



April 24, 2023

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Secretary to the Commission  
New York State Public Service Commission  
Empire State Plaza, Agency Building 3  
Albany, NY 12223-1350  
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**RE: Case 19-E-0079 – In the Matter of the Continuation of Standby Rate Exemptions.**

The Northeast Chapter of the Combined Heat and Power Alliance (“The NE Chapter”) respectfully submits comments to the New York Public Service Commission (“Commission”) on the matter regarding the continuation of certain standby rates exemptions.

The NE Chapter is a group of manufacturers, system developers, engineers, and end-user representatives with the purpose of reducing energy costs and carbon emissions using the highly efficient technology of Combined Heat and Power (“CHP”). Our members are located in or near New York and several own and operate CHP plants within the state. The NE Chapter and its member organizations heartily endorse the innovative and extensive goals and objectives that are the foundation of the CLCPA in achieving the state’s decarbonization goals and believe that CHP technology will play a critical role in facilitating the state’s mission.

On May 14, 2021, the Commission issued its Order Continuing Certain Exemptions to Standby Rates (“Standby Exemption Order” or “Order”). In that Order, the Commission continued the two-year extension of existing exemptions to residential and small commercial non-demand customers (“the Residential and Small Commercial Exemption”), customers that install distributed energy resources (“DERs”) using certain designated technologies identified as fuel cells, wind, solar thermal, solar photovoltaic, sustainably managed biomass, tidal, geothermal, and methane waste (the “Designated Technologies Exemption”), and customers that install certain energy storage technologies with inverter capability of 1 megawatt (“MW”) or less (the “Energy Storage Exemption”), through May 31, 2023.

Notably, the Commission in 2021 declined to extend the exemption for certain specific technologies and projects, including CHP systems with a capacity of less than 1 MW and for systems with a capacity between 1 and 15 MWs (collectively, “Efficient CHP”).



Presumably the staff's recommendation to remove CHP from its 2021 decision and to not include it in its 2023 recommendation, is likely based on its perceived obligation to be compliant with New York's Climate Leadership & Community Protection Act ("CLCPA").

In our comments, we request that highly efficient CHP fueled by natural gas, biofuels, renewable natural gas (RNG), and clean hydrogen be reinstated into the Designated Technologies category and thus be eligible for standby exemption status below the 1 MW threshold.

According to a 2019 study by ICF, CHP emissions are estimated at 652 lbs. CO<sub>2</sub>/kWh when accounting for offset boiler emissions.<sup>1</sup> The eGRID non-Base load emissions rate, a suitable estimate of marginal generation most likely to be offset by CHP and other DERs, is 817 lbs. CO<sub>2</sub>/MWh for New York.<sup>2</sup> CHP provides significant carbon savings relative to marginal emissions across the state. As such, the decision to remove CHP from the Designated Technologies list in 2021 and 2023 controverts the stated goals of the CLCPA. CHP is reducing carbon emissions **today** – not 10 years out – given that it is still a cleaner resource for heat and power rather than the separate generation by traditional central power plants and on-site boilers.

Likewise, CHP operating and installed today is easily adaptable to low-carbon and zero-carbon fuels including clean hydrogen, for which New York has applied to be a location for one of the regional Hydrogen Hub within the U.S. Department of Energy ("DOE").<sup>3</sup> A New York based hydrogen hub would supply zero-carbon fuel generated from the myriad of off-shore wind facilities currently either in construction or in planning for the state.

