgrade their existing gas systems? Legislation such as this would have an immediate impact on reducing carbon emissions and not create a financial burden on your constituents. Intro. No. 2091-2020 which is also on the agenda today would create a study of the feasibility of electrification of NYC. This bill should be adopted and a study be done prior to banning any forms of energy. It is incomprehensible that people could champion the immediate end of fossil fuels without first ensuring there is a safe and reliable alternative system in place.

You will be receiving testimony from many diverse groups. Every one of them will have an opinion on why this proposal is a good or bad idea. The MPC's main focus is on the public's safety and wellbeing. We believe that you can take an incremental all of the above approach to solve this problem and continue to make improvements in both carbon emissions and NYC resident's quality of life.

Master Plumbers Council

of the City of New York, Inc.

Aka

Licensed Plumbing Association of New York City, Inc.
240-21 Braddock Avenue, Bellerose, NY 11426
Phone: (718) 793-6300 • Fax: (516) 677-5374 Website: www.nycmpc.org

The MPC would like to thank the Chairmen and the committee for all of their time and efforts and we are looking forward to continue to work together to keep NYC residents safe.

During your review, please do not hesitate to reach out to us if you have any questions or need clarification on any of the information.

SHENKER RUSSO & CLARK LLP

Shenker Russo & Clark LLP
121 State St., 4th Flr
Albany, NY 12207
518-407-5800

NATIONAL BIODIESEL BOARD

National Biodiesel Board
P.O. Box 104898
Jefferson City, MO 65110-4898
573-635-3893

November 17, 2021

Testimony before the
New York City Council Committee on Environmental Protection
Topic: Intro No. 2317

Submitted By:
Michael C. Trunzo of Shenker Russo & Clark LLP
On behalf of the
National Biodiesel Board, Jefferson City, MO

The National Biodiesel Board represents the biodiesel, renewable diesel and renewable jet fuel industries. NBB members play an important role in state and national programs aimed at reducing carbon emissions, displacing petroleum, improving public health and protecting the environment. Many NBB members are members of environmental organizations and are supportive of state and local initiatives to achieve a sustainable energy future.

The National Biodiesel Board (NBB) would like to comment on New York City Council Intro No. 2317-2021, a bill to prohibit the combustion of a substance that emits 50 kilograms or more of carbon dioxide per million British thermal units of energy in any new building or any building that has undergone a major renovation.

NBB joins the New York City Council in their efforts to reduce carbon emissions and phase out the use of fossil fuels. We have worked on this issue nationally, as well as in states and municipalities, including New York State and New York City. Our efforts in New York date back to 2010, working with the City Council in passing statutes to implement the replacement of heating oil with biodiesel at blend levels approaching 20% by 2034. And we successfully worked with the State Legislature on a proposal to move the 20% biodiesel blend level statewide as of 2030. That bill, A.7290/S.3321A, is awaiting Governor Hochul's signature.

New York State consumes 1 billion gallons of heating oil annually. These laws will result in the displacing of 200 million gallons of heating oil used in the state. Our goal is to replace 500 million gallons by 2035 and all 1 billion gallons of heating oil used in the state by 2050.

Based upon our track record and the science behind using biodiesel and renewable diesel to substantially reduce carbon emissions and other pollutants, we find Intro No, 2317 to be overly prescriptive in its allowable fuels for thermal space heating needs of buildings, new and current, in the City.

The current language in Intro No. 2317 would appear to ban the permitting of combustible fuels, including biodiesel and renewable diesel, known as biomass-based diesel per the limitation of "emits 50 kilograms or more of carbon dioxide per million British thermal units…". Nor does the bill take into

consideration the full life cycle analysis of fuel emissions, but only relies upon tailpipe (boiler) CO2 stack emissions. The full lifecycle analysis would show 73%-80% on average reductions in greenhouse gas (GHG) emissions using biomass-based diesel versus petroleum diesel. If the aim of the legislation is to reduce carbon emissions, we would suggest amending the word "fossil" before "carbon dioxide" to say "emits 50 kilograms or more of FOSSIL carbon dioxide per million British thermal units…". This would allow for clean burning biomass-based diesel to continue to help contribute to the lowering of fossil emissions.

Our testimony is not to dissuade you from the goal of electrification, but to speak to the immediacy of environmental and health benefits that occur when petroleum diesel is replaced with a clean burning, sustainable liquid fuel. Biomass-based diesel can help meet the carbon reduction goals we all strive to provide for residents, with no additional costs nor the need for new appliances.

This is important because biomass-based diesel (biodiesel and renewable diesel) has already assisted many municipalities nationally and worldwide in addressing climate change in a comprehensive manner, providing a cleaner environment for future generations with a transition away from fossil fuels.

Our purpose here is to inform Council members as to the availability, success, affordability, and decarbonization attributes of biomass-based diesel as fuels that which can assist in meeting deep decarbonization targets.

These comments will touch upon the following points relative to the use of biodiesel and renewable diesel in thermal space heating appliances:

- As renewable replacements for diesel fuel, biodiesel and renewable diesel are made from used cooking oil, animal fats, brown grease, and agricultural byproducts and co-products. The feedstocks used to produce U.S. biodiesel have become increasingly diversified with waste products making up an increasing volume of feedstock used to produce fuel.
- Biodiesel and renewable diesel are drop-in replacement fuels for petroleum heating fuel and they work seamlessly in current home heating appliances, even at high blend volumes.
- According to New York State Energy Research & Development Authority (NYSERDA) pricing data, the use of biodiesel is at minimal to no extra cost to consumers.
- Biodiesel provides an immediate reduction in greenhouse gas (GHG) emissions of up to 80% from petroleum heating oil.
- A recent health benefits study by Trinity Consulting, a world-wide renowned air dispersion modeling company shows the use of biodiesel in space heating substantially reduces criteria pollutants and particulate matter emissions, and, as a result, reduces cancer rates and asthma attacks, as well as a reduction in premature deaths and lost workdays.
- Biodiesel production and supply is ample to cover the space heating sector needs in New York State with over 2.8 billion gallons of biodiesel domestically-produced each year, with over 6 billion gallons by the year 2030 and 15 billion by 2050.
- For the 1.4 million homes and buildings in New York that currently use heating oil, biodiesel is a low carbon, renewable liquid fuel that is available today to provide immediate GHG savings and health benefits to the citizenry of the state and city of New York.

NBB fully understands the need to focus on immediate and clear carbon emission reductions for low and moderate income and disadvantaged communities. Some have raised concerns about using multiple fuels, costs, health benefits and appliance applicability. We can assure you that these are all non-issues with the use of biodiesel and renewable diesel for thermal space heating.

Achieving GHG reductions and the associated positive health benefits is simply a matter of switching fuels from petroleum diesel to biodiesel and renewable diesel. As a matter of fact, New York City is already leading the transition to biofuels. The City's heavy-duty truck fleet is using 5%-20% biodiesel and many of the city's buildings are already using 20% biodiesel. The Department of City Administrative Services (DCAS) has successfully piloted a 100% biomass-based diesel blend of 80% renewable – 20% biodiesel for their truck fleet, thus using no petroleum diesel at all. Moreover, NBB is working with the New York City Public Schools System to transition a number of their buildings to 100% biodiesel over the next decade.

As the City Council contemplates Intro No. 2317, we ask that you fully examine how the biomass-based diesel industry can join your climate change efforts, because working with the home heating fuels industry in New York State, we have already begun to transition customers from fossil fuels to low carbon renewable liquid fuels.

To illustrate our position, please note the following:

Bioheat® Fuel - A Renewable Replacement for Heating Oil

Bioheat® fuel is a fuel blend comprised of biodiesel made from used cooking oil, animal fats, brown grease, and agricultural byproducts and co-products. The feedstocks used to produce U.S. biodiesel have become increasingly diversified with waste products making up an increasing volume of feedstock used to produce fuel. There is no food-for-fuel issue. Also, palm oil is also not eligible under the U.S. EPA Renewable Fuel Standard. Thus, deforestation is not an issue for biodiesel fuel used in the United States under this program.

Studies by Brookhaven National Laboratory indicate that Bioheat® fuel, a drop-in replacement for petroleum heating fuel, works seamlessly in current home heating appliances, even at high blend volumes.

Bioheat® fuel is the future renewable liquid low-carbon heating fuel already available now. It is already required to be used in the New York Metropolitan Area – New York City and Nassau, Suffolk and Westchester counties (Chapter 315 of L.2017). This area comprises 70% of the state's home heating oil volume (700 million gallons). New York City has a biodiesel/renewable diesel blending law (NY Local Law 119-2016) that will increase bleeding requirements to 20% by 2034. While the remainder of the state currently has no low carbon heating fuel requirement, legislation (A.7290/S.3221A) requiring a 20% biodiesel blend by 2030 passed both the Senate and Assembly and now awaits gubernatorial approval. Once approved, the state would require 5% by 2022 10% by 2025 and 20% by 2030. NBB and the home heating fuel industry are advocating for state polices to increase the blend to 50% by 2035.

In addition to the New York State and City laws, we would note that other states in the region are also using biodiesel to lower GHG emissions and are considering additional proposal:

- Rhode Island has new laws (Chapter 347 and 348 of 2021) that will transition all heating oil homes to 10% biodiesel by 2023, 20% by 2025 and 50% by 2030.
- Connecticut has a new law (Public Act 21-181) that requires 5% biodiesel by 2023, 10% by 2025, 15% by 2030, 20% by 2034 and 50% by 2035.
- Massachusetts has a Thermal Renewable Energy Credit (REC) program that has prompted a 5% biodiesel blend in the state on an incentive basis.

- Maine has a Thermal REC rulemaking underway, and recently adopted incentives for in-state production of heating and transportation renewable fuels for which biodiesel qualifies.

Biodiesel Reduces Greenhouse Gas Emissions & Reduces Criteria Pollutants

Biodiesel reduces full lifecycle greenhouse gas (GHG) emissions in thermal space heating appliances by 73% - 80% on average versus petroleum heating oil. In addition to significantly lowering greenhouse gas emissions, biodiesel can also significantly reduce harmful criteria pollutants created from the combustion of petroleum. These are pollutants that have been shown to lead to chronic health effects, especially in urban communities.

Emissions Improvements of Biodiesel versus Low Sulfur (LS) and Ultra Low Sulfur (ULS) Heating Oil[1,2,3,4,5]

Average Change	PAH	PM	CO	NO_x	SO_2	CO_2
Percent	-90 to -95%	- 86%	Similar to -15%	Similar to -25%	-98% (LS) Similar (ULS)	-73%

Note: PAH-Polycyclic Aromatic Hydrocarbons; PM-Particulate Matter; CO-Carbon Monoxide; NOx-Nitrogen Oxides; SO_2-Sulfur Dioxide; CO_2-Carbon Dioxide

Health Benefits of Using Biodiesel Confirmed in Trinity Consulting Study

Reducing criteria pollutants is more than just an abstract number or percentage -- substantial reductions in criteria pollutants, especially particulate matter (PM), yields important and quantifiable public health benefits. The health benefits of using biodiesel in place of petroleum heating oil has been studied by Trinity Consulting, a multi-national firm with 69 offices across the U.S., Canada, United Kingdom, Ireland, Australia and China, and over 40 years of expertise in air dispersion modeling and health risk assessments.

The Trinity Study, commissioned by NBB in 2020 and completed in early 2021, quantified the local community health benefits of switching from petroleum diesel or distillate to 100% biodiesel in 13 sites across eight states in the U.S., with 8 sites focused on the transportation sector and 5 sites focused on the space heating sector. Full results can be found here: https://www.biodiesel.org/news-resources/health-benefits-study

The Trinity Study shows the use of biodiesel in space heating reduces cancer rates by 85% in surrounding areas, as well as providing dramatic reductions in cases of asthma, premature deaths and lost workdays.

One of the communities studied in New York State was the Sotomayor housing development in The Bronx (New York), including the surrounding 5-mile diameter area. The study yielded an estimated reduction in cancer burden by 85%, which along with the avoided 16 premature deaths, 10,848 less asthma attacks, and 2,304 lost workdays, equates to a valuation of about $137M in avoided costs. Please note that the non-cancer results (avoided or reduced premature deaths, asthma attacks, workloss days and total economic valuation) are annual figures. Please see the attached charts depicting the results.

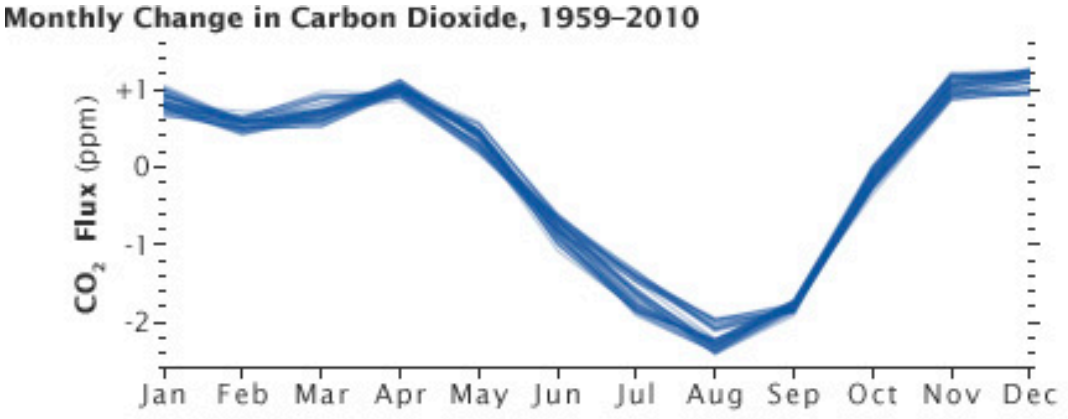
[1] Macor, A., Pavanello, P., Performance and Emissions of Biodiesel in a Boiler for Residential Heating, *Energy*, vol. 34, 2009.C
[2] Krishna, C.R., Biodiesel Blends in Space Heating Equipment, Brookhaven National Laboratory, 2001.
[3] USDA/DOE 1998, Life Cycle Inventory of Biodiesel and Petroleum Diesel for Use in an Urban Bus.
[4] Lee, S. Win, He, I., Heritage, T., Young B., Laboratory Investigations on the Cold Temperature Combustion and Emissions Performance of Biofuels Blends, 2003.
[5] https://www.edf.org/sites/default/files/10071_EDF_BottomBarrel_Ch3.pdf at 5. Studies cited showed PM reduction proportional to biodiesel content (e.g., 20% reduction for B20 blend, 50% reduction for B50 blend). To be conservative, NBB estimates the PM reduction from using B100 would be approximately 86%

Since biodiesel is a drop-in fuel for home heating, these public health benefits begin accruing immediately upon the use of biodiesel in place of petroleum heating fuel. This means the asthma attacks, premature deaths avoided, and workloss days can be meaningfully reduced every year starting today and for the next 10, 20, 30 or more years it will take the state to deploy deep electrification in this sector. For poor and disadvantaged communities that are heavily reliant on petroleum heating fuels, switching to biodiesel can provide substantial improvements in the health of those communities.

Alignment with State, National, and International Greenhouse Gas Accounting

With respect to CO_2, the International Panel on Climate Change (IPCC), publishes guidelines which support the separate reporting of CO_2 resulting from the combustion of biofuels and CO_2 resulting from the combustion of fossil fuels.[6] This key distinction is made because of the different underlying source of the carbon which forms the post-combustion carbon dioxide.

The combustion of each unit of fossil fuel results in a transfer of carbon from underground 'stocks' into the atmospheric 'stocks' as carbon dioxide. This transfer is occurring at a rate beyond the earth's natural processes to remove carbon dioxide from the atmosphere, resulting in global warming. When biofuels are combusted, CO_2 is also released into the atmosphere, however the CO_2 released from combustion, came from the atmosphere, neutralizing its effect. Recognizing this key distinction in the carbon cycle IPCC incorporated it into it's carbon accounting protocol. For biofuels such as biodiesel that are largely based on annual crops, this annual cycle of carbon is quite clear and is even observable in atmospheric measurements of carbon dioxide.

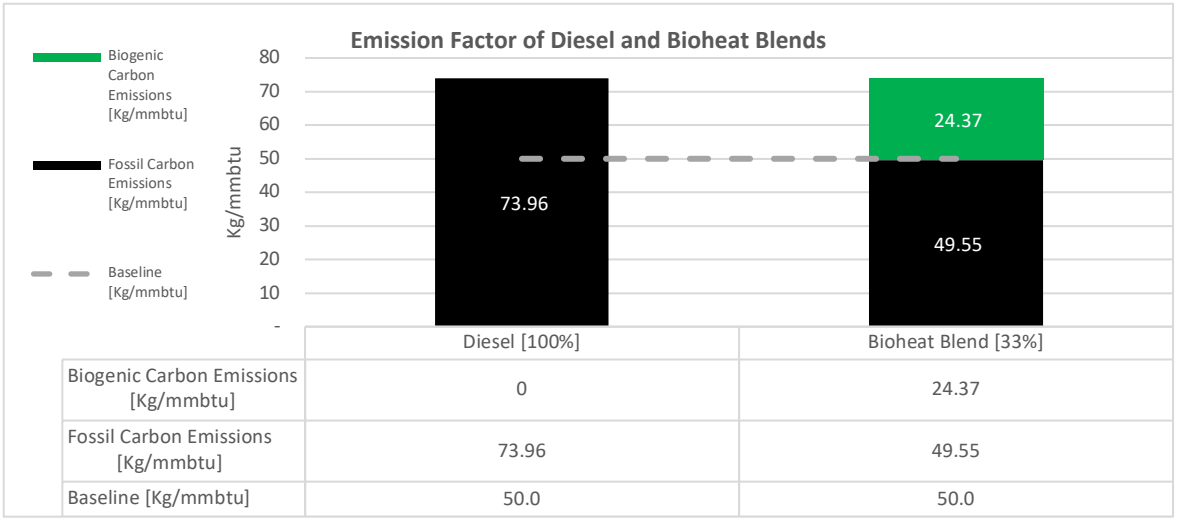


Graphic Credit: NASA

The U.S. EPA, when establishing the Mandatory Greenhouse Gas Reporting Rule for large emitters sought to align with IPCC since the results of this inventory are reported the United Nations. This rule was also closely mimicked by California to create their inventory. In both cases, each rule relies on a common set of combustion emission factors for diesel and biodiesel. The table below shows these common sets of emission factors:

[6] https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_3_Ch3_Mobile_Combustion.pdf

EPA Part 98 Emission Factors		
Diesel Emission Factor	74.0	Kg/mmbtu
Biodiesel Emission Factor	73.8	Kg/mmbtu
40 CFR Part 98 Table C-1		



	Diesel [100%]	Bioheat Blend [33%]
Biogenic Carbon Emissions [Kg/mmbtu]	0	24.37
Fossil Carbon Emissions [Kg/mmbtu]	73.96	49.55
Baseline [Kg/mmbtu]	50.0	50.0

BIODIESEL'S HEALTH BENEFITS

Improving Public Health / Reducing Medical Costs

Biodiesel (B100) provides immediate community health improvements that can be measured in reduced medical costs and healthcare burdens:

72% | **86%**
reduced cancer risks and burdens

1,764 | **16**
fewer cases

$3.0 BILLION | **$242 MILLION**
savings per year

345 | **28**
Avoided premature deaths (longer lives)

$12.9 MILLION | **$1.0 MILLION**
savings per year

219,000 | **17,000**
Fewer asthma attacks (lesser symptoms)

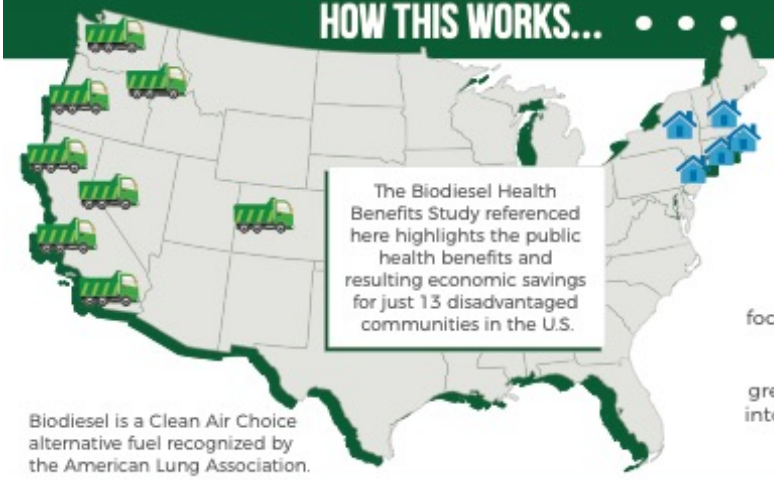
$18.6 MILLION | **$1.4 MILLION**
savings per year

262,000 | **21,000**
Fewer restricted-activity days (more exercise)

$8.4 MILLION | **$623,000**
savings per year

46,000 | **4,000**
Fewer sick days (greater productivity)

HOW THIS WORKS...



The Biodiesel Health Benefits Study referenced here highlights the public health benefits and resulting economic savings for just 13 disadvantaged communities in the U.S.

Biodiesel is a Clean Air Choice alternative fuel recognized by the American Lung Association.

B100 can achieve these benefits by reducing pollution from markets that are hardest to decarbonize: heavy-duty transportation and residential heating.

This study uses a "bottom-up" approach, focusing on specific population groups such as those living in crowded urban housing complexes and portside communities. Even greater total benefits can be seen when taking into account comparable communities outside of these specific markets and locations.

ABOUT BIODIESEL AND RENEWABLE DIESEL

Source: "Assessment of Health Benefits from Using Biodiesel as a Residential Heating Oil and Transportation Fuel," Official Report to National Biodiesel Board by Trinity Consultants and American Lung Association, Jan. 2021.

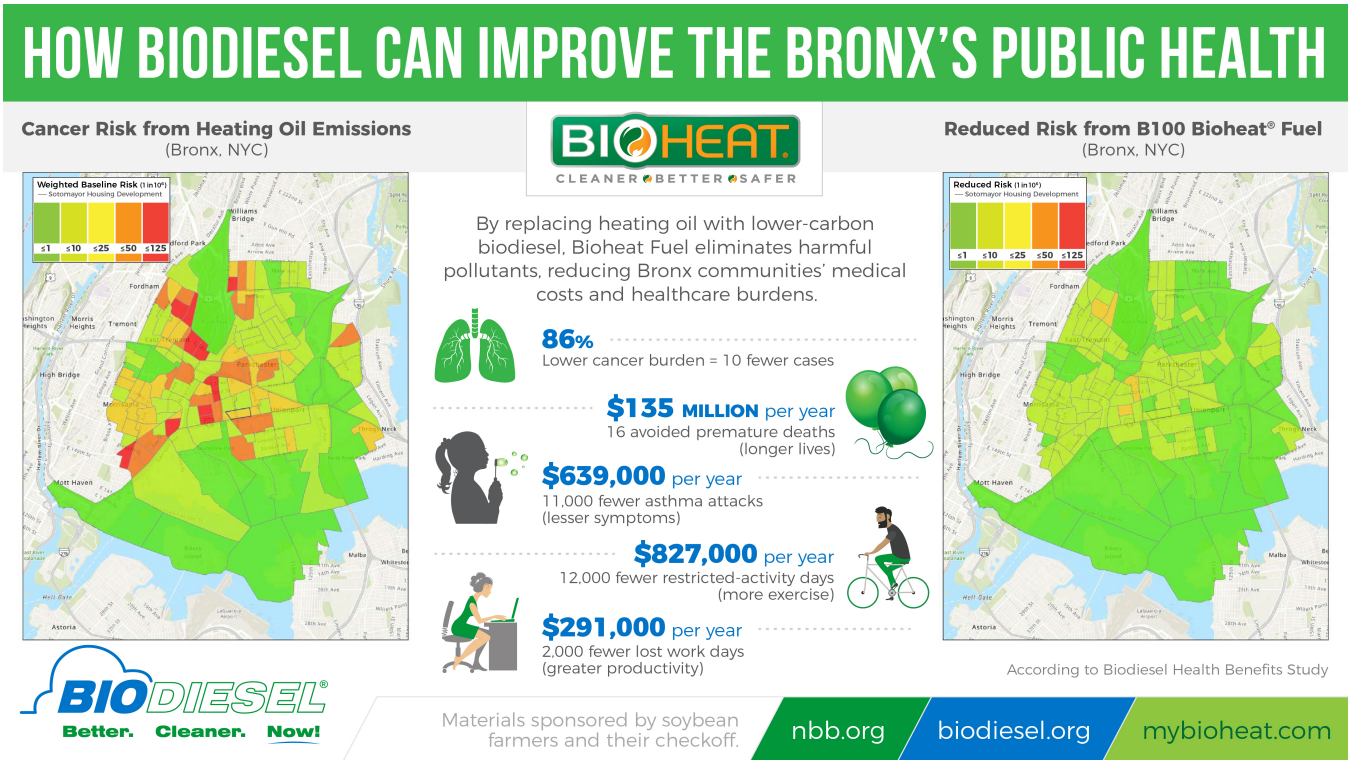
- Made from plant-based oils, used cooking oils, and animal fats
- Clean-burning ultra-low carbon
- Can be used in any diesel engine without modification
- Commercially available nationwide
- Today's solution for heavy-duty trucking, emergency vehicles, bus fleets, and farm equipment

nbb.org
biodiesel.org
mybioheat.com
Materials sponsored by soybean farmers and their checkoff.

DC 1331 Pennsylvania Ave., NW, Suite 505, Washington, DC 20004, **888-246-3437**

MO 605 Clark Avenue, PO Box 104898, Jefferson City, MO 65110-4898, **800-841-5849**

CA 1415 L Street, Suite 460, Sacramento, CA 95814, **916-760-8870**



<u>Home Heating Industry Resolves to Phase-out Petroleum Heating Oil</u>

In September 2019, the heating oil industry unanimously pledged to move to a cleaner burning fuel and away from conventional heating oil. The *Providence Resolution*[7] resolved to reduce the carbon emissions of home heating systems in line with the state's GHG reduction goals of 40% by 2030 and Net-Zero by 2050. The resolution noted:

> *"Be it resolved that the heating oil industry will reduce its greenhouse gas emissions, based on 1990 levels by*
> *- 15 percent by 2023;*
> *- 40 percent by 2030; and*
> *- Net-zero by 2050"*

<u>The biodiesel industry has partnered with the home heating industry to replace the petroleum heating oil they currently deliver and switch their customers to a 50% blend by 2030, and to 100% biodiesel usage by 2050.</u>

<u>Transitioning the 1.4 million Households in New York State that Use Heating Oil to a Liquid Renewable Fuel that Burns Clean, at No Cost Consumers nor any need for Equipment Changes</u>

The heating oil industry has proactively pursued all legislative and regulatory opportunities to transition to renewable fuel blends in the Northeast. The industry has supported the enactment of biofuel mandates for heating oil in New York City (5% increasing to 20% in 2034), the State's 5% New York Metropolitan area requirement (previously mentioned), Connecticut (50%), Rhode Island (50%), for on-road diesel fuel in Pennsylvania (2%), and the 2008 Clean Energy Biofuels Act in Massachusetts.

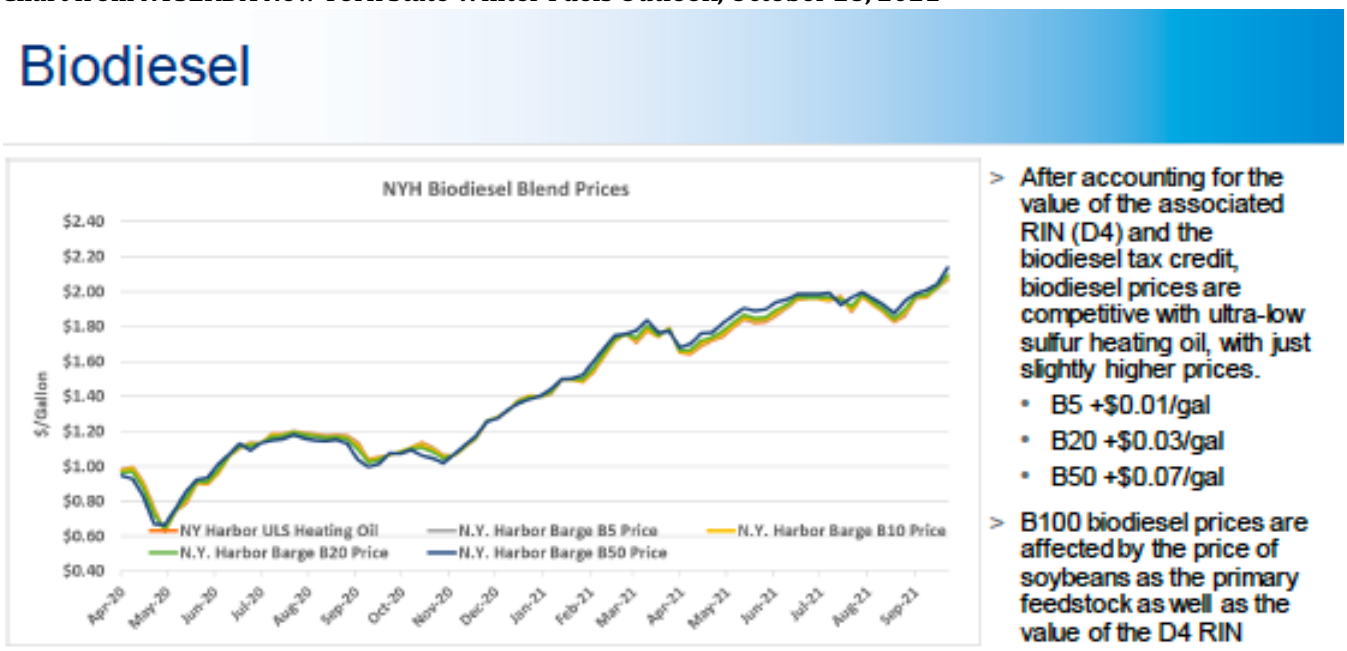
[7] https://nefi.com/news-publications/recent-news/heating-oil-industry-commits-net-zero-emissions-2050/

While it will take decades to decarbonize the state's 7 million fossil fuel heated homes, the 1.4 million homes that use heating oil can immediately transition to Bioheat® fuel, resulting in decreased carbon, greenhouse gas, and criteria pollutant emissions *today, not in ten, twenty or more years.*

According to New York State Energy Research & Development Authority (NYSERDA) pricing data, current Bioheat® fuel users in New York State are seeing no additional costs for their heating fuel.

At the New York State Winter Fuels Outlook Meeting on October 29, 2020, NYSERDA showed the chart below (excerpted from the NYSERDA PowerPoint Presentation) which depicts its tracking of biodiesel pricing. The Authority's data shows that biodiesel prices track those of diesel fuel, thus proving biodiesel to be an economic and affordable fuel for current heating oil customers. Additionally, NYSERDA's Weekly Heating Fuels Report and Dashboard tracks retail pricing and an examination of historical data also shows no discernable price differential in the areas of the state where biodiesel is required versus where it is not. [8]

Chart from NYSERDA New York State Winter Fuels Outlook, October 28, 2021



<u>Expanding the Availability of Biodiesel Generates Long-Term Climate Benefits</u>

As stated in the stark United Nations Intergovernmental Panel Climate Change (IPCC) 6th assessment released August 12th, 2021, "It is unequivocal that human influence has warmed the atmosphere, ocean and land. Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred." Furthermore, the report states, "From a physical science perspective, limiting human-induced global warming to a specific level requires limiting cumulative CO2 emissions, reaching at least net zero CO2 emissions, along with strong reductions in other greenhouse gas emissions."

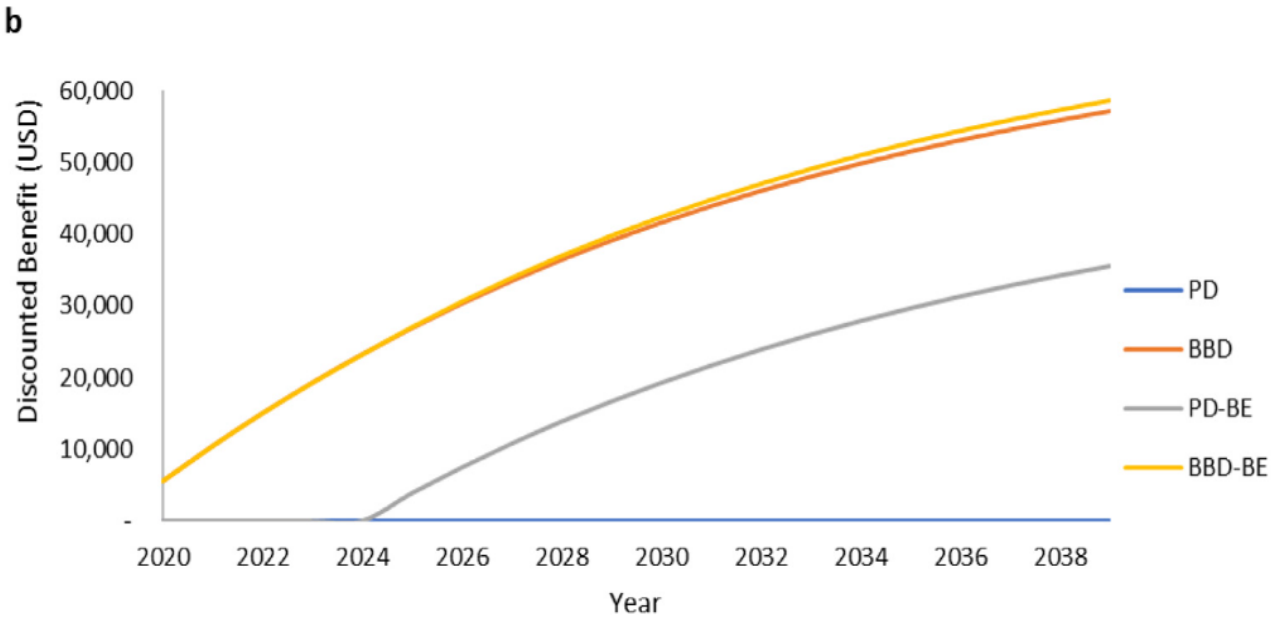
Simply put, reducing carbon emissions now, is more valuable than reducing the same amount of emissions later. This is because earlier reductions limit the long-term climate impact caused by the accumulation of greenhouse gases. This significant and often overlooked principal is frequently absent from policy discussions, which, for example treat a reduction of CO_2 in 2021 with the same weight as a

[8] https://www.nyserda.ny.gov/About/Publications/EA-Reports-and-Studies/Weekly-Heating-Fuels-Report

reduction in 2050. This is simply not accurate and skews the market to seek low-readiness technology options which may not be deployed for years or decades, if ever at all.

