



June 5, 2025

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**RE: Docket No. QO25040205 – IN THE MATTER OF COMPREHENSIVE ENERGY EFFICIENCY AND RENEWABLE ENERGY RESOURCE ANALYSIS FOR FISCAL YEAR 2026 CLEAN ENERGY PROGRAM**

**RE: Docket No. QO25040206 - IN THE MATTER OF THE CLEAN ENERGY PROGRAMS AND BUDGET FOR THE FISCAL YEAR 2026**

The Northeast Chapter of the Combined Heat and Power Alliance (“The NE Chapter”) respectfully submits comments to the Secretary of the Board of Public Utilities (“BPU”) on the above referenced dockets.

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”). The NE Chapter and its member organizations fully support the innovative and extensive goals and objectives that are the foundation of the NJ Clean Energy Programs in achieving the state’s decarbonization goals and believe that CHP technology will play a critical role in facilitating the state’s mission. The NE Chapter strongly believes that CHP must play a crucial role in reducing marginal grid emissions in the near-term while assisting New Jersey’s efforts for a fully decarbonized grid. The United States Department of Energy shares this sentiment in stating that “[i]ndustrial CHP can provide significant greenhouse gas emissions reductions in the near- to mid-term as marginal grid emissions continue to be based on a mix of fossil fuels.”<sup>1</sup>

The NE Chapter strongly disagrees with the BPU’s proposal to “stop accepting new applications on December 31, 2025” for the NJCEP Combined Heat and Power-Fuel Cell Program contained on page 42 of New Jersey’s Clean Energy Program Fiscal Year 2026 Program Descriptions and Budget.<sup>2</sup> Further, the NE Chapter strongly disagrees with the BPU Staff recommendation to the Board of an appropriate Total

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<sup>1</sup> US Department of Energy, Industrial Decarbonization Roadmap, Sep. 2022 at 14, <https://www.energy.gov/sites/default/files/2022-09/Industrial%20Decarbonization%20Roadmap.pdf>

<sup>2</sup> New Jersey Board of Public Utilities. Division of Clean Energy. New Jersey’s Clean Energy Program Fiscal Year 2026 Program Descriptions and Budget, Energy Efficiency and Renewable Energy Program Plan Filing, FY 26. May 22, 2025.

FY26 Funding Level for Distributed Energy Resources (“DERs”) at \$12,588,216,<sup>3</sup> which is a significant decrease from its FY25 Funding Level of \$93,188,194.<sup>4</sup> Importantly, FY25 Funding Level included CHP–FC funding of \$31,500,69, which is completely absent from the FY26 Budget. The NJCEP partially recognized this error in its May 28<sup>th</sup> Public Hearing on its Proposed Fiscal Year 2026 Comprehensive Resource Analysis (CRA), Budget and Program Plans, where it suggested CHP-FC funding of \$10,205,741 under a modified program.<sup>5</sup> The FY26 Funding Level fails to recognize that DERs, and CHP specifically, reduce the cost of energy for all ratepayers while providing additional benefits.

Previously, in determining an appropriate Total FY25 Funding level for DERs at \$93,188,194, including CHP–FC at \$31,500,694, the FY 2025 CRA straw proposal properly recognized the numerous benefits of CHP:

1. CHP reduces CO<sub>2</sub> emissions, today, by displacing dirtier grid resource CO<sub>2</sub> emissions.
2. CHP reducing CO<sub>2</sub> emissions **today** is more valuable than waiting for the grid to deliver lower carbon electricity in five, seven or 12 years.
3. As the grid gets cleaner, CHP can and will evolve to low and non-emitting fuel sources.
4. CHP provides an important energy efficiency measure.
5. CHP saves energy costs by operating at higher efficiency.
6. CHP fosters economic development opportunities in the form of jobs and a more competitive business environment, by saving energy costs.
7. CHP systems, properly designed and configured, provide significant resiliency benefits, ensuring continued operation of critical infrastructure, essential health care services and community “centers of refuge.”

It is disappointing, and a disservice to New Jersey’s residents and ratepayers, that the BPU Staff has ignored those benefits and completely removed CHP from the FY26 Funding Level. The BPU Staff must continue to accept applications for the NJCEP Combined Heat and Power-Fuel Cell Program in 2026 and revise the FY26 Funding Level to restore funding for CHP-FC to \$31,500,69, consistent with the FY25 Funding Level, as more fully described below.