NYISO has also stated a need for Dispatchable Emissions Free Resources ("DEFERs")<sup>4</sup> to achieve the enormous amount of new renewable generation needed to come online to meet CLCPA goals. The invention and installation of a new class of non-energy storage technology

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<sup>1</sup> ICF. "As the grid gets greener, combined heat and power still has a role to play," <https://www.icf.com/insights/energy/chp-role-in-decarbonization>

<sup>2</sup> Watchwire. "NYC Electric Grid Carbon Emissions Factor Increased 29%," <https://watchwire.ai/nyc-electric-grid-carbon-emissions-factor-increased-29/>

<sup>3</sup> New York State. Governor Kathy Hocu, "Seven States in Northeast Regional Clean Hydrogen Hub Announce Submission of \$3.62 Billion Proposal to U.S. Department of Energy for Funding and Designation as National Hub," April 7, 2023. <https://www.governor.ny.gov/news/seven-states-northeast-regional-clean-hydrogen-hub-announce-submission-362-billion-proposal-us>

<sup>4</sup> NYISO. "New NYISO Report Identifies Paths to Achieve a Greener & Reliable Future Grid," September 27, 2022, <https://www.nyiso.com/-/new-nyiso-report-identifies-paths-to-achieve-a-greener-reliable-future-grid>



that is both dispatchable and emissions-free – also known as dispatchable emissions-free resources (“DEFERs”) – will be required.<sup>5</sup>

Renewable power grids need DEFERs to ensure a reliable and stable supply of electricity, especially as the share of intermittent renewables grows within the power mix. DEFERs are dispatchable and can be controlled to supply heat and power on demand when needed, thus improving energy security.

At this point in time, the only logical technology for this category is CHP, which can efficiently use the newly decarbonized fuels of RNG, and clean hydrogen, which is expected to be produced from renewable electricity sources. CHP technology can use these zero carbon fuels today<sup>6</sup> and as such, are both “dispatchable” and “emissions free”, thereby qualifying as a highly efficient DEFER as zero-carbon fuels come online. Cogeneration using hydrogen can be an excellent DEFER assuming the hydrogen is produced from a renewable resource and the system is designed to operate efficiently.

Discouraging the use of CHP, as is the case today, by removing standby rate exemptions for small (<1 MW) CHP plants, as well as eliminating other incentives for CHP plants capable of operating in a central grid failure, is counterproductive to the evolution of new DEFERs, and thus counterproductive to the CLCPA goals.

Likewise, until the central grid reaches zero-carbon emissions, natural gas fueled CHP plants continue to produce less emissions than the marginal grid emissions produced by the existing grid. Seeing that carbon is cumulative, discouraging use of this carbon reducing technology is counterproductive vis-à-vis the state goals.

“Because emissions are cumulative and because we have a limited amount of time to reduce them, carbon reductions now have more value than carbon reductions in the future. The next couple of decades are critical.”<sup>7</sup>

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.

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<sup>5</sup> NYISO. “New NYISO Report Identifies Paths to Achieve a Greener & Reliable Future Grid,” September 27, 2022, <https://www.nyiso.com/-/new-nyiso-report-identifies-paths-to-achieve-a-greener-reliable-future-grid>

<sup>6</sup> CHP Alliance. “Clean Hydrogen and CHP: A Roadmap for Industrial and Commercial Decarbonization,” March 2022, <https://chpalliance.org/resources/publications/clean-hydrogen-and-combined-heat-and-power-a-roadmap-for-industrial-and-commercial-decarbonization/>

<sup>7</sup> “Time Value of Carbon,” Larry Strain, Carbon Leadership Forum, April 2020



It clearly makes sense to cut emissions today, rather than in ten years' time. A company that stops emitting CO<sub>2</sub> this year creates a benefit for the climate system each year into the future. Companies that start to cut in 2030 will have spent another ten years drawing from the global carbon budget, and by then the 1.5-degree goal could be out of reach. This is why long dated climate goals with no short-term action are unacceptable. It is also why we believe that near term action creates considerable value.<sup>8</sup>

We implore the commission to not design market rules that 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.

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 that reduce GHG emissions, allowing more time for technology advancements.<sup>9</sup>

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.

Despite efforts in New York to date, the New York City central power grid CO<sub>2</sub> emissions unfortunately have risen the past years as evidenced in the Figure 1.