Recently, The State University of New York College of Environmental Science and Forestry (SUNY-ESF) published research to highlight the value of early GHG reductions, limiting the cumulative heating impact of carbon emissions. This study compared the cumulative emissions reductions and associated societal value of using biodiesel today compared to waiting for a future, potentially lower carbon solution to be deployed later. These results, summarized in the graphic shown below, demonstrated that when a technology with a lower life cycle GHG emission profile was deployed even five years later, it would generate less societal benefits arising from a reduction in GHG emissions than a nominally higher-carbon (yet still sustainable) technology[9] deployed sooner. More simply, carbon reductions now are more important than carbon reductions later. The benefits accumulate, much like compound interest on a savings account.

While the current study was focused on transportation, it is likely to be expanded to cover home heating, including the use of biodiesel, electric heat pumps and natural gas. This work, which considered the timing of carbon reductions from a financial and economic standpoint has been echoed from a physical sciences standpoint in different journals by other researchers at the Univesity of California Davis who have studied what they call, the 'Time Adjusted Warming Potential'.



Legend: PD=Petroleum Diesel; BBD=Biomass-Based Diesel (80% renewable diesel/20% biodiesel); PD-BE=Petroleum Diesel transition to Battery Electric; BBD-BE=Biomass-Based Diesel transition to Battery Electric

[9] While it is commonly assumed that electricity has the lowest carbon intensity of available fuels, this is not always the case and is highly dependent on local conditions (e.g., carbon footprint of grid electricity). In California, for example, biodiesel's carbon intensity is comparable to that of electricity provided to the California grid. See https://ww2.arb.ca.gov/resources/documents/lcfs-pathway-certified-carbon-intensities.

Conclusion

We strongly encourage the New York City Council to support the biodiesel blending of heating oil in thermal space heating applications as a reasonable, low carbon, and cost-effective alternative to banning the combustion of liquid fuels. Biodiesel and renewable diesel are clean burning renewable fuels that provide a pathway to cleaner emissions for 20% of the state's housing stock with little-to-no cost or investment necessary.

Biodiesel - It's Better, Cleaner, Now.

Once again, thank you for your review and consideration of these comments.

Sincerely,

Michael C. Trunzo
Director, Government Affairs
Shenker Russo & Clark LLP

NATIONAL BIODIESEL BOARD

SUSTAINABLE

Biodiesel Supports *U.S. Food and Fuel* Supplies

BIODIESEL DRIVES SUSTAINABILITY IN FOOD & FUEL SUPPLY LINES

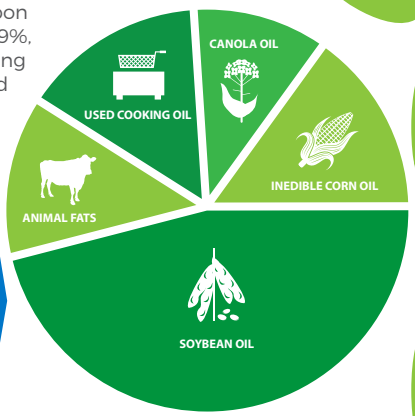
Biodiesel and renewable diesel production improves U.S. food availability and affordability by utilizing byproducts of U.S. food and fuel supply lines.

BIODIESEL COMPLEMENTS RATHER THAN COMPETES WITH FOOD PRODUCTION

Virtually every stage of U.S. biodiesel and renewable diesel production lowers protein costs, helping to reinforce the international food supply and lower costs.

4 REDUCING WASTE & EMISSIONS

Biodiesel and renewable diesel are produced from diverse U.S. resources – such as used cooking oil, recycled animal fats and surplus soybean oil – all of which are excess byproducts of food production. These domestically produced, commercially available advanced biofuels reduce carbon emissions by 52%-79%, even when accounting for market-mediated land use change.



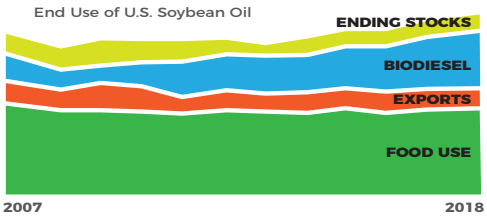
52%–79% REDUCTION IN CARBON EMISSIONS

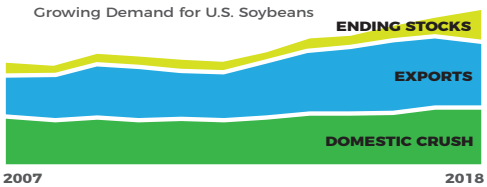
3 RECYCLING EXCESS OILS

The rendering industry recycles 10 billion pounds of oil and fat and collects 4.4 billion pounds of used cooking oil each year. These excess oils can be further recycled as biodiesel feedstock.

2 SUPPORTING SOYBEAN DEMAND

Soy-based protein meal is used as animal feed. Excess soybean oil can be used in food production. However, there is a growing global demand for soy-based animal feed and relatively stagnant demand for soybean oil in food production. Biodiesel supports a new market for the growing surplus of excess soybean oil.





1 CROPS TO CRUSH

U.S. soybeans are grown primarily for protein meal.

Soybean crops are "crushed" to separate excess oil from the protein-rich meal. Of the U.S. soybean crop's total yield, more than 80% is protein meal and less than 20% is surplus oil.

Palm oil is not an advanced biofuel feedstock under the U.S. Renewable Fuel Standard. U.S. biodiesel and renewable diesel producers do not use palm oil.

Sources: USDA Economic Research Service; North American Renderers Association.

nbb.org
biodiesel.org
mybioheat.com

DC 1331 Pennsylvania Ave., NW
Suite 505
Washington, DC 20004
888-246-3437

MO 605 Clark Avenue
PO Box 104898
Jefferson City, MO 65110-4898
800-841-5849

CA 1415 L Street
Suite 460
Sacramento, CA 95814
916-760-8870

NATIONAL BIODIESEL BOARD

BIODIESEL

A Cold Weather *Solution*
Compatible In *Any Winter Application*

WHAT IS **COLD FLOW?**

All liquid fuels — including both petroleum diesel and biodiesel — must be managed to ensure proper cold weather performance. The temperatures at which issues occur are represented in terms of "Cold Flow" properties, such as "Cloud Point."

WHAT IS **CLOUD POINT?**

Cloud Point is the temperature at which small solid crystals are first observed as a fuel is cooled. Once these crystals become large enough, they can cause temporary issues in storage tanks and engines.

DON'T BELIEVE THE HYPE!

There's a lot of misinformation out there about biodiesel's cold flow properties, specifically the cloud point of different blend levels. Here are some cold, hard facts...

B5 = 2.3°F

A fuel containing 5% biodiesel (or B5) has a cloud point just 2.3° higher than that of 100% petroleum diesel.

B20 = 3°-10°F

A fuel containing 20% biodiesel (or B20) has a cloud point 3°-10° higher than that of 100% petroleum diesel.

BIODIESEL "TREATMENTS" **HELP ENSURE PERFORMANCE**

Just like petroleum diesel, biodiesel blends are treated with additives during the winter to enhance their cold weather capabilities and prevent performance issues.

NYC USES B20 **YEAR-ROUND**

New York City requires city vehicles to use B20 biodiesel from April through November, and B5 from December through March. Biodiesel has performed so successfully that many agencies use B20 all year long. Even NYC snowplows run on B20 in the winter! In fact, NYC vehicles used more than 2 million gallons of B20 during the winters of 2017 and 2018 without any cold weather issues.

WHAT IS BIOHEAT®?

Biodiesel isn't just for vehicles. It is also blended with home heating oil to create Bioheat®. Bioheat is the economical, environmentally sustainable choice for millions of homeowners in the Northeast, one of our nation's coldest regions.

B20 BIOHEAT IS **100% WINTER COMPATIBLE**

Field surveys from heating oil dealers and industry leaders report that Bioheat blends up to B20 perform as expected in heating systems, with no biodiesel related technical difficulties and no need for equipment modifications. Furthermore, according to that survey, more than 35,000 homes in the Northeast use B10-B40, and nearly 400 use B80-B100.

Sources: Cold Flow Properties of Biodiesel and Biodiesel Blends–A Review of Data, Kenneth Bickel, University of Minnesota Center for Diesel Research, December 3, 2004 | DCAS: Use of Winter Biodiesel in City Fleet Trucks, NYC Department of Citywide Administrative Services, September 4, 2018 | B20 to B100 Blends as Heating Fuels, Dr. Thomas A. Butcher, Brookhaven National Laboratory, November, 2018.

ABOUT BIODIESEL AND BIOHEAT

- Made from plant-based oils, used cooking oils, and animal fats
- Clean-burning
- Can be used in any oil equipment without modification
- Commercially available nationwide
- Today's solution for heavy-duty trucking, emergency vehicles, bus fleets, and farm equipment

nbb.org
biodiesel.org
mybioheat.com

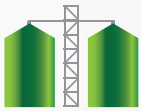
DC 1331 Pennsylvania Ave., NW | Suite 505
Washington, DC 20004
888-246-3437

MO 605 Clark Avenue | PO Box 104898
Jefferson City, MO 65110-4898
800-841-5849

BIODIESEL+RENEWABLE DIESEL
Better Together

NATIONAL BIODIESEL BOARD

BIODIESEL & RENEWABLE DIESEL
are low-carbon diesel-replacement fuels produced from renewable feedstocks such as used cooking oil, animal fats, inedible corn oil, soybean oil and canola oil.

BIODIESEL IS...		RENEWABLE DIESEL IS...
Produced through esterification or transesterification, a simple process that reacts a fat or oil with a small amount of alcohol (typically methanol) to produce a finished fuel.		Produced through hydrotreating, a process similar to a traditional refinery operation. This high-heat, high-pressure process produces a fuel that is chemically indistinguishable from conventional diesel.
A "drop-in" fuel that can be used in all engines and equipment up to 20% and many up to 100%.		A "drop-in" fuel that can be used in all engines and equipment up to 100%.
Non-toxic, biodegradable, ultra-low sulfur and 0% aromatics.		Ultra-low sulfur and 0% aromatics.
Better for engines due to higher cetane and improved lubricity.		Better for engines due to higher cetane.
Made to meet the requirements of ASTM D975 (B5), D7467 (B6-B20), and D6751 (B100).		Made to meet the requirements of ASTM D975 (all blends).

B + RD = THE BEST FUEL IS...

A combination of biodiesel and renewable diesel produces a cost-effective full replacement option for petroleum diesel. As a paired fuel, biodiesel and renewable diesel optimize petroleum displacement and cost, as well as particulate matter, carbon and nitrogen oxide reductions.

Up to 79% less carbon emissions.	GHG	Up to 79% less carbon emissions.
29% particulate matter reduction.	PM	56% particulate matter reduction.
39% fewer aromatic compounds.	BTX	53% fewer aromatic compounds.
23% less carbon monoxide.	CO	30% less carbon monoxide.
9% NOx reduction.	NO_x	6% NOx reduction.

ABOUT BIODIESEL AND RENEWABLE DIESEL

Sources: Impact of biodiesel and renewable diesel on emissions of regulated pollutants and greenhouse gases on a 2000 heavy duty diesel truck, California Air Resources Board, 2015; Effects of biodiesel blends on emissions, National Renewable Energy Laboratory, 2006.

- Made from plant-based oils, used cooking oils, and animal fats
- Clean-burning ultra-low carbon
- Can be used in any diesel engine without modification
- Commercially available nationwide
- Today's solution for heavy-duty trucking, emergency vehicles, bus fleets, and farm equipment

nbb.org
biodiesel.org
mybioheat.com

DC
1331 Pennsylvania Ave., NW
Suite 505
Washington, DC 20004
888-246-3437

MO
605 Clark Avenue
PO Box 104898
Jefferson City, MO 65110-4898
800-841-5849

CA
1415 L Street
Suite 460
Sacramento, CA 95814
916-760-8870

John Rathbun

Executive Director

Northeast Clean Heat and Power Initiative (NECHPI)

PO Box 1000

New York, NY 10116

New York City Council

Committee on Environmental Protection

RE: Int. 2317-2021 “Use of substances with certain emissions profiles”

I am John Rathbun, Executive Director of the Northeast Clean Heat and Power Initiative (NECHPI), and I am providing written testimony regarding Intro 2317-2021 “Use of substances with certain emissions profiles.” NECHPI is opposed to the proposed legislation on several grounds.

1) The timing and scope of the proposed legislation is aggressive. The ConEd electric gird will not be ready to handle the transition of transportation and building load to electrification in the timeline this legislation would dictate. It also does not provide adequate time for the natural gas system to transition to a low carbon fuel source, and abandons those loads and customers which are difficult to transition to electrification. In addition to the limitations of the grid and energy sector, there is also a need to develop new technologies, especially for building heat and hot water electrification. The transportation sector is much better positioned in the transition to electrification with manufacturers with light duty zero emissions vehicles (ZEVs) already in production and ready to transition to full ZEVs production only. The building sector needs to catch up not only with heat source technology but also with conservation techniques and measures in order to transform the diverse building stock of New York City.

2) The proposed legislation places too much onus on building owners to bear the cost of compliance. The costs to transition to clean energy are going to be significant and those costs should not be borne by any individual sector, making it less of a source issue rather than a site issue. The building sector will already be the responsible for bulk of the cost of the first necessary step on the path way to zero carbon, which is investment in Tier 1 and 2 conservation measures. Transitioning the natural gas supply to a cleaner fuel source such as renewable natural gas and hydrogen must be pursued in concert with electrification. The electric grid has been cleaned up with public assistance, and cleaning up the gas grid should receive similar resources so that the cost of the societal benefits of a clean energy sector are shared by rate payers as well as the end user.

3) NECHPI believes in a diversified pathway to zero carbon, not only because it represents the greatest chance for success, but because it will also produce the greatest reduction in emissions. The proposed legislation does not allow for the diversified pathway to develop. It could stunt the development of a clean gas grid and favor the electrification pathway at the expense of a diversified and coordinated approach.

According to a recent (April 2021) joint study led by the Mayor's Office of Sustainability and the two major energy companies, Con Edison and National Grid: New York City can achieve carbon neutrality by 2050 through a dramatic ramp-up of renewable energy, deep emissions cuts across its building and transportation sectors via efficiency and conservation, and transitioning to low-carbon fuels. The study outlines three "pathways" with distinct technology deployment strategies: an "Electrification" path focused on electrifying building heating systems and vehicles; a "Low Carbon Fuels" pathway that relies more on renewable natural gas and hydrogen; and a "Diversified" pathway that looks at what might be achievable by pursuing the key elements from the first two strategies at the same time.

Each pathway is projected to reduce emissions by at least 80 percent by 2050 and the Diversified Pathway could take the reductions beyond 90 percent. In 2020, NYC emitted about 56.5 million tons of carbon dioxide equivalent; that is projected to fall to 6.7 million tons in 2050 under the Diversified Pathway, even as New York City's population grows.

The Diversified Pathway electrifies building heating systems and vehicles at high rates while using decarbonized fuels to replace fossil fuels in the buildings sector, combining effective measures of the first two Pathways. The Diversified Pathway reduces more than 90% of direct emissions. Achieving these emissions reductions requires significant amounts of new clean electricity combined with new supplies of low carbon gases—specifically biogenic renewable natural gas (RNG), hydrogen, and synthetic RNG—for the remaining gas supply. Under the Diversified Pathway:

• The electricity system delivers 100% zero-emissions electricity to a growing number of electrified buildings and more than a million ZEVs, cleaning the air and significantly reducing

on-site combustion;

• The remaining gas system can transition to deliver low carbon gas (e.g. hydrogen and RNG) for end uses too costly and complex to fully electrify, helping mitigate increases in winter peak electricity demand, and;

• The Con Ed steam system can provide low carbon heating and cooling to some of the largest and most difficult to decarbonize buildings in the city.

4) The proposed legislation provides an exception for diesel powered emergency standby generators, but fails to exempt much cleaner forms of standby generation and CHP systems that provide resilient power to critical facilities such as multifamily dwellings, nursing homes, and first responders. CHP systems have numerous societal benefits in addition to carbon reduction:

• Energy Resiliency: CHP systems can provide onsite power to critical facilities during extended grid outages. Hospitals and universities in the City with resilient CHP systems operated during Super Storm Sandy.

• Grid support: CHP systems provide grid support which will be increasingly important as the primary generation moves to intermittent renewable generation. CHP systems are incredibly reliable, with near 95% up time. Additionally, until the grid is 100% renewable, every kW of installed CHP offsets a kW of dirty peak generation. There is 138 MW of installed CHP capacity in NYC which currently helps offset the increase in emissions due to the closing of Indian Point Power Plant.

• Pathway to hydrogen: CHP installed in the field today can operate on natural gas hydrogen blends of up to 10% without any modifications, and with simple field modifications can operate on blends up to 40%. CHP systems can lower carbon reductions today and in the long term. The CHP industry is also developing the technology to meet net zero, with many projects designed and operating on 100% green hydrogen worldwide. There also are examples of hybrid CHP installations paired with renewable generation that operate as a single system, optimized for performance and environmental benefits. CHP systems are the critical technology in the emerging organics to energy systems addressing solid waste concerns and reduced methane emissions. CHP systems have a role in our clean energy future and adoption of this critically important technology should be encouraged.

5) The emissions standard proposed is input based and does not account for the thermal recovery of CHP systems. The thermal energy recovered can potentially offset emissions from other sources. CHP systems can provide electric power, heating, and cooling from one input fuel source. CHP's multiple uses and associated efficiencies should be accounted for against the input emissions metric which is used for solely electric or solely thermal generation.

Sincerely yours,

John Rathbun

John Rathbun

Executive Director, Northeast Clean Heat and Power Initiative

Testimony on Introduction 2317
To: Committee on Environmental Protection, NYC City Council

Wednesday, November 17, 2021

Leroy Johnson
Flatbush Chapter Chair, Board Member
New York Communities for Change

Hello, my name is Leroy Johnson.

I am the Chair of the Flatbush Chapter of New York Communities for Change, and I am a New York Communities for Change board member.

I thank you for holding this important hearing. I urge the New York City Council to strengthen and advance Introduction 2317 towards passage.

Like many of you on the Council, I have been building community and fighting for justice for years. If we do not take urgent action to stop climate change, we threaten so much of our progress.

It has become clear that the climate emergency is here, now.
We know that the heat waves, flooding, and storms that it brings our way hurt our communities. It hurts our City.

It is the people in my community, i.e., Flatbush and neighborhoods like it, who often pay the greatest price of climate change:
Our neighborhoods are often the first targeted for power grid blackouts.
Our neighbors overwhelmingly depend on public transit to get to work, whether or not there are flash floods.
Our communities have a history of having the highest levels of exposure to dirty air that harms our health.

City Council — this terrible legacy and these threats to our safety cannot continue!

Intro 2317 can help reverse all of these unjust trends.

Moving off of gas and onto clean technology will cut indoor air pollution. It will cut local air pollution. It will create jobs that so many people desperately need. It will fights climate change that will otherwise destroy our city.

We are asking you to put people and our precious planet over the shortsightedness of the real estate lobby, and any others who would have this bill downsized, delayed, or done away with.

For instance, Intro 2317 should be edited to ensure the fastest timeline possible for implementation.

If we delay on the toughest climate action, we allow more harm to those most vulnerable.

City Council members we are asking you to take practical and moral leadership.
Pass the strongest version of Intro 2317 possible, this year.

Rise to the occasion to protect our city and uplift those most vulnerable to climate impacts.

We stand ready to support you in supporting our communities, by strengthening and passing this bill this year.

Thank you.

Testimony on Introduction 2317
To: Committee on Environmental Protection, NYC City Council

Wednesday, November 17, 2021

Marie Pierre
Brownsville Chapter Chair
Chair of NYCC Board Member
New York Communities for Change

Hello, my name is Marie Pierre.

I am the Chair of the Brownsville Chapter of New York Communities for Change. I am also the Chair of the NYCC Board.

I testify today to call on the New York City Council to strengthen and pass Intro 2317.

We have been witnessing failure of climate action on the global level and on the national level.

The lesson is clear: it is really up to us to secure climate progress on the local level.

Passing a strengthened Intro 2317 will be a massive victory for both New York, and the world.
We are a city of buildings.
We emit far more than our fair share of pollution as a city.

Local Law 97 of 2019 will help address the buildings pollution problem in a monumental way.

But we know more needs to be done, quickly.

Rather than lock ourselves into decades more of climate pollution, prohibiting the use of gas in all new construction is a common sense follow up to Local Law 97.

What else is common sense is that buildings that undergo gut renovations be required to fully electrify.

I urge the council to incorporate concrete language to ensure this provision.

Likewise, the timeline needs to be tightened on Intro 2317.
Why delay when the climate crisis intensifies every day?

In Brownsville, we are not the ones contributing to this large-scale climate problem.

Everyone in our New York Communities for Change Brownsville chapter lives in modest houses or apartments.
We commute on public transit.
I even have solar panels on the roof of my home.

But we know individual efforts aren't enough to keep us from getting pummeled by worsening heat waves and flash floods.

On the other hand, you City Council decision-makers can take large-scale action.

Our communities need you to deliver on this.
Strengthen then pass a strong Intro 2317, this year.

Thank you Councilmember Gennaro for holding this hearing.

In addition to shortening the timeline and inclusion of gut renovations, here are other changes I agree need to be made before final passage of the bill:

1. **Lower the threshold of the air pollution limit to 25 kilograms of carbon dioxide per million British thermal units of energy to prevent gamesmanship.** The limit in the bill of 50 kg of CO2 per BTU will prevent combustion of natural gas use as it is currently formulated or applied. However, given that the federal standards are just over 53 kg, we are concerned about the potential abuse of this provision through various potential blends, such as biomethane or hydrogen blends. As written, this could become an unintended loophole to escape the anti-pollution limit. We recommend that this level be brought down to 25 kg to eliminate any possible loophole and changing the intent of the law.
2. **Tighten and define "undue hardship" to avoid opening a loophole and give appropriate agency guidance.** Some deference and flexibility ought to be granted to the department to cover unanticipated, unusual circumstances. However, the blanket "undue hardship" term currently in the bill is vague and overbroad. After all, any entity that is building a new building or undertaking a gut renovation in New York City is not facing financial hardship. These are deep pocketed developers. We could perhaps see some sort of hardship due to some unusual logistics or physical limits on a building project or structure. The Council could address this by creating a process for applicants to demonstrate physical or technological impossibility that would have to be certified by a registered design professional and then approved by the department as an exemption. The current "undue hardship" language is simply overbroad. It would create confusion and could be abused to grant undeserved exemptions to favored applicants.
3. **Sunset all exemptions in five years (2026).** Fossil free technology is advancing so rapidly that in a few years there may be no need for any exemptions. The burden ought to be on the real estate industry to show why any exemption written into this law should be continued after 2025.
4. **"Commercial kitchens" is an overly broad loophole that should be struck and replaced with a tight definition that applies only to large baking ovens.** Large ovens for commercial bakeries and other high-energy use ovens should be defined and exempted because they may currently be uneconomical to electrify. (this could be done with a BTU standard for the size of the oven, for example) However, a normal new restaurant kitchen *should* be electrified. There are already restaurants throughout the city that only use induction stoves. More and more professional chefs are adapting to induction cooking, and they come to prefer it. Typically, restaurants currently use a mix of induction and gas stoves. It is not an unjustified burden for restaurants to move to induction stoves. Moreover, this legislation only affects *new* buildings and gut renovations.
5. **Hospital language is confusing and needs better definition so that hospitals are allowed to use gas for redundancy in the case of emergency and grid failure.** The

bill currently allows new hospital buildings to use gas for operations. Hospitals may need gas as a backup power source, since redundant power in case of blackout or other emergency is a public health necessity. However, new buildings, including health care facilities, should not operate from gas. Air pollution caused by fossil fuels causes death and sickness, so it would be ironic and inappropriate to wholly exempt health care facilities. Instead, they should operate as other buildings would under this legislation, but be permitted to install and use gas for emergency power and redundancy to the grid.

6. **"No connection to a building's gas supply line" and "intermittent" use should be tightened.** This definition is confusing and we worry it could conceivably open the door to fuel oil use, which is not connected to a building by a gas supply line and arguably is used intermittently. We recommend tightening this definition and ensuring it does not create unintended loopholes.
7. **"Manufacturing" is overbroad and should be tightened**. This bill's intention is not to end gas use where it is still prohibitively expensive or impractical to go electric. Processes such as concrete-making are uneconomical without fossil fuel use. However, manufacturing that is economically viable without reliance on gas should be covered. Therefore, we recommend only specific exclusions for manufacturing or industrial processes that are, in fact, uneconomical to electrify. If some other process is not specifically defined by the bill, it could be taken in via an application process to the department where the applicant could show that this specific application needs gas (with certification from a relevant expert).
8. **"Laboratories" make us go hmmmm** - this is a section that ought to be tightened. Is this a chemistry lab with bunsen burners? Does that need a gas hookup? Are super villains creating super weapons in super secret labs that need lots of gas? In all seriousness, this definition may create an unnecessary loophole and should be tightened.

Testimony on Introduction 2317
To: Committee on Environmental Protection, NYC City Council

Wednesday, November 17, 2021

Patrick Houston
New York Communities for Change

(Thank you for holding the hearing and for this opportunity to testify/submit comment.)

My name is Patrick Houston.

I submit this testimony both on my own behalf as a younger person concerned about the climate emergency, and on behalf of New York Communities for Change with whom I work.

I urge the NYC Council to strengthen then pass Introduction 2317, this year, to fight climate change by moving us towards a gas free NYC.

The temperatures of our city, the water levels surrounding it, the frequency of flash floods and subway shutdowns, and the flow of climate refugees into and out of it, is all implicated by the action we do or do not take today.

Already climate change has been defining the safety of this city, as it has events in my life.

One of my first jobs as an adult was responding to climate change related disaster. In 2012, my AmeriCorps NCCC team was called to assist with Hurricane Sandy response in the Northeast.

The terrible impact of the storm remains fresh in my mind: I recall small- and medium-sized boats strewn on asphalt roads, blocks in from the beachfront; homes torn beyond recognition, with the backyards visible from the front yards after flood waters tore through first floors.

Hours after the storm hit, I took calls at a FEMA disaster response center to register people for disaster assistance. Recording families' material losses seemed endless: spoiled medications; totaled vehicles; killed pets; inundated basements and first floors.

Later, when my team and I arrived on-the-ground to provide assistance in shelters, other forms of loss and disarray became apparent: disrupted school years, displacement from home and community, depleted family savings, and scrambling NGOs and state and federal agencies.

Almost everyone connected to Hurricane Sandy knew its fury. We recall the disorder and devastation that followed.

By not taking transformative climate action now, we leave open the floodgates to more ecological catastrophe and societal disarray.

We need not damn ourselves to this unsustainable, unfair, chaotic future.

That means taking action like passing Intro 2317, this year.

And saying no weak goals or bad faith language, often included at the behest of shortsighted interests.

On that note, we urge at least two changes to the bill as currently drafted:

1. Shorten the timeline for implementation requirements.
2. Ensure gut renovations are included.

Further changes we'd like to see are listed below.

There is no good reason to short-sell our climate vulnerable city.

Let's not play games with the future of our city, kids, and planet. We urge the City Council to tighten up and pass Intro 2317, this year.

Let's save this city, create tons of good jobs, and cut local and indoor air pollution while simultaneously helping to spur much needed climate action beyond. Passing Intro 2317 will secure all of these benefits. Please make this happen.

Thank you.

Other changes besides shortening the timeline and inclusion of gut renovations to make to the bill before final passage that the #GasFreeNYC campaign supports include:

1. **Lower the threshold of the air pollution limit to 25 kilograms of carbon dioxide per million British thermal units of energy to prevent gamesmanship.** The limit in the bill of 50 kg of CO2 per BTU will prevent combustion of natural gas use as it is currently formulated or applied. However, given that the federal standards are just over 53 kg, we are concerned about the potential abuse of this provision through various potential blends, such as biomethane or hydrogen blends. As written, this could become an unintended loophole to escape the anti-pollution limit. We recommend that this level be brought down to 25 kg to eliminate any possible loophole and changing the intent of the law.
2. **Tighten and define "undue hardship" to avoid opening a loophole and give appropriate agency guidance.** Some deference and flexibility ought to be granted to the department to cover unanticipated, unusual circumstances. However, the blanket "undue hardship" term currently in the bill is vague and overbroad. After all, any entity that is building a new building or undertaking a gut renovation in New York City is not facing financial hardship. These are deep pocketed developers. We could perhaps see some sort of hardship due to some unusual logistics or physical limits on a building project or structure. The Council could address this by creating a process for applicants to demonstrate physical or technological impossibility that would have to be certified by a registered design professional and then approved by the department as an exemption. The current "undue hardship" language is simply overbroad. It would create confusion and could be abused to grant undeserved exemptions to favored applicants.
3. **Sunset all exemptions in five years (2026).** Fossil free technology is advancing so rapidly that in a few years there may be no need for any exemptions. The burden ought to be on the real estate industry to show why any exemption written into this law should be continued after 2025.
4. **"Commercial kitchens" is an overly broad loophole that should be struck and replaced with a tight definition that applies only to large baking ovens.** Large ovens

for commercial bakeries and other high-energy use ovens should be defined and exempted because they may currently be uneconomical to electrify. (this could be done with a BTU standard for the size of the oven, for example) However, a normal new restaurant kitchen *should* be electrified. There are already restaurants throughout the city that only use induction stoves. More and more professional chefs are adapting to induction cooking, and they come to prefer it. Typically, restaurants currently use a mix of induction and gas stoves. It is not an unjustified burden for restaurants to move to induction stoves. Moreover, this legislation only affects *new* buildings and gut renovations.

5. **Hospital language is confusing and needs better definition so that hospitals are allowed to use gas for redundancy in the case of emergency and grid failure.** The bill currently allows new hospital buildings to use gas for operations. Hospitals may need gas as a backup power source, since redundant power in case of blackout or other emergency is a public health necessity. However, new buildings, including health care facilities, should not operate from gas. Air pollution caused by fossil fuels causes death and sickness, so it would be ironic and inappropriate to wholly exempt health care facilities. Instead, they should operate as other buildings would under this legislation, but be permitted to install and use gas for emergency power and redundancy to the grid.
6. **"No connection to a building's gas supply line" and "intermittent" use should be tightened.** This definition is confusing and we worry it could conceivably open the door to fuel oil use, which is not connected to a building by a gas supply line and arguably is used intermittently. We recommend tightening this definition and ensuring it does not create unintended loopholes.
7. **"Manufacturing" is overbroad and should be tightened**. This bill's intention is not to end gas use where it is still prohibitively expensive or impractical to go electric. Processes such as concrete-making are uneconomical without fossil fuel use. However, manufacturing that is economically viable without reliance on gas should be covered. Therefore, we recommend only specific exclusions for manufacturing or industrial processes that are, in fact, uneconomical to electrify. If some other process is not specifically defined by the bill, it could be taken in via an application process to the department where the applicant could show that this specific application needs gas (with certification from a relevant expert).
8. **"Laboratories" make us go hmmmm** - this is a section that ought to be tightened. Is this a chemistry lab with bunsen burners? Does that need a gas hookup? Are super villains creating super weapons in super secret labs that need lots of gas? In all seriousness, this definition may create an unnecessary loophole and should be tightened.

Testimony of New York Communities for Change to the New York City Council
November 17, 2021

[this testimony will be condensed into 3-5 minutes of verbal testimony, as directed]

My name is Pete Sikora. I am the Climate & Inequality Campaigns Director for New York Communities for Change. I am with Rachel Rivera, one of NYCC's member leaders, who is a Sandy survivor.

NYCC organizes in low- and middle-income communities of color in New York City and on Long Island. We work for affordable housing, good jobs, and racial justice. We also work against climate change. We are part of the #GasFreeNYC campaign. NYCC is not funded by the real estate or fossil fuel industry.

We are here to urge you to pass Intro 2317 before the end of the year.

Intro 2317 fights climate change and creates clean energy jobs. There's no time to waste in the climate crisis, as Rachel's family's story demonstrates.

[Rachel Rivera testimony]

My name is Rachel Rivera. I live in Brownsville. My family lost everything to hurricane Sandy. Then my family in Puerto Rico lost everything to hurricane Maria.

During Sandy, I was home. I heard a cracking noise from the ceiling.

I went into my daughter's bedroom. She was six at the time. I took her out of bed. A few minutes later, the roof came down on her bed.

We fled into the night with nothing.

We were in the shelter system. It was terrible. It lasted months. My daughter has PTSD from the experience. She can have serious trouble when there's a rainstorm.

My Puerto Rican family was also flooded out by Maria. We lost all our possessions there. Worse, a dear family friend and relative drowned.

You can imagine how my family felt during Ida. For us the climate crisis is here. Everyday.

We thank you for passing Local Law 97. Now, it's time to pass this bill. There is no time to waste. Thank you.

[Back to Sikora testimony]

What happened to Rachel and her family is more common as the climate crisis accelerates. After the Glasgow conference just failed, it is even more clear that places like New York City must lead.

However, as bad as this crisis is, it is also an opportunity to create a more fair, more safe and more just society.

Intro 2317 does so by creating good jobs in design, renovation and construction. That's installing heat pumps, including electrical work, and maximizing energy efficiency.

The city is already leading the nation with Local Law 97, which is turbocharging a local green buildings industry. Local Law 97 will create tens of thousands of jobs. Intro 2317 will further the city's industry leadership, helping to employ our people.

Intro 2317 will also clean the air of air pollution that kills an estimated 1,000 New Yorkers per year, reduce racial disparities in air pollution, and promote public safety by removing the threat of gas fires and explosions.

Going fossil free in new construction and gut renovations is already practical and affordable. For the record, we submit:

1. List of almost 80 fossil free buildings and projects in New York City of all sizes and types.
2. A memo documenting 5 large NYC fossil free building projects, some of whom you will hear about more from other testifiers for the bill.
3. A list of over 50 municipalities on the West Coast and in Massachusetts, including cities such as Oakland, San Jose, Sacramento, San Francisco, Berkley and Seattle, that have already passed gas bans.

