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

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[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.

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[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.

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[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]

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[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

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> §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]

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[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

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[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

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[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.