



John Moynihan
Chair, Board of Directors
Northeast Clean Heat and Power
Initiative (NECHPI)
PO Box 1000
New York, NY 10116

New York City Department of Buildings
Office of the General Counsel
280 Broadway, 7th Floor
New York, NY 10007

RE: Department of Buildings (“DOB” or “Department”) is proposing to add a new rule 103-14 to implement Section 28-320 Chapter 3 or Title 28 of the New York City Administrative Code by establishing the procedures for reporting on complying with annual greenhouse gas (GHG) emissions limits for buildings. NECHPI Comments November 14, 2022

The Northeast Clean Heat and Power Initiative (NECHPI) respectfully submits the following comments in response to Department of Buildings (Hereafter, “DOB”) proposal to add a new rule 103-14 to implement Section 28-320 Chapter 3 or Title 28 of the New York City Administrative Code by establishing the procedures for reporting on complying with annual greenhouse gas (GHG) emissions limits for buildings (“DOB’s New Rule”).

NECHPI and its member organizations heartily endorse the innovative and extensive goals and objectives that are the foundation of Local Law No. 97. DOB notes that in achieving the City and State’s decarbonization goals, buildings account for a significant portion of greenhouse gas emissions in New York City. Local Law No. 97 will require many of the City’s largest buildings to reduce their GHG emissions to meet their emissions limits. This will require covered building owners to implement measures to decarbonize their buildings, including through retrofits and increasing operational efficiency.

In many instances, high efficiency, environmentally superior, resilient combined heat, and power (CHP) systems operating in New York City are recently deployed assets. These systems were often combined with energy and operational efficiencies and undertaken in part to reduce GHG emissions at buildings.

Again, in many instances, these investments in GHG saving, CHP systems were made with the support and encouragement of the City of New York and the State of New York.

The City has today a fleet of CHP systems that, should they immediately cease operation, would likely cause a significant worsening of GHG emissions in the City, in addition to a serious loss of resiliency and reliability benefits, as well as other uncompensated benefits that these systems provide.

INTRODUCTION

New York City and State are at the forefront of leadership in establishing a suite of very aggressive, laudable GHG emissions reduction goals. NECHPI fully embraces the goals that are the foundation of Local Law 97 generally, and DOB’s New Proposed Rule that today’s NECHPI comments address.

The regulatory framework and the market environment should ensure that all viable options for meeting our decarbonization goals are kept open. Caution and care should be taken that DOB’s New Rule does not foreclose, a priori, any pathway that will deliver on decarbonization targets while maintaining our agreed upon standards of environmental performance, environmental justice, equity, resiliency, and affordability.

The transition period to decarbonization will be complex, costly, and uncertain. Because of the uncertainties involved, no feasible alternatives that meet the goals of LL97 ought to be dismissed before the fact. To discourage or inadvertently eliminate feasible pathways in advance of the unfolding of actual events will be counterproductive. If promising alternatives are dismissed, City policy may well increase emissions, increase energy cost burdens, reduce resiliency and reliability, and lengthen the time frame to achieving the GHG emissions that we all agree are necessary.

DOB’s New Rule Ought to be Considered with Respect to the following Matters

- Time Value of GHG emissions reductions. GHG reductions from systems operating today, such as CHP systems, are more valuable than those in more distant future years.
- There’s an “Option Value” of securing current day GHG emission reductions, “buying time” for technology change, cost declines, product and process innovations
- Until quite recently, New York City and State were strong champions for CHP, encouraging sites to invest, where it was technically and economically desirable. These systems are providing measurable societal benefits to the citizens of the City and the State
- CHP can serve as a “Hedge” in the anticipated likelihood that there’s slippage in meeting the “unprecedented” building out of the generation, transmission and distribution assets that are required for the decarbonized grid of the future.

- There's a value to resiliency at critical infrastructure and sites serving vulnerable and disadvantaged communities that ought to be recognized. The NYISO has asked that a price value for resiliency be established.
- The NYISO warns that the State is going to have to build out assets; generation, transmission, distribution (and new electricity consuming end uses) at an “unprecedented rate.” Pay for performance CHP systems, with measured, verified, certified and “credited” savings, provide a buffer accommodating the required rapid pace of integration.
- The NYISO states a need for distributed and Dispatchable Emissions Free Resources (DEFERs) on a scale that ranges from 17 GWs to more than 30 GWs. New York City needs in-City generation. NECHPI urges this New Rule should not discourage “appropriate” CHP from acting as a dynamic asset serving the grid.
- Taking account of the beneficial utilization of alternative fuels and recognizing that CHP and microgrids, district systems and/or thermal energy networks (TENs) with CHP are often the most productive and efficient use, of approved alternative fuels
- Encouraging the use of CHP at peak periods for emissions of GHG and correspondingly emissions of criteria pollutants.