Bids into the NYSERDA "Buildings of Excellence" program show that construction costs, counting subsidies for projects, have now effectively equalized. Thanks to advancing technology and economies of scale, building fossil free and installing new gas infrastructure are now basically the same cost, and clean technology costs are dropping fast.

New York City's analysis also shows that ending gas in new construction is a cost effective tool to transition to a sustainable economy.

Meanwhile, in the real-world, fossil free buildings of all sizes and types are now already built or being built. You will hear detailed testimony about such buildings. Homeowners and tenants are happier and more comfortable. Thanks to high energy efficiency, they pay lower utility bills.

We understand that the real estate lobby does not want to be regulated as the city's top climate polluters. The developers and landlord lobby favors a "market transition". That won't work, though, because too many developers cling to what they know: installing gas.

The International Energy Agency tells us that all fossil fuel boiler sales must be banned, worldwide, by 2025. This legislation will cover new buildings and gut renovations in two years. But that's too slow, because wealthy places like New York City must go much faster than the rest of the world. Moreover, much of the rest of the U.S. and world will not act. We must, and quicker than others.

New York City has over 500 miles of coast. Simply put: we cannot survive a catastrophic climate future. We have even more at stake than many places. We must be leaders.

That is why we also urge you to strengthen this bill so that it applies in one year, as other large cities on the West Coast have passed in their new laws.

We also urge you to amend the bill so that it clearly covers gut renovations, which we urge you to define as the term of use ALT1. That is, "Major alterations that will change use, egress or occupancy." This bill should end gas and oil use in any gut renovation, that is when effectively everything other than the shell and joists are replaced. Just like with a new building, that's the best moment to go fossil free. To be clear, we do not believe any organization or advocate favors the vague "major renovations" reference in the bill and we believe the intent here is a gut renovation. That's a simple language change, which can, in practice, be the ALT1 definition, which is already used by applicants. Alt1 works, and also we and others are happy to work with the Council and Administration on a comparable definition, which can and should be simple.

Finally, we also list in our written testimony, below, several other changes that ought to be made to strengthen the bill.

I remember the passage of Intro 1253, which became Local Law 97, a massive achievement. That was complex. This bill isn't complex. It's only 2 pages long and doesn't need much more than basic tweaking and clean up to finalize it.

New York City's very existence is at stake in the climate crisis. We also can't wait to create jobs and cut deadly air pollution.

Thank you Chair Gennaro and Councilmembers for this opportunity to testify. Let's get this done.

Other changes besides shortening the timeline and inclusion of gut renovations to make to the bill before final passage:

1. **Lower the threshold of the air pollution limit to 25 kilograms of carbon dioxide per million British thermal units of energy to prevent gamesmanship.** The limit in the bill of 50 kg of CO_2 per BTU will prevent combustion of natural gas use as it is currently formulated or applied. However, given that the federal standards are just over 53 kg, we are concerned about the potential abuse of this provision through various potential blends, such as biomethane or hydrogen blends. As written, this could become an

unintended loophole to escape the anti-pollution limit. We recommend that this level be brought down to 25 kg to eliminate any possible loophole and changing the intent of the law.

2. **Tighten and define "undue hardship" to avoid opening a loophole and give appropriate agency guidance.** Some deference and flexibility ought to be granted to the department to cover unanticipated, unusual circumstances. However, the blanket "undue hardship" term currently in the bill is vague and overbroad. After all, any entity that is building a new building or undertaking a gut renovation in New York City is not facing financial hardship. These are deep pocketed developers. We could perhaps see some sort of hardship due to some unusual logistics or physical limits on a building project or structure. The Council could address this by creating a process for applicants to demonstrate physical or technological impossibility that would have to be certified by a registered design professional and then approved by the department as an exemption. The current "undue hardship" language is simply overbroad. It would create confusion and could be abused to grant undeserved exemptions to favored applicants.
3. **Sunset all exemptions in five years (2026).** Fossil free technology is advancing so rapidly that in a few years there may be no need for any exemptions. The burden ought to be on the real estate industry to show why any exemption written into this law should be continued after 2025.
4. **"Commercial kitchens" is an overly broad loophole that should be struck and replaced with a tight definition that applies only to large baking ovens.** Large ovens for commercial bakeries and other high-energy use ovens should be defined and exempted because they may currently be uneconomical to electrify. (this could be done with a BTU standard for the size of the oven, for example) However, a normal new restaurant kitchen *should* be electrified. There are already restaurants throughout the city that only use induction stoves. More and more professional chefs are adapting to induction cooking, and they come to prefer it. Typically, restaurants currently use a mix of induction and gas stoves. It is not an unjustified burden for restaurants to move to induction stoves. Moreover, this legislation only affects *new* buildings and gut renovations..
5. **Hospital language is confusing and needs better definition so that hospitals are allowed to use gas for redundancy in the case of emergency and grid failure.** The bill currently allows new hospital buildings to use gas for operations. Hospitals may need gas as a backup power source, since redundant power in case of blackout or other emergency is a public health necessity. However, new buildings, including health care facilities, should not operate from gas. Air pollution caused by fossil fuels causes death and sickness, so it would be ironic and inappropriate to wholly exempt health care facilities. Instead, they should operate as other buildings would under this legislation, but be permitted to install and use gas for emergency power and redundancy to the grid.
6. **"No connection to a building's gas supply line" and "intermittent" use should be tightened.** This definition is confusing and could conceivably open the door to fuel oil use, which is not connected to a building by a gas supply line and arguably is used intermittently. We recommend tightening this definition and ensuring it does not create unintended loopholes.

7. **“Manufacturing” is overbroad and should be tightened**. This bill’s intention is not to end gas use where it is still prohibitively expensive or impractical to go electric. Processes such as concrete-making are uneconomical without fossil fuel use. However, manufacturing that is economically viable without reliance on gas should be covered. Therefore, we recommend only specific exclusions for manufacturing or industrial processes that are, in fact, uneconomical to electrify. If some other process is not specifically defined by the bill, it could be taken in via an application process to the department where the applicant could show that this specific application needs gas (with certification from a relevant expert).
8. **“Laboratories” make us go hmmmm** - this is a section that ought to be tightened. Is this a chemistry lab with bunsen burners? Does that need a gas hookup? Are super villains creating super weapons in super secret labs that need lots of gas? In all seriousness, this definition may create an unnecessary loophole and should be tightened.

NEW YORK ENERGY CONSUMERS COUNCIL

November 19, 2021

The Honorable James F. Gennaro
Chairperson, Committee on Environmental Protection
250 Broadway, Suite 1773
New York, NY 10007

Re: New York City Council Int. 2317-2021

Dear Chairperson Gennaro:

The New York Energy Consumers Council ("NYECC") has convened a group of professionals from across the energy and real estate industries and performed a review of the proposed legislation Int. 2317-2021. These professionals, who are members of NYECC, are engineers and sustainability practitioners who actively operate buildings in New York City and are also experts in energy policy. We are supportive of the spirit of the bill, as it is in line with the Climate Mobilization Act, i.e. NYC Local Law 97 as well as New York's Climate Leadership and Community Protection Act (the CLCPA).We also support the efforts laid out in principle as a necessary step to reducing carbon emissions from buildings, and their contribution to reducing the effects of climate change. However, we feel that significant changes to the bill, as written, are needed. Our recommended changes are set forth below:

1) The bill as written would apply to all new buildings and certain renovations and would take effect after two years.

(a) Given the implications of this legislation on the electrical grid, NYECC proposes that Consolidated Edison Company of New York, Inc. should be directed to commission a study by an independent third party to evaluate the preparedness of the electrical transmission and distribution infrastructure for the effects of the bill under the specified timeline in the bill and whether it can support the electrified building stock as created by the bill. The study should analyze whether there are any additional infrastructure investments that are needed along with the costs of such investments and how those costs will be allocated. This study should also be made publicly available for review and public comment. The necessary infrastructure upgrade project timelines should be made public as well to assist in proper planning by developers and building

owners. The effective timing of the fossil fuel ban should track the timing of the completion of such infrastructure projects.

b) The legislation should be phased in over time based on square footage and/or building height. This would allow the above-mentioned study to take place, would allow time for a new performance-based energy code to come into effect, and would provide time for products to come to market that can meet the needs of all segments of the building stock. The most efficient current technology (heat pumps) requires significant roof space. For larger buildings, due to the limitation of the building footprint, the roof and setbacks are typically not large enough to accommodate the necessary equipment to heat the building. Therefore, the absence of a phase-in could result in many buildings using electric resistance heating rather than heat pumps, which would tax the already over-burdened grid and would actually increase emissions, given the inefficiencies of those systems. As heat pump technology evolves, it will require less space. An example of what a phased implementation plan could look like is the following:
   i) 2 years following completion of required grid infrastructure upgrades, all new construction of 50,000 square feet, 3 stories or less, and/or single-family homes must comply.
   ii) 5 years following completion of required grid infrastructure upgrades, all new construction of 500,000 square feet or less and/or 10 stories or less must comply.
   iii) 8 years following completion of required grid infrastructure upgrades, all other new construction must comply.
c) The bill should only apply to new buildings, or to renovations that have a value of over 50% of the property value.
d) There should be language added to allow for the following exemptions:
   i) If Consolidated Edison cannot cost-effectively provide electrical service to a new building.
   ii) For cooking gas in apartments (Please see case study, attached as Exhibit A).
e) There should be an explicitly defined process with guidelines in order to claim an undue hardship exemption.

2) NYECC recommends the following additional amendments:
   a) New York City owned buildings should also be included in the bill as required to comply.
   b) Standby generators used for curtailment activities (which bolster grid resiliency) should be exempted.
   c) Nothing should prevent a newly constructed building from connecting to a district heating and/or cooling system including Consolidated Edison's district steam utility. Per proposed Section 24-177.1(a), prohibited emissions are those due to combustion "within a building". When a building utilizes the district steam system, combustion is off site. We would like to clarify that a building will have the option to utilize district steam as a thermal energy source.

Hybrid options should remain viable as well. Heat pumps can heat buildings reliably at milder (+32ºF) outdoor air temperatures in modestly humid weather. When paired with traditional natural gas boiler systems, which can provide heating at low outdoor air temperatures, a hybridized heating system would result in a more favorable solution that is economical, reliable, and sustainable. Limited use of a backup boiler would not add significant amounts of greenhouse gases, would reduce pressure on the grid during winter peaks, and would allow for important redundancy for providing heat in the case of

electrical outages. We believe market drivers, including Local Law 97 penalties, will serve to curb the use of natural gas, and we are open to exploring how usage limits can be set and regulated.

The NYECC greatly appreciates your attentiveness to our concerns regarding this legislation, and we welcome additional discussions around these items as this legislation continues to evolve. Our organization represents energy consumers of all shapes and sizes in New York City, and we want to make sure the voice of the consumer is heard and considered with the passing of legislation that will greatly impact them. We fully support the efforts of the City Council to decrease the carbon footprint of the greatest City on Earth and hope to remain engaged to ensure the enacted legislation is feasible to achieve its intended goals.

Sincerely,

New York Energy Consumers Council

Diana Sweeney

Diana Sweeney
Executive Director

cc: Nabjot Kaur, Legislative Director, Council Member Jim Gennaro
Bradley Reid, City Council Central Staff
Terzah Nasser, City Council Central Staff
Ben Furnas, Mayor's Office of Climate and Sustainability
Nicole Abene, Mayor's Office of Climate and Sustainability

EXHIBIT A – CASE STUDY

We performed a case study on an existing member's multi-tenanted residential building to review the impacts of eliminating natural gas combustion if the legislation had been be implemented as it is currently written at the time the building was developed. The study was performed on a recently constructed (2019) 560,000 GSF multifamily residential building with a natural gas fired, condensing hydronic heating system.

The findings, which are rough estimates, are summarized below:

- Installation of electrified heating systems would have resulted in an increase in first costs of ~$4.5M or $8.00/GSF.
- Annual operating costs would increase by ~ $75,000. Note: While LL97 fines would "offset" the additional utility cost in year one, if electricity costs outpace natural gas costs, as has been experienced historically, the capex investment may never pay back.
- Loss in annual revenue of $120,000, consisting of $100,000 in lost rent from reduction in views associated with the exterior mechanical equipment placed on roof setbacks, as well as $20,000 in lost amenity fees due to reduction in outdoor terrace amenity space.
- Initial carbon savings from electrifying the heating systems vary between 250 and 300 tons of carbon per year, depending on whether eGrid or LL97 coefficients are used.
- The carbon impact of gas cooking is minimal at only 40 tons per year which equates to approximately 7.5% of the building's total gas usage. The carbon impact of electric cooking appliances in the apartments equates to 64 tons per year, an increase on day one of 24 tons per year. This increase would remain a carbon penalty until the grid becomes 40% cleaner than the 2024 LL97 carbon coefficients (approximately .00018 tCO2/kWh).

    Electric cooking systems available on the market today use resistance electric heating elements that a coefficient of performance (COP) of 1, which is only marginally higher than natural gas cooking systems, but the difference doesn't overcome the higher carbon intensity of electricity versus natural gas given today's emissions coefficients. For comparison, heat pumps have much higher COPs (1.5 - 5.0) which offset the higher carbon coefficient of electric when applied to domestic hot water and comfort heating systems.

The attached Daikin submittal gives a good “simple look” at the de-rating at two points – the rated 47°FDB / 43°FWB conditions, and 17°FDB / Unknown wet bulb. The relevant criteria is highlighted. The heat pump derates to ~60% of its rated efficiency.

All heat pumps suffer similar drawbacks.

AHRI 1230 rates heating for heat pumps at 47°FDB / 43°FWB. As outdoor air dry and wet bulbs change, capacities and efficiencies vary – both drop with dry bulb, and efficiency drops as wet bulb approaches dry bulb (frost conditions).

Note that this is a simplified approach, and other factors such as outdoor wet bulb, equivalent length of refrigerant piping, etc. all contribute to the actual efficiency of the units – pushing overall efficiency down.

Submittal Data Sheet

6-Ton VRV-IV Heat Pump Unit - 230V

RXYQ72TTJU

FEATURES

- Variable Refrigerant Temperature (VRT) control allows the VRV IV to deliver up to 28% of improvement in seasonal cooling efficiency compared to previous Daikin VRV heat pump systems
- Same product structure for 230V and 460V simplifies ordering
- The rated seasonal cooling efficiency has been improved by an average of 11% compared to VRV III
- Improved efficiency with IEER values now up to 28
- Larger capacity single modules ranging up to 14 tons and systems up to 34 tons allow for a more flexible system design
- New configurator software designed to simplify the commissioning and maintenance of the system
- Larger capacity single modules allow for opportunity to reduce electrical connections, piping connections and outdoor unit mounting fixtures
- System wide auto-climate adjustment technology to increase the energy efficiency
- All inverter compressors to increase the efficiency and avoid starting current inrush
- Assembled in the US to increase flexibility and reduce lead times
- Standard Limited Warranty: 10-year warranty on compressor and all parts

BENEFITS

- 3 row 7mm heat exchanger coil improves efficiency
- Inverter control board cooled by refrigerant to avoid influence from abient temperatures
- Heat exchanger coil wraps around on all 4 sides of the unit to increase the surface area / efficiency
- Designed with reduced MOP to optimize installation cost
- Digital display on the unit for improved and faster configuration, commissioning, and trouble shooting.

Submittal Data Sheet

6-Ton VRV-IV Heat Pump Unit - 230V

RXYQ72TTJU

PERFORMANCE

Outdoor Unit Model No.	RXYQ72TTJU	Outdoor Unit Name:	6-Ton VRV-IV Heat Pump Unit - 230V
Type:	Heat Pump	Unit Combination:	
Rated Cooling Conditions:	Indoor (°F DB/WB): 80 / 67 Ambient (°F DB/WB): 95 / 75	Rated Heating Conditions:	Indoor (°F DB/WB): 70 / 70 Ambient (°F DB/WB): 47 / 43
Rated Piping Length(ft):			
Rated Height Difference (ft):	0.00		
Rated Cooling Capacity (Btu/hr):	69,000	Rated Heating Capacity (Btu/hr):	77,000
Nom Cooling Capacity (Btu/hr):		Nom Heating Capacity (Btu/hr):	
Cooling Input Power (kW):	4.62	Heating Input Power (kW):	5.46
EER (Non-Ducted/Ducted):	15.00 / 13.50	Heating COP (Non-Ducted/Ducted):	4.2 / 3.6
IEER (Non-Ducted/Ducted):	26.50 / 22.80	Heating COP 17F (Non-Ducted/Ducted):	2.5 / 2.3

OUTDOOR UNIT DETAILS

Power Supply (V/Hz/Ph):	208-230 / 60 / 3	Compressor Type	Inverter
Power Supply Connections:	L1, L2, L3 Ground	Capacity Control Range (%):	20 - 100
Min. Circuit Amps MCA (A):	27.6	Capacity Index Limit:	36.0 - 94.0
Max Overcurrent Protection (MOP) (A):	35.00	Airflow Rate (H) (CFM):	5,544
Max Starting Current MSC(A):		Gas Pipe Connection (inch):	3/4
Rated Load Amps RLA(A):	15.7	Liquid Pipe Connection (inch):	3/8
Dimensions (Height) (in):	66-11/16	H/L Pressure Connection (inch)	
Dimensions (Width) (in):	36-11/16	H/L Equalizing Connection (inch)	
Dimensions (Depth) (in):	30-3/16	Sound Pressure (H) (dBA):	58
Net Weight (lb):	435	Sound Power Level (dBA):	
		Max. No. of Indoor Units:	12

NY GEOTHERMAL ENERGY ORGANIZATION

VIA E-MAIL

Hon. James Gennaro
Chair Environmental Protection Committee
NYC City Council

Re: – November 17, 2021 Environmental Protection Committee testimony

Dear Chair Gennaro:

I am Bill Nowak, Executive Director of NY-GEO, the New York Geothermal Energy Organization, the statewide organization for geothermal heat pump installers and other geothermal stakeholders.

Regarding bill 2091 -The Building Electrification study
NY-GEO completely supports this bill and would be very interested in providing input on geothermal's value in electrifying heating without adding to peak demand and stressing the grid. It was good to hear Director Furnas's enthusiasm for the efficiency of air source heat pumps. He'll be even more impressed with the performance of ground source heat pumps, which are significantly more efficient than air source especially, on the hottest and coldest days of the year when the grid is most vulnerable. This goes directly to Councilmember Ampry-Samuel's question, and the points others have raised, about the electricity supply.

Regarding bill 2196 The Gas Stove bill
In my house we're loving our all-electric induction oven and urge you to pass this bill without delay. Contrary to earlier testimony induction ovens and cooktops are more efficient than electric resistance and far better for the climate than gas burners.

Regarding bill 2317 – On a Building Emissions standard
The Writing on the Wall Needs to be Clear for Everyone to See – New York's construction and housing markets need clear signals on how and when it will be necessary to reduce GHG emissions. There is currently too little awareness, as new buildings are going up and old buildings rehabbed, that fossil fuel heating is approaching obsolescence and may need to be replaced at significant costs sooner, rather than later. The clearest way to send this message is to establish a timetable for the transition to renewable heating and cooling. New York's approach to market competitiveness for renewable heating will include several elements including giving and taking away carrots and employing sticks. With the climate emergency, the time for signaling the use of sticks is upon us.

The transportation sector has seen recent announcements in California, New York other jurisdictions bans on gas powered cars certain dates. This provides a significant market signal that the end is within sight for climate polluting vehicles. Now that CLCPA standards for GHG emissions are in place, NYSERDA has declared that the heating sector is co-equal to transportation as the largest source of GHG emissions in the NYS economy. Because of the relative importance of the heating sector in New York's climate, New York City has a golden opportunity to make an internationally significant policy announcement in the heating sector.

Without distinct writing on the wall, it is not clear that any amount of cost cutting or education will jar the market out of doing things the way it's always been done. NY-GEO is aware of geothermal heat pump proposals, even for tall downstate buildings, that were cost competitive but rejected, seemingly on the basis of familiarity more than anything else. The market is currently comfortable with fossil fuel heating and needs a strong signal to move that comfort in another direction.

We also face an enormous challenge transforming the HVAC industry itself to one that is working to meet our climate challenges. A clear set of end dates will be very helpful in turning the attention of HVAC stakeholders to the transition to fossil-fuel free heating. New York State has a more than adequate supply of HVAC contractors capable of installing heat pumps with a small amount of training. What is needed is a market signal that their skills will be needed installing a slightly different set of equipment with far higher environmental benefits. It's important to think of the jobs that will be created. Heat pumps, especially geothermal heat pumps take more labor to install than fossil fuel systems. We urge our friends in the labor movement to look at the big picture, embrace the necessary change that is coming and start accessing the tens of thousands of jobs that will be created in this transition by bills like 2317.

Thank you Councilmembers Gennaro, Ampry-Samuel and Levin for your leadership on these initiatives

Sincerely,

Bill Nowak
Executive Director, NY-GEO
716-316-7674
nygeoinfo@gmail.com

The New York Geothermal Energy Organization (NY-GEO**)** is a non-profit trade organization representing geothermal heat pump (GHP) installers, manufacturers, distributors, drillers, consultants and industry stakeholders from throughout New York State and beyond.

From: From NY-GEO <nygeoinfo@gmail.com>
Sent: Friday, November 19, 2021 8:33 AM
To: Testimony; Swanston, Samara; Samuel, Alicka
Subject: [EXTERNAL] Fwd: REPLY: Follow up for 2021 11 17 Environmental Protection Committee

.

Dear Chair Gennaro

I write to follow up on our discussion in Wednesday's hearing.

I want to make it clear that NY-GEO strongly supports passage of Councilmember Ampry-Samuel's bill #2317.

We believe that both air source and ground source heat pumps belong in the mix as New York electrifies its heating sector. We also believe emphasizing and enabling ground source wherever possible will pay off in the long run.

To meet our climate goals it is crucial that we stop putting up fossil fuel buildings as quickly as we can. These buildings will be polluting long after NY's 2030 and 2050 climate mandate dates.

We urge you to pass 2317 as quickly as possible with the strongest possible provisions.

Regarding #2091, we can't afford to put off action on stopping fowwil fuel construction, but once electrification is the standard, we're happy to do all we can to help New York go with the most efficient form of heat pumps wherever possible.

Thank you.

Bill Nowak
Executive Director
NY-GEO (Geothermal Energy Organization)

"*We may be the only species to die off because it wasn't cost effective to save ourselves…or so we thought*."
credit: Becky Merton through Bill Martin, President California Geothermal Heat Pump Association

"*You must stop pretending that we can solve the climate and ecological crisis without treating it as a crisis*." Greta Thunberg through Bill McKibben

"*...the most important year for reducing emissions will always be 'this year.*'" Rocky Mountain Institute

NYU Government Affairs

Government Affairs
25 West 4th Street
New York, NY, 10012
P: 212 998 2400
government.affairs@nyu.edu

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

NYU Government Affairs

Government Affairs
25 West 4th Street
New York, NY, 10012
P: 212 998 2400
government.affairs@nyu.edu

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 (CO_2e), not simply CO_2. 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 CO_2e 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.

PLUMBING FOUNDATION CITY OF NEW YORK

To: NYC Council Committee on Environmental Protection

From: April McIver, Executive Director

Date: November 17, 2021

Re: Testimony on Gas Ban Bill - Intro. No 2317

Introduction

In January 2021, New York City Mayor Bill de Blasio announced he would ban new gas hookups in the City.[1] In May 2021, the NYC Council introduced Intro. No. 2317 which would effectively prohibit use of natural gas in new buildings or on major renovations of existing buildings—the *purported* intent of the bill.

The text of the bill, seemingly technical in nature, states:

> *[N]o person shall permit the combustion of any substance that emits 50 kilograms or more of carbon dioxide per million British thermal units of energy within a building within the city as determined by the United States energy information administration.*

What this means in plain language is that natural gas (emitting 53.07 kg per million BTU) and oil (emitting 73.16 kg per million BTU) will no longer be allowed for heating and hot water purposes.[2] The exceptions in Intro. No. 2317 include: (1) emergency standby power; (2) demonstrated undue hardship; (3) manufacturing, laboratory, laundromat, hospital or commercial kitchen use; or (4) use by a device intermittently and which is not connected to a building's gas supply line.

While the intention behind this legislation, like NYC's Climate Mobilization Act[3] and the New York State Climate Leadership and Community Protection Act (CLCPA),[4] is honorable and vital to protect our already vulnerable climate from carbon emissions, like

---

[1] Danielle Muoio, *De Blasio to ban gas hookups in new buildings by 2030*, POLITICO (Jan. 28, 2021), *available at* https://www.politico.com/states/new-york/albany/story/2021/01/28/de-blasio-to-ban-gas-hookups-in-new-buildings-by-2030-1360931.

[2] *Carbon Dioxide Emissions Coefficients*, U.S. ENERGY INFORMATION ADMINISTRATION, *available at* https://www.eia.gov/environment/emissions/co2_vol_mass.php (last visited Aug. 26, 2021).

[3] *See The Climate Mobilization Act, 2019*, NYC MAYOR'S OFFICE OF CLIMATE AND SUSTAINABILITY, *available at* https://www1.nyc.gov/site/sustainability/legislation/climate-mobilization-act-2019.page (last visited Nov. 16, 2021).

[4] Also passed in 2019 as Chapter 106, this law sets forth the goal of achieving 100% zero-emission electricity by 2040 across the entire State and reducing emissions at least 85% below 1990 levels by 2050.

many politically polarizing issues, a commonsense approach seems to be the least considered yet only viable means to reach our ambitious climate protection goals. There are several ambiguities and concerns with the drafted legislation, including the effective date, applicability to the Building Code, as well as financial and practical implications, which are explained in more detail below.

Effective Date

Intro. No. 2317 would become effective **two years** after its passed, which if signed into law in 2021 means as of **2023**, gas is banned, and that is way ahead of the goals set forth in the Climate Mobilization Act. Local Law 97 of 2019, part of the Climate Mobilization Act, requires buildings in NYC larger than 25,000 square feet to meet certain carbon emission caps beginning in 2024. The City aims to meet a 40% reduction in aggregate greenhouse gas emissions from these covered buildings by **2030** and an 80% reduction in citywide emissions by **2050**.[5] Even these goals are widely considered to be extremely ambitious.[6] Therefore, it makes no sense to implement a gas ban to come into effect years ahead of the City's already ambitious carbon emission goals when the plan to reach those goals is still being determined.

Applicability to Building Code

There is no language in Intro. No. 2317 that actually limits its application to only "new building[s] or any building that has undergone a major renovation" as the purported intent is described in the summary of the bill on the NYC Council's legislative website. The prohibition on combustion created in section 1 of the bill, noted above, applies "[w]here required by article 506 of title 28." Article 506 of title 28, as added by Intro. No. 2317 to a "miscellaneous" section of the NYC Construction Codes, requires "[b]uildings covered by [the NYC Construction] code [to] comply with section 24-177.1."[7] Under the NYC Construction Code, it provides that "any reference in this title to 'this code' or 'the code' shall be deemed to be a reference to this title and all of the codes comprising the New York city construction codes unless the context or subject matter requires otherwise."[8] In other words, because Intro. No. 2317 creates a requirement under Title 28 (NYC Construction Code) which merely states "buildings" must comply with Title 28, it cannot only be applicable to new buildings or major renovations. This is explained in more detail below.

---

[5] For more information, visit https://www1.nyc.gov/site/buildings/codes/greenhouse-gas-emission-reporting.page.

[6] The City recognizes how ambitious these goals are. *See, e.g.*, *NYC Climate Goals & Legislation,* NYC ACCELERATOR, *available at* https://www1.nyc.gov/site/nycaccelerator/resources/nyc-climate-goals-and-legislation.page (last visited Sep. 1, 2021).

[7] At best, this is a circular reference, but which is not made clear in the text of the bill, which is ambiguous.

[8] NYC CONSTRUCTION CODE § 28-101.3.

The Construction Codes require most construction projects in New York City to receive approval and permits from the NYC Department of Buildings (DOB).[9] Typically, a New York State licensed Professional Engineer (PE), Registered Architect (RA), or applicable licensee (e.g., Licensed Master Plumber) is required to file plans and/or pull permits before work begins. But construction as it is referred to under the Codes is **not limited to new structures or major renovations**. There are many permit types, such as construction, boiler, elevator, and plumbing.[10] DOB accepts applications based on the project scope of work, plan review, approval, permit inspections, and sign-off process. To assess the risk level, construction projects are categorized based on the nature and purpose of the proposed work. DOB has grouped these project applications into the following categories: Building Systems Installation & Modifications; Renovations; Construction Equipment; Alterations; Demolition, and New Buildings.[11]

The primary permit applications are for New Buildings, Alteration-CO (or Alteration Type 1), and General Construction (Alteration Type 2 & 3). New Building permits allow the construction of new structures; Alteration-CO permits allow for major alterations that will change the buildings use, egress or occupancy; General Construction permits allow multiple types of work, not affecting the buildings use, egress or occupancy, or only one type of minor work, also not affecting use, egress or occupancy. General Construction permits are the type of permit most often applied for and are common for interior renovations or exterior repairs and restoration.

---

[9] NYC CONSTRUCTION CODE § 28-105.1 ("General. It shall be unlawful to construct, enlarge, alter, repair, move, demolish, remove or change the use or occupancy of any building or structure in the city, to change the use or occupancy of an open lot or portion thereof, or to erect, install, alter, repair, or use or operate any sign or service equipment in or in connection therewith, or to erect, install, alter, repair, remove, convert or replace any gas, mechanical, plumbing, fire suppression or fire protection system in or in connection therewith or to cause any such work to be done unless and until a written permit therefore shall have been issued by the commissioner in accordance with the requirements of this code, subject to such exceptions and exemptions as may be provided in section 28-105.4.").

[10] *See* NYC CONSTRUCTION CODE § 28-105.2 for a more complete description, including new building permits for the construction of new buildings; alteration permits for the alteration of buildings or structures and partial demolition; foundation and earthwork permits; full demolition permits; plumbing permits, including gas piping and permits for limited plumbing alterations; sign permits for the erection, installation or alteration of signs; service equipment permits for the installation or alteration of service equipment, including but not limited to air conditioning and ventilating systems, boilers, elevators, escalators, moving walkways, dumbwaiters, mobile boilers and mobile oil tanks and permits for limited oil burner/boiler alterations; temporary construction equipment permits for the erection, installation and use of temporary structures to facilitate construction; fire protection and suppression system permits; and crane and derrick permits.

[11] *See* Heiberger Harrison, NYC Requirements for Renovation vs. Building Construction/Maintenance, SDK HEIBERGER (January 17, 2021), *available at* https://www.sdkhlaw.com/continuing-education-1.

Essentially, only where the work is exempt from permit requirements under the code can it be legally performed without such a permit.[12] And the code provides that permits are not required for the following limited circumstances: emergency work; minor alterations and ordinary repairs; certain work performed by a public utility company; ordinary plumbing work; sign installation; geotechnical investigations; installing, altering or removing alternative automatic fire extinguishing systems; installing, altering or removing fire alarm systems, and other categories as described in Department rules.

The Construction Codes define one such type of work that does not first require a permit, 'minor alterations and ordinary repairs', as minor changes or modifications in a building and replacements or renewals of existing work or parts of equipment with the same or equivalent materials or equipment parts that are made in the ordinary course of maintenance.[13] Conversely, the Code provides that minor alterations or ordinary repairs does **not include** cutting away part of a load bearing wall; cutting or modifying structural supports; affecting any exit requirements; changing any light, heat, ventilation, elevator, accessibility, or fire suppression system requirements; any changes to a standpipe or sprinkler system, water distribution system, house sewer, private sewer, drainage system, or any gas distribution system; any plumbing work other than repairing fixtures, and sign repair.[14]

Accordingly, painting, plastering, installing new cabinets, plumbing fixture replacement, resurfacing floors, and non-structural roof repair would not require a construction permit. But such a permit may be required for kitchen and bathroom renovations, for example, depending upon the complexity of the work. Any renovations that involve adding a new bathroom, moving a load-bearing wall, or rerouting gas pipes and adding electrical outlets would first require an ALT2 permit application. As such, most kitchen and bathroom renovations require permits in New York City.[15]

In essence, then, through its application of the prohibition on combustion to buildings covered by the New York City Construction Codes, and since most construction in New York City requires a permit from DOB, Intro No. 2317 would, subject to certain listed exceptions, prohibit the combustion of fossil fuels for heating and other purposes in any building in the city (new or existing) where such work was performed by permit.[16]

---

[12] NYC CONSTRUCTION CODE § 28-105.4.
[13] NYC CONSTRUCTION CODE § 28-105.4.2.
[14] RCNY § 101-14.
[15] *See* Harrison, *supra* note 11.
[16] Since all buildings are subject to the administrative and enforcement provisions of title 28, it could be argued that the prohibition extends to all existing buildings regardless of any permit being issued, but the following language explains that code changes do not apply retroactively to such buildings unless explicitly provided for:

Feasibility & Financial Considerations

The question must also be asked whether the City of has the existing infrastructure and utility capability to electrify all new buildings and those doing major renovations.

The "gas ban" trend began with Berkeley, California in 2019 when the Berkeley City Council passed a gas ban for hookups in new residential as well as some commercial construction, and mandated the use of electricity for heating. Those unfamiliar with how electric grids are run, natural gas actually powers electricity and this is the case for 38% of all electricity in the United States.[17] Moreso this is true for 39% of the electricity in California, and 37% for New York (33% of electricity is also powered by nuclear power in New York, but that does not take into account the recent closing of Indian Point and what that means).[18] Further, as explained by the New York Times, "New York tends to consume more energy than it creates and imports some electricity from neighboring states and Canada."[19] **So by requiring more end users to electrify their heating systems may in turn mean higher usage of natural gas.**

Although the goals set forth by the State and City require the utilities to power their electricity from renewable sources (that is 70% of the electricity they sell from renewable sources by 2030) **the technologies are still being explored to meet the policy goals**. Further, when Indian Point was shut down, the nuclear power it produced was mostly replaced with natural gas (the most abundant and efficient fuel source in the region). The State claims this is temporary and that it will too have to meet the 70% goal by 2030.[20] How we get there remains to be determined.