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<sup>8</sup> Generation Investment Management. "Insights: The Time Value of Carbon." 2023. <https://www.generationim.com/our-thinking/insights/the-time-value-of-carbon/>

<sup>9</sup> New York State Climate Action Council. "Alternative Fuels CAC Workgroup Meeting #3", June 29, 2022, p. 14. [2022-06-29-meeting-presentation-alternative-fuels.pdf](https://www.nysccac.org/2022-06-29-meeting-presentation-alternative-fuels.pdf)



Figure 1: Carbon Emissions in the NY Power Grid<sup>10</sup>

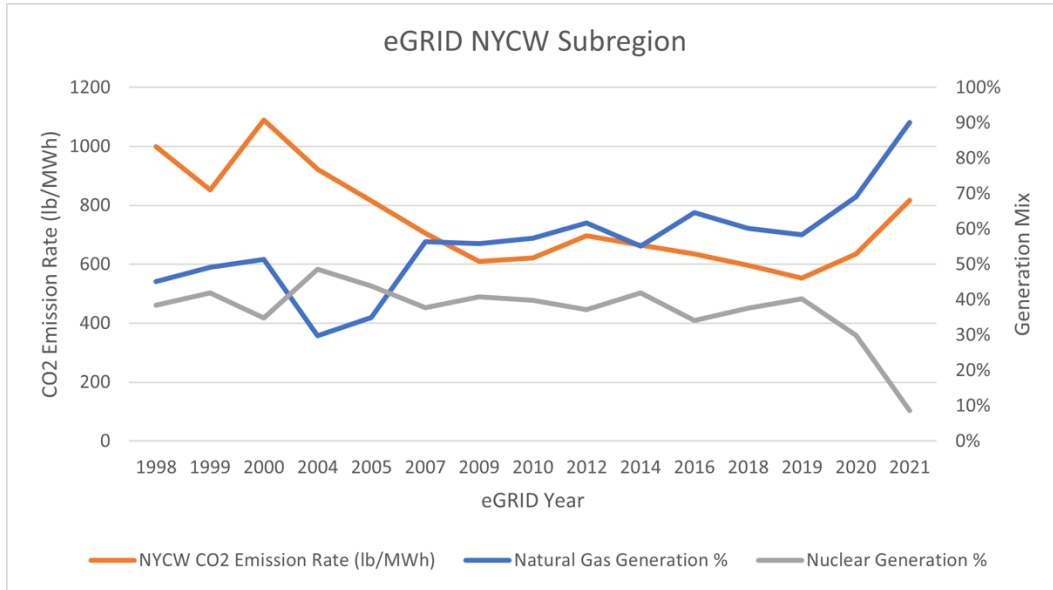
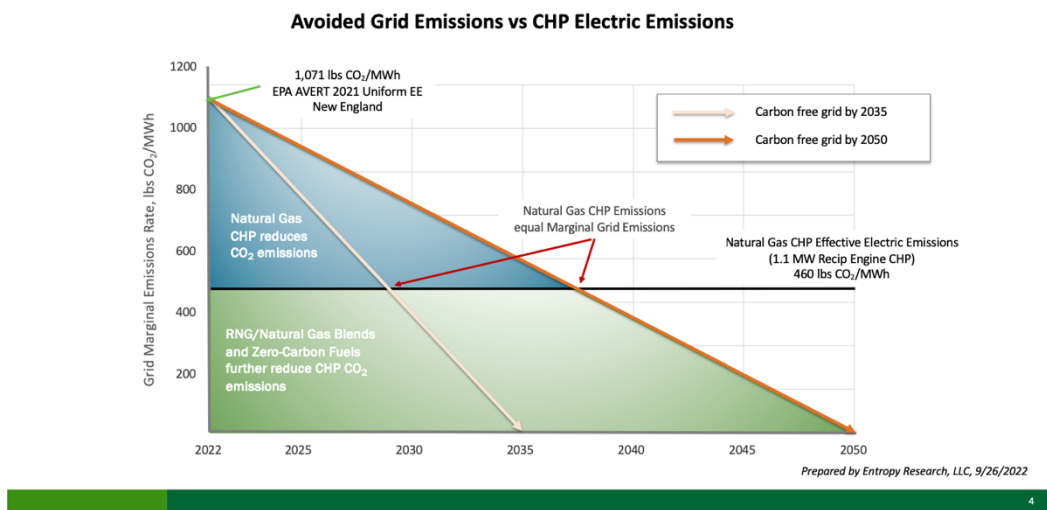


Figure 2 demonstrates the carbon emissions advantage of CHP vis-à-vis the central grid.

Figure 2: Renewable and Net-Zero Carbon Fuels Maintain CHP's Advantage<sup>11</sup>

### Renewable and Net-Zero Carbon Fuels Maintain CHP's Advantage



<sup>10</sup> Watchwire. "NYC Electric Grid Carbon Emissions Factor Increased 29%," <https://watchwire.ai/nyc-electric-grid-carbon-emissions-factor-increased-29/>

<sup>11</sup> U.S. Department of Energy & Entropy Research LLC, Presentation from September 26, 2022.



As shown in the diagram above, natural gas-fired CHP, today, produces less CO<sub>2</sub> emissions than the separate generation of heat and power in the New York grid region. (CHP: 500 lbs./MWh vs NY Grid: 1000+ lbs./MWh). This finding has been studied and confirmed by DOE and the Environmental Protection Agency.

DOE also verified CHP's important role in its national industrial decarbonization roadmap. CHP is identified as a resource capable of providing near to mid-term solution reducing marginal grid emissions and poised to be a future solution via RNG and hydrogen fueled CHP systems.<sup>12</sup>

"Industrial CHP can provide significant GHG emissions reductions in the near- to mid-term as marginal grid emissions continue to be based on a mix of fossil fuels in most areas of the country."<sup>13</sup> In the future RNG and hydrogen fueled CHP systems can be a long-term path to decarbonizing industrial thermal processes resistant to electrification.

The Commission's Strategic Advisory Group ("SAG") recommended that the Commission look again at CHP technology.<sup>15</sup> SAG's recommendation is based on its concern for resiliency especially as the state pushes increasing amount of electric thermal loads onto the electric grid. There are numerous sectors for which a grid failure is catastrophic in terms life and property. When considering hospitals and medical research facilities in New York, grid failures are anathema to their missions. Patient health and safety, together with the viability of research projects, are imperiled when considering a sole reliance on the central power grid.

## **Conclusion**

The NE Chapter urges the Commission to use marginal grid emissions when evaluating methodologies to lower carbon which results from power production. We are encouraged that everyone is looking for tools to reduce carbon, and CHP is both a short- and long-term solution the which accomplishes CLCPA goals and Commission goals of grid reliability and stability.

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<sup>12</sup> CHP Alliance. "Factsheet: The Role of CHP in the Department of Energy's Industrial Decarbonization Roadmap," September 2022, <https://chpalliance.org/the-role-of-chp-in-the-department-of-energys-industrial-decarbonization-roadmap/>

<sup>13</sup> U.S. Department of Energy. "Industrial Decarbonization Roadmap," September 2022, p. 14, <https://www.energy.gov/sites/default/files/2022-09/Industrial%20Decarbonization%20Roadmap.pdf>

<sup>15</sup> NY Department of Public Service, "Energy Efficiency and Building Electrification Report," December 19, 2022, p. 110. <https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=18-m-0084>



Therefore, the NE Chapter is respectfully requesting that CHP < 1MW be reinstated into the Designated Technologies category and thereby become eligible for Standby Rate exemption status, as was previously the case prior to the 2021 decision.

Respectfully,

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President

Northeast Chapter of the Combined Heat and Power