The Existing Fleet of CHP

Until quite recently New York City and State was a strong champion for CHP.

In New York State, CHP was once said to be “the heart of the microgrid”. CHP can operate in microgrids, in district systems, with a variety of alternative and zero emissions fuels, and, in hybrid systems with Solar PV, thermal or battery storage. The NYSERDA Strategic Outlook 2019-2021 highlighted the role of microgrids with CHP in resiliency Combined Heat & Power

Combined Heat and Power (CHP) Program supports resilience, energy efficiency, and cost savings. Highlighted Programs. Mission Outcome: Resilient and Distributed Energy System¹

¹ NYSERDA Strategic Outlook. 2019-2021. Mission Outcome: Resilient and Distributed Energy System. Pages 20, 21

The New York State Energy Research and Development Authority (NYSERDA) was providing education and outreach materials identifying CHP Incentives and Technical Support Programs in New York State as of February 2020. ²

Under the heading “WHY CHP” outreach materials as late as February 2022 stated, *“CHP (also known as cogeneration, or cogen) systems reduce energy costs throughout the year while also bolstering site resiliency and providing backup power during grid outages more reliably than a traditional diesel emergency generator. Depending on how a CHP system is designed and operated, and the generation mix of the grid, these systems can also reduce greenhouse gas (GHG) emissions system-wide. Furthermore, if renewable natural gas (biogas derived from organic waste material) can be acquired, GHG emissions can be further reduced.”*³

Hospitals, colleges and universities, commercial building owners undertook investments in CHP, as a high efficiency, environmentally superior, and economically advantageous pathway to meeting goals that were, and are, important to New York City, New York State and to the owners, users, and clients of these institutional and commercial businesses.

The Proposed Rules Ought to Recognize the “Time Value” of Carbon Savings

Do the proposed rules, create a market environment, a regulatory framework, which recognizes a ton of CO₂ saved now in 2022, is more valuable than a ton of CO₂ saved in 2027, 2032 or, any future year

The **Time Value of Carbon** is the concept that greenhouse gas emissions cut today are worth more than cuts promised in the future, due to the escalating risks associated with the pace and extent of climate action.⁴

Do the proposed rules, by accident, or by design, discourage the operation of systems and technologies that are saving carbon now and likely to save carbon for several years into the future?

High efficiency, environmentally superior CHP systems are providing a net carbon reduction benefit today in New York. How far into the future that CHP benefit continues is uncertain. But systems that are demonstrably reducing Carbon now, ought to be encouraged, not discouraged

The “Option” Value of CHP’s Measured/Monitored Verified GHG

² CHP Incentives and Technical Support Programs Available in New York as of February 2020
<https://dataint.s3.amazonaws.com/media/resources/CHP+Incentives+Technical+Support+Programs.pdf>

³ Ibid., page 1.

⁴ Climate action today is undervalued. In this piece, we explore the concept of the Time Value of Carbon (TVC). Source: <https://www.generationim.com/our-thinking/insights/the-time-value-of-carbon/#:~:text=The%20Time%20Value%20of%20Carbon%20is%20the%20concept%20that%20greenhouse, and%20extent%20of%20climate%20action.>

Reductions Today (and in Near Term) Should Be Recognized

There is an “option value” to continuing to operate CHP systems now, and (at least) up to the day when they cross the line from being a net carbon saving benefit, to a net producer of carbon emissions. This principle was espoused in the Climate Action Council’s Alternative Fuels working group. The working group recognized as a “*More Complex Criteria Assessment*” systems and approaches the reduce GHG emissions, allowing more time for technology advancements

Does this help us use our zero-emission electricity in the most efficient manner?