In August 2021, the Independent Power Producers of New York, Inc. (IPPNY), New York State Building & Construction Trades Council (BCTC), and New York State AFL-CIO jointly submitted a petition to the New York State Public Service Commission (PSC) urging the State to establish a competitive program to encourage the development of zero emitting

---

> §28-102.4 Existing buildings. The lawful use or occupancy of any existing building or structure, including the use of any service equipment therein, may be continued unless a retroactive change is specifically required by the provisions of this code or other applicable laws or rules.

[17] Nadja Popovich and Brad Plumer, *How Does Your State Make Electricity?*, NEW YORK TIMES (Oct. 28, 2020), *available at* https://www.nytimes.com/interactive/2020/10/28/climate/how-electricity-generation-changed-in-your-state-election.html.

[18] *Id.*

[19] *Id.*

[20] Patrick McGeehan, *Indian Point Is Shutting Down. That Means More Fossil Fuel.*, NEW YORK TIMES (Apr. 12, 2021), *available at* https://www.nytimes.com/2021/04/12/nyregion/indian-point-power-plant-closing.html?mc_cid=0350660d78&mc_eid=a9e1e8c0ba.

electric generating facilities that are not renewable energy systems to encourage private sector investment to assist in meeting the CLCPA's target.[21] In the petition, it states that the PSC has been silent on defining "zero emission sources" which has "create[d] uncertainty in the electricity market and investment community, thereby potentially delaying, unnecessarily, the development of resources…"[22] Further, the petition states "[b]ecause wind, solar, and limited-duration energy storage resources will be insufficient to meet electric demand [in New York] in 2040...resources must be highly flexible, *i.e.*, they must be capable of coming on quickly, and meeting rapid and sustained ramps in demand."[23] The petition does note, however, that the Phase II Climate study did not make assumptions about what technology or fuel source can fulfill the electricity demand.

What this petition tells us, especially given IPPNY is a party and is also heavily involved in the state's Climate Action Council, that **(1) private investment is a huge assumption in meeting our goals and (2) the State still has a ways to go in determining how (which resources can and should be used) to meet those goals.**

In a joint April 2021 report by the NYC Mayor's Office of Sustainability, National Grid, Con Edison, Drexel University, Energy Futures Initiative, and ICF, it notes "[t]he estimated range of uncertainty for electricity sector costs reflects an approximation of these costs and on-going investments needed to maintain safety, reliability, resiliency, and grid capabilities."[24] The estimated costs in *Pathways to Carbon-Neutral NYC* are in the trillions, with estimated "uncertainty" costs in the billions, and as noted, private investment is a large assumption in meeting the goals set forth in LL97.

Further, in a *Politico* article describing an outside review of National Grid's plan to meet the demand for gas, it says:

> If no new infrastructure were built, the report concludes that efforts to roll out incentives to reduce gas usage through weatherization, electrification and demand response would need to be dramatically accelerated. Additionally, customers would pay higher costs and accept a greater risk that emergency curtailments — shutting off gas service to customers — may happen if those efforts are unsuccessful.[25]

---

[21] Case 15-E-0302.
[22] *Id.* at 6.
[23] *Id.* at 7.
[24] NYC Mayor's Office of Sustainability et al., *Pathways to Carbon-Neutral NYC: Modernize, Reimagine, Reach* (Apr. 2021), available at https://www1.nyc.gov/assets/sustainability/downloads/pdf/publications/Carbon-Neutral-NYC.pdf, at viii.
[25] Marie J. French, *Review sees risk of halt to new gas hookups in New York City, Long Island*, POLITICO (Sept. 15, 2021).

What also needs to be determined is how will private owners be best incentivized and, quite necessarily, be provided subsidies to switch their homes and buildings over to electric and away from natural gas. As noted in a report on making the case for localities' gas bans, "the challenges inherent in banning gas are the same as those presented by transitioning to electricity: the magnitude and distribution of costs associated with the transition, the equity impacts associated with it, and the implications for the operation of the electrical grid."[26] Further, this analysis specifies that its own research shows that "electrifying gas appliances will add to daily peak electricity loads; exacerbating the challenges associated with the decommissioning of the hydrocarbon gas power plants, which are the kind most commonly used to supply peak power demands."[27] Proponents, even when faced with the facts, admit that gas bans have significant socio-economic and electricity supply challenges.

Further, when the New York State Energy Research and Development Authority (NYSERDA) offered a residential Air-Source Heat Pump Rebate Program from 2017–2019 to incentivize homeowners to switch to a cleaner heating and cooling system, its data shows that **the average project cost was $16,272**.[28] Over the course of the program, 5,756 applications were submitted for installations from single-family detached homes. Based on the publicly available data, Diversified Energy Specialists (hereinafter "DES"), a renewable energy consulting and environmental markets trading company, estimated that 386 of those applications for rebates could be considered whole-home solutions. Based on the application data, DES estimated that a minimum of **45.4%** of the 386 single-family detached house installations **retained their existing central heating system as a supplement**. Many applications did not include a response regarding a supplementary heat source, therefore DES views 45.4% as a conservative estimate. The extensive data sets from NYSERDA suggest that the installation of air-source heat pump systems at the residential level is too costly for most low- and middle-income homeowners in the northeast. The average conditioned square footage of the homes for these installations is 10-20% lower than the median household size in New York, suggesting that homeowners in average and above average sized homes are choosing not to install air-source heat pump systems for their heating needs. Policy in the northeast has historically focused on retrofitting air-source heat pump systems in homes with fossil-fired systems at the end-of-life of the fossil-fired system. Replacing and upgrading a natural gas, propane, or heating oil system at the end-of-life in the northeast

[26] Robert Cudd, Felicia Federico, Eric Daniel Fournier, and Stephanie Pincetl, *The Case for Gas Bans and Residential Building Electrification: Equity Perspectives on an Emerging Socio-Technical Energy Transition*, THE APPEAL (June 4, 2021), *available at* https://theappeal.org/the-lab/report/the-case-for-gas-bans-and-residential-building-electrification/.

[27] *Id.*

[28] *NYSERDA-Supported Air Source Heat Pump Projects: 2017-2019*, NYSERDA, *available at* https://data.ny.gov/Energy-Environment/NYSERDA-Supported-Air-Source-Heat-Pump-Projects-20/dpke-svni (last visited Nov. 4, 2021).

typically costs a homeowner $7,000–$10,000. **Spending an additional $10,000–$15,000 to retrofit an air-source heat pump system is not affordable for most homeowners.**[29]

The NYC Council also needs to consider the current state of things. An article by *EnergyWatch-Inc.com* notes:

> COVID-19 has shifted priorities. Building owners are being forced to prioritize air filtration and other health and safety measures over LL97 work. While some buildings have been able to save money on energy costs due to reduced occupancy caused by COVID-19, others still have to maintain energy-intensive data centers or simply lack cash flow from tenants no longer able to afford rent.[30]

COVID complications are yet another challenging factor facing NYC (and the entire globe) in taking steps to reduce carbon emissions, therefore the push to pass Intro. No. 2317 now does not follow logic.

Further, the ban on natural gas, which is currently the cleanest and most abundant fuel in NYC since wind, solar, and hydro is not viable in the City today (and likely not widely viable come 2023[31]), also presents a possible security issue. If another event like 9/11, Superstorm Sandy, or even the most recent event, Hurricane Ida, occurs, the impact and toll on the electric grid may mean there will be no redundant heat/cooking source.

Given that this bill, if passed as written, will likely have significant cost implications but which are still only estimates and the actual impact unknown (New York has not

---

[29] Two reports out of California, one from San Francisco and the other from Palo Alto, can provide further examples of the potential cost implications of total electrification. In April 2021, San Francisco's Budget and Legislative Analyst's Office issued a memo that states that the estimated costs of electrical appliance retrofitting of residences range from $14,363 per housing unit (both multi-family and single-family units) to $19,574 for multi-family units, and $34,790 for single family homes at the higher end, and that the Citywide cost to retrofit all residential units currently using natural gas-fueled appliances with those fueled by electricity ranges from **$3.5 to $5.9 billion**. Budget and Legislative Analyst's Office, *Memo to Supervisor Mar* (Apr. 22. 2021), *available at* https://sfbos.org/sites/default/files/BLA.ResidentialDecarbonization.042221.pdf.

In November 2016, a report submitted to the City of Palo Alto estimated that to accommodate electric space heating in California, it would cost $4,700 to upgrade the electricity service for an existing single-family building and $35,000 for a low-rise multifamily building. Peter Pernijad, *Palo Alto Electrification Study*, TRC ENERGY SERVICES (Nov. 16, 2016) *available at* https://www.cityofpaloalto.org/files/assets/public/development-services/advisory-groups/electrification-task-force/palo-alto-electrification-study-11162016.pdf.

[30] *One Year After Local Law 97 – An NYC Update*, ENERGYWATCH-INC., https://energywatch-inc.com/one-year-after-local-law-97-an-nyc-update/ (last visited Oct. 19, 2021).

[31] Recently, Empire Wind had to push back its completion date for the offshore wind farm to the end of 2026. *See* Scott Van Voorhis, *Empire Wind pushes opening of New York's first offshore wind farm to 2026*, UTILITY DIVE (Oct. 15, 2021) *available at* https://www.utilitydive.com/news/empire-wind-pushes-opening-of-new-yorks-first-offshore-wind-farm-to-2026/608282/.

conducted a full cost study of the impact of the 2019 laws and most certainly has not conducted a cost study of Intro. No. 2317), [32] it would be ill-advised to adopt at the present time.

Commonsense Proposed Solution

If the NYC Council is considering a piece of legislation such as Intro. No. 2317, then it needs to thoughtfully contemplate the impact of such legislation rather than "do it for the headlines."

A commonsense solution will involve three key components:

(1) Wide-encompassing industry and stakeholder involvement, including natural gas utilities, associations, and professionals (all are actively and constantly working on finding greener solutions and are best equipped, expertise-wise, to help brainstorm how to meet the carbon emissions reduction goals)

(2) Diversified[33] and incremental approach to phasing out carbon-emitting energy sources, with the help of those mentioned in (1) (much like the City did with Numbers 6 and 4 oil[34])

(3) Educational campaigns aimed at explaining the facts, science, and data behind the diversified approach mentioned in (2) rather than pandering to environmentalist groups that, albeit may be benevolent, are not necessarily science and data-driven

If the Council does not use a diversified and incremental approach to meet its own climate protection goals, and rather passes a bill like Intro. No. 2317 for political praise, it is plausible, if not inevitable, that down the road the impulsive policy making will need to be revisited, revised, and/or reversed. We have already seen that happen with Local Law 97—NYC Council Speaker Corey Johnson led the charge to *already* revise LL97 in September 2020 to, as a *Politico* article put it, "allow a Silicon Valley-based company to facilitate the use of

[32] Given that two other bills on the Committee's agenda, Intro. Numbers 2091 and 2196, propose related studies because of the unknown cost impact and feasibility of banning natural gas, it is safe to assume that the Council is aware that there are steps to be taken ahead of passing a bill like Intro. No. 2317.
[33] In "Pathways to Carbon-Neutral NYC" from *supra* note 24, the report notes that "achieving these emissions reductions requires significant amounts of new clean electricity combined with new supplies of low carbon gases-specifically biogenic renewable natural gas (RNG), hydrogen, and synthetic RNG--for the remaining gas supply." *Supra* note 24, at vii.
[34] Mireya Navarro, *City Issues Rule to Ban Dirtiest Oils at Buildings*, NEW YORK TIMES (Apr. 21, 2011) *available at* https://www.nytimes.com/2011/04/22/nyregion/new-york-city-bans-dirtiest-heating-oils-at-buildings.html.

natural gas fuel cells over other technologies as the city tries to cut emissions from city buildings, New York's largest generator of greenhouse gases."[35] And while some declared this revision a "loophole" for fossil fuels, it is merely the recognition by one of our most respected elected officials of the reality facing New York City, and that meeting the ambitious goals as set forth in LL97 is going to take a diversified strategy.

Conclusion

We oppose Intro. No. 2317, but we strongly support any and all methods to lessen the use of fossil fuels. We must urge the Council to consider *all* options and include *all* stakeholders in the conversation to ensure goals and strategies are realistic and reasonable, and we recommend that phasing out fossil fuels is done in a thoughtful and practical manner. No one can argue against the need to protect our planet from the impact of greenhouse gases, but we need to work together and not base our policies on politics but on science and feasibility.

We look forward to continuing the conversation with the Council, Mayor's office, city agencies, and all stakeholders on how we can collectively meet our carbon emissions goals.

[35] Michele Bocanegra, *After a year of lobbying, Johnson backs fossil fuel bill over green objections*, POLITICO (Aug. 26, 2020) *available at* https://www.politico.com/states/new-york/albany/story/2020/08/26/after-a-year-of-lobbying-johnson-backs-fossil-fuel-bill-over-green-objections-1312559; *see also* NYC Local Law 95 of 2020.

MICHAEL APUZZO
JATC Co-Chair - Labor

Ph. (718) 752 - 9630

PLUMBERS LOCAL UNION No.1 TRADE EDUCATION FUND
JOINT APPRENTICESHIP AND TRAINING COMMITTEE
PLUMBERS EDUCATION GASFITTERS

VINCENT ASPROMONTE
JATC Co-Chair - Management

Fax (718) 752 – 9634

PLUMBERS & GAS-FITTERS TRAINING CENTER
UA LOCAL UNION No. 1 of NEW YORK CITY
37-11 47th Avenue, Long Island City, N.Y. 11101

ARTHUR O. KLOCK JR.
Director of Trade Education

November 17, 2021

To: NYC Council Committee on Environmental Protection

From: Arthur Klock, Plumbers Local Union No.1 Director of Trade Education

Re: Testimony in Opposition to the Gas Ban Bill - Intro. No 2317

Good afternoon Chairman Gennaro and members of the Committee on Environmental Protection. My name is Arthur Klock. I am the Director of Trade Education at Plumbers Local 1, and I have an intimate knowledge of the fuel gas infrastructure of New York City, having worked in the Plumbing Industry for over 35 years. I will speak today in opposition to Intro. No 2317.

The last few years have made clear that climate change is most certainly real. Our union is committed to the development and utilization of renewable sources of energy to reduce our carbon footprint. Making the transition from fossil fuels, to low carbon sources of energy, is the overarching goal. Achieving that goal must be done in a carefully planned and well thought out approach so that we avoid the hardships, expenses, and regrets of Unintended Consequences.

We have two (2) major energy distribution grids in New York City. These are both massive infrastructure systems comprised of miles of distribution conduits which bring the energy needed for everyday life to New Yorkers rich and poor alike. Electricity, with its overhead power lines, wall outlets, and hand operated light switches is more visible and interactive than the other, but natural gas, while hidden from the average New Yorker underground, behind appliances, and in the boiler room is omnipresent as well. Both are delivered by massive infrastructure built over many decades. They are both currently vital to our city.

Making a transition from natural gas providing the lion's share of our heat, hot water, and cooking fuel will not be easy or quick. It is not as simple as some may imagine. It is a known fact that each summer, when air conditioners are running, our electric grid is taxed almost to the point of failure. Some believe we can simply do away with natural gas and add the massive demand now dependent on the gas grid to the electric grid. This is simply untrue under current real life conditions. The gargantuan (and as yet unfunded) task of massively expanding, upgrading and essentially completely re-building our city's electric grid street by street (and rewiring our homes and businesses) will be necessary first.

Those who have proposed Intro 2317 dream of a day soon when our heat, hot water, cooking fuel, and even all the existing cars, busses, and trucks in New York City will plug into the electric grid all at the same time. It's a nice dream, but Intro 2317 doesn't take on that task in a rational way. Either there is lack of understanding of the breadth of the task at hand, or this proposal was made thoughtlessly. If we are going to transition to low carbon energy in an equitable and efficient way, we must do the hard work of preparing a real plan where we take first steps first.

Unfortunately the fact is that currently, the electricity we use in New York City is MORE carbon producing than directly burning natural gas in a building. Why? The majority of our electricity in New York City is produced by burning fossil fuels. Electrical energy is lost in transmission from the power plant to each building. Currently in New York City more carbon is produced by an all-electric building than is produced by an equivalent building using natural gas directly because natural gas is the cleanest of the fossil fuels. When the nuclear reactor at Indian Point stopped generating in April, our electrical grid's carbon output got worse. This counter-intuitive reality will not change until we can produce enough low carbon electricity from sustainable sources. We know that we want and need green energy; but unfortunately, the clean electrical power generation we need does not yet exist. Until it does, our union supports legislation that establishes a comprehensive carbon pricing system to ensure that New York achieves the goals set in the Climate Leadership and Protection Act.

In the realm of Unintended Consequences, producing more carbon is only the beginning. If we disregard for the moment who will pay for the doubling or tripling of New York City's electric grid, we have a more personal question for the average New Yorker. Who will pay to prematurely scrap every New Yorker's gas water heater, stove, clothes dryer, boiler or furnace and replace it with an electric alternative? Will the building need to be re-wired when this happens? A careful reading of this Intro shows that gas consuming buildings will be operating ILLEGALLY if Intro 2317 becomes law. Building and home owners will perhaps be given a "hardship" waiver. Perhaps. But for how long? It isn't clear.

Once Intro 2317 becomes law, buildings then burning natural gas ILLEGALLY will face enforcement under as yet unwritten rules by the New York City Department of Buildings (DOB). We are likely to face another very expensive Unintended Consequence for the working class when home owners and those in low income housing find themselves bearing the cost to prematurely replace gas equipment and pay for re-wiring in buildings where any work occurs that requires a permit from DOB.

Intro 2317 pitches a simplistic solution to a complicated problem. The reality is though, that there is no simple solution to this situation. We need to fix the problem of carbon emissions. Plumbers have for many years embraced the slogan that "The Plumber Protects the Health of the Nation". We support President Biden's Build Back Better framework as it pertains to achieving our moral imperative of reducing our country's carbon output. Our union understands and supports the reality that the economy of the future will be based upon jobs that focus on utilizing renewable sources of energy; however, Intro 2317 is not the answer to that clarion call, in fact it's not even a good first step.

New York City has some very hard planning and very expensive public actions to take in order to realistically work our way out of our carbon crisis. By the time our greener electric supply arrives, and our electric grid is expanded and capable of delivering that supply, we may be ready to impose a "gas ban" or we may have developed Green Hydrogen possibilities using our substantial gas infrastructure. Until then, Intro 2317 is an anachronism. We are simply not ready for this yet. Local 1 opposes Intro 2317 and asks the members of this committee to join us and work toward finding a more suitable solution to addressing the underlying premise of the legislation.

REWIRING AMERICA

November 17, 2021

Dear distinguished members of the New York City Council, the Committee on Environmental Protection, and Chair Gennaro, thank you for your time today and for considering Intro 2317. My name is Rachael Grace and I am the Director of Strategic Policy Initiatives at Rewiring America. We are a nonprofit dedicated to widespread electrification as a way to achieve emissions reductions, create jobs, and reduce monthly energy bills. We are here today in strong support of Intro 2317 as an ambitious, but practical way to advance the City's climate goals and reduce costs for New Yorkers.

Why is Intro 2317 so important? Approximately 75 percent of New York City's greenhouse gas emissions stem from energy use in buildings and over half of these emissions come from heating needs - largely powered by natural gas.[1] In 2019, natural gas accounted for 62 percent of energy use in mid to large size multifamily buildings. What these figures tell us is that addressing natural gas infrastructure in our buildings today is crucial to achieving our climate targets.

We also know that we have no time to lose and that we cannot continue on the current trajectory. In 2019, NYC awarded over 24 thousand new housing building permits,[2] the majority of which were for large buildings with over 50 units. Given housing shortages, we will likely see a similar number of permits over the next five to ten years such that, by 2030, the City of New York may have awarded 240,000 permits for new residential buildings alone. There is simply no way for the City of New York to meet its commitment to carbon neutrality by 2050 without doing all it can to minimize, if not eliminate, emissions originated by these projects.

What this means for the City of New York is that we must begin to electrify buildings as they are built, renovated, and every time an appliance needs replacement. At Rewiring, we're often focused on what happens to an appliance when it reaches the end of its useful life.[3] Because appliances can last for decades, replacing an outdated appliance with a clean modern electric version is critical. Timing-wise, a gas furnace installed in 2023, when Intro 2317 would go into effect, could last until 2043, spewing methane and carbon pollution and pushing the carbon neutrality goal out of reach. To meet our targets, buildings will need to make the switch from gas infrastructure to electric infrastructure. Replacing appliances as they break provides an offramp for this transition to occur. Intro 2317 is crucial to making this happen.

What Intro 2317 does is give the city an advantage, an opportunity to stop the cycle before it begins. The appliances and heating and cooling systems will not need to be replaced with clean

[1] See New York City's Energy and Water Use Report, Urban Green Council, 2020.
[2] See 2019 Data on New York City's Housing Stock, NYU Furman Center, 2020.
[3] See Bringing Infrastructure Home: A 50-State Report on U.S. Electrification, Rewiring America, 2021.

modern electric versions in the years to come because they will already have them installed. This allows the City of New York to focus its attention on helping New Yorkers electrify existing buildings, getting us on the path to a carbon neutral 2050.

But Intro 2317 will not only deliver climate benefits, it will save New Yorkers money, giving them more money to spend on their families, businesses, and communities. Switching to electrified heating would save over 50 percent of New Yorkers approximately 800 million dollars per year, cumulatively.[4] This winter, these cost savings will grow as gas prices experience price hikes and volatility. Regionally, buildings that use natural gas will see a seasonal price increase over three times that of electric heat pumps. Such volatility is expected to continue for gas as the world stops investing in stranded assets. By banning gas infrastructure for new builds, Intro 2317 will provide security, stability, and cost savings for New York City residents while also helping the City reduce its emissions.

In sum, passing Intro 2317 is essential for the City of New York to reach its climate goals. Buildings drive New York's greenhouse gas emissions, led by heating needs. We have the technologies commercially available today to electrify -- by doing so, we will replace what are becoming increasingly stranded fossil fuel assets with appreciating climate assets. The heat pumps and other machines we need for building electrification will continue to contribute to NYC's decarbonization goals, particularly as the grid becomes greener. It will also help reduce monthly energy bills for New Yorkers. Simply-put, Intro 2317 is a win-win for the City of New York and should be passed immediately. Every new building is an opportunity to meet our climate targets and we meet this opportunity by enacting Intro 2317 and by electrifying our new homes, businesses, and communities.

Thank you for your time,

Rachael Grace
Director of Strategic Policy Initiatives
Rewiring America

[4] See Benefits of Electrification Map, Rewiring America, 2021.

Committee on Environmental Protection
November 17, 2021 Hearing
Testimony in Support of Int 2317

Chair Gennaro and Members of the Committee,

Good afternoon. My name is Amar Shah, and I'm a Manager at the Rocky Mountain Institute (RMI). RMI is an independent, nonpartisan nonprofit focused on a just, prosperous, and zero-carbon energy transition globally.

I join today to testify in support of Int 2317, and to urge the Council to pass the bill this year. New York City needs to stop digging its climate hole, and deepening its reliance on fossil fuels in buildings. RMI does support the revisions proposed by Urban Green Council in written testimony, which are specific, ambitious, and feasible in implementation. Importantly, these revisions can be incorporated this year.

We would like to highlight three messages, as a complement to the many voices of support for this policy today:

- **First, reliance on gas in Buildings is not just a climate issue, but a public health one.** A recent study out of the Harvard Chan School of Public Health found New York to be the worst state in the country for premature deaths stemming from air pollution from buildings, resulting in over a 1,000 premature deaths annually in New York City.[1] This goes well beyond oil-based appliances; gas use is a leading culprit.

- **Second, continued new construction with gas is expensive and risky for New York City.** Every building built with fossil fuel today will very likely need to be retrofitted at higher cost down the road. To make matters worse, downstate ratepayers are currently subsidizing the addition of new buildings to the gas system, by an estimated $120 million per year (according to research by NY-GEO).[2] A three year delay in implementation translates to $350 million of additional downstate ratepayer spending on gas infrastructure, with a high risk of being abandoned as New York moves to meet its climate goals.

- **Third, in contrast, new all-electric buildings are cost-effective.** Research from RMI[3],

[1] Talor Gruenwald and Stephen Mushegan, "New York Emits More Building Air Pollution Than Any Other State," RMI, https://rmi.org/new-york-emits-more-building-air-pollution-than-any-other-state/, May 18, 2021
[2] New York Geothermal Organization Correspondence with the New York Public Service Commission, "100 Foot Cost Request", Proceeding 20-G-0131, https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={D1461A00-B8B8-4A04-B2F4-A1CB60CE1748}, April 30, 2020 ['Downstate' dollars combine Con Ed and National Grid-Downstate]
[3] Claire McKenna, Amar Shah, and Leah Louis-Prescott, "The New Economics of Electrifying Buildings," https://rmi.org/insight/the-new-economics-of-electrifying-buildings, November 2020

NYSERDA[4], and others has shown that developers can build all-electric and save money doing it. These cost savings will only increase as the market develops.

In conclusion, with more than 100 million square feet of projected building area growth this decade[5], Int 2317 is an opportunity for New York City to claim a leadership position, spur the market, and have a significant impact on climate and public health. We encourage the Council to act.

Regards,

Amar Shah
Manager, Carbon-Free Buildings Program
Rocky Mountain Institute

[4] NYSERDA, "Carbon Neutral Buildings Roadmap - Day 2 Public Webinar," Chapters 8 and 9, https://www.nyserda.ny.gov/-/media/Files/Programs/Carbon-Neutral-Buildings/Day-2-Carbon-Neutral-Roadmap-Presentation.ashx, June 16, 2021

[5] New York City 80x50 Buildings Technical Working Group, " Technical Working Group Report", https://www1.nyc.gov/assets/sustainability/downloads/pdf/publications/TWGreport_04212016.pdf, page 35, April 21, 2016

Direct testimony by Kim Fraczek, Director, Sane Energy Project
kim@saneenergy.org 646-387-3180

Wednesday, November 17, 2021 NYC Environmental Committee of the NYCity Council

RE: Int 2317 A Local Law to amend the administrative code of the city of New York, in relation to the use of substances with certain emissions profiles

---

My name is Kim Fraczek, director of Sane Energy Project. We represent nearly 17,000 New Yorkers working for the past decade toward halting fossil fuels and moving our economy to 100% community owned and led renewables.

It is such a pleasure to work with such a forward thinking City Council, and I thank you for your valiant efforts to address climate change as the crisis *that it is* in our beloved waterfront city.

We support Intro 2317 that is long overdue for New York. We must ensure methane is no longer a part of our energy equation for heating, cooking, and generating electricity in our buildings, and this bill is a major piece of the puzzle to get us to a 100% sustainable and healthy city that can be resilient when the next Superstorm Sandy or Hurricane Ida hits us.

We know that addressing the climate crisis also means addressing the inequitable health and economic crisis that targets low-income communities and communities of color who make New York City the creative, powerful, and vibrant city that it is.

We know that during Michael Bloomberg's time as Mayor of NYC, he did everything in his power to push for oil to gas conversions, lying to everyone that gas was somehow cleaner and greener, and suppressed programs that uplifted renewable heating for buildings, and pushing for the Spectra pipeline in the West Village to facilitate the connection with fracking in PA to force consumption of fracked gas in NYC so he could line his personal pockets that were invested in the fracking industry, and now have us far behind in our climate goals.

For the past two weeks, we saw our federal government and other economically powerful nations water down climate action in Glasgow to keep business as usual. So

while the USA continues to extract and pollute and cause other nations who are not responsible for the climate crisis to suffer with floods, famine, mandatory migration for survival, and loss of family, history and culture, we know that it is our duty as New York City, a leader for the nation to show how climate action is done.

Not only do we know that methane, i.e. fracked gas, is 86-101 times more potent a greenhouse gas for warming our atmosphere, but we know that the fracked gas that is coming into our homes and buildings in NYC is from the Marcellus shale in neighboring states where, sadly, fracking is still legal, and is one of the most radioactive shale formations in the world. **Cooking and heating with this fracked gas is dreadfully dangerous for our health in terms of asthma in our small and unventilated kitchens** as fracked gas carries fine particulate matter (PM2.5) and volatile organic compounds (VOCs) and potentially radon poisoning, the leading cause of lung cancer in non-smokers in the nation. New York City leads in the highest death and disease rates from asthma in the country. Childhood asthma in Northern Manhattan, South Bronx, and Brownsville, Brooklyn is responsible for a large portion of emergency room visits, hospitalizations, and deaths, so continuing to use combustible and poisonous fuels in our buildings is environmental racism at its worst.

Connecting the dots of the climate crisis and the health and economic crisis must be a top priority if we are going to continue to be the New York City that is a leader in this nation.

Please ensure the passage of Intro 2317.

One final remark: thank you to the City Council standing with us over the years to pass climate justice legislation. It is important that we send a clear message to Mayor De Blasio's Administration, and the incoming Adams' Administration that we will continue to act on climate and connect it to health and equity. We watch how the current administration continues to dodge acting on climate with ignoring action on liquefied fracked gas trucking and vaporizers in North Brooklyn, and continues to cower behind corporate utilities, some of the worst climate criminals in New York. -- We know we can rely on City Council to stand up for climate justice, and I express gratitude once again. Thank you.

(revised)
PASS Intro 2317 for a Gas-Free NYC

CM Gennaro, Committee on Environmental Protection Hearing, Nov. 17, 2012
Comments of Catherine Skopic

We've just had a victory - Gov. Hochul and the State rejected the two new gas plants: Astoria and Danskammer. We need more "no gas" victories. **This** could be one - pass **Intro 2317**! Our city is suffering from air pollution, EJ communities far worse. More children and elders than ever before are experiencing the negative aspects of asthma - some have died. We successfully eliminated #6 heating oil - we can eliminate gas! As the scientists of the Intergovernmental Panel on Climate Change - IPCC - reported, we are in CODE RED - a Climate Emergency. Half steps aren't enough - we need whole steps - and more - Pass 2317!

Thank you, CM Gennaro for holding this hearing and thanks to all those who assisted. My name is Catherine Skopic, I'm Chair of Sierra Club New York City Group and participate with a variety of Climate, Environmental, Peace and Anti-Nuclear groups. We are here today to raise our voices to make sure you hear us - pass this bill - Intro 2317 - ASAP! Thank you.

As our buildings are responsible for over 70%of our emissions, transitioning them to electricity will go a long way toward improving public health, promoting environmental justice, enabling our state to keep its mandated emissions reduction goals and contribute to slowing global warming.

I do, however have a concern. This is going to take a lot of additional electricity coming into NYC. NYSERDA has presented at least 7, I believe, New York State renewably-generated projects that could do just this - deliver more renewable energy to NYC. In April, two of these projects received state recommendation: Clear Path and the Chesapeake Hudson Power Express - the former, NYS, the latter, a Quebec Canadian hydro Blackstone project that is anything but renewable. It would entail racial, environmental and economic injustices. (Here is a link to a webinar that clearly explains the extensive methane emissions and damages caused by mega-dams.)

Mega Dams = Mega Damages: Sustainability Series 09-09-21 Mega-dam hydro energy is not sustainable, green or renewable. The electricity supply to enable the realization of 2317 is important. So, please, No CHPE, power purchase agreements (PPA's) or contracts! No REC's - renewable energy credits - rather than building retrofits. I do not expect this would happen.

In closing, let me repeat, I/we support Intro 2317 and 2191 and 2196, as well. Please pass them as soon
as possible, including any amendments you deem worthy of improvement to this bill.

Respectfully and in PEACE, Catherine Skopic
Chair, Sierra Club New York City Group

(original)

PASS Intro 2317 for a Gas-Free NYC - Now

Our city is suffering from air pollution, EJ communities far worse. More children and elders than ever before are experiencing the negative impacts of asthma - some have died. We successfully eliminated # 6 heating oil, now it is time to eliminate gas!

My name is Catherine Skopic, I'm Chair of Sierra Club New York City Group and participate with a variety of Climate, Environmental, Peace and Anti-Nuclear groups.We are here today to raise our voices to make sure you hear us - PASS THIS BILL NOW!

(With Mother Nature's response to all the fossil fuels and methane we've put into our atmosphere - floods, droughts, forest fires, rising temperatures, rising sea levels, tropical diseases moving north - we know we can no longer burn natural, fracked gas that is 80 times more greenhouse gas producing than is CO2.)

Our buildings are responsible for about 70% or more of the city's GHG emissions; therefore, if we can transition our buildings to electricity, we can eliminate our largest emitting sector, enable our state to keep its mandated emission reduction goals, restore public health, promote environmental justice. I/we strongly support this bill, Intro. 2317.

However, there is one concern: **how and where is the electricity we need to electrify our buildings being generated?** Colleagues and I prefer it be renewably-generated in New York State. NYSERDA has proposed several projects to deliver NYS renewably-generated energy into NYC. There is one project, however, with negative implications that has been in the planning stages for over a decade - Blackstone's CHPE - Champlain Hudson Power Express - Quebec, Canada's Hydro-energy produced by mega-dams that emit huge amounts of methane, displace Indigenous peoples, destroy land and water life, would damage Hudson and East Rivers, pollute the water people of the 7 Communities along the Hudson River depend upon for their drinking water. This energy would be delivered by cables buried under the rivers and Randall's Island. They emit electronic magnetic frequencies that negatively impact aquatic and human health.

In addition to these CHPE Racial and Environmental Injustices, there is an Economic Injustice - New York State's energy dollars would go to Canada, not to our own coffers. NYS rate payers would be paying for years. This is not necessary - it is not desirable. We neither want nor need CHPE.

My message to you - Pass Intro 2317 - Make sure CHPE is not approved, no PPA's - Power Purchase Agreements - from dirty hydro Canadian energy! Thank you.

Teamsters Local Union No. 553

Affiliated with the International Brotherhood of Teamsters

265 West 14th Street, Suite 305, New York, NY 10011-7189

Phone: 212-929-6828 Fax: 212-691-8025

Demos P. Demopoulos
Secretary-Treasurer & Executive Officer

November 17, 2021

My name is Demos Demopoulos, I am Secretary-Treasurer and Executive Officer of Teamsters Local 553 and Secretary-Treasurer of Teamsters Joint Council 16, representing 120,000 Teamsters throughout the City of New York.