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<sup>3</sup> New Jersey Board of Public Utilities. Division of Clean Energy. Renewable Energy Programs, Energy Efficiency Programs, Distributed Energy resources and NJCEP Administration Activities. May 22, 2025.

<sup>4</sup> New Jersey Board of Public Utilities. Division of Clean Energy. Comprehensive Energy Efficiency & Renewable Energy Resource Analysis: Funding Levels – Fiscal Year 2025. May 24, 2024.

<sup>5</sup> NJCEP Proposed Fiscal Year 2026 Comprehensive Resource Analysis (CRA), Budget and Program Plans – Public Hearing. Page 8. May 28, 2025. Available at:

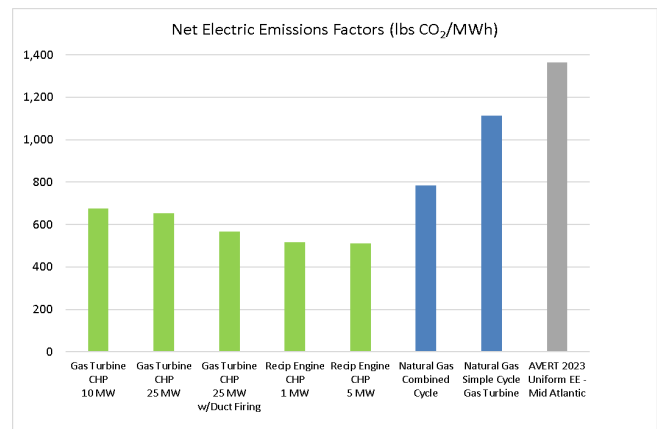
<https://www.nj.gov/bpu/pdf/publicnotice/FY26%20CRA%20and%20Budget%20Public%20Hearing.pdf>; See also NJCEP Proposed Fiscal Year 2026 CRA, Budgets, and Programs – Shared screen with speaker view video at 13:08 [https://us06web.zoom.us/j/6WjWok0B\\_KmpYXynf9RWCO28k4tSjqXkbM8e84ktLsjxhQugwVqRtx0\\_1079JGzB97PKsjrcsUtwFn.fWt0Eh27hzwalelc](https://us06web.zoom.us/j/6WjWok0B_KmpYXynf9RWCO28k4tSjqXkbM8e84ktLsjxhQugwVqRtx0_1079JGzB97PKsjrcsUtwFn.fWt0Eh27hzwalelc).

## CHP reduces CO<sub>2</sub> emissions, today.

It is important to address the science supporting our request. According to a 2019 study by ICF, CHP emissions are estimated at 652 lbs. CO<sub>2</sub>/MWh when accounting for offset boiler emissions.<sup>6</sup> By contrast, the eGrid 2023 non-baseload value for the state of New Jersey is 895 lbs CO<sub>2</sub>/MWh. The eGRID non-Base load emissions rate, a suitable estimate of marginal generation most likely to be offset by CHP and other DERs, is 1,363lbs. CO<sub>2</sub>/MWh for eGRID 2023 Sub-region RFCE (the region New Jersey resides in).<sup>7</sup> Basic science confirms that CHP provides significant carbon savings relative to marginal emissions across the state as demonstrated in Exhibit A<sup>8</sup> below:

### Natural Gas CHP Has Lower Net Electric Emissions than Current Marginal Generation Sources

- CHP Net Electric Efficiencies are higher than central station marginal generation options
- Higher efficiency of CHP results in lower net electric emissions in terms of lbs CO<sub>2</sub>/MWh
- New central station natural gas marginal generation has net electric emissions in the range of 785 to 1,113 lbs CO<sub>2</sub>/MWh (including 4.2% T&D losses)
- EPA AVERT 2023 Uniform EE emissions factor for the Mid Atlantic is 1,363 lbs CO<sub>2</sub>/MWh (including T&D losses)
- Natural gas CHP has net electric emissions ranging from 510 to 675 lbs CO<sub>2</sub>/MWh



• CHP performance characteristics based on DOE CHP Technology Fact Sheets - 2024  
 • NGCC and Simple GT performance characteristics based on DOE EIA AEO 2023 - Cost and Performance Characteristics of New Generating Technologies  
 • Net electric emissions factors include a credit for the displaced thermal fuel for CHP, and T&D losses for NGCC, Simple Cycle GT and eGRID Non-Baseload generation

Source: Entropy Research, LLC 2025

Exhibit A.