Can this reduce GHG emissions/fossil fuel use while technology advancement and cost declines bring more alternatives to commercialization?⁵

CHP reducing GHG emissions now, buys time for affected sites to take advantage of future commercialized technologies that will perform, “better, cheaper, faster”. CHP that reduces GHG emissions today (and into the near-term), buys time for ALL sectors to take advantage of the commercialization of product and process innovations that deliver GHG emissions benefits with greater productivity and lower costs

Uncompensated Benefits of CHP Ought to be Measured, Verified and Credited

The deployment of CHP and microgrid solutions increase energy resilience.⁶ Resiliency is ever more important as we fully anticipate the greater frequency and severity of weather events impacting the grid. Resiliency is a benefit of CHP that has long been recognized by the City, the State, and the Federal government. The US Department of Energy launched a CHP for Resiliency Accelerator program that has produced a large repository of tools and fact-based information. CHP resiliency benefits and information in support of findings are available at the Better Buildings Energy Solutions Center website.⁷ The US EPA has a resource titled CHP’s Role Providing Reliability and Resiliency⁸

Resiliency is just one of several (potential) benefits of CHP systems, if they are appropriately designed, configured, operated, and compensated / credited for such measured societal benefits.

⁵ Alternative Fuels Subgroup. 2022-06-29-meeting-presentation-Alternative-fuels.pdf page 14

⁶ Better Building 2019 Progress Report

https://betterbuildingssolutioncenter.energy.gov/sites/default/files/program/DOE_BBI_2019_Progress_Report.pdf

⁷ Source: <https://betterbuildingssolutioncenter.energy.gov/accelerators/combined-heat-and-power-resiliency> accessed November 14, 2022

⁸ US EPA “CHP’s Role in Source: <https://www.epa.gov/chp/chps-role-providing-reliability-and-resiliency> accessed November 14, 2022

In 2022, the Climate Action Council agreed to form three subgroups to work through several issues in depth and bring what they feel could be consensus positions for the Council to consider. The subgroups are NOT decision-making bodies; all decisions will continue to be made at the Council level.⁹ The Alternative Fuels Subgroup took up several issues with a bearing on the future operation of combined heat and power (CHP or cogeneration). The Alternative Fuels Subgroup offered for consideration a set of “More Complex Assessment Criteria” which included the following factors¹⁰

<p>Could using this fuel (in this application) provide more electric system capacity for the least-cost electrification applications?</p> <p>Could using this fuel (in this application) mitigate peak load issues?</p>
<p>Does it help reduce/avoid costly electric distribution system upgrades, mitigate peak load, reduce cost to achieve emissions reductions, or reduce cost of retrofits?</p>

NECHPI endorses the Criteria suggested by the Alternative Fuels Subgroup and respectfully urges that the City fully take into consideration CHP’s role in:

- Ensuring resiliency
- Reducing GHG emissions/fossil fuel use while technology advancement and cost declines bring more alternatives to commercialization
- Providing more electric system capacity for the least-cost electrification applications
- Mitigating peak load issues
- Helping reduce/avoid costly electric distribution system upgrades
- Reducing cost to achieve emissions reductions, or reduce cost of retrofits

The Alternative Fuels Subgroup offered for consideration a set of “More Complex Assessment Criteria” Among these more complex assessment criteria several have a direct bearing on CHP, alternative fueled (or alternative fuel capable) CHP systems in isolation, in microgrids or district

⁹ Source: <https://climate.ny.gov/CAC-Meetings-and-Materials>

¹⁰ Alternative Fuels Subgroup. 2022-06-29-meeting-presentation-Alternative-fuels.pdf page 14

systems and in hybrid technology system configurations.

Simplified Threshold Criteria (Y/N)	More complex Assessment Criteria¹¹
Does this address electric system Transmission & Distribution capacity constraints?	Could using this fuel (in this application) provide more electric system capacity for the least-cost electrification applications? Could using this fuel (in this application) mitigate peak load issues?
Does this address the need for ~10% dispatchable zero emissions generating capacity?	Does it help reduce/avoid costly electric distribution system upgrades, mitigate peak load, reduce cost to achieve emissions reductions, or reduce cost of retrofits?
Does this address a challenging to electrify	Does this help us use our zero-emission electricity in the most efficient manner? Can this reduce GHG emissions/fossil fuel use while technology advancement and cost declines bring more alternatives to commercialization?

Recognizing Beneficial Incorporation of Alternative Fuels

Whether utilizing natural gas, RNG, hydrogen or any form of approved alternative fuel, where electric and thermal profiles warrant CHP, this is the smartest, the most efficient manner to use any input fuel source.