Intro 2317 as it stands now and if passed will have a harmful effect on working families and an industry that is made up of mostly small to medium sized family-owned businesses who have been serving customers in the five boroughs and providing good Union jobs with excellent pay, pension and medical benefits for their families.

Since 2012 the industry has been working hard to reengineer its fuel and make heating oil cleaner by blending biodiesel, which is a drop in fuel that can replace conventional heating fuel without expensive changes to customers heating systems.We have helped the Industry and the environment by lobbying in the past to lower the Sulphur content in heating oil and now with the blending of biodiesel will further the goal of using a cleaner fuel and protect the environment.

We urge you to consider this and not pass this Intro 2317 legislation and protect Teamster families.

Sincerely,

Demos P. Demopoulos

Demos P. Demopoulos
Secretary-Treasurer

Teamsters Local Union No. 553

Affiliated with the International Brotherhood of Teamsters

265 West 14th Street, Suite 305, New York, NY 10011-7189

Phone: 212-929-6828 Fax: 212-691-8025

Demos P. Demopoulos
Secretary-Treasurer & Executive Officer

November 17, 2021

My name is Demos Demopoulos, I am Secretary-Treasurer and Executive Officer of Teamsters Local 553 and Secretary-Treasurer of Teamsters Joint Council 16, representing 120,000 Teamsters throughout the City of New York.

Intro 2317 as it stands now and if passed will have a harmful effect on working families and an industry that is made up of mostly small to medium sized family-owned businesses who have been serving customers in the five boroughs and providing good Union jobs with excellent pay, pension and medical benefits for their families.

Since 2012 the industry has been working hard to reengineer its fuel and make heating oil cleaner by blending biodiesel, which is a drop in fuel that can replace conventional heating fuel without expensive changes to customers heating systems. We have helped the Industry and the environment by lobbying in the past to lower the Sulphur content in heating oil and now with the blending of biodiesel will further the goal of using a cleaner fuel and protect the environment.

We urge you to consider this and not pass this Intro 2317 legislation and protect Teamster families.

Sincerely,

Demos P. Demopoulos
Secretary-Treasurer

the Network
Supportive Housing Network of NY

Testimony to the New York City Council
Committee on Environmental Protection
Submitted by the Supportive Housing Network of New York
November 17, 2021

INTRODUCTION

Hello Chair Gennaro and members of the Committee on Environmental Protection. My name is Moira McComas and I am a Policy Analyst at the Supportive Housing Network of NY. The Network is a membership organization that represents over 200 nonprofit members who operate and develop supportive housing. In doing so, we also strive to keep the best interests of tenants and staff a priority. Supportive housing is permanent affordable housing with embedded social services for eligible individuals and families, people who are experiencing chronic homelessness and living with disabilities and/or other barriers to maintaining stable housing. The Network also has over 100 corporate members including tax credit syndicators, banks, and other financial institutions.

Thank you for the opportunity to submit testimony regarding Intro 2091.

SUPPORT

The Network supports many of the goals of this legislation and appreciates the attention on the feasibility component of City measures to decarbonize New York City's buildings and achieve climate targets to protect the health and improve the lives of New Yorkers. Ultimately, we understand that the City's emission reducing targets and initiatives aim to provide equitable solutions that benefit the communities suffering the worst impacts of pollution and with the least access to clean energy.

We also want to underscore specific concerns that will affect our supportive housing members and tenants. We hope the feasibility assessments and education plans outlined in this bill will be a solid first step in addressing these concerns.

CONCERNS REGARDING ELECTRIFICATION INITIATIVES

I want to begin with our general concerns regarding electrification initiatives. Electrification and decarbonziation efforts will take a massive public investment. Energy efficiency goals are unachievable for nonprofit supportive housing developers and owners if funding will not be scaled up beyond existing resources. There is currently a lack of dedicated and reliable funding to achieve these goals, especially regarding the financial burden inevitably placed on operators and developers of supportive and affordable housing. Any regulations must be paired with programs that ensure we are not diverting limited resources away from the development and preservation of supportive and affordable housing.

It is equally important for the policy goals to match the underwriting realities. New funding mechanisms and incentives must be compatible with term sheets. If term sheets need to be increased to meet climate goals, the City's housing budget must be increased commensurately to ensure that we maintain production.

While formulating these plans and undergoing assessments, the legacy of disinvestment in Black and brown communities that has led to deferred maintenance and disproportionate health hazards in homes needs to be considered every step of the way.

RECOMMENDATIONS

As previously stated, the Network supports the feasibility assessments outlined in Int. 2091. We hope this legislation will be used to identify any issues related to electrification and decarbonization that would disrupt the supportive housing pipeline, preventing preservation efforts and future development. We cannot allow people experiencing homelessness to suffer as a result of our City and State's climate goals.

The costs of any required rehabilitation or system upgrades needs to be addressed in the assessment for existing affordable and supportive housing residences, and then worked into the parameters of City term sheets. For example, VRF systems for all-electric buildings require monitoring and administrative fees that should be considered in the cost analysis. We hope the feasibility assessments will shed light on these considerations.

There is no mention of a timetable in the legislation for disseminating information to the community and arriving at outcomes of the feasibility assessments. We need to ensure all assessments are completed and ensuing resources are put in place prior to deadlines for energy goals so the pipeline is not impeded.

We would like the Committee to consider adding feasibility studies not just for existing buildings but for new construction. I understand testimony is also being heard today for Int. 2317. For example, including a feasibility study related to the implementation of Int. 2317 would provide clarity on how this legislation will work within the greater context of pushing forward energy goals.

SUMMARY AND CONCLUSION

We encourage the Council to consider the funding challenges and ask them to thoroughly evaluate the impact of electrification goals and its impact on supportive housing, which houses disenfranchised and marginalized communities already most susceptible to the debilitating, long-term outcomes of climate change.

The Network plans to urge the administration to utilize the cost analysis included in this bill to prioritize and increase investments in the sustainable development and preservation of affordable and supportive housing.

We wholeheartedly support the City's effort to electrify and decarbonize its buildings – the climate goals embedded in Intro 2091. Our testimony to NYC Council to the Committee on Environmental Protection is in support of Int. 2091. Electrification policy goals are important to our organization and we want to ensure they are handled in a way that enables their success.

Sincerely,
Moira McComas

the Network
Supportive Housing Network of NY

mmccomas@shnny.org

Testimony of Urban Green Council before
New York City Council Committee on Environmental Protection
Re: Int. No. 2317

November 17, 2021

Dear Chair Gennaro and Committee members:

My name is Chris Halfnight and I am Director of Policy at Urban Green Council, an environmental nonprofit working to reduce the carbon footprint of New York City buildings.

Urban Green supports an ambitious, equitable and affordable transition for New York City buildings from fossil fuels to clean electricity. Our perspective is informed by four key facts from our data-based research:

1. Boilers, furnaces and hot water heaters emit more carbon in New York City than all uses of electricity, accounting for 40 percent of citywide emissions. Electrifying these systems is NYC's primary climate challenge.

2. Heat pumps are so efficient that they save carbon today, even with New York City's dirty electricity grid. There is no carbon-based reason to wait.

3. Building electrification primarily adds winter electricity demand. The grid is built to serve a summer peak that is 40 percent higher than winter, which means the grid is ready for building electrification to start now and we have a long planning horizon for future load growth.

4. The additional upfront cost to build all-electric in New York City is small, with the latest data for multifamily buildings showing about 2 percent higher cost after incentives and credits.

At the same time, we recognize that electrification of existing buildings is far more challenging than new construction, that operational costs must be addressed, and that New York City industry has limited experience designing and building all-electric multifamily buildings. To succeed, an electrification mandate must navigate these challenges and drive not just all-

Urban Green Council
55 Broad Street, 9th Floor
New York, NY 10004

Phone (212) 514-9385
Fax (212) 514-9380
urbangreencouncil.org

electric construction but efficient, all-electric construction to make buildings more comfortable, healthier and affordable, particularly for low-income New Yorkers.

With these points in mind, Urban Green supports Int. No. 2317 and recommends several important changes:

I. Phase in requirements by building height to allow more time for taller buildings and market ramp-up.

We recommend applying requirements in two phases: first, any building with seven or fewer stories permitted two years from the law's effective date; second, any building with eight or more stories permitted five years from the law's effective date.

This phased approach recognizes that all-electric new construction in lower-rise buildings is easier and can happen sooner, with design and technology ready for this transition. But it also allows more time for designers, builders and trades professionals to adapt to the greater technical challenges in taller buildings and for manufacturers to bring more products to market.

Above seven stories, system design becomes more complex in part because of limitations in refrigerant line length and less roof and basement space compared to the size of the building. Domestic hot water systems present the biggest challenge, with limited equipment options on the market today and minimal industry experience designing and installing efficient, all-electric hot water systems that meet health and comfort needs in NYC's large residential buildings. In the multifamily sector, this is new territory and an ambitious but reasonable phase-in will yield a better result.

Urban Green and others have used seven stories as a building typology division to assess statewide building electrification pathways. It's also a division used for both commercial and residential buildings in the One City Built to Last Technical Working Group Report. And the NYC Department of Housing and Preservation uses the same seven story division in its electrification retrofit program in collaboration with NYSERDA. While a three-story height division that aligns with the energy code is also a viable possibility, that division would delay all-electric construction for a substantial number of buildings and 20 percent or more of annual new building area that could feasibly be built all-electric in the near term.

Lastly, this phased approach allows time for planned updates to the energy code, which will help ensure new, all-electric construction is highly efficient and has lower utility costs that benefit the residents and businesses that will eventually occupy all-electric buildings.

Based on historical data, the first phase of this approach affecting buildings up to seven stories would cover over 90 percent of new buildings and over 40 percent of new floor area.

II. Clearly define a high threshold for major renovations to be covered.

Electrification is much more challenging for existing buildings. If included, we recommend only covering very major renovations that present electrification opportunities similar to new construction, such as by reference to a clearly defined and high threshold like the Building Code defined term "Substantial Improvement."[1] Additional triggers may be appropriate and permitted work should be aggregated over a time period (e.g. 12 months) to avoid the possibility of projects being subdivided to circumvent a cost threshold. We also recommend addressing any significant hardships unique to renovations, such as the inability to increase capacity for incoming electrical service, through exceptions or waivers.

If major renovations are not included, we urge consideration of how City government can lead by example with an electrification requirement for major renovations of City-owned property. This approach would strengthen the existing green building laws for City capital projects and help shed light on options and costs for design, equipment and labor for heat pump retrofits.

III. Lower the permitted CO_2 emissions limit.

The proposed CO_2 emissions limit is only marginally lower than emissions from natural gas combustion, which means a small amount of lower-CO_2 fuel, such as hydrogen, blended with natural gas could enable installation of new or replacement fossil fuel equipment in buildings.

We recommend lowering the limit to a significantly lower threshold, such as 25 kg CO_2 per MMBtu, to ensure fuel blending does not enable new or replacement fossil fuel equipment.

IV. Add "electrification-ready" requirements for all new construction and major renovations in the interim.

Every new building with fossil fuel equipment is adding to the future retrofit challenge, as these buildings will be harder and more costly to retrofit to all-electric down the line.

We recommend requiring modest "electrification-ready" measures for all new construction and major renovations until these emissions limits kick in, so that future retrofits are less costly and easier. Potential measures include electrical distribution sizing, space for future electrical service upgrades, access requirements for mechanical spaces, roof layouts to consolidate equipment and structural support for future equipment.

[1] *Substantial Improvement means: "Any repair, reconstruction, rehabilitation, addition or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started." (§ 28-7 G201.2)*

V. Add detail to keep exceptions limited and justified.

Exceptions to the emissions limits may be necessary for certain building types, space uses or circumstances, but the current phrasing is overbroad and risks exempting too many buildings.

We recommend requiring Department of Buildings rulemaking to:

- Define a waiver process for circumstances where sufficient utility electricity service is not possible within a reasonable timeframe because of utility infrastructure limitations.

- Define “undue hardship” with clear criteria so it is available only when truly necessary.

- Provide criteria for when and to what degree combustion is deemed “required” for emergency standby power, for manufacturing, or for the operation of a laboratory, laundromat, hospital or commercial kitchen.

- Define “intermittent basis” or provide additional detail on what uses are permissible, specifically clarifying that fuel oil boilers are not included.

With these changes, we believe Int. No. 2317 will drive efficient, all-electric new construction, while allowing sufficient time to address the technological, design, workforce and affordability considerations of this major transition.

Thank you for the opportunity to comment today. I am available to answer any questions.

CONTACT:
Chris Halfnight
Director, Policy
Urban Green Council
ch@urbangreencouncil.org

Appendix
Summary Table of Issues and Recommendations

	Issue	Recommendation
1.	NYC industry has limited experience designing and building all-electric buildings, in particular taller multifamily buildings. The most recent data show costs are coming down, equipment availability is improving and leading designers are adapting, with an average cost premium of about 2 percent for all-electric multifamily buildings after incentives and credits. But additional time is necessary to ensure a feasible transition for larger, more-complex projects and for the market to adapt with increased heat pump equipment availability and industry training.	**Phase in requirements by building height to allow more time for taller buildings and market ramp-up.** Phase in requirements based on building height and aligned with construction code permitting, so that the emissions limits affect: a) low- and mid-rise buildings with seven or fewer stories permitted two years from effective date, and b) buildings with eight or more stories permitted five years from effective date. This phased approach will: • Recognize that all-electric construction in lower-rise buildings is easier and can happen sooner; • Allow more time for designers, builders and trades professionals to adapt to technical challenges in buildings over seven stories. Above seven stories, system design becomes more complex in part because of limitations in refrigerant line length and less roof and basement space compared to the size of the building. Domestic hot water systems present the biggest challenge, with limited equipment options on the market today and minimal industry experience designing and installing efficient, all-electric hot water systems that meet health and comfort needs in NYC's large residential buildings; • Align with a seven-story building typology division used in statewide building electrification assessment, in the One City Built to Last Technical Working Group Report, and the NYC Department of Housing and Preservation's electrification retrofit program in collaboration with NYSERDA; [2] • Allow time for manufacturers to bring more products to market; and • Allow time for planned updates to the energy code, which will help ensure new, all-electric construction is highly efficient. Based on historical data, the first phase of this approach affecting buildings up to seven stories would cover over 90 percent of new buildings and over 40 percent of new floor area.
2.	The bill is intended to affect new construction and major renovations, but that intent is not explicit in the legislation. The standard for a "major renovation" is neither defined nor clearly structured as a threshold criterion for emissions limits to apply. Electrifying the heating systems of most	**Clearly define a high threshold for major renovations to be covered.** If existing buildings are included, we recommend only covering very major renovations that present electrification opportunities similar to new construction, such as by reference to a clearly defined and high threshold like the Building Code defined term "Substantial

[2] A three-story height division that aligns with the energy code is also a viable possibility, but that would delay all-electric construction for many buildings and 20 percent or more of annual new building area.

	existing buildings is far more challenging than in new construction or gut renovations.	Improvement."[3] Additional triggers may be appropriate and permitted work should be aggregated over a time period (e.g. 12 months) to avoid the possibility of projects being subdivided to circumvent a cost threshold. We also recommend addressing any significant hardships unique to renovations, such as the inability to increase capacity for incoming electrical service, through exceptions or waivers. If major renovations are not included, we urge consideration of how the city can lead by example with an electrification requirement for major renovations of City-owned property. This approach would strengthen the existing green building laws for City capital projects and help shed light on options and costs for design, equipment and labor for heat pump retrofits.
3.	The proposed CO_2 emissions limit is only marginally lower than emissions from natural gas combustion, which means a small amount of lower-CO_2 fuel (e.g. hydrogen) blended with natural gas could enable installation of new or replacement fossil fuel equipment in buildings.	**Lower the permitted CO_2 emissions limit.** Lower the limit to a significantly lower threshold, such as 25 kg CO_2 per MMBtu, to ensure fuel blending does not enable new or replacement fossil fuel equipment.
4.	Buildings built or significantly renovated before emissions limits take effect will be harder and more costly to retrofit to all-electric down the line.	**Add "electrification-ready" requirements for all new construction and major renovations in the near term.** Require modest "electrification-ready" measures for all new construction and major renovations until emissions limits kick in to make future retrofits cheaper and easier. Potential measures include electrical distribution sizing, space for future electrical service upgrades, access requirements for mechanical spaces, roof layouts to consolidate equipment and structural support for future equipment.
5.	Exceptions to the emissions limits are necessary for certain building types, space uses or circumstances, but the current phrasing is overbroad and risks exempting too many buildings.	**Add detail to keep exceptions limited and justified.** a) Include a waiver process for circumstances where sufficient utility electricity service is not possible within a reasonable timeframe because of utility infrastructure limitations. b) Define "undue hardship" to ensure it has clear criteria and is available only when truly necessary. c) Provide criteria for when and to what degree combustion is deemed "required" for emergency standby power, for manufacturing, or for the operation of a laboratory, laundromat, hospital or commercial kitchen. d) Define "intermittent basis" or provide additional detail on what uses are permissible (note, for example, that the current phrasing could be read to exempt oil boilers).

[3] *Substantial Improvement means: "Any repair, reconstruction, rehabilitation, addition or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started." (§ 28-7 G201.2)*

UTILITY WORKERS UNION OF AMERICA

JAMES SLEVIN
PRESIDENT

MICHAEL COLEMAN
SECRETARY-TREASURER

PATRICK M. DILLON
EXECUTIVE VICE PRESIDENT

JOHN DUFFY
VICE PRESIDENT

Affiliated with A.F.L.-C.I.O.

1300 L STREET, N.W.
SUITE 1200
WASHINGTON, D.C. 20005
202-899-2851
202-899-2852 FAX
www.uwua.net

November 17, 2021

The New York City Council
Committee on Environmental Protection
City Hall
New York, NY 10007
VIA Online Portal

In Re: Oversight Hearing on Building Electrification, T-2021-8116

Members of the Council:

We welcome the opportunity to comment on the City Council's proposals to study the feasibility of electrifying existing buildings in the city of New York (File# Int 2091-2020). The Utility Workers Union of America (UWUA) represents around 50,000 workers in the electric, gas and water utility sectors across the U.S. In the city of New York, members of UWUA Local 1-2 operate and maintain electric and gas utility infrastructure for Consolidated Edison (ConEd). Their work puts them at the center of New York City's energy systems.

The UWUA supports reducing greenhouse gas emissions as our union is made up of technically minded people whose everyday work involves thinking like an engineer, a mechanic and a scientist. We clearly understand the need for New York to manage its emissions, that global climate change is real and that it affects our great city.

Our members are highly skilled and take pride in the work they do, whether it's installing new services or repairing leaks and maintaining existing service to improve public safety and protect the environment. Our members believe that natural gas is, in fact, a cleaner and cheaper option for many residential and business customers. That this view is shared by our members communities is reflected in the fact that requests for new natural gas service increase every year.

However, we have concerns about the implementation of some of the policies that are the subject of today's hearing, policies that would directly affect our livelihoods and the customers we serve. Further, these initiatives will also have a bearing on the safety and reliability of the energy delivery systems which we build and maintain.

We disagree with the notion that in order for New York City to effectively manage its greenhouse gas emissions, highly skilled, good paying, union jobs must be placed at risk in pursuit of solutions that are economically, socially, and even physically unrealistic. That avenue creates a false choice which does little to ensure that the city manages its energy transition in a way that benefits the city and its energy workforce.

We see serious issues in undertaking a one-to-one conversion of all gas usages to electric. Affordability, for one, particularly in neighborhoods with older homes, rental properties and low-income populations. The costs of conversion – while not inconsiderable for any end user – could fall disproportionately on those customers least able to afford the change, or the resulting energy costs.

Our members in the electric sector who serve distribution customers are also concerned about the impact of the additional electric load that would be necessary to achieve full electrification, particularly in areas where upgrades to aging infrastructure would require years and only add to the electric distribution bills of the state's electric customers.

We believe that climate goals, particularly with respect to the housing sector, should not be aimed for solely from the standpoint of a literal, one hundred percent electrification of the city's energy systems. The solutions for the housing sector, particularly the existing housing sector, should be discussed in a manner which encourages numerous technologies – as may be appropriate to a given neighborhood or even individual building to reduce building emissions and energy consumption.

Limiting energy choice to just electricity is bad for both the economy and community resilience. Relying on a single energy delivery system eliminates consumer choice, suppresses innovation and competition, and could reduce reliability. In addition, limiting to a single energy delivery system unnecessarily increases vulnerability to extreme weather events and disasters caused by climate change.

Natural gas is a very affordable source of energy for New York City residents in comparison to electricity rates, which are among the highest in the nation. Eliminating new residential natural gas could lead to much higher costs for heat for working families.

Further, it is axiomatic that electrification without robust weatherization and energy efficiency improvements – for every individual building – does not reduce energy consumption, and in many cases could result in higher energy consumption. Simply converting a building to all electric, while reducing gas usage, does not necessarily reduce energy consumption in fact, consumption may increase as building envelopes fail to achieve efficiency for electric technologies.

New York City is at an inflection point in the evolution of its energy policy in response to the global climate crisis. Reducing the greenhouse gas emissions of the city's energy systems is a goal shared by everyone, but a narrow tech-specific approach that picks preferred technologies risks setting us back in our energy goals and obstructing work to meet other goals such as affordable housing, pursuing environmental and economic justice, and maintaining the health and well-being of the city's population.

The core of our message is that union workers in the energy industry have skills, experience and knowledge that are crucial to addressing the challenges we all face as the infrastructure for which we are responsible evolves. Our work culture empowers workers to make the energy systems on which our economy relies safe, reliable, affordable and clean. That means a workforce that is adequately staffed, well trained, fairly compensated and has a place at the table where decisions are made.

Workforce stability to operate and maintain energy infrastructure is key to de-carbonizing our economy. We are a resource for achieving our state's environmental goals when we are engaged and valued by the process. This includes maintaining continuity in the workforce that operates and maintains our energy infrastructure.

On this point, one way in which the proposed amendment could be improved would be an explicit statement about the absolute necessity of a highly trained, highly skilled union workforce numerically large enough, possessing all of the necessary skill-sets essential to operating energy systems in accordance with requirements for safety, reliability, responsiveness, leak reduction and affordability at all times.

This is a baseline requirement that should be the starting point for any discussion of New York City's evolving energy systems, including the recruitment, training, and retention of workers to achieve those performance levels over the coming decades of gas system evolution. Because jobs in the utility sector are in a mature industry that have long had higher rates of union density than the broader economy, they are generally highly

skilled, well compensated, and have high road benefit packages for both healthcare and retirement.

These are some of the most high-quality, middle-class jobs in the city, jobs that are truly lifelong career pathways for people to follow. Further, these are both family and community-supporting jobs where these workers live and spend their paychecks, fueling the city's economy. Sacrificing jobs of this quality in pursuit of goals that are difficult to the point of being unachievable is not sound public policy.

While we support de-carbonization and other greenhouse gas reduction strategies, we do not support mandated building electrification. As individuals who work on energy infrastructure every day, we see electrification as being far more costly and orders of magnitude more physically difficult than simply modernizing gas end-uses. Strategies such as reducing building-related emissions through fixing gas leaks, replacing older gas appliances with state-of-the-art efficient gas appliances using electronic ignitions, and blending hydrogen in delivered gas fuels are examples of policy approaches that would be more effective, cost-efficient and, perhaps most importantly, realistically achievable as opposed to a full replacement of the city's entire gas industry and complete retrofit of every building in the city of New York.

An obvious example as to why this is so, is to simply think through the issues associated with the physical retrofit of dwellings with gas appliances to all electric appliances. In most cases they cannot simply be swapped out in a literal one-to-one exchange. The need to upgrade electrical panels, redo ductwork and wiring, open walls and ceilings, and remodel entire building configurations to accommodate the systems needed would be extremely expensive for homeowners and renters, regardless of income as well as massively and physically, disruptive. Multiplied over millions of New York City buildings, this strategy hardly bears contemplating.

The costs to residents and property owners could be astronomical, particularly in older dwellings that are not wired to handle the electricity load for modern electric appliances. We believe the most responsible – and achievable – approach to emissions reduction is to optimize the use of natural gas, not minimize or eliminate it. Sound public policy should direct us to integrate and optimize these systems to support our lives as we reduce the city's emissions footprint.

De-carbonization does not equate to electrification. We need to move past an overly simplified set of assumptions and presumed outcomes that privilege electrification over other de-carbonized end use fueling methods. We need a more realistic and grounded, less doctrinaire approach to managing the role of the gas energy system for transporting and delivering energy to the users who depend on it.

In closing, serious approaches to policy, grounded in social, economic, and engineering realities will need to be considered if we are going to get real about reducing carbon in the city's energy systems. Balanced energy solutions should include providing options and incentives that families and businesses can use to achieve climate goals by reducing emissions based on their needs and financial abilities.

We are here to help, and to be a part of the solution. As utility workers, we are confident that as long as we, the technical experts who maintain these systems every day, have a voice at the table, we can meet and overcome the city's energy and climate challenges.

Sincerely,

James T. Slevin
National President
Utility Workers Union of America, AFL-CIO

James Shillitto
President
Utility Workers Union of America, Local 1-2

Dear Councilmember Gennaro,

My name is Annie Carforo, and I am the Climate Justice Organizer at WE ACT for Environmental Justice. Over the past 33 years, WE ACT has been combating environmental racism through policy and organizing in Northern Manhattan and fighting for a just transition off of fossil fuels. We are testifying today as a part of the #GasFreeNYC coalition in support of Introduction 2317, which sets tight air pollution limits and eliminates the use of natural gas and other fossil fuels in all new construction. This is the type of bold legislation needed to meet the magnitude of our current climate crisis. It is also vital if New York City is going to address the health impacts of local air pollution that disproportionately harms communities of color.

Over 1,000 New Yorkers die prematurely each year from air pollution as a result of the combustion of fossil fuels in New York City's buildings, which are responsible for 70% of our greenhouse gas emissions. A 2021 study published in the journal Science Advances found that racial-ethnic minorities in the United States are exposed to higher 17 percent more $PM_{2.5}$ pollution associated with residential gas combustion than the population average, with Black Americans facing 32 percent higher exposure. This has led to disparate health outcomes for communities of color, which experience higher rates of respiratory diseases like asthma.

Relying on dirty fuels like natural gas to heat our homes and cook our foods leads to startlingly high indoor air pollution - the use of a gas stove can create indoor nitrogen dioxide concentrations that often exceed US outdoor pollution standards, and living in a home with a gas stove can increase a child's risk of asthma by 42%. Building all electric has clear health benefits.

It is imperative that the city drastically improves air quality in more vulnerable communities, especially as summers continue to break record highs and trigger dangerous respiratory responses that lead to hospitalization and premature death. This can start with Intro 2317 and building electrification. There is an opportunity to ensure that neighborhoods, like Inwood, Jerome Avenue, East New York and East Harlem, that are hit first and worst with air pollution and climate change, see development that is all electric and improves the air quality for the residents who call these places home.

In the absence of global and national leadership after a disappointing COP26 Climate Summit that failed to make any firm commitments necessary to limit global temperature rise, local governments with global influence, like New York City, can

lead by example for cities around the world. That is why we must pass Intro 2317 and accelerate its implementation timeline to one year after enactment. Other large cities that have enacted versions of this type of legislation have made it apply to new permits on a going-forward basis within one year of enactment. A two year period would needlessly leave out another entire year of projects, locking in more pollution via new, long-lasting gas infrastructure. Additionally, it would likely cause a substantial crush of applications to be pulled forward and rushed in, hampering staff resources and time. It would also set a poor precedent for other localities and/or state action. A building built today to rely on a gas boiler is likely to have a hard time complying with Local Law 97's future years. It will waste money and raise costs in the decades to come when such buildings have to go back in and retrofit to heat pumps.

Expert commentary in the context of the hearing can clarify whether specific building types or uses should be allowed to comply on a longer timeline than one year. Two years is already longer than other cities. Even longer would further undercut other cities or state's potential action, as they will look to NYC as a relevant example.

In order to further strengthen Intro 2317, we must lower the threshold of the air pollution limit in the bill from 50 kg of CO2 per BTU to 25 kg of CO2 per BTU. The limit in the bill of 50 kg of CO2 per BTU will prevent combustion of natural gas use as it is currently formulated or applied. However, given that the federal standards are just over 53 kg, we are concerned about the potential abuse of this provision through various potential blends, such as biomethane or hydrogen blends. As written, this could become an unintended loophole to escape the anti-pollution limit. We recommend that this level be brought down to 25 kg to eliminate any possible loophole and change the intent of the law.

We also urge the term "within a building," in line 5, is changed to ensure a developer does not evade meeting the requirements of this law with unusual design, perhaps for example by placing equipment on the roof of a building.

The bill must be amended to include a clear definition of gut renovation. We suggest using the Department of Buildings Alt 1 permit as a scope threshold, plus three conditions: 50% of the flooring are replaced, 50% of windows are replaced, and the boiler is replaced within 12 months.

Additional recommendations include:

Tighten and define "undue hardship" to avoid opening a loophole and give appropriate agency guidance. We agree that some deference and flexibility ought to be granted to the department to cover unanticipated, unusual circumstances. However, the blanket "undue hardship" term is overbroad. After all, any entity that is building a new building or undertaking a major renovation in New York City is not facing financial hardship. We could perhaps see some sort of hardship due to some unusual logistics or physical limits on a building project or structure.

We have consulted experts regarding this policy. Generally, we are told either that projects are effectively the same cost or perhaps slightly more expensive (as in low

single digits higher in percentage terms) to be built using heat pumps versus gas infrastructure.

One potential way to address this is by creating a process for applicants to demonstrate an overly burdensome increased cost and physical or technological limitations that would have to be certified by a registered design professional and then approved by the department as an exemption. The current "undue hardship" language is simply overbroad and could be used by an unscrupulous administration to grant undeserved exemptions to favored applicants.

Close or tighten some of the exemptions - there are various exemptions in the bill.

1. "Commercial kitchens" should be struck and replaced with a tight definition that applies only to large baking ovens. As we've conveyed, we believe that large ovens for commercial bakeries and other high-energy use ovens probably should be defined and exempted because they may currently be uneconomical to electrify. (this could be done with a BTU standard for the size of the oven, for example) However, a normal new restaurant kitchen *should* be electrified. There are already restaurants throughout the city that only use induction stoves and electric powered ovens. More and more professional chefs are adapting to induction cooking, and they come to prefer it. Typically, restaurants currently use a mix of induction and gas stoves. Groups that we are in touch with can bring testimony from prominent chefs to back up our contentions. It is not an unjustified burden for restaurants to move to induction stoves. Moreover, this legislation only affects *new* buildings. When we last met, we gathered that your intention for the draft was to include restaurants but exclude those large ovens. We strongly agree with such a structure for the bill, especially before a hearing.

2. Hospitals should not be exempted, but rather should be allowed to use gas for redundancy in the case of emergency and grid failure. The bill currently allows new hospital buildings to use gas for operations. Hospitals may need gas as a backup power source, since they must have redundant power in case of blackout. However, new buildings should not operate from gas. Instead, they should operate as other buildings would under this legislation, but be permitted to install and use gas for emergency power.

3. "No connection to a building's gas supply line" and "intermittent" use should be tightened. This definition could conceivably open the door to fuel oil use, which is not connected to a building by a gas supply line and arguably is used intermittently. We recommend tightening this definition. We also want to talk to more experts to double check that this section doesn't create any other unintended loopholes.

4. "Manufacturing" is overbroad and should be tightened. As you know, our intention is not to end gas use where it is still prohibitively expensive or impractical to go electric. We understand concrete- and steel-making to be currently

uneconomical without gas. However, manufacturing that is economical without reliance on gas should be covered. Therefore, we recommend only specific exclusions for manufacturing or industrial processes that are, in fact, uneconomical to electrify. If some other process is not specifically defined by the bill, it could be taken in via an application process to the department where the applicant could show that this specific application needs gas (with certification from a relevant expert).

5. "Laboratories" make us go hmmmm - we didn't want to conclude this memo without questioning what gas is used in labs. Is this a chemistry lab with Bunsen burners? Does that need a gas hookup? Are super villains creating super weapons in super secret labs that need lots of gas? The experts we've consulted do not know and some are concerned this creates an unnecessary loophole.

Thank you for your time and thoughtful analysis of Intro 2317. We look forward to working with you in the next few week on passage of the bill.

Sincerely,

Annie Carforo
Climate Justice Organizer
WE ACT For Environmental Justice

WE ACT FOR ENVIRONMENTAL JUSTICE

Empowering communities to Power Change

November 15, 2021

WE ACT for Environmental Justice
1854 Amsterdam Ave, 2nd Floor
New York, NY, 10031
646-983-0224

RE: Building Electrification

To Chair James F. Gennaro and Committee on Environmental Protection:

I first want to thank Chair Gennaro for his leadership and dedication to electrifying New York City's school buses and now, for the opportunity to testify on the matter of building electrification.

WE ACT for Environmental Justice, an organization based in Harlem, has been fighting environmental racism at the city, state, and federal levels for more than 30 years. We have been entrenched in environmental health and justice advocacy work since our beginning, when we organized against a sewage treatment plant being placed in West Harlem. Currently, WE ACT is both a founding and steering committee member of Better Buildings NY, a new coalition that will help transition homes and buildings off of "natural" gas and other fossil fuels that are used for heating and cooking in favor of electricity from renewable energy sources.

I am Lonnie Portis, Environmental Policy and Advocacy Coordinator at WE ACT. I routinely analyze New York City policies and programs for equity and climate justice and support a group of community members mobilized around environmental issues in Northern Manhattan. This group has advocated for the electrification of school and transit buses and I am here to testify for the need to electrify our city's buildings and homes.

Reducing emissions from our buildings is the most significant action the city can take to reduce greenhouse gas emissions in New York City, since buildings contribute nearly three-quarters of all citywide emissions. The bills being heard today (Intro 2317, Intro 2091 and Intro 2196) all move us forward, in the right direction, toward the equitable implementation of Local Law 97 and mitigating the negative environmental health hazards caused by the use of fossil fuel energy.

My colleagues and Gas Free NYC Coalition members have already testified on the need to pass Intro 2317 mandating the phase out of natural gas in new construction

and gut renovation. Additionally, the City needs an actionable plan for The City's existing buildings and homes. This is why we are in support of Intro 2091, mandating a comprehensive and holistic study of building electrification. The data and recommendations that would come from the study will be essential in accelerating equitable implementation of Local Law 97 with emission reduction goals of 80 percent by 2050.