## CO<sub>2</sub> reductions today are more valuable than future reductions.

CHP is reducing carbon emissions today — not 5 or 10 years out — given that it is still a cleaner resource for heat and power rather than separate generation by traditional central power plants and on-site boilers. Atmospheric CO<sub>2</sub> accumulation is cumulative and any attempt to discourage use of this carbon reducing technology is counterproductive vis-à-vis the state goals. 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

<sup>6</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>7</sup> Environmental Protection Agency. Avoided Emissions and generation Tool (AVERT). <https://www.epa.gov/avert>

<sup>8</sup> Entropy Research, LLC. **Natural Gas CHP Has Lower Net Electric Emissions than Current Marginal Generation Sources, 2025.**

escalating risks associated with the pace and extent of climate action. “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>9</sup>

Exhibit B<sup>10</sup> demonstrates the degree of CO<sub>2</sub> savings that a CHP system can provide:

## CHP’s High Efficiency Saves CO<sub>2</sub> Emissions Today

- CHP and renewables **displace marginal grid generation (including T&D losses)**
- **CHP is a low carbon resource**, not a zero-carbon resource like PV & Wind, but it reduces grid carbon by displacing higher marginal emissions generation
- **CHP’s high operating efficiency and high annual capacity factor** enables it to displace more marginal grid generation and reduce CO<sub>2</sub> on par with the same capacity of zero carbon wind or PV
- CHP’s efficiency and emissions **advantages will continue as the gas infrastructure decarbonizes**

Category	Natural Gas CHP	Utility Solar PV	Utility Wind	Biogas CHP
Capacity, MW	25	25	25	25
Annual Capacity Factor	90%	23.4%	34.3%	90%
Annual Electricity, MWh	195,523	50,836	74,516	195,523
Annual Thermal, MWh <sub>th</sub>	194,096	None	None	194,096
Annual CO <sub>2</sub> Savings, Tons	<b>27,346</b>	<b>23,746</b>	<b>34,808</b>	<b>139,719</b>

Savings based on EPA eGRID Non-Baseload Emissions Factors (895 lbs CO<sub>2</sub>/MWh and 4.2% T&D losses, New Jersey - 2023) as a first level estimate of displaced marginal generation

Prepared by: Entropy Research, LLC, 6/4/2025

Exhibit B.

**As the grid gets cleaner, CHP can and will evolve to low and non-emitting fuel sources.**

Existing CHP systems can and do utilize biogas, biofuels, and hydrogen fuels. All natural gas-fueled CHP is compatible with renewable gas. The U.S. Department of Energy’s (“DOE”) Combined Heat and Power eCatalog of recognized packaged CHP systems denotes many systems are clean fuels compatible today, including:<sup>11</sup>

- 46 existing CHP packages capable of running on digester gas,
- 4 existing CHP packages capable of running on landfill gas,
- 59 existing CHP packages capable of running on a hydrogen blend, and
- 5 existing CHP packages that are 100% hydrogen capable.

Greater availability of equipment options is soon to become available. Most existing turbines and engines can operate on hydrogen mixtures up to 10-40%. All major engine and gas turbine manufacturers

<sup>9</sup> “Time Value of Carbon,” Larry Strain. Carbon Leadership Forum. April 2020.

<sup>10</sup> Entropy Research, LLC. CHP’s High Efficiency Saves CO<sub>2</sub> Emissions Today. July 28, 2022.

<sup>11</sup> U.S. Department of Energy. Combined Heat & Power eCatalog. Last Accessed June 2023.  
<https://chp.ecatalog.ornl.gov/search>

are working on the capability to operate at high levels of hydrogen, targeting 2030 for 100% hydrogen prime movers.<sup>12</sup>

CHP systems can be changed out or modified in the field to operate on high hydrogen-fuel blends and/or 100% hydrogen fuel. CHP operating and installed today is easily adaptable to low-carbon and zero-carbon fuels including clean hydrogen.

### **CHP is a long-established energy efficiency and cost savings measure.**

Operating at higher total system efficiency than is achievable with separately produced heat and power, CHP reduces customers total energy bills. Reduced energy costs improve business margins and profitability. In the case of non-profit or government enterprises, less spent on energy costs allows the organization to dedicate more resources to their core mission. Reducing energy cost burdens for an enterprise fosters economic development opportunities in the form of jobs and a more competitive business environment.