The Alternative Fuels Subgroup identified and inventoried several potential beneficial applications of CHP systems, assuming the utilization of approved alternative fuels. Careful consideration of DOB's new Rule, addressing whether the proposed rules inadvertently discourage or deny the enhanced operation or new investment in certain forms of alternative fueled microgrids, cogeneration or district systems. The existing asset base of campus or district systems should be assessed for potential re-purposing to fully meet future goals.

Key Focus Areas¹²

- Limited and strategic uses
- Hard to electrify end uses -aviation, freight, industry
- Avoid extending reliance on fossil fuel infrastructure
- **On-site cogeneration or local use applications**

¹¹ Alternative Fuels Subgroup. 2022-06-29-meeting-presentation-Alternative-fuels.pdf page 14

¹² Alternative Fuels CAC Workgroup Meeting #1 June 1, 2022. Page 3. Source: <https://climate.ny.gov/-/media/Project/Climate/Files/2022-06-01-presentation-Alternative-fuels.pdf> page

• Sustainable use of waste-based feedstocks

Noting that Alternative Fuels in district heating applications and/or CHP utilizing bioenergy or hydrogen will likely play important roles in successfully achieving decarbonization goals and objectives. Regardless of the alternative fuel, CHP is the most efficient way to use it.

Alternative Fuels Considerations in the Integration Analysis¹³

- > Alternative fuels such as bioenergy or hydrogen will likely play a critical role in helping to decarbonize sectors that are challenging to electrify
 - Additional promising end-use applications include district heating
- > In the power sector, alternative fuels may play a role by providing firm capacity for reliability

Environmental Justice and Marginal Emissions at Peak

GHG emissions-reducing CHP sites ought to be encouraged to use the Time of Use (TOU) coefficients. DOB's New Rule suggests a calculation methodology for the TOU coefficients that does not directly measure the marginal emissions rates. As soon as coefficients can be calculated on actual emissions the methodology must immediately revert to actual, measured emissions. In the meantime, the representativeness of the proposed methodology, ought to be tested against empirical information, to assess its efficacy in accurately representing actual data.

The environmental justice value, the public health value, of responding to peak periods ought to be recognized and compensated. To do so, taking account of the emission's profiles of Critical Peak periods, the NO_x, SO₂, PM_{2.5} PM₁₀, all the criteria pollutants should be part of the law. Sites ought to be provided a protocol, whereby they will MAXIMIZE the operation of onsite resources, which are responsive to peak periods and displace GHG emissions of marginal grid emissions and thus reduce criteria pollutants. Particular societal value ought to be recognized for the benefits of onsite resource operations displacing peak period emissions in disadvantaged communities and state/city designated environmental justice areas. At present, these peak demand/emissions periods are served by fossil fueled, inefficient peaker plants, most often located in environmental justice communities.

In summary, we would like to quote the U.S Environmental Protection Agency (EPA) as to "Why EPA Supports CHP"

"EPA promotes greater use of CHP because cost-effective emissions reductions can be achieved by increasing the efficiency of the nation's energy supply. CHP systems achieve fuel use efficiencies of 65 to 80 percent, compared to a typical separate heat and power (i.e., purchased grid electricity from the utility and an on-site boiler) efficiency of approximately 50 percent. This improvement in efficiency translates to:

¹³ Ibid., page 5.



Reduced total fuel use
Reduced emissions of greenhouse gases and other air pollutants
Reduced water consumption compared to conventional electric power generation in some cases

CHP can also enhance the resiliency of commercial, industrial, and government facilities and support renewable integration and electricity dispatch flexibility.”¹⁴

As Chair of the Northeast Clean Heat and Power Initiative (NECHPI) and on behalf of our member companies operating in New York and all across the Northeast we thank the Department of Buildings for this opportunity to comment on the proposal to add a new rule 103-14 to implement Section 28-320 Chapter 3 or Title 28 of the New York City Administrative Code by establishing the procedures for reporting on complying with annual greenhouse gas (GHG) emissions limits for buildings

We e appreciate the opportunity to provide these comments and request that the City recognize the many benefits that CHP systems provide, including important GHG reductions.

Sincerely yours,

John Moynihan

John Moynihan
Chair, NECHPI Board of Director
Northeast Clean Heat and Power Initiative (NECHPI)
PO Box 1000
New York, NY 10116

¹⁴ “Why EPA Supports CHP.” Source: <https://www.epa.gov/chp/about-chp-partnership> Accessed November 14, 2022