Moreover, Intro 2196's study of the negative health impacts of gas stoves will acknowledge, on public record, the harms and dangers associated with cooking with fossil fuels. And catalyze a plan to further protect the health and safety of New Yorkers. Electrifying gas appliances would address the 42% increased risk of children experiencing asthma symptoms associated with gas stove use. Such indoor pollution disproportionately affects communities of color and low-income households with smaller homes across the city. This study needs to be broken down by race and neighborhood to ensure environmental justice when making recommendations.

It is important to highlight and recognize the importance of electrifying buildings and homes but also remember that these efforts will happen simultaneously with a transition to clean, renewable energy production, electrical grid modernization and expansion of community solar. The City should be doing everything possible to reduce building emissions and improve indoor air quality which is why WE ACT for Environmental Justice supports Intro 2317, Intro 2091 and Intro 2196.

Thank you again, Chair Gennaro and the Committee on Environmental Protection for holding this hearing and allowing me to testify on such an important topic.

Sincerely,

Lonnie J. Portis

Environmental Policy and Advocacy Coordinator
WE ACT for Environmental Justice
1854 Amsterdam Avenue, 2nd Floor
New York, NY 10031
646-866-8720
lonnie@weact.org

November 17, 2021

Oral Testimony
Before New York City Council
Committee on Environmental Protection

Support of Introduction 2317

Good afternoon, Chair Gennaro. Thank you for the opportunity to testify regarding Introduction 2317. And thank you Council Member Ampry-Samuel for your championship of this bill.

My name is Sonal Jessel, and I'm the Director of Policy at WE ACT for Environmental Justice. Over the past 32 years, WE ACT has been combating environmental racism in Northern Manhattan. I have received my master's in public health from Columbia University. I am here as an advocate, co-leader of the GasFreeNYC coalition, excited by the potential to pass a bill that will prevent air pollution and combat the rising climate crisis.

Introduction 2317 is limiting carbon emissions from new construction. WE ACT is championing this legislation because we believe it is important to prevent future indoor and outdoor air pollution that hurts our health. Systematic environmental racism has placed all industrial sites, bus depots, waste transfer stations, sanitation truck depots, power plants, and more environmentally hazardous sites in communities of color.

On top of that, building pollution contributes greatly to poor air quality in New York City. It is communities of color that have older, under maintained buildings that are energy inefficient, leading to more exposure to air pollutants that hurt our health. Higher rates of buildings in communities of color - and importantly, public schools - are even still using dirty fuel oil, and that must stop with the passage of Introduction 980! Introduction 2317 focuses mainly on limiting natural gas emissions. The use of natural gas emits dangerous air pollutants such as NOX, that directly leads to respiratory and cardiovascular diseases. A 2020 report by Rocky Mountain Institute, Physicians for Social Responsibility, Mothers Out Front, Sierra Club found that "Children are at increased risk from illnesses associated with gas stove pollution: living in a home with a gas stove increases their risk of having asthma by 42%." Asthma is a major concern for many reasons, one of which is that it is the number one reason for school absenteeism. The use of natural gas in homes has an impact on the long-term wellbeing of children.

The State's Climate Leadership and Community Protection Act of 2019 mandates emissions cuts across all industries. As a member of the CLCPA's Climate Justice Working Group, I believe it is vital that we be actively working on transitioning off the use of natural gas. In fact, it is a mandate for the State to create a plan for the transition through the PSC's gas planning proceeding, which is unjustly stalled.

Limiting the use of gas in new construction is absolutely the easiest thing we can do to jumpstart this process.

We need to see the bill reduce its emission limit to 25 metric tons of carbon, include major gut renovations, speed up the timeline, and reduce the number of exemptions. Commercial kitchens for example are a major source of neighborhood air pollution, which is why I'd like to see commercial kitchens included.

I want to underscore that reducing greenhouse gas emissions must not mean losing sight of the other co-pollutants that consistently plague communities across the City. So far, NO testimonies have even *touched on* local air quality as motivation for the bill. The comments promoting hydrogen blending, biofuels, and stating gas stoves are zero emissions is doing just that. NOX pollution from natural gas, SO2, PM2.5, and other pollutants from energy sources, all must be centralized because it has direct respiratory impacts.

Hydrogen blending should not be considered zero emissions. A quote from a report from New York Renews states: "More than 95 percent of hydrogen in use today—mostly for industrial heat processes—is produced using fossil fuels, with the perverse emissions effects of using dirty energy to produce clean energy". This perpetuates local air pollution like NOX in New York City. It is NOT a zero emissions alternative and should not be treated as such.

Additionally, we must see leadership from our City. City-owned buildings should be first in line for decarbonizing and electrifying. We must not see big buildings such as public schools, get new gas infrastructure in 2021. They must not be exempted in this bill. The biggest schools getting new gas infrastructure are in communities of color.

Also, I'd like to rebut points by public testimonials stating that the grid isn't ready and that heat pump technology doesn't work in NYC and point to City's statements at the beginning of this hearing saying exactly the opposite.

Thank you for your time.

Sincerely,

Sonal Jessel

Director of Policy
WE ACT for Environmental Justice
1854 Amsterdam Avenue, 2nd Floor
New York, NY 10031
646-983-0224

NEW YORK BUILDING CONGRESS 100 YEARS

November 17, 2021

TESTIMONY TO THE NEW YORK CITY COUNCIL REGARDING INTRO. 2317 – THE "GAS BAN" BILL

Good afternoon Chair Gennaro, bill sponsor Council Member Ampry-Samuels and members of the Committee on Environmental Protection. My name is Charlie Samboy, the Director of Government Affairs at the New York Building Congress, and I appear before you today regarding Intro. 2317, a proposed local law to ban the combustion of certain fossil fuels within buildings.

The New York Building Congress represents design and construction firms as well as development and property managers in New York City – together, we are an association of over 550 firms who employ 250,000 skilled professionals and tradespeople from across the spectrum of the building industry, many of whom design and build the projects that create a more sustainable city.

While we support this bill's intent to reduce New York City's greenhouse gas emissions as well as enhance the air quality in individual homes, we believe this current version will neither accomplish its goal of fighting climate change nor spur economic development. As drafted, this proposal would have negative consequences for the New York City building industry and has the potential to increase emissions in communities across the state. As the industry attempts to regain momentum following the economic fallout of the COVID-19 pandemic, it cannot afford initiatives like Intro. 2317 to move forward as currently proposed.

First, Intro. 2317 seems to ignore the status and complexity of bringing the entire power grid onto an energy source that is much cleaner than fossil fuels. Much of the grid in New York City presently relies on the burning of fossil fuels to power our homes and offices, thus, requiring that new or modified buildings convert to electric for heating and cooking simply shifts the fossil fuel burden fully onto an already exhausted grid. Powerplants across the state, which already burn fossil fuel to produce power, will have to keep up with the new demand and thus produce greater amounts of greenhouse gas emissions. Additionally, the city and state are constrained from having a much cleaner grid due to the lack of green energy generation and transmission. The City and State are making tremendous investments in locally grown energy such as offshore wind and large-scale solar as well as transmitting and distributing clean power from Canada. This transformation of our energy grid will not, however, move at the speed this legislation requires. Just this summer, Governor Hochul announced the Champlain Hudson Power Express (CHPE) and Clean Path NY (CPNY) projects that will deliver 18 million megawatt-hours of renewable energy every year, sufficient to power more than 2.5 million homes. These projects are expected to come online beginning by 2025 and 2027, respectively, pending approval of all permits. In September, Mayor de Blasio and the New York City Economic Development Corporation released their Offshore Wind NYC Plan which anticipates bringing 12GW of offshore wind by 2035, with a site(s) in Sunset Park not being identified until "the mid-2020s". We ask that the Council continue to support efforts by the Governor and Mayors Offices to electrify our built environment and move towards a cleaner future within existing laws and programs rather than hastily attempt to electrify our buildings within two years of enactment of this legislation, which will cause irreputable harm to the building industry locally and our neighbors in upstate New York.

Second, the bill may have unintended consequences given the broad application to new construction and existing buildings that may undergo some kind of alteration. Without an appropriate phase-in period for different building types and sizes, we risk taxing the existing energy grid and not providing time for readily available technologies and/or cost-effective methods to be developed for compliance. We believe a sound approach could be to mandate that new single- and multiple-family homes of a certain size comply first, followed by buildings that are much larger and more complex. From a practical perspective, it allows us to scale these advancements over time – while the grid is greened – and to prevent a shock to the existing electrical transmission and distribution infrastructure.

As for renovations, the bill is devoid of any specific language pertaining to the applicability of the prohibition of gas on buildings, or spaces within buildings, that are renovated – simply stating that a building permit is the trigger for these provisions. Read together with the sections of New York City's administrative code, one can conclude that prohibition on gas would include *all* buildings where *any* work occurred that required a permit from Department of Buildings. This broad application could lead to even the most minor of alterations or work triggering the provision of the bill. We would like to see language in the bill specific to major renovations, substantial improvements and/or alterations to better target how the provisions of the bill are triggered and understand the scale of changes that may need to occur within the built environment and broader power infrastructure according to a proposed timeline.

In closing, progressing a greener city and state is good for both our planet and economy. Green construction jobs are here today in substantial numbers and will be a great source of employment for many New Yorkers, including those increasingly affected by climate change. A recent report by State Comptroller Tom DiNapoli found that New York State had the highest construction job loss of any state nationwide, with a loss of nearly 24,000 jobs in New York City alone. It is our hope that we can work together with the City Council and all levels of government to pave the way toward a greener and more resilient future. Our city and planet will be better off for it; it will be a lifeline to New York City's rebound from the pandemic and be a main contributor of jobs and revenue for our economy.

Thank you for your time and consideration.

Intro 2317 Testimony 350NYC

We are just days from the completion of COP 26, the gathering of world leaders, NGOs, youth activists, members of civil society, and a disproportionate representation of fossil fuel industry leaders and executives. As we have seen and heard, there were world leaders missing at the table and the goals and commitments of those who showed up with good intentions, fell far short of what is needed to keep global warming to 1.5 degrees. We are on a trajectory to toast the planet and the responsibility to change course lies with every person here today – especially those of you with the power to create policy. Every citizen and every legislator of every state, city and town have a compelling moral obligation to the next generations to do everything possible to stop the damage and advocate for solutions that we know are necessary. The complete transition of the global energy system away from fossil fuels to renewable, clean energy is key. The urgency cannot be overstated. Understanding the science which is abundantly clear and has been for some time, requires you to act as if our house is on fire, because it is.

New York City has shown bold leadership in the past few years with the passage of the Climate Mobilization Act in 2019, signaling a serious commitment to cut carbon emissions. Local Law 97 is a good example of policy driven benchmarks intended to address inefficiency in our buildings. The next logical step is eliminating gas for cooking and heating, driving the initiatives to dramatically increase the supply of clean energy options and even perhaps encourage passive house architecture in new construction.

Other cities and municipalities have made these commitments with Ithaca being the latest city voting to electrify and decarbonize every single building by 2030. Block Power, a Brooklyn based company was chosen to manage this initiative. The technology exists. What's needed most is leadership with the courage to make the commitment. We look to you for that leadership. Our children will judge us on what we chose to do when we knew what the consequences of delay and excuses would be. Today is that day. Thank you for your time and attention. Monica Weiss, 350NYC

From: Anne Pernick <anne@stand.earth>
Sent: Wednesday, November 17, 2021 4:34 PM
To: Testimony
Subject: [EXTERNAL] Written copy of testimony in support of Intro 2317 from Anne Pernick

Hi, I'm Anne Pernick, SAFE Cities and Fossil Fuel Non-Proliferation Treaty Community Manager at Stand.earth. I'm connecting to you from Portland, OR, because New York City is a leader in the SAFE Cities movement, an international movement where local governments around the world use their authority to stop fossil fuel expansion and phase out fossil fuels. With passage of Intro 2317, you have an opportunity to remain a leader for this movement and for all New Yorkers.

This year has brought more devastating and deadly climate change impacts to New York. It's clear the consequences of fossil fuels are only getting worse, for New Yorkers and for people around the world. Meanwhile, the fossil fuel industry and other vested interests are still pushing business as usual. It's exciting that this important bill, Intro 2317, more fondly known as the #gasfreeNYC bill, is getting a hearing today. New York needs to continue to say no to fossil fuels.

The positive impacts of passing #GasFreeNYC on local health – including asthma rates in kids – local safety, and global climate will be enormous.

That's why hundreds of our Stand.earth community around the City reached out to the Council to urge you and your Council colleagues to do three things:

1. Ban new hookups of dangerous, unhealthy methane gas in buildings, which we're talking about today.
2. Defend Local Law 97, which addresses greenhouse gas emissions from large, existing buildings and which we know is under threat.
3. Join the call for international action on fossil fuels by endorsing the Fossil Fuel Non-Proliferation Treaty, which has had a hearing but not yet a vote by the Committee.

We applaud the leadership of Councilmember Ampry-Samuel and are honored to be here today along with the local advocates who have been leading this fight to ban new gas hookups: NYPIRG, New York Communities for Change, WE ACT for Environmental Justice, and Food & Water Watch.

In partnership with them and many others, our community urges a yes vote on Intro 2317 by this Committee and swift passage by the full Council, to protect health and safety around New York City and climate here and around the world. Thank you for your time.

--
Anne Pernick | she/her
SAFE Cities & Fossil Fuel Non-Proliferation Treaty Community Manager
O: +1 415 863 4563 ext 410

STAND.earth

17 November 2021

To:
City Council of New York
Committee on Environmental Protection
City Hall
New York, NY 10007

Re: Intro 2317 - 2021

Dear Council Members,
I am writing in support of INT 2317, the bill to ban fossil fuel use in buildings.

Thank you for the opportunity to provide testimony. I am a Registered Architect in New York, a LEED Accredited Professional and a Certified Passive House Designer. I am a principal of Chairs and Buildings Studio, an architecture and design practice in Brooklyn. I teach architecture and interior design at Pratt Institute. I am on the board of New York Passive House, and I am the chair of the policy subcommittee of the Committee on the Environment of the New York chapter of the American Institute of Architects.

The climate emergency is real and it is happening in real time. We can no longer continue to invest in planet destroying infrastructure. It is estimated that 75% of New York City CO2 emissions are from buildings. Banning new fossil fuel use in new buildings is critical. This ban includes everything: space heating, hot water, cooking, and other uses.

Some fear that this will make buildings unaffordable to build. My colleagues are delivering all-electric affordable housing for the same dollar by making efficient envelopes to the Passive House standard. It can be done for other building types as well.

Some fear that electricity is too expensive to use to heat buildings and make hot water. By reducing the loads through insulation and air tightness, the amount of heat needed is significantly reduced. Using heat pump technology rather than electric resistance further reduces energy costs. Overall operating costs are reduced even with higher utility rates. This fear also doesn't acknowledge the artificially low costs of fossil fuels.

Some fear that there isn't the technology or expertise available. Again, my colleagues and I are building all-electric buildings now. The technology is available even for large buildings, and this bill will bring more products into the market. The architecture and engineering community have the skills and understanding.

CHAIRS + BUILDINGS STUDIO
64 WEST 9th STREET #3A BROOKLYN NY 11231 917 279 6234 studio@coggancrawford.com

I do have concerns with the bill.

1. Originally this bill targeted new construction and major renovation. The current draft excludes buildings approved for construction, by which one infers all existing buildings. This is ambiguous.
2. Hospitals, laundromats and commercial kitchens can be operated for all operations with electric technology. The emergency operation of hospitals is already covered by the emergency power and intermittent exemption.
3. On line 16, the term “intermittent” needs to be defined. Most equipment (boilers, hot water heaters, etc.) cycles on and off.

To be honest, the bill doesn’t go far enough. The city needs to establish a date by which it will no longer allow the replacement of existing fossil fuel equipment in buildings – boilers, hot water heaters, stoves, dryers.

Thank you again for allowing me to submit testimony.

Regards,

Caleb Crawford, RA, LEED AP BD+C, CPHD

Notes for GasFreeNYC
Intro 2317
November 17, 2021

My name is Candee Kane and I am a member of 350.org. I am speaking in support of Intro 2317, Gas Free NYC.

I live in Stuyvesant Town-Peter Cooper Village. I have lived here since August, 1986, 35 years.

Passage of Intro 2317 cannot come soon enough for the residents of Stuyvesant Town-Peter Cooper Village, as our landlord, the private equity group, Blackstone, with a market capitalization of around $110 Billion, wants to build two fossil fuel plants, right on the property!! In fact, they have already built one, on Avenue C and 15th Street, and has plan to build an even larger one on 20th Street.

We need to pass Intro 2317 now!!! Stuyvesant Town-Peter Cooper Village already has the distinction of being the neighborhood with the second worst air quality in the city, because we live across the street from Con Edison, which burns huge amounts of fossil fuel, to power to all of lower Manhattan, and because we also live across the street from the FDR Drive, where fossil fuel burning cars and trucks traffic it all day and all night.

I am gasping at the thought of what we are breathing!!!

New York City cannot wait to pass Intro 2317!! New York City thinks of itself as a world leader, in every area. It must lead the world with new technologies. It was already devastated in 2012 by Super Storm Sandy. Super Storm Sandy pushed the Atlantic Ocean northward, through the Bay of New York, and up the East River, causing the East River to surge over the river's banks. The aforementioned Con Edison, which sits right there, at the conjunction of the the East River, and Stuyvesant Cove, was flooded. It blew up and shut down, and when it shut down, all of Manhattan, below 39th Street, shut down . . . for a week!!

The city council needs to pass Intro 2317 now, and to commit our city to a clean future. This matter is urgent and the time is now.

Dear Chair Gennaro and members of the Committee on Environmental Protection,

My name is David Rysdahl. I live in District 9 and am a constituent of Councilmember Perkins. I'm a volunteer with 350Brooklyn – an affiliate of a global organization countering climate change at the local level.

I am writing to state my strong support for Intro 2317.

I worry deeply for the future of our world. My wife and I have been thinking about having children, and the climate crisis has given us pause. What kind of world will our children grow up in? But the climate crisis isn't just a future predicament. It is happening now. My wife grew up in the apartment we live in – it's a Harlem apartment on the first floor. Her little brother suffers from asthma from growing up in this apartment. He went to camp upstate this summer and his asthma went away. He could run and play without losing his breath. He came back to the city and he needed his inhaler again. We can do better.

I'm sure you've read lots of statements about how this bill is good for the climate, for jobs, for our health, and for our pocketbooks. This bill makes logical sense, and I agree with all of these reasons for supporting the bill, but since they've been covered so eloquently – I want to talk about how this bill will be good for our spirit.

The last six years and especially the last two years have frayed the fabric of our community. We've lost trust in our neighbor, our leaders, and our government. Bills like 2317 that put people first is the type of bill that will restore and inspire our feelings of citizenry. This is what good governance looks like, and is the type of bill that is vital to rebuilding the trust in our leaders and rebuilding our communities both literally and figuratively.

New York City has the chance to show the world that we are serious about the climate and about our people. We have the opportunity to join other cities like San Jose, Oakland, San Francisco, and Seattle who have implemented these changes and support the many builders who are already creating fossil free buildings her in our beautiful city.

Thank you for your dedication to this cause. I listened in to the public hearing yesterday and was very impressed by the dedication you have for the environment and for the passion of everyone on that call. I wanted to give this testimony verbally but there were so many people on!

Be well,

David Rysdahl

From: David Vassar <vassardavid@hotmail.com>
Sent: Friday, November 19, 2021 3:34 PM
To: Testimony
Cc: Eric Weltman; Sheila G
Subject: [EXTERNAL] Please pass 2317 now!

Dear Members of the NYC Council Committee on Environmental Protection:

I'm writing to express my strong support for **Intro 2317 for a Gas-Free NYC.**

To offer our children *any* hope for a habitable world, we must **rapidly discontinue the combustion of all fossil fuels**. Powering *any* aspect of our lives--including the **buildings** in which we reside, work, or transact business--must be accomplished via renewable, clean energy resources: **aerial and geothermal heat, wind, and solar.**

Please recognize that euphemistic notions like "green hydrogen" and "biofuels" are **non-starters**. Both of these entail further greenhouse gas emmissions and would only perpetuate the use of **ruinous fossil fuel infrastructure**, which we must phase out over the next two decades.

Gas emissions not only accelerate the Climate Crisis; they also create toxic **air pollution**, exacerbating respiratory afflictions including asthma, and worsening the symptoms of Covid infections.

Gas combustion, most egregiously, **worsens the already compromised air quality** in low-income communities of color.

Please also consider: If NYC prolongs its reliance on this fossil fuel, we'll in effect be prolonging the suffering of frontline communities in our Upstate and in large swaths of Pennsylvania, where extraction, processing and transport of fracked gas are harmful to the many residents of those affected areas.

Can we in good conscience needlessly prolong our dependency on a fuel that is essentially an environmental and physiological toxin to both our own and neighboring communities? Far healthier and economically viable alternatives are readily available; all that's needed is the **political will** to tap into them**.**

The use of **renewable energy sources**--rather than continued burning of gas--will both help us head off environmental disaster *and* promote greater health and well-being among all New York communities.

Implementing Intro 2317 will also entail creating stable, well-remunerated, socially rewarding jobs--jobs which by their very nature are also safer for the engaged workers, who won't be facing the all-too-familiar, potentially deadly risk of sudden gas fires, explosions, or asphyxiation.

Notably if not surprisingly, the bill's *main opponents* are NYC's real estate lobby and ExxonMobil, whose anti-2317 FB disinformation campaign is, to say the least, full of *gas*. Speaking of which--likewise unsurprisingly--the American Petroleum Institute (API) is also lobbying against the bill.

So I join the many concerned in urging you, our New York City Council, to listen to **the people--**not to deep-pocketed special interests.

I urge you to go even one better by strengthening Intro 2317 and mandate that it **take effect in one year**. It's critical that we take *immediate* measures to **mitigate** the consequences of our **worsening climate crisis**.

We should take inspiration from other large cities which have *already* passed crucial **gas bans**: Oakland, San Jose, Sacramento and Seattle, with more to follow. All of these American cities have proven themselves up to the task of implementing ambitious new laws for healthy, clean-energy buildings *within one year*.

New York must do this too. We owe it to our kids--including my son **Ben**--and to all generations to come to **pass Intro 2317 now**.

Thank you for your consideration.

David Vassar
W. 123rd St.
New York, NY 10027

It is only ideas gained from walking that have any worth. --Nietzsche

Delia Kulukundis
Thomson Avenue,
Long Island City, NY 11101
dkulukundis@gmail.com

November 19, 2021

James Gennaro
Chair, Committee on Environmental Protection
New York City Council

Re: In support of Intro 2317 - the “Gas Free NYC” bill

Dear Councilmember Gennaro,

Thank you for holding the hearing on November 17 for Intro 2317, and thank you for making Intro 2317 your full time job at the moment!

I would like to lend my enthusiastic support for Intro 2317, the Gas Free NYC bill. I urge the Council to shorten the timeline for implementation, to take effect one year after it becomes law, and to tighten the emissions standard to prevent the combustion of hydrogen or other replacement fuels.

By now you know that if we want to avert catastrophic climate change and ensure a livable future, every new machine that we install must be electric. If we continue to install new gas-burning appliances, we’ll either have to retire them early, or accept the decades of emissions that they lock in. Reducing the number of new combustion machines installed is of the highest priority.

Please resist requests to extend the timeline for implementation of the bill. I suggest that if you cannot shorten the timeline for implementation to one year from the law’s passage, that you include a provision requiring new buildings to be “electrification-ready” (with upgraded electrical panels and wiring) within one year of the law’s passage.

Please resist requests for exemptions for hydrogen or biofuels. Replacement fuels have similar air-quality impacts as oil and gas, and the production of those fuels comes with significant environmental impacts. Hydrogen is energy-intensive to produce, and to produce it in a zero-carbon manner would consume much more clean electricity than it would require to simply heat buildings with electric heat pumps. Biofuels are rarely carbon-neutral in practice, since their production entails the creation of a “carbon debt” that must be repaid in regrowth of the plant material used, and the time frame for that regrowth can be in excess of 100 years in some cases.[1] Harvesting of plants for biofuels often has devastating consequences for biodiversity - an impact we absolutely cannot allow, at a time when the world’s biodiversity crisis needs to be tackled along with the climate crisis. I suggest that you make the emission standard more stringent and consider a blanket prohibition against combustion of any substance for the purpose of heating in new buildings.

As is the case with replacement fuels, the harms of methane gas begin well before it is burned; they occur all along the leaky pipeline routes that bring it into the city, all the way back to the fields where

it was fracked and flared in the first place. It's great that we banned fracking in the state, but right now we have the ability to make fracking obsolete - starting with this farsighted bill.

Right now, as members of this council, you have the ability to ensure that new buildings will be combustion-free - saving everyone from more costly retrofits later and making the air cleaner for everyone, indoors and out. Your constituents don't want to be stuck with stranded assets in their homes and buildings, and you can prevent that.

Please stand strong. Don't let REBNY and Exxon scare you. The rest of the fossil fuel lobby would like everyone to stay paralyzed with guilt about their personal carbon footprint, or keep them distracted with false promises. Ignore it. We have the technology and the ability to solve climate change now - and the first step is electrifying everything, starting with new buildings.

Thank you again for your consideration.

Sincerely,

Delia Kulukundis

[1] "Does replacing coal with wood lower CO2 emissions? Dynamic lifecycle analysis of wood bioenergy," John D Sterman et al 2018 *Environ. Res. Lett.* 13 015007

Written Testimony, New York City Council Environmental Protection Committee Oversight Hearing on Building Electrification and Intro 2317

Dr. Leah Stokes
Associate Professor, University of California Santa Barbara

November 17, 2021

Thank you for holding this hearing on Intro 2317.

My background is in public policy, with a focus on energy and climate change. I received my doctorate in Public Policy from the Massachusetts Institute of Technology. Previously, I lived in New York City, where I received an MPA in Environmental Science & Policy from the School of International & Public Affairs (SIPA) and the Earth Institute at Columbia University. I am currently an Associate Professor at the University of California Santa Barbara. For more than 15 years, my research has focused on energy policy, particularly clean energy and other related solutions to the climate crisis.

New York City has the chance to join with over 50 other cities across the country who have taken the bold decision to stop allowing new gas installations.[1]

Intro 2317-2021, being discussed today, would be a landmark change that would deliver big public health and climate benefits, while creating jobs in the city. I urge you to listen to the experts from WE ACT, New York Communities for Change and other grassroots groups who have spoken today – get this bill done, make it apply to gut renovations, and make it come into effect as soon as possible.

[1] Gough, Matt. 2021. “California's Cities Lead the Way to a Gas-Free Future” https://www.sierraclub.org/articles/2021/07/californias-cities-lead-way-gas-free-future

For decades, climate scientists have warned that climate change poses a dire threat to our economy. The Intergovernmental Panel on Climate Change (IPCC), an international scientific body, has made it clear that to limit global warming to 1.5°C, we must cut carbon pollution by 45% below 2010 levels by 2030.[2] This decade is therefore crucial to avoiding the worst impacts of climate change on the American economy.

To address the climate crisis, and limit warming to 1.5 °C, scientists have found that no new fossil fuel infrastructure can be built.[3] Existing fossil fuel assets already endanger this target. Hence, installing any new fossil fuel infrastructure at this point is a poor economic decision: Either these assets will be in use for decades, leading to greater warming and associated economic damages; or these assets will need to be retired before they are fully depreciated. Both of these outcomes are suboptimal economically. Hence, at all scales — from gas furnaces, to cars, to gas power plants and fossil fuel pipelines — we need to stop building new fossil fuel infrastructure.

The good news is that building electrification will tackle climate change, will create jobs, and will deliver public health benefits.

Scientific research has shown that we cannot build any new fossil fuel infrastructure and limit warming to 1.5 degrees. That includes putting gas in new buildings. Thankfully, we have solutions to remove pollution from our homes. We can use electric technologies like induction stoves and heat pumps. This is the pathway to solving the problem: clean electricity combined with electrification could cut three-quarters of our carbon pollution. And it would avoid stranded costs.

New York City already has a clean enough electricity grid that electrification will reduce carbon pollution[4] – those that say otherwise are being inaccurate. This is for two reasons: first New

---

[2] Intergovernmental Panel on Climate Change. 2018. *Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C*.

[3] Tong et al. 2019. "Committed emissions from existing energy infrastructure jeopardize 1.5 °C climate target." *Nature.*

[4] Golden, Rachel & Bottorff, Cara. 2020. "New Analysis: Heat Pumps Slow Climate Change in Every Corner of the Country." Sierra Club.

York has a cleaner electricity mix than the average in the country, and is already 46% clean. Second, heat pumps are very efficient appliances. Installing modern electric appliances will therefore reduce carbon pollution.

The technology we need for electrification, like heat pumps and induction stoves, are already available and being installed in New York. Numerous buildings across the city are being electrified by companies like BlocPower, which is creating good paying jobs and training New Yorkers. To have testimony saying heat pumps don't work for New York is like saying the sky is yellow. It's just factually inaccurate.

Scientists have uncovered that burning fossil gas in buildings is dangerous to our health. Children living in a home where gas is used for cooking have a 42% increased risk of having asthma, currently and over their lifetimes, according to a meta-analysis of 41 studies.[5] Even when a gas stove or other gas appliance is turned off, it can still leak. And that gas contains carcinogens like benzene, which cause cancer.

People of color are exposed to higher-than-average levels of air pollution, with residential gas combustion and commercial cooking among the largest sources of these disparities.[6] Indoor gas pollution in low-income households is compounded by typically smaller housing unit sizes, more family members living and cooking under the same roof, poor air ventilation, and the use of stoves or ovens for additional heating in winter.[7]

Councilmember Ampry-Samuel is right – these health impacts are a matter of life of death and they hit communities of color in New York City the hardest.

---

[5] Lin et al. 2013. "Meta-analysis of the effects of indoor nitrogen dioxide and gas cooking on asthma and wheeze in children." *International Journal of Epidemiology.*
[6] Tessum et al. 2021. "PM2.5 polluters disproportionately and systemically affect people of color in the United States." *Science Advances.*
[7] Sivarajan, D. 2020. "Pollution is coming… from inside the house." *Climate Solutions.*

The City Council should act as soon as possible to pass this policy into law and implement it quickly, not just for the climate crisis but for public health and equality.

From: elihu dietz <elihudietz@gmail.com>
Sent: Friday, November 19, 2021 11:28 AM
To: Testimony
Subject: [EXTERNAL] Testimony in support of Intro 2317-2021

To Chairperson Generro and the Committee of Environmental Protection,

Thank you for holding a public comment session for this important legislation.

My name is Elihu Dietz. I live in Brooklyn, I work in the energy efficiency industry, as a senior consultant at DNV, a global energy consulting firm, though I do not necessarily represent their views. I'm here today to voice my support for this bill, Intro 2317 of 2021. As others have pointed out today, the physics of climate change is unforgiving. We need to bring our carbon dioxide pollution to zero just to global average temperatures from rising higher. Eliminating most fossil fuel combustion from our new buildings, as this bill would do, is an important step in the right direction toward this difficult goal. The alternative heating systems to combustion, such as air and ground-source heat pumps, would also reduce costs over the lifetime of the system, so eliminating fossil fuels is not a sacrifice. On the contrary, there are many other exciting benefits. If passed and implemented, this bill would improve our local air quality by lowering nitrogen oxide levels, which would mean reducing smog. It would also mean new buildings would have safer kitchens, by lowering particulate emissions and improving every breath for children and those with compromised respiratory systems. Finally, this bill would provide an important signal to industry professionals across the country who are designing new buildings right now. A new building without fossil fuels is cheaper, safer, and less risky to tenant and owners.

I would also like to draw the committee's attention to the recommendations of AIA NY for ways to improve this bill. The two recommendations that I will call out here specifically are 1) that the limit of 50 kg/MMBtu limit should be lowered to 40 kg of carbon dioxide per MMBtu and 2) that the exceptions should be clarified and simplified and aligned with the language in LL97 of 2019.

Thank you again to the committee and to all my fellow New Yorkers who made time today to show support for this bill.

Sincerely,

Elihu Dietz

Hello, my name is Emma Urofsky. I am a 22 year old college student studying Sustainable Development and a member of WE ACT for Environmental Justice. I am here today in support of Intro 2317, sometimes referred to as the Gas Free NYC bill, and to urge you, members of the City Council, to pass this bill now, with the urgency the climate crisis demands.

As you all should know, Intro 2317 aims to effectively limit air pollution on all new construction and gut renovations beginning two years after the bill is passed. Optimistically, this would be a notable stride towards phasing out toxic gas, oil, and all the incredibly deadly pollution that comes with the use of these fuels. Upwards of 1,000 New Yorkers are killed every single year from burning fossil fuels (including “natural” gas) in the buildings we learn, eat, sleep, worship, and love in.

The main opponents to this bill are the Real Estate lobby and ExxonMobil, two actors that profit obscenely by ruining the lives and health of working class people and people of color. Unsurprisingly, the American Petroleum Institute is also lobbying against this bill.

I am so sick and tired of watching this pattern play out again and again on local, state, national, and international scales. Everyday people take time out of our already busy days -- time that could be spent resting, studying, socializing, or taking care of our loved ones -- to fight for the bare minimum of what is needed to (at this point) do damage control for the climate crisis while a small group of wealthy white individuals leverage systems of violence and oppression to delay any meaningful action so they can continue to make more money than they could possibly spend in their lifetimes at the expense of literally every other living thing on this planet.

For longer than I have been alive, the fossil fuel industry has been succeeding in delaying climate action. Their goal has been to delay. I am asking our city representatives: Don’t let them delay any longer. This is urgent. Legislation like this should have been passed in the 1970s. West Coast cities have already passed “gas bans,” maybe they are the best coast. Prove me wrong.

In school I had to take a class called Challenges of Sustainable Development, it was a combined political science and economics class.Isn’t that revealing? The hard part about climate change is not figuring out how to stop it. We have known how to stop it since 1930, and that is to stop the combustion of fossil fuels. The science is well established. The greatest challenges in combating climate change are lack of political will and the fatal tendency for those in power to value profit over people.

I am terrified of what’s to come and what is already here. I don’t want to get asthma from living in this city or drown in a basement the next time there’s a hurricane. I don’t want my neighbors to either. We need to stop using fossil fuels to keep each other safe and healthy. It is your job to help the people who live in this city, you can do this by passing Intro 2317.

Thank you for allotting me time to speak, I hope you do what is best for our city and for our planet. You actually have the power to make a better world, don’t waste it bending to a decades old fossil fuel propaganda campaign. Pass Intro 2317 today.

From: Eric Weltman <eweltman@fwwatch.org>
Sent: Friday, November 19, 2021 3:43 PM
To: Testimony
Subject: [EXTERNAL] Please pass Intro 2317 now

My name is Eric Weltman, and I'm a Brooklyn-based senior organizer with Food & Water Watch, a member of the #GasFreeNYC coalition.

On behalf of Food & Water Watch's nearly 100,000 supporters in New York City, we urge the City Council to pass Intro 2317 now.

Seven years ago, New York declared a ban on fracking, striking a blow against the fossil fuel industry. It was a necessary measure to protect our water, communities, and environment from this dangerous drilling process.

Chairman Gennaro, you played an important role in that effort, for which we are grateful.

Since then, we've continued the fight to move New York off fossil fuels, with Governor Hochul taking a major step forward by blocking fracked gas power plants in Queens and the Hudson Valley.

Now New York City must continue to lead the way by banning gas hookups in new construction and gut renovations. This policy is bold, practical, and necessary. The evidence on the ground is clear: We have the technology, and we have the skills to use it -- now we just need the Council's leadership.

Of course, ExxonMobil is scared of this legislation. And they should be. What happens in New York doesn't stay in New York. We fully expect that New York's leadership -- *your* leadership -- will be emulated -- and, let's be clear, we need it to be.

The stakes could not be any higher. Hurricane Ida was another tragic reminder that the painful impacts of climate change are already hitting home. More extreme weather events supercharged by climate change, as well as deadly heat waves, will continue to devastate our communities. Any delay in moving off fossil fuels means more death and destruction. To be blunt, delay = death.

New York City would reap a multitude of benefits from Intro 2317. Good green jobs, cleaner air, and improved public safety. Firefighters and other first responders are on the front lines of disasters caused by gas in our buildings or made even more deadly and dangerous by its presence. Google "New York City gas explosions" and you'll know what I mean.

Finally, we join New York Communities for Change and other allies in the #GasFreeNYC campaign in calling for Intro 2317 to be strengthened. For example, making it apply in one year, as other large cities on the West Coast have done in their new laws. And by amending the bill so that it clearly covers gut renovations, defined as the term of use ALT1.

Eric Weltman
Senior Organizer
Food & Water Watch and Food & Water Action

O (347) 778-2743

32 Court Street
Brooklyn, NY 11201

Fight like you live here.

Into 2317
Georgi Page Testimony

Good afternoon Chair Gennaro, members of the Committee on Environmental Protection and fellow citizens.

My name is Georgi Page. I live in District 35, I am a constituent of Councilmember Cumbo and a volunteer with 350Brooklyn an affiliate of a global organization countering climate change at the local level.

I am here today to state my strong support for Intro 2317, which would end the use of gas in new construction in New York City and put us on the path to modernizing our city's infrastructure.

I come to the environmental movement through a deep conviction that our country, our cities and streets belong to everyone and should be protected and shared equally. I'm thinking specifically, today, of the 2014 gas explosion that devastated two apartment buildings on 116th street in Harlem when I still lived there. This explosion killed eight people, injuring at least 70, and displacing 100 families. Ultimately this failure was blamed on ConEdison, but blaming them did not bring those eight people back, or make up for the disruption and fracturing of lives and families that occurred. Gas is dangerous, it is poisonous, it is toxic - and we don't need it! Even damage that might seem minor to an outsider can have a MAJOR effect on the ability to function in everyday life. In any case this is not how this city should function: we need to protect our citizens, not leave them vulnerable and damaged. I would like to remember them today as we consider whether it is really necessary to continue fracking dangerous gases out of the ground and piping them across the country and into our cities, causing damage and contamination every step of the way - and not just to humans! Our nature and wildlife is also ultimately affected.

Are you ok with the prospect of a world without honeybees and pollination? I'm not.

In the wake of that catastrophe in Harlem I walked the streets of my neighborhood newly attuned to the 'rotten egg' smell of gas in the air and wondered if my building, a 5-story walkup, would be next. Are we truly relying on the sharp noses of busy citizens to prevent the next disaster?

And what about the day-to-day leaks, toxic emissions and particles that we are not detecting?

A recent constitutional amendment passed via statewide vote has firmly established 'the right of each person to clean air and water and a healthful environment'. Perhaps the most shocking

thing about this new Article is that it didn't already exist. What is more fundamental than this? What is our government for if not to protect us? I do not want a future for New York City like the stories we hear from Detroit, or Cape Town, or elsewhere around the globe, where greed and a failure to modernize infrastructure leads to health crises and acute human misery. This would be very bad for property values indeed. Our first duty should be to keep citizens safe and the time to act is now.

Intro 2317 is sponsored by Council Member Ampry-Samuel, and already has 23 additional co-sponsors, including Majority Leader Cumbo, and there are many additional arguments for electrifying our buildings:

- **It cuts deadly air pollution**
- **It reduces gas explosions and fires**
- **It promotes environmental justice**
- **It creates clean energy jobs**
- **It makes economic sense**
- **It's do-able**

Similar measures have already been implemented in San Jose, Oakland, and San Francisco and Seattle. There are already 70+ buildings in NYC that are constructed or under construction that are fossil free.

I do want to make the point that I will personally consider it a FAILURE of leadership if the council only approves feasibility studies: we ALREADY KNOW that decarbonizing and electrifying is challenging but it is feasible and possible (see the Alloy building on Flatbush among a whole list of others) so we need 2317 specifically to pass during these last weeks of the session or we will miss this opportunity and - we know that Adams (and many politicians) is very well-funded by real estate interests, so it is VERY URGENT that you consider your legacy and not shy away from this bold and progressive action

We can never get this time back.

Thank you for your time today and for your commitment to every citizen of this city. I hope that you truly understand the importance and urgency of this issue.

Georgi

My name is Gina Kruzic, I live in the 22nd district, and I'm currently a student intern with Food & Water Watch. I'm here to testify in favor of Intro 2317, the GasFreeNYC bill, and urge the Council to pass it immediately.

Intro 2317 is not only feasible, but your obligation to your constituents. The city's own Office of Climate and Sustainability reports that over 70% of our city's greenhouse gas emissions come from our buildings. To take meaningful action in our fight against climate change and meet our own carbon neutrality goals by 2050, we must demand that no new construction has the archaic, problematic, and counterintuitive fossil fuel infrastructure. Other cities like Oakland and Seattle already passed similar laws and enacted them within a year. The two-year period this bill is asking for is incredibly lenient compared to that.

I will also ask those who are still skeptical or in opposition: why? The opposition is largely coming from the Real Estate Board of New York and ExxonMobil. We have let real estate dictate what goes on in this city for far too long and it has created a city where many cannot afford to live and promoted fundamental changes to many of our beloved neighborhoods. We have to live in this city, not ExxonMobil. What is New York City to them except our money? It's also worth repeating that climate change is already front and center; the New York City and State both have carbon neutrality goals to meet. How are we going to meet them if we don't take decisive action and set the precedent for a fossil fuel free future? If this is the direction we are heading towards anyway, why resist it? For all the elected officials who will not be returning to city council in the upcoming year, do something incredible before you go. You must pass the bill now!

I strongly support the electrification of buildings, in particular the ban of fossil fuels and gas stoves in new buildings. I also hope to see the City move to support electrification of existing buildings, in particular the conversion of gas stoves to electric and fossil-fuel space heating to electric heat pumps.

As a renter, I have had difficulty finding units which are compatible with my health and City, State, and global climate goals -- i.e., units with electric stoves and electric space heating. When I've asked landlords, they've cited concerns about the cost of electrification and the perception that gas stoves are more desirable to tenants.

The price of induction stoves is in line with mid-range gas stoves; the bigger cost, I'm told, is wiring. Wiring in older buildings may not support the higher wattage implicit in full electrification, requiring costly upgrades. The City should proactively identify buildings and neighborhoods needing wiring and distribution upgrades to support full electrification, and should proactively support owners and ConEd to complete the work.

Although public sentiment may have been leery of induction stoves and heat pumps, this is changing as high-profile publications sound the alarm on indoor air pollution caused by gas and as electric alternatives gain market share, exposing more people to their many benefits. Induction stoves are faster to heat and easier to clean. They induce heat directly in the cookware, making burns less likely and producing less heat in the kitchen. Heat pumps provide not only heat, but also cooling, which must be seen not as a luxury but as a public health necessity in our warming world. Most heat pump designs support zonal control, giving apartment dwellers accustomed to fiddling with radiator valves or throwing open a window an efficient alternative. The electric technologies will inevitably replace their old gas counterparts simply because they are better products. The City must accelerate the shift to electric, to reduce air pollution and keep climate change in check, thereby protecting the health and wellbeing of New Yorkers.

I am thrilled the Council is considering building electrification. The Council should move immediately to require all new buildings to be fully electrified and to begin the work electrifying our existing stock.

J. Benjamin Miller, PhD

I am a Manhattanite, software engineer, and proud owner of an induction cooktop. My parents live in a cozy electrified home in the Finger Lakes region of New York.

TESTIMONY TO SUPPORT INTRO. 2317 AND OPPOSE STUYVESANT TOWN'S CHP PLANTS

November 15, 2021

My name is Jane Selden, and I'm a member of 350NYC, a climate activist group that strongly supports Intro. 2317. However, I'm speaking today, not on behalf of the group, but as an individual who is deeply concerned that we are continuing to build fossil fuel infrastructure, including two new power plants in my neighborhood, when we need to be transitioning without delay to fossil-free renewable energy, not only in order to avert climate chaos, but to mitigate the deadly health impacts of air pollution on our communities.

By ending the installation of gas infrastructure in new buildings, Intro. 2317 effectively addresses the urgent need to reduce building emissions, the largest source of the city's greenhouse gases. The fossil fuel industry prefers the term "natural" gas to fracked gas, but there's nothing "natural" about natural gas. During the process of extracting, transporting, and burning fracked gas, methane is released. Methane is a greenhouse gas with more than 30X the global warming potential of CO2. And, studies have shown that emissions from gas stoves in homes include toxins like particulate matter, nitrogen oxide, and carbon monoxide, linked to higher rates of childhood asthma and other serious respiratory illnesses. By passing Intro. 2317, we can avoid being locked into many more years of the pollution that is endangering the planet and harming our health.

But the city and the state can and must do more; they need to deny permits for any new fossil fuel infrastructure – whether it be peaker plants, pipelines, or CHP plants like the ones being built on the grounds of Stuyvesant Town, where I live. The owners of Stuyvesant Town/Peter Cooper Village, the Blackstone Group, a private equity firm, recently built a gas-fired CHP plant on Avenue C, just steps away from the huge Con Ed power plant on 14th street and plan to construct a second larger plant between two residential buildings on 20th Street. The electricity produced by these plants will not go to Stuyvesant Town tenants, but will instead be sold to Con Ed; however, we, the residents, will be the recipients of the plants' toxic emissions. In fact, the stacks (chimneys) from these plants are directly adjacent to the windows of residential buildings. Our community already suffers from the second worst air quality in the city because of its close proximity to the Con Ed plant and the FDR Drive. Allowing these CHP plants to operate will not only exacerbate this deadly air pollution, but is also a 20 year commitment to a continued reliance on fossil-fuels.

We are already experiencing the devastating effects of the climate crisis. The time to stop any further fossil fuel infrastructure is now. I urge the City Council to pass #2317 without delay, and I urge the city and state agencies to consider the CLCPA's GHG emission reduction goals, as well as the health of our communities, and stop issuing permits to build more fossil fuel infrastructure, including Stuyvesant Town's CHP plants.

Thank you.

Jane Selden
Member, Stuyvesant Town/Peter Cooper Village Tenants Association

From: Jason Leahey <writersblokk@gmail.com>
Sent: Sunday, November 21, 2021 9:55 PM
To: Testimony
Subject: [EXTERNAL] Support for bill 2317

Dear City Council,

I'm writing simply to express support for Bill 2317. I'm a father of two little girls and have a desk job. I moved here from the South 20 years ago and have lived in Bed-Stuy since. I'm middle class and I believe that middle class thing where I have a smidge of time and a few pennies extra and thus have a responsibility to democracy because it has been good to my people and I can put in the effort without drowning. Will this bill take money out of my wallet? Fine, so be it. We are unique - NYC - and we should carry a call for our future wellbeing. Pass the bill, pleases.

Best,

Jason Leahey / Brooklyn / 11238

VERBAL TESTIMONY 2 – Timing / Phase In
JOHN RICE

Introduction:

I am John Rice of Legacy Engineers and also a member of the New York Energy Consumers Council.

I am supportive of the spirit of the bill; however, I believe that significant changes are needed.

One change that is needed is a phase in approach.

The most efficient technology available today are heat pumps which require significant roof space. For high-rise buildings, due to the limitation of the building footprint, the roof and setbacks are typically not large enough to accommodate the necessary equipment to heat the building.

Therefore, without a phase-in, many buildings will have to use electric resistance heating rather than heat pumps, which would actually increase emissions, given the inefficiencies of those systems. As heat pump technology evolves, it will require less space.

Thus, I would propose the legislation be phased in over time based on square footage and/or building height to provide time for products to come to market that can meet the needs of all segments of the building stock.

An example of what a phased implementation plan could look like is the following:

i) 2 years following completion of any required grid infrastructure upgrades to support elimination of fossil fuels, all new construction of 50,000 square feet, 3 stories or less, and/or single-family homes must comply.
ii) 5 years following completion of any required infrastructure upgrades to support elimination of fossil fuels, all new construction of 500,000 square feet or less and/or 10 stories or less must comply.
iii) 8 years following completion of any required infrastructure upgrades to support elimination of fossil fuels, all other new construction must comply.

Thank you Chairperson Gennaro and Committee Members for giving me this opportunity to testify and for addressing this important issue

Jon Pope Construction
e. jonrpope@gmail.com
NYC HIC Lic# 2043334-DCA
NYC DOB Tracking # 619359

11/20/21

To: The Committee on Environmental Protection.

Dear Chairperson Gennaro and Committee Members,

My name is Jon Pope and this written testimony in full support of Intro 2317 and is in addition to the oral testimony given at the hearing.

I am a licensed general contractor in Brooklyn. I am also a member of the great organization- Food and Water Watch.

I write today in full support of Intro 2317 from the perspective of a small business owner in the industry.
I would propose that 2317 timeline for implementation be accelerated to one year from the current two. This would cause a lot of work in a short time but I believe we can, and must, begin these changes immediately. Every building that is renovated and not brought under the guidelines of Intro 2317 is a missed opportunity that will not arise again for a long time. Building envelop improvements, electrical work, and equipment installation necessary to truly build high quality, comfortable, fossil fuel free dwellings is much easier, more cost effective, and yields a superior final product when done as a renovation rather than a retrofit.
I am currently engaged in a major renovation (alt 1) project where we are sealing the envelop and installing electric heat pumps as the soul source of heat at the request of the owner. We need to do this on every project and Intro 2317 ensures that. We are in a building “boom” is NYC right now and this is the opportunity to build for a future that we need to avoid the worst outcomes of climate change. The faster we can implement Intro 2317 the sooner we can ensure that we are not locking ourselves into decades of fossil fuel use or causing the need for expensive retrofits of housing stock, We are ensuring that we are not stranding assets of of hard working New Yorkers whose home is often their largest and most stable financial holding. We are building for the future we need. Basically, I don’t see a near term future where we do not enact this legislation or something similar. The question is will we do it soon enough for it to be an effective step or will we wait until it is too late? I say we do this now. We are New Yorkers. We can do anything. We need to do this.

I would also propose that “gut renovation” be defined as permits falling into the Alt 1 category and not pinned to some ratio of renovation cost to home values. I believe the framework needs to be defined by the scope of the project and not by cost of the project. This step would minimize the ability of projects to avoid compliance through clever accounting.

In summery, I am a small business owner doing renovation projects in Brooklyn and I strongly support Intro 2317 on an accelerated timeline. It is good for the environment, good for the future, and good for business.

Thank you for your time

Jon Pope

Jon Pope
Ocean Parkway
Brooklyn, NY 11218

From: Juliet Brown <pulabrown@gmail.com>
Sent: Thursday, November 11, 2021 8:13 PM
To: Testimony
Cc: annie@weact.org
Subject: [EXTERNAL] Pass Intro 2317 NOW

Dear NYC Council,

Please pass the Gas Free NYC Intro 2317 Bill now. The time to lead the way out of the existential climate emergency we are in is NOW. NYC should be a leader among leaders modeling what cities should look like. End gas use in new construction and renovation and help our city transition justly away from using fossil fuels wherever humanly possible - or we will all be humanly IMPOSSIBLE very soon!!! Think of the babies being born now, think of the beauty and equity our citizens could experience, think long-term of how to survive climate chaos. We need your leadership NOW. There is no time left to wait and this action needs to be the tip of the so-called iceberg of actions to mitigate the effects of climate change. Don't let ExxonMobil, REBNY, and API steer you wrong. Please, my 11 year old is begging you, please show us a ray of hope that our city can do things right for all New Yorkers.

Juliet Brown
(She/Her)
(718)
NYC City Council District 7

Dear Chair Gennaro and Committee,

Thanks for this opportunity, my name is Kathy Malone and I live in Brooklyn. So much rests on your shoulders and on our shoulders.

I support intro 2317 Gas Free NYC so much so that I decided to put on a Sustainable Home Fair on Oct 16th in Brooklyn. We had Bloc Power, Heat/Cool Smart Brooklyn, Brooklyn Solar Works, Green Team Long Island to name a few retrofitters of renewable energy for buildings. Buildings are one of the leading causes of GHG emissions by nearly 40%.

At my Sustainable Home Fair I got to learn first-hand about the wonders of heat pump technology, going solar, insulation and the passive house method for making our homes and buildings smart, energy efficient, healthy AND can save you money on energy bills:

- The gas in our cooking ranges emit very unhealthy toxins, carbon monoxide, formaldehyde and other harmful pollutants right into our homes. Cooking with gas unleashes some of the same fumes found in car exhaust. I can no longer turn on my stove without thinking about what's coming out of there.
- Homes using smart technologies add to the market value of their property.

I am horrified by the stories of my fellow New Yorkers drowning in their own homes from the new superstorms such as Ida that will become more and more common. Like the hard-working Queens family Ang, Mingma and their 2-year-old son Lobsang Lama who were heard drowning in their basement apartment in Queens by their landlord and there was nothing they could do.

Our world leaders have failed us at COP26 keeping GHG emissions down by 1.5 to avert the worst of climate change. New York has always led the world going into the future, now it's up to us to save ourselves and lead the country and the world. Let's pass Intro 2317.

All the best,
Kathy Malone
350BK volunteer and mom

Hi my name is Kazi Hoque and I am a student at Borough of Manhattan Community College, and intern with the New York Public Interest Research Group (NYPIRG). I am testifying in support of Gas Free NYC, bill Intro 2317 which would ban all new gas hookups in new buildings. Thank you for your time to hear my testimony.

Bill intro 2317's main sponsor is council member Alicka-Ampry Samuel, and my Council Member, Brad Lander also co-sponsors the bill. I support this bill because in order to stop the worst effects of the Climate Crisis, we need to move away from fossil fuels entirely. Buildings emit 70% of NYC's greenhouse gases, which pollute the air and contribute to the climate crisis. Gas Free NYC is a great, and mandatory step towards a fossil fuel-free future.

I am worried about the climate crisis for my future.
There are going to be more hurricanes, like Ida and Sandy which would destroy properties and endanger people's lives. I am worried about my family's future. How can I raise a family when there is extreme heat, flooding, and storms. My HOME cOULD BE DESTROYED, or other flood damages. If I have children they will be growing up with more extreme weather which could affect their schools and the way they will live their lives. There would be more air pollution that could cause people to get sick. This is already happening across the globe, and right here in New York City.

This is why I support Intro 2317 - to make sure all new construction in new buildings is not hooked up to gas. We need to get off Fossil Fuels and make a switch to completely green renewable energy. Thank you for your time, and please pass Gas Free NYC.

Hi,

My name is Keith Kinch. I am the Co-founder of BlocPower.

BlocPower Brooklyn-based clean-tech start-up that utilizes software to make buildings smarter, greener, and healthier. BlocPower has completed over 1,200 projects since its inception utilizing software to analyze, finance, and lower energy costs for building owners across America. In July of this year, in partnership with Mayor Deblasio, we launched a 37 million dollar initiative to create 1,500 jobs in frontline communities. The newly created Civilian Climate Corp are individuals that are trained and placed to work on clean energy projects across the city. These good-paying green jobs not only generate economic growth in underserved neighborhoods, but by removing fossil fuels, create sustainable communities.

Last week BlocPower was chosen to decarbonize the entire city of Ithaca. Ithaca will be the first city in the nation to move every building off fossil fuels. We are excited to be part of Ithaca's historic journey! I look forward to more cities across the country following the example set by Ithaca to remove entire cities from fossil fuels.

In 2020, New York City faced a Covid 19 pandemic that questioned and altered our very way of life. As we continue to deal with a health and economic crisis, the question we all have to ask ourselves is how do we plan to move New York City forward.

The answer is not to use fossil fuels like gas in buildings. One major source of indoor air pollution, it turns out, is the familiar gas stove, which relies on the direct combustion of natural gas. Vulnerable populations are most at risk from gas stove pollution. Children are at particular risk of health problems if exposed to indoor air pollution, and lower-income households are at a higher risk of exposure. Homes with gas stoves have an increased risk of children experiencing asthma symptoms. The rates of diagnosis of asthma are also higher in buildings that utilize natural gas in buildings.

Lower-income households are more likely to have more people living in smaller spaces, with less ventilation. Lower-income, African American, and Hispanic children already suffer asthma at higher rates than the national average, mainly because they are more likely to live near sources of outdoor air pollution which makes them more vulnerable to sources of indoor air pollution.

Why are constructing new buildings using fuels that can make fellow New Yorkers, especially children, sick?

It simply does not make any sense on any tangible level.

The discussions today about how and what type of energy we utilize to heat and cool buildings isn't new. There were arguments for years on why people would use oil instead of wood chips. People preferred their hands over the fire. The conversations shifted to why I would use gas over oil. How can buildings possibly use gas instead of oil? I like to see the oil guy pump the oil into the building.

Now once again we continue to move the conversation, New York City, and the people of New York forward, by moving away from fossil fuels like natural gas. Investments from the private sector and public sectors such as local governments and utilities are key for this transition to be successful. We know it works because it's not a great idea, or a plan that may happen, it's literally happening now!

Right now BlocPower is utilizing the Civilian Climate Corp, a workforce trained New Yorkers from Frontline communities, to complete clean energy projects. One of which is removing a fossil fuel system at a church in Queens. The church is not only a religious sanctuary but provides services to children and has a food pantry. A building that is an anchor of the community should not be emitting harmful toxins by burning fossil fuels. Also in Queens, a veterans post is going through renovations to better serve our heroes. I am sure we all can agree that a place where our heroes can come together should be a place in which the air is clean.

In Brooklyn, BlocPower recently removed its natural gas system not only to save money on annual costs but immediately improve the air quality of the home.

I could provide a hundred more examples but I understand I am one of many people who will be speaking today and want to be respectful of time.

The next steps are simple. The NYC Council, under the great leadership of Speaker Johnson, must pass this bill. Banning the use of fossil fuels, like natural gas, will ensure every new building that goes up in this great city is part of a sustainable future. A future with clean air, and clean heat that everyone here today, including my two very young children, who are listening now, can thrive in.

I thank you all for allowing me to speak today and look forward to working with you, and every member of the NYC Council in the future.

Good Morning Chair Gennaro and members of the Committee on Environmental Protection.

My name is Kevin Costa, I live in District 33 and am a constituent of Councilmember Levin and Councilmember-Elect Restler. I'm a volunteer with 350Brooklyn – an affiliate of a global organization countering climate change at the local level.

I am here today to state my strong support for Intro 2317, which would end the use of gas in new construction in New York City and put us on the path to modernizing all our City's infrastructure.

The existential issue of climate change is reason enough for this law. We need to turn off the faucet of carbon emissions in the city, and doing so starts with tackling the city's biggest form of emissions: buildings. By electrifying our water, gas, and heating, we are pulling the largest lever to cut our city emissions. Where I live in Greenpoint, we are extremely susceptible to harsher storms, flooding, and heat waves.

This no-nonsense measure would not impact building or maintenance costs due to falling prices of new heat pump technology. And will create well-paying, green technician, inspection, and construction jobs.

In future, this law can help reduce building heating costs as efficiencies improve.

Moreover, measures have already been implemented in San Jose, Oakland, and San Francisco and Seattle with much success.

Intro 2317 is sponsored by Council Member Ampry-Samuel, and already has 23 additional co-sponsors, including Majority Leader Cumbo. The amount of support for this bill is a sign that it is a no-brainer for NYC. Additionally, as Assembly Member Gallagher stated, the state is looking for the City to lead, to set an example and a model for the rest of the state to follow.

Thank you for your time today, and for your commitment to truly understanding the importance of this issue.

Kevin Costa

Lisa DiCaprio. NY City Council, Committee on Environmental Protection November 17, 2021 Hearing on Int. 2317-2021, Int. 2196-021, and Int 2091-2020 [1 of 3 pages]

My name is Lisa DiCaprio. I am a professor of Social Sciences in the Division of Applied Undergraduate Studies in NYU's School of Professional Studies (SPS) where I teach courses on sustainability and serve as the coordinator of our new Bachelor of Science in Real Estate and Urban Sustainability. I am also a member of several environmental organizations, including the Sierra Club, which is playing an important role in all-electric building campaigns in the U.S.

The significant, but insufficient commitments made at the Glasgow Climate Summit require us to accelerate our transition to a new, green economy. [**1**]

Int. 2317-2021, Int. 2196-2021, and Int. 2091-2020 will facilitate the reduction of greenhouse gas emissions from NYC's one million and one hundred thousand buildings, which are responsible for 67% of NYC's total amount of emissions.

I am speaking today in support of Int. 2317-2021, which promotes the electrification of new and substantially retrofitted buildings in NYC.

The Sierra Club NYC Group endorsed Int. 2317-2021 and the Sierra Club Atlantic Chapter Executive Committee voted at its quarterly meeting on October 16, 2021 in support of this resolution: "The Sierra Club supports local legislation in New York State that promotes the electrification of buildings and views the NY City Council bill Int. 2317-2021 as a model for such legislation."

Here are 10 main points in support of Int. 2317-2021:

1. Electricity is the only form of energy with the potential to be obtained entirely from renewable sources. The electrification of buildings is a global movement and an essential corollary to the greening of the electricity grid throughout the world. [**2**]

2. The electrification of NYC's buildings will facilitate compliance with NYC and New York State mandates for reducing greenhouse gas emissions.

3. Int. 2317-2021 is designed to preempt legal challenges. [**3**]

4. Int. 2317-2021 also includes important exemptions; for example, the use of emergency generators that are crucial for critical infrastructure, such as hospitals, and an important option for high-rise buildings.

5. The electrification of buildings is a public health and environmental justice issue. As Peggy Shepard, Co-Founder and Executive Director at WE ACT wrote in the organization's May 28, 2021 electronic newsletter: "This bill will help reduce air pollution and emissions that contribute to climate change, which will help address health disparities experienced by people of color. A recent study found that communities of color in the city are exposed to 17 percent more $PM_{2.5}$ emissions associated with residential gas combustion than the population average, with Blacks facing 32 percent

higher exposure. The health impacts of this disproportionate exposure can be seen in the higher rates of mortality and morbidity in these communities – our communities – including chronic respiratory diseases like asthma." [**4**]

6. Gas stoves contribute to indoor air pollution, as documented in recent studies by the Rocky Mountain Institute, Harvard University, and UCLA. As Brandon Pytel writes in his May 6, 2020 Earth Day Initiative article, "Gas Stoves Pollute the Air and Harm Your Health, Health Studies Find," which summarizes these studies: "Cooking with gas releases harmful air pollutants like nitrous oxide and carbon monoxide, which can lead to multiple health complications. Nitrous oxide is particularly harmful to children, increasing the risk of asthma, learning deficits and cardiovascular disease."

7. All-electric buildings are technically feasible, as demonstrated by the increasing number of new and retrofitted all-electric buildings in the U.S. and throughout the world. [**5**] In NYC, the Alloy Tower at 100 Flatbush Avenue in Brooklyn, when it is constructed, will be NYC's first all-electric skyscraper. The Alloy Tower is one of five new buildings in downtown Brooklyn that will comprise the Alloy Block. Moreover, the **N**ew York State Energy Research and Development Authority (NYSERDA) is demonstrating its confidence in all-electric buildings. The NYSERDA Buildings of Excellence Competition Award, which was initiated in 2019, includes several all-electric building projects. For descriptions of the Round I (2020) and Round 2 (2021) projects, see this NYSERDA Buildings of Excellence website.

8. All-electric buildings are economically feasible because electricity is a more efficient source of energy than natural gas or oil. [**6**]

9. The electrification of buildings must be accompanied by the reduction of energy consumption; therefore, new and substantially retrofitted buildings that are all-electric buildings should achieve the criteria required for a green building certification, such as Passive House, LEED, Living Building Challenge, and Net Zero Energy Buildings. The two, main Passive House certifications are: Passive House Institute US (PHIUS) and Passive House Institute (PHI) in Germany.

10. Three scientific reports on climate change issued this year highlight why we must simultaneously accelerate the electrification of buildings, reduction of energy consumption by green building design (optimally Passive House*), and the greening of the electricity grid. [**7**] As U.N. Secretary-General António Guterres emphasized in his statement on the August 9, 2021 UN Intergovernmental Panel on Climate Change (IPCC) report, "Climate Change 2021: The Physical Science Basis, "This is code red for humanity."

NOTES:

1. On the historical responsibility of various countries for the amount of greenhouse gas emissions in the atmosphere, see: Nadja Popovich and Brad Plumer, Who Has The Most Historical Responsibility for Climate Change?, New York Times, November 12, 2021.

2. See, for example: Jane Margolies, "'All-Electric' Movement Picks Up Speed, Catching Some Off Guard," New York Times, February 5, 2020.

3. For the legal strategy informing Int. 2317-2021, see Amy Turner's May 28, 2021 article, "Emerging Local Legal Pathways for Building Electrification: Air Pollution and Land Use Regulation in New York City & Brookline, Massachusetts," which was posted on the Columbia Law School, Sabin Center for Climate Change, Climate Law Blog website.

4. For additional environmental, public health, and economic benefits of all-electric buildings, see: Mina Lee and Sherri Billimoria, Mina Lee and Sherri Billimoria summarize the environmental, public health, and economic benefits of all-electric buildings in their article, "The Eight Benefits of Building Electrification for Households, Communities, and Climate," which was posted March 29, 2021 on the Rocky Mountain Institute (RMI) website.

5. All-electric buildings require electric heating and cooling systems, such as ground source (geothermal i.e. geo-exchange) or air-source heat pumps; water heated by electricity, solar or heat pump water heaters; electric stoves or induction cooktops; and electric washers and dryers. See the 2021 Urban Land Institute report, Electrify: The Movement to All-Electric Real Estate," Technologies that Enable All-Electric Buildings, pgs. 22-24.

6. As Justin Geles writes in his article, So, What exactly is building electrification?, Greentech Media, June 5, 2020, "Heat pumps are much more efficient than the equipment they replace. Air-source heat pumps or heat pump water heaters are three to five times more energy-efficient than their natural-gas counterparts. And researchers are using artificial intelligence to make heat pumps even more efficient…A misconception persists that heat pumps will fail in extreme cold. Not so. A recent Rocky Mountain Institute (RMI) report found that cold-climate heat pumps can heat homes even when the outdoor temperature plunges to -12 degrees Fahrenheit."

7. These reports are the May 6, 2021 UN Environment Programme (UNEP) **"**Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions," the August 9, 2021 UN Intergovernmental Panel on Climate Change (IPCC) report, "Climate Change 2021: The Physical Science Basis," which is summarized in this press release, and the April 13, 2021 National Oceanic and Atmospheric Administration (NOAA) report, "It's official: July was Earth's hottest month on record."

* For my articles on Passive House, see: Lisa DiCaprio, "Passive House Update -- Educational Resources," Sierra Atlantic, Spring 2021 and "High-rise Passive House in NYC," Sierra Atlantic Fall 2017. See also Lisa DiCaprio, "NY City Council Int. 2317-2021 Promotes Building Electrification," which was posted August 25, 2021 on the New York Passive House (NYPH) website.

From: Marc Schmied <schmiedbass@gmail.com>
Sent: Friday, November 19, 2021 11:18 AM
To: Testimony
Subject: [EXTERNAL] Comment on Intro 2317

I was not able to attend the City Council meeting on 11/17/21 on Intro 2317, but I would like to submit the following comment on it.

Thank you,

Marc Schmied
12th St.
Brooklyn NY 11215

To: Chair Gennaro and members of the Committee on Environmental Protection.

My name is Marc Schmied. I live in the 39th District in Brooklyn and am a constituent of Council Member Brad Lander. I'm a volunteer with 350Brooklyn – an affiliate of a global organization countering climate change at the local level.

I am writing to you today to state my strong support for Intro 2317, which would end the use of gas in new construction in New York City and put us on the path to modernizing all of our infrastructure.

Responding to climate change is our generation's great challenge. As individuals we have very little influence on what policies are enacted at the international or national level. But as New Yorkers, we can be an example of what a smart and compassionate response to the threat of climate change looks like.

Recent powerful storms such as Superstorm Sandy and Hurricane Ida are not going away and are a clear and present danger to the people of New York City. I can easily recall the devastating stories of people drowning in their own basements in Brooklyn and Queens and the horrific images of cars floating through lower Manhattan like toys in a bathtub. It is irresponsible and completely unacceptable that New York City, with its low lying coastal communities, continues to burn the fossil fuels that drive the climate chaos we are currently living through. Big Oil and Gas companies and other businesses that profit from the status quo will not change unless they are forced to change. Profit incentive got us into this mess, and it can get us out. If NYC bans gas energy in new construction, green energy technology is here, ready to meet the challenge.

New Yorkers deserve clean air and a livable environment. We need bills such as Intro 2317 to make that happen, and fast. Who will the City Council serve: the interests of the greedy fossil fuel companies, or the people it swore to serve?

I strongly encourage the City Council to pass Intro 2317. Thank you.

Curtis + Ginsberg Architects

November 17, 2021

New York City Council
Committee on Environmental Pretection

Re: Intro 2317 Banning Fossil Fuel in New Construction

Dear Counil Members,

Thank you for allowing me to speak in strong support for Intro 2317 Banning Fossil Fuel in New Construction. My name is Mark Ginsberg, FAIA, an Architect with Curtis + Ginsberg Architects in lower Manhattan and an American Instate of Architects member and former President of the New York Chapter.

My practice's major area of focus is affordable, sustainable housing in New York. Climate change is the existential issue of our times. Some have said that electrification will add cost to affordable housing. It will add a little capital cost but significantly lower operating costs over the life of the building. We have completed four multi-family Passive House projects, with two more in construction and a number more in design. These buildings reduce energy consumption 50 to 70 percent below a code-compliant building, meeting the city's objective of 80 percent carbon reduction by 2050 now. More importantly, our first two all-electric buildings are two months away from completion, and we have five more in design in three boroughs for private developers and not-for-profits. If we are doing this now, I see no reason why others cannot. These buildings will have a much lower carbon footprint when they open, and in 2040, when the State has mandated a clean grid, they will be net neutral. I would add that this legislation follows in the footsteps of 60 localities in California and the City of Seattle.

This legislation is a cost-effective and straightforward way to move us toward the low-carbon future we need to get to as fast as possible.

Thank you

Mark Ginsberg, FAIA, LEEDAP
Partner

Document1H:\Employees\MEG\AIA\Mark_Ginsberg-Int2317-Testimony-11-17-21.dotx

55 Broad Street FL 8
New York NY 10004
212 929 4417
www.cplusga.com

Good Afternoon. Thank you for this opportunity.

My name is Matthew Lipschik. I am a lifelong New York City resident, a retired civil servant, and a Food & Water Watch volunteer and member

I urge you to strengthen and pass Intro 2317 now.

You can take a step to lower the rate of global heating. You can make a powerful move toward improving local air quality and thus health, especially in the poorest communities. And you can lower fossil fuel infrastructure accidents – fewer explosions, leaks, fires, deaths – a further improvement in societal health.

What's the downside here? Fossil fuel companies' profits will be lower? That is not a concern of the Committee.

The Real Estate Board is against it? They are too afraid of change to see how the bill will benefit NYC real estate.

So please, strengthen Intro 2317; pass it. Today. And mandate that it take effect within the next 12 months.

Thank you, again.

From: M Es <matthew.e.schatz@gmail.com>
Sent: Monday, November 22, 2021 8:34 PM
To: Testimony
Subject: [EXTERNAL] Testimony in Support of 2317

Let's talk about passing local law 2317, which when mixed with existing Local Law 97 is such a no-brainer.

Let's handle so much positive through one action.
1) Force an opportunity to definitively lower green house gas emissions (currently accounting for 70% of this city's environmental harm) by making it impossible to get oil and gas into new buildings by eliminating hook ups so oil can't be burnt in furnaces and then release CO2 from its combustion into our atmosphere, while simultaneously providing an alternative in heat pumps that do not create this type of pollution.
2) Reduce the destruction of communities where environmental pollutants pose a more harmful risk than in communities of higher affluence through 2317, which will exponetially increase the effects of Local Law 97.
3) Create more jobs, and more righteous jobs at that, for members of the communities historically and disproportionately, negatively affected by previously, highly pollutant infrastructure projects.
4) Hold the government accoutable to working for the people. Working for the Earth is certainly working for the people.
5) Enact more efficient technology, less beholden to lobbyist interest and more focused on doing a more correct action for the sake of the action itself, to enact less harm on the inhabitants of our Earth and the Earth itself.

You and I both know this makes sense.

With Common Sense, of the people.
Matthew Schatz

From: miles@yelloworange.com
Sent: Wednesday, November 17, 2021 12:37 PM
To: Testimony
Subject: [EXTERNAL] Testimony in favor of Intro 2317

To the NY City Council Committee on Environmental Protection,

As a long-time Manhattan resident, I'm writing today to ask the council to pass Intro 2317 and put it into effect faster than the current draft.

As you know, the state's nation-leading climate law, the Climate Leadership and Community Protection Act, mandates at least a 40 percent reduction in climate pollution by 2030. That's a law, not just a goal.

To get there, the Climate Action Council's Initial Analysis published on Oct 14 states that "More rapid and widespread end-use electrification & efficiency" is needed right now. The level of transformation needed in this area is rated as high or very high.

In one relevant example, the Council called for 90%+ of natural gas powered heater sales to be eliminated by 2030 — after which date it will still take another *two decades* for existing gas-powered heaters to be fully retired and replaced with electric. That's right, it's going to take 30 years to transition—which is why we have no choice but to start now.

Of course, the real estate lobby and the API are going to fight this with every lie and dirty trick in the book, even though it's great for tenants and owners. But Seattle, San Jose, and Oakland already have gas bans in place, and green building techniques are mature and widespread.

The industry is ready, the city is ready, and the bill is ready. The one change that the bill needs is to speed it up—it should take effect one year after passage, not two.

The L in CLCPA is supposed to stand for leadership, and the law itself says that New York's actions will "provide an example" to "encourage other jurisdictions". So what are we waiting for?

Bottom line: every new gas hookup installed today *increases* emissions. And that's exactly what the CLCPA promised to stop.

So please: pass intro 2317, protect our communities, and help New York start keeping its promises.

Thank you,

Miles McManus

--
miles@yelloworange.com

Intro 2317 Testimony 350NYC – Monica Weiss

I pre-empted my prepared testimony below after waiting until almost 5:00 to present my statement. Pretty much all of the points I had prepared had been addressed by several others, so in the interest of relevance, I spoke about The Climate Clock. What happens in NYC certainly does NOT stay in NYC. We were the first city in the world to get a climate clock at the iconic Union Square in the Fall of 2020 during the height of the pandemic. 350NYC members along with a small group of other supporters were there for the launch. CBS meteorologist, Jeff Berardelli, did a special segment the next day highlighting the clock and its important message of urgency. https://climateclock.world/

It had a re-launch in April of 2021 with a press conference which included testimony by several globally recognized Youth Climate Leaders, U.N. Ambassador and grassroots activists and has since spread to many major cities on all continents and was featured in Glasgow at the recent COP 26. This is the most important number in the world. We have a deadline for carbon emissions – a global carbon budget which at the rate we are using it, will expire in just over seven years. The lifeline represents the percentage of clean, renewable energy that is replacing that, which only stands at just over 12%. I have been horrified to see the deadline number moving a lot faster than the lifeline figures. You should be too.

I also gave a shout out to the testimony of Dr. Leah Stokes who in two minutes related the science that needs to be the basis for all of our decisions (not politics), called out the intentional misinformation from those who have a different agenda (short term profit), and supported the fact that all of the solutions being proposed and supported by engineers, passive house architects and construction experts are in fact already being used successfully.

I will also quote Bill McKibben's wise perspective that "gradualism equals failure." So for those individuals promoting a slower, more gradual approach to any transition, they need to heed the clock. Nature does not wait for our timeline or indulge our folly.

And finally, I'd like to reflect on how history will look upon us in terms of ancestry. We foolishly only think about ancestry as something from the past – a mysterious clue to the past lives, accomplishments, challenges, and motivations of those who came before us, usually from our own bloodlines. But we too will be ancestors some day and what will those who comes after us think? What did we do when we knew that everything was perishing as we held 6 hour hearings to decide whether or not to do the hard thing, the right thing, the only thing that mattered?

I urge the council under the leadership of CM Genarro to act with courage and vision, on this and every other climate related decision that comes before you.

Original Testimony

We are just days from the completion of COP 26, the gathering of world leaders, NGOs, youth activists, members of civil society, and a disproportionate representation of fossil fuel industry leaders and executives. As we have seen and heard, there were world leaders missing at the table and the goals and commitments of those who showed up with good intentions, fell far short of what is needed to keep global warming to 1.5 degrees. We are on a trajectory to toast the planet and the responsibility to change course lies with every person here today – especially those of you with the power to create policy. Every citizen and every legislator of every state, city and town have a compelling moral obligation to the next generations to do everything possible to stop the damage and advocate for solutions that we know are necessary. The complete transition of the global energy system away from fossil fuels to renewable, clean energy is key. The urgency cannot be overstated. Understanding the science which is abundantly clear and has been for some time, requires you to act as if our house is on fire because it is.

New York City has shown bold leadership in the past few years with the passage of the Climate Mobilization Act in 2019, signaling a serious commitment to cut carbon emissions. Local Law 97 is a good example of policy driven benchmarks intended to address inefficiency in our buildings. The next logical step is eliminating gas for cooking and heating, driving the initiatives to dramatically increase the supply of clean energy options and even perhaps encourage passive house architecture in new construction.

Other cities and municipalities have made these commitments with Ithaca being the latest city voting to electrify and decarbonize every single building by 2030. Block Power, a Brooklyn based company was chosen to manage this initiative. The technology exists. What's needed most is leadership with the courage to make the commitment. We look to you for that leadership. Our children will judge us on what we chose to do when we knew what the consequences of delay and excuses would be. Today is that day. Thank you for your time and attention. Monica Weiss, 350NYC

Nina Grigoriev
72nd St.
Brooklyn, NY 112092

November 17, 2021

Committee on Environmental Protection
New York City Council
250 Broadway
New York, NY 100007

Re: Intro 2317

Dear Chair Gennaro and members of the Committee on Environmental Protection,

My name is Nina Grigoriev and I live in Bay Ridge. I'm a constituent of Councilmember Justin Brannan in District 43 and work as a public health communications professional. I'm also a mom of two, a Brooklyn native, and a volunteer with 350Brooklyn –an affiliate of a nation-wide organization looking to tackle climate change at the local level.

I'm submitting testimony today to state my strong support for Intro 2317, which would end the use of gas in new construction in New York City.

I live in a historic 450-unit pre-war building in Bay Ridge and have served on the building's Board for several years. My experience on the Board and as a community member has convinced me that Intro 2317 is a common-sense measure that will put NYC on a path to modernizing our old and frail infrastructure, increasing the City's resiliency in the face of crisis while at the same time reducing our carbon footprint.

Over the past few years, Bay Ridge has had multiple major gas leaks-- a major health and safety issue. As a result, our streets have been torn up to replace aging gas pipes. The pipe replacement work has been done right next to our local public school (P.S. 102), the waterfront along Shore Road-- an area popular with families, and next to major commercial strips on Third Avenues, where thousands of people eat and shop every day. While I appreciate the City allocating resources to replace some of those pipes, moving away from a reliance on gas for heating and cooking would reduce the incidence of harmful gas in our air, the need for costly road repairs and the traffic jams and parking nightmare that has resulted in ongoing road work. I don't want to have 3-1-1 on speed dial each time I smell a gas leak. My kids deserve to breathe clean air-- as do yours, as do we all.

Mayor DeBlasio's Climate Modernization Act was a bold vision to cut the city's reliance on non-renewable energy sources. As part of that legislation, Local Law 97 created teeth in incentivizing large buildings to retrofit or install new, more energy-efficient technologies. Having served on my building's Board, I saw the positive changes Local Law 97 brought, despite the fact that many regulations wouldn't go into effect for several years. For example, in charting a plan of action for a necessary multi-million-dollar waterproofing project in 2018, Local Law 97 was a major consideration in the Board's decision to use the opportunity to also install new heat-efficient windows, LED lighting and insulation in our building complex. While costly in the short run, we knew these measures would save on building heating costs and make our building

eligible for State tax breaks in the long run, while reducing our building's carbon footprint- a win-win.

However, why wait until 2030-- when many Local Law 97 regulations take effect? There is an opportunity to eliminate the use of gas *right now* for new construction-- replacing gas with more efficient and safer electric heat pumps. This, while giving older buildings, such as ours, time to retrofit our heating system.

I understand that several major developers have raised concerns over the higher cost of installing heat pumps over the current standard. Both in my role as a Board member and as a committed New Yorker who decided to raise her kids in the best city on earth, despite the high cost of living, I am very attuned to any new regulation that raises costs. However, the evidence is clear: heat pumps are budget neutral-- and may actually save money as the technology improves. The City government's own *Pathways to a Carbon Neutral NYC* study shows that electrification requirements are cost-effective, as does NYSERDA's Buildings of Excellence program, where the cost of electrified buildings is only 2% different from gas-fired buildings - and costs keep falling.

Intro 2317 is a small piece of legislation considering the Committee's mandate, but in one stroke of a pen, can expedite the intent of the Climate Mobilization Act, moving to more sustainable, safer renewable energy sources and improving air quality-- all without placing undue burdens on developers or raising construction costs.

I hope you will consider moving forward with a vote on Intro 2317 following today's hearing.

Thank you for taking my views into consideration in your deliberations.

Sincerely,

Nina Grigoriev

From: Patrick Temple <patricktemple@gmail.com>
Sent: Wednesday, November 17, 2021 4:55 PM
To: Testimony
Subject: [EXTERNAL] Testimony in support of Intro 2317

Dear Chair Gennaro and members of the Committee on Environmental Protection,

I'd like to present my testimony in support of Intro 2317, and thank you for your time on this issue. I stayed online at the hearing today for over 4 hours ready to testify, but ultimately had to drop off, because so many people were there speaking in support of the bill.

My name is Patrick Temple, I'm a volunteer with 350 Brooklyn, which fights climate change at a local level. I strongly urge you to pass Intro 2317 to ban gas in new construction, and to strengthen it by moving the implementation date up to 2022.

This summer of extreme weather deeply shook me with a fear for the future. Wildfires throughout the west, out of control. Lethal heat waves of 120 degrees in Portland, which were previously unimaginable. Sudden floods right here in New York and New Jersey that killed dozens of people. For me, the scariest of all is knowing that the intensity of this summer shocked even many climate scientists, coming sooner and worse than expected. I often heard news reports refer to this as the "new normal", but that's not right. This is just a tiny preview of what is to come, and it will get so much worse than this. When I take the weather events we've seen and imagine them intensified by another 10, 20, 40 years of climate change, I am terrified.

A lot of people my generation, when we think about this future, walk around feeling this fear and dread, every single day. We fear for our own futures, our homes, our health, and our safety. I'm at the age to have kids soon, and I'm deeply afraid for their futures, that this is the world that they'll have to live in. It is a tragedy.

We must turn this around now. There is absolutely no time to delay. This bill, Intro 2317, is a great way for NY to take the lead on this crisis. Gas is not a bridge fuel; the International Energy Agency tells us that new construction needs to be fossil fuel free by 2025. And as so many people testified at the hearing, heat pumps work well and are already being used today.

So again, to reiterate, I just want to state my strong support for Intro 2317, and urge you to pass it immediately. Let's make NY a leader in the electrification revolution, and other cities will follow our example.

Thank you,

Patrick Temple

Testimony of Richard Leigh, PhD, PE, LEED AP

Visiting Professor, Physics, Pratt Institute

Submitted to the New York City Council Committee on Environmental Protection

Re: **Int. No. 2317, Use of Substances with Certain Emissions Profiles**

18 November 2021

Greetings, Council Member Gennaro and members of the committee:

I am an active member of the climate change mitigation community in New York City, and have worked on issues such as building energy efficiency and electric utility planning for over twenty-five years. A brief bio is appended to this testimony.

I write today to congratulate you on bringing Intro 2317 to the Council and urge that you pass this extremely important legislation. My reasons for urging this are simple: We know that unchecked climate change presents, literally, an existential threat to the human civilization and wealth we enjoy today. We know that we must stop burning almost all fossil fuels, convert our buildings to electric heat and hot water, and develop carbon-free electric power to make that process work as it must.

New York City, led by City Council, has taken important steps in this direction, especially with respect to larger buildings. Local Laws 84 (Benchmarking), 87 (Audits and Retrofits), and 97 (greenhouse gas -GHG- emission limits) have shown New York taking a national leadership role in lowering GHG emissions.

The result of these prior local laws is and will be decreasing emissions from existing buildings, since over half of buildings' GHG emissions flow from the direct combustion of fossil fuels, mostly natural gas. The decreases will follow from lowering building loads through efficiency improvements, and then by replacing fossil fuel combustion with electrically powered devices, largely heat pumps, which can supply three times the heat per kilowatt-hour of older, standard electrical equipment. Every existing building in New York City will have to undergo this transformation between now and the 2040s.

This effort in existing buildings raises an important question about new construction: why on earth would people install expensive gas-powered equipment that will have to be replaced within twenty years? Why should developers be allowed to create future stranded assets for which they will not be responsible? It is far easier and cheaper to design and construct a new structure that is all-electric than to retrofit an existing building. All new construction in New York City should emulate progressive cities in California (here, here, and here) and Ithaca, New York, and be required to use all-electric services. Intro 2317 will make this happen, and by passing it without delay, New York City will again provide needed leadership in the race to constrain and restrain climate change.

Despite my strong enthusiasm for Intro 2317, there is one way that I believe it must be strengthened. It currently requires that any fuel produce emissions with less than 50 kg of CO_2 equivalent per million Btu of thermal energy in the fuel. This number is dangerously high, since

natural gas emits only 53 kg of CO_{2e} per million Btu. The natural gas industry is already planning to lower emissions of their product by adding small quantities of green hydrogen (H_2) or biogas to the pipeline fuel. Mixing only 15% H_2 into natural gas will bring the emissions from appliances burning the fuel down to 50 kg CO_2 per Million Btu. Less than 5% biogas rated as "carbon-free" would bring the calculated emissions below the current limit. If implemented as written, the temptation to developers will be irresistible, and the purpose of the law will be undercut, since the emissions from blended products will be only slightly below those of pure natural gas. The limit should be set so low that it will be clear that diluting the fuel will not lead to acceptable performance. I suggest a limit no higher than 10 kg CO_{2e} per million Btu.

It should be noted that New York State is considering a law that will simply require all-electric buildings without regard to emissions. Although this may not be the best route for New York City, it should serve as notice that stringent rules are required if the rule is to contribute to reaching a greenhouse gas-free future.

I have one other comment, on a different matter. Intro 2317 as drafted requires compliance within two years of its passage. I encourage you to reject proposals by some commenters that extensions be granted to taller buildings. Proponents of this change claim that tall buildings require equipment that is not yet available. The 26-story residence hall erected on Roosevelt Island as part of the new Cornell campus meets Passive House standards and is all-electric, indicating that an such barriers are surmountable. Please note that the developers building the highest buildings are precisely those with the greatest resources, and are in the best position to overcome difficulties. Hold fast to the two-year time limit! We need this important step towards a zero-carbon future immediately, and the many existing all-electric buildings show that it can be done, and at minimal added cost, if any.

Thank you for considering these thoughts.

Richard Leigh is a Visiting Professor of Physics at Pratt Institute, primarily teaching courses in climate change science and mitigation. Formerly Director of Research at the Urban Green Council, his work included building energy use data, low emission futures, building code development, and worker education. Active in the field of energy efficient engineering and systems studies for over twenty years, he holds a PhD in Physics and is a Professional Engineer and a LEED AP.

From: Ross Pinkerton <rosskspinkerton@gmail.com>
Sent: Wednesday, November 17, 2021 4:53 PM
To: Testimony
Subject: [EXTERNAL] Testimony on Intro 2317 from Environmental Protection Hearing 11/17/21

Dear Chair Gennaro and other City Council Members and Staffers-
Thank you for your time and efforts to deal with this critical issue.
As a physics teacher in Manhattan, I have long been concerned about climate change and its effects on my students' future and clearly after this summer's storms on our city now.
In addition, I recently became concerned about the air quality and health impact of gas appliances both on my two sons in our apartment and on my neighbors in East Harlem. I thought it would be easy to replace my gas stove and water heater with electric appliances, but I discovered that my fairly new building, which was built in 2013, was not built to supply enough current to each apartment to electrify those appliances. I have the resources that I will be able to fund retrofits, but it will be much more cost-effective to build new construction with electrical appliances in mind. The bill will also help ensure that the benefits reach lower-income New Yorkers and prevent greater environmental inequity across communities, as Ismael so eloquently pointed out.
To respond to some of the speakers who opposed the bill, blends including biodiesel may be better than old heating oil systems and I'm sure they will continue to have a use for the many buildings and heavy vehicles that continue to use fuel during the long transition it will take to replace all of New York's infrastructure, but we should not lock in future need for blends or even full biodiesel because of the ongoing carbon and particulate emissions. Don't make a blanket exemption for biodiesel as Michael Trunzo urged.
Similarly, many opponents raised alarmist concerns that with this bill suddenly all oil and gas needs would switch to electric in 2023. While in many ways this would be preferable to the slow phase-in that will come by only requiring the switch in major renovations, that phase-in avoids the dire predictions those opponents made.
Thanks again for your consideration and please pass Intro. 2317 in this session!

Ross Kennedy-Shaffer Pinkerton
rosskspinkerton@gmail.com

Testimony for Intro 2317

Hi, everyone. I'm Ryan Reynolds, and I reside with my wife, two young daughters, and dog at 255 Columbia Street in Brooklyn, NY. To the anyone passing by, 255 Columbia looks like any other apartment building in Brooklyn. It's got 13 units over 7 floors, mostly three bedroom apartments occupied by families of different sizes and backgrounds. It's also got a small yard in the back where residents like to get together when the weather permits. But inside, the experience of living at 255 Columbia is unlike any building we've known, both in terms of comfort and cost efficiency.

Our family came to 255 Columbia seven years ago from a 4th floor walkup just a few blocks away. Our prior apartment was in a typical brownstone, with a gas stove, radiators, and mediocre insulation. The unit was impossible to cool with window units in the summer, and in the winter, the radiators pumped out so much heat that we had to close all the valves and then crack our windows just to avoid overheating. After weathering Hurricanes Sandy and Irene at this leaky, uncomfortable apartment, we decided we needed a change.

We moved into 255 Columbia in 2014, and while we knew that it would be a more modern building, we were blown away by just how comfortable and energy efficient fossil-fuel free living would be.

- The first thing we noticed were the appliances: We have an induction stovetop, which we instantly fell in love with; it's super responsive, and it gives us peace of mind in knowing that we aren't breathing in noxious gas fumes or at risk of our kids accidentally turning on the range and causing a fire or explosion.
- We have an energy efficient electric washer & dryer in our unit, which is nearly silent and used every day.
- Hot water is supplied to all 13 units in our building by just 6 hybrid water heaters in the basement, which use electricity and heat-pump technology to provide all the hot water we need while keeping our basement cool and dry throughout the year.
- Finally, the building is so well insulated that the HVAC consists of just four rooftop heat-pump condensers that deliver on-demand heating and cooling to each unit based on their own individual preferences.

To say that our building has been an upgrade in comfort is an understatement. The consistency of the indoor climate, the air quality, and reliability of our appliances has exceeded our expectations.

But perhaps more impressive than the comfort has been the cost: on average, we spend about $50 a month on our apartment's heating and cooling. Electricity charges for our unit average about $85 a month. What's more, the common charges for our building, of which heat and hot water are a major component, are typically less than half of what similar buildings in our

neighborhood pay. Our new property manager was astounded by how low our common charges were.

Whenever we share our experience with friends and neighbors, and tell them how much more comfortable, liberating, and affordable it is to live in a fossil fuel free unit, they are generally supportive. And then, they give one or two reasons why they could never do it:

1. **Reason #1: I just prefer cooking with gas, and don't want to throw away all my pots and pans.** This usually comes from someone who has never cooked on an induction stove; not only are they a superior choice for indoor air quality and fire safety, they're more efficient (90% as opposed to 45% for gas) and more responsive (with a broader operating range and 3x faster at boiling water). Most pans work with induction, though non-induction electric ranges are also widely available. Sometimes, I'll mention how ironic it is that NYC prohibits the use of gas barbecues and cooktops on open-air balconies, but deems them suitable for indoor use despite the well documented risks to human health and fire safety.
2. **Reason #2: All electric sounds nice—and expensive. I can't afford it.** This myth is false on a number of levels:
    a. Many electric appliances are comparably priced or cheaper than gas alternatives
    b. Even when the upfront cost of an electric appliances is higher, the total cost of ownership is typically much lower when factoring in efficiency and energy costs over the lifetime of the appliance
    c. Low-interest financing is available for home appliance purchases—bridging any perceived gap in up front costs
    d. It's worth bearing in mind that the total cost of ownership of electric vs. gas does not include indirect costs such as installation and maintenance of gas lines, insurance premiums associated with additional risk of fire or explosion, human health costs of indoor air pollution from gas appliances including asthma and other respiratory issues, or the impact on the greater environment by perpetuating the use of fossil fuels
    e. Finally, it's worth noting that natural gas is, at best, a bridge fuel for power generation. It burns more cleanly than coal—but it's still a fossil fuel with massive climate impacts from extraction (methane leakage has more than 25x greenhouse gas potency of carbon) to delivery and combustion. It's a legacy fuel that hit its technological ceiling long ago, and is no longer required nor suitable for on-site residential urban use, regardless of personal preferences.

I feel really fortunate to live in such a vibrant and resilient city. It's gone through so much in the past few years, and has never shied away from tough conversations and decisions to make life better for all its citizens. I feel even more fortunate to live gas free in such an amazingly comfortable and efficient building. I believe in science, not spin. I care deeply about climate change and the world I'm leaving my daughters. It gives me comfort knowing that by making the choice to live gas free, not only am I making a smart financial choice today; I'm making an increasingly green choice for tomorrow. For as the electric grid continues to transition to

renewable energy production, our family's carbon footprint, by virtue our all-electric home, will continue to decrease as well. That is something that gas simply cannot do. I urge the council to PASS BILL 2317 before the end of the year—we simply can't afford gas in NY any longer. Thank you for your time.

Ryan Reynolds
Columbia Street,
Brooklyn NY 11231
reynryan@gmail.com

Sabrina Maharaj

NYPIRG Internship

Gigi Nieson

11/16/2021

Gas Free NYC

Hi my name is Sabrina I am a student at Borough of Manhattan Community College in Manhattan NY, I am interning with New York Public Interest Research Group (NYPIRG). Thank you and the committee for your time. I support Gas Free NYC- Bill Intro 2317 who's primary sponsor member is council member Alicka Ampry-Samuel. I support this bill because in order to halt the worst effects of climate change, we need to move away from fossil fuels, and electrifying buildings is a path towards that goal. Buildings emit 70% of NYC's greenhouse gases, which pollute the air and contribute to the climate crisis. Plus, it uses dangerous fracked gas, which pollutes our water as well. We need to make sure all buildings in the future are run on electricity, not gas, for a fossil fuel free future!

This issue is also very personal. I have relatives that passed away from the IDA storm. There was flooding in their basement, while they were protecting themselves from the tornado warning. These relatives were part of the 11 other people in NYC that perished from the extreme weather. If we do not stop the worst effects of climate change there will be more people who have similar fates. I don't want anyone dying from massive floods in the future.

This is why I support Intro 2317 - to make sure all new construction in new buildings is not hooked up to gas. Thank you for your time, and please pass Gas Free NYC.

From: Sara Gronim <outlook_BC0AD13B74818F9D@outlook.com>
Sent: Wednesday, November 17, 2021 12:20 PM
To: Testimony
Subject: [EXTERNAL] Intro 2317: Pass It Now! Please!

To the NYC Council:

My name is Sara Gronim and I live in Brooklyn. I recently spent three years fighting to stop the Williams Company from burying a fracked gas pipeline under the seabed off Staten Island, Brooklyn, and the Rockaways. Through fighting that battle I learned so much about gas—how fracking for it ruins the lives of people in Pennsylvania, how dangerous it is, how powerful a greenhouse gas it is (86 times more powerful than carbon dioxide in the twenty years after its release), and how wealthy it makes the executives of the companies that produce and sell this substance. Did you realize that NYC has some 12,000 miles of under-street pipelines that distribute gas throughout the city? And that half of these were laid more than 50 years ago? Over time they develop small cracks so that we in NYC are bathed in a thin mist of (unhealthy!) methane gas. Our health, our safety, our wallets, and our planet's future require that we end the use of fracked gas altogether.

Intro 2317, the "Gas Free NYC" bill is a big step in the right direction. Right now architects, contractors, and engineers are building fossil free buildings and retrofitting old buildings to be fossil free. Go inside St. Patrick's Cathedral on 5th Avenue—warm in winter, cool in summer, thanks to its geothermal heat pump system. Don't listen to the fat cats at REBNY or Exxon or (heaven help us) the American Petroleum Institute. Intro 2317 is the right thing to do for New York City. Pass it now!

Thank you,
Sara Gronim
718-
sgronim@erols.com

Sarah O. Reed
Windsor Place
Brooklyn, New York 11215

To: Chair Gennaro and members of the Committee on Environmental Protection

My name is Sarah Reed. I live in Windsor Terrace Brooklyn, and I'm a volunteer with 350Brooklyn, an affiliate of a global organization countering climate breakdown at the local level.

I am here today to state my strong support for Intro 2317, which would end the use of gas in new construction in New York City and put us on the path to modernizing all of our infrastructure, at the pace which science says is necessary for our survival. We know that 2317 is not just feasible but necessary, and we should not waste any time in passing and implementing it. We do not have that time to waste.

I lived abroad for most of my adult life, in places where I witnessed climate disasters and interacted with the people whose lives were utterly changed by them. It never escaped my attention that what lay behind these floods, super storms, and heat waves was the profligate, irresponsible energy policies of my home country, and the inability of those in power to stop the status quo addiction to fossil fuels. When I returned to New York a few years ago, I encountered a city that was just starting to change in meaningful ways thanks to initiatives like the Climate Mobilization Act, but also a real estate and fossil fuel industry that continued to balk at the serious change that was needed.

At the same time, I encountered a city that was reeling from its own climate disasters, on particular display this last summer. The smog filling our skies from West Coast forests weekly. The horrific and heart-wrenching loss of our neighbors who drowned in their own apartments. Deadly heat waves that made summer terrifying rather than relaxing.

There is only one cure for climate breakdown, and that is to stop burning fossil fuels. But we're running out of time. The International Energy Agency tells us we must end the sale of new gas boilers in the next several years. In spite of this, the real estate industry and the likes of Exxon are spreading fake news about Intro 2317, for fear of change, or of losing some of their gas market share.[1]

350Brooklyn has been lobbying for this bill for months. We know it has enough votes to pass, and it can be this City Council's legacy. Don't let anyone stop you. Get it done.

[1] https://time.com/6113396/greenwashing-on-facebook/

Thank you for your time and service.

Sincerely,

Sarah O. Reed

My name is Stu Waldman. I'm a retired children's book publisher who's morphed into a climate activist when my granddaughter was born. I never imagined I'd spend my golden years committing multiple acts of Civil Disobedience.

When you're 80, sitting bent over and handcuffed in the back of a police transport vehicle is an act of pure desperation. But desperate is exactly how I see the situation we're in.

2 years ago, New York declared a climate emergency. The Webster definition of emergency is a "dangerous situation requiring immediate action." I refer you to the last two words. Action and immediate or making sure the climate walk matches the climate talk.

20 years ago, we might have been able to hedge on a bill like this, commission studies, delay implementation, use phrases like as soon as possible, give a little to environmentalists, give a little to the REBNY. Tell activists hey we got something. We'll get it right next time.
But climate legislation is different. Nature doesn't compromise. Halfway isn't good enough. We are at a moment where there is no next time. We are in a state of emergency, a dangerous situation requiring immediate action. They didn't get the troops off the beaches of Dunkirk as soon as possible

A robust Intro 2317 would result in significant reduction of emissions. Of course, one bill in one city won't keep the world at 1.5 degrees Celsius. But New York isn't just another city. What we do here about the climate sends a powerful message to our state, our country and to the world. Let that message be that you're willing to not just to make declarations of a climate emergency, but act as if there actually is on

Years from now our children and grandchildren will look back at moments like this and ask: what did they do when they knew. Let's hope the answer will be: the right thing.

From: keffipop@aol.com
Sent: Monday, November 15, 2021 1:43 PM
To: Testimony
Subject: [EXTERNAL] Intro 2317

Dear Councilmember Louis,
Please pass Intro 2317. It will end gas in new construction and gut renovation. We need to fight the climate crisis and cut deadly air pollution. Stop the climate effects of more flooding, hurricanes, tornadoes, heat waves, etc. Promote public safety and avoid gas fires, explosions and poisoning. Promote socially-rewarding jobs that help the environment & people.
Thank you,
Susan Freytes
E. 46th St
Brooklyn, NY 11234

Gas Free NYC

As a current student who was born and raised in NYC, and as someone who plans to continue living here, measures such as Intro 2317 which would cut air pollution generated by burning fossil fuels for energy in buildings are essential. The move towards clean energy efficient mechanisms is shown to be feasible, as 74 buildings, both residential and commercial, have been constructed in NYC, as well as in a myriad of cities in California. The installment of heat pumps is proven to cost around the same as new gas infrastructure, while simultaneously creating clean energy jobs. Given that NYC consumes such exorbitant amounts of fossil fuels, designing and building developments that help fight the climate crisis are necessary. This would limit the climate change effects such as the flooding we saw this summer, air pollution levels which disproportionately affect communities of color, and would lead to a decrease in gas fires, explosions, and leaks. My City Council Member, Karen Koslowitz, is already a co-sponsor, but this bill must be passed! Intro 2317 is a long-term sustainable infrastructure effort, a plan which directly affects my quality of life here in NYC.

Tatiana Callirgos

Dear Chair Gennaro,

Thank you for giving us a hearing on Intro 2317, your dedication to reading all the testimony provided is a mark of a true public servant. That being said I will try to keep my written testimony brief.

Intro 2317 should be passed now; and we must strengthen the language so that gut renovations are included in the gas ban. The best time to make a building more efficient and clean is when it is going through major renovations. I also agree that we must make it a one-year implementation, not two. We cannot afford to have major new projects locking us into to decades more of dirty gas use.

Your work on Intro 455A, hastened and improved the use of Electric school busses in NYC's future for our children. Intro 2317 strongly ties into this, by eliminating dangerous fossil fuels from the buildings we live, work and shop in.

Thank you,

Timothy Kent