### **DOE's Industrial Decarbonization Roadmap recognizes CHP.**

The DOE Industrial Decarbonization Roadmap<sup>13</sup> identifies four decarbonization pillars, each representing foundational elements of an overall industrial decarbonization strategy. Among the four pillars is energy efficiency, and a key component of the DOE roadmap for efficiency is CHP.<sup>14</sup>

In the near to midterm, the DOE Roadmap states: “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.” In the future, RNG and hydrogen fueled CHP systems can be a long-term path to decarbonizing industrial thermal processes resistant to electrification.<sup>15</sup>

CHP is a part of a strategy to “de-risk” the decarbonization path. This is recognized in the DOE Roadmap: “There are opportunities for further integration of CHP with renewable energy and storage to backstop risk and variability and improve resilience.”<sup>16</sup>

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<sup>12</sup> Combined Heat and Power 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>13</sup> U.S. Department of Energy. Industrial Decarbonization Roadmap. DOE/EE-2635. September 2022. <https://www.energy.gov/sites/default/files/2022-09/Industrial%20Decarbonization%20Roadmap.pdf>

<sup>14</sup> Combined Heat and Power Alliance. The Role of CHP in the Industrial Decarbonization Roadmap. September 2022. <https://chpalliance.org/the-role-of-chp-in-the-department-of-energys-industrial-decarbonization-roadmap/>

<sup>15</sup> U.S. Department of Energy. Industrial Decarbonization Roadmap. DOE/EE-2635. September 2022. Page 14. <https://www.energy.gov/sites/default/files/2022-09/Industrial%20Decarbonization%20Roadmap.pdf>

<sup>16</sup> U.S. Department of Energy. Industrial Decarbonization Roadmap. DOE/EE-2635. September 2022. Page 80. <https://www.energy.gov/sites/default/files/2022-09/Industrial%20Decarbonization%20Roadmap.pdf>

At several points, the DOE Roadmap states CHP's role not only in the near- to medium-term, but as a long-term decarbonization solution. CHP is cited as an essential component of the fully decarbonized economy: "The use of nuclear energy for electricity and heat, renewable and synthetic fuels, and clean sources of energy as the prime movers for CHP systems can avoid the use of fossil fuels, which will support the integration of CHP into a fully decarbonized energy economy."<sup>17</sup>

**CHP systems, properly designed and configured, provide significant societal resiliency benefits.**

CHP systems provide a portfolio of societal benefits including ensuring continued operation of critical infrastructure, essential health care services and community "centers of refuge." These benefits are not readily available today, and not as economically delivered as is the resiliency offered by CHP investments.

In recognition of this invaluable societal benefit, ensuring resiliency for critical operations and vulnerable populations, the State of New Jersey has recently invested in several CHP systems for resiliency. A snapshot of these important societal investments, able to deliver clean, affordable and resilient power, include:

- Cooper University Health System in Camden, NJ
- Ocean County Utilities Authority at the Southern Water Pollution Control Facility in Stafford Township, NJ
- St. Peters Hospital in New Brunswick, NJ
- Trinitas Regional Medical Center in Elizabeth, NJ
- Bergen County Utilities Authority in Little Ferry, NJ

In the words of the Community Development Systems Disaster Recovery Grant Reporting System report: "The extensive damage and power outages caused by Superstorm Sandy prompted the State to create the Energy Resilience Bank (ERB) to assist critical facilities such as hospitals, water treatment plants and wastewater facilities with securing resilient energy technologies that will transform them, and by extension, the communities they serve into less vulnerable sites to future severe weather events and other emergencies."<sup>18</sup>

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<sup>17</sup> U.S. Department of Energy. Industrial Decarbonization Roadmap. DOE/EE-2635. September 2022. Page 14. <https://www.energy.gov/sites/default/files/2022-09/Industrial%20Decarbonization%20Roadmap.pdf>

<sup>18</sup> Community Development Systems Disaster Recovery Grant Reporting System. Grantee: New Jersey Grant: B-13-DS-34-0001. April 1, 2022, thru June 30, 2022, Performance Report. Page 8. [https://www.nj.gov/dca/ddrm/pdf\\_docs/2022%20Q2%20Sandy%20QPR%20Rpt.pdf](https://www.nj.gov/dca/ddrm/pdf_docs/2022%20Q2%20Sandy%20QPR%20Rpt.pdf)



## Conclusion

The NE Chapter is grateful for the opportunity to supply comments to the Secretary of the BPU on the above referenced dockets. The NE Chapter disagrees with BPU's proposal to "stop accepting new applications on December 31, 2025" for the NJCEP Combined Heat and Power-Fuel Cell Program and the BPU Staff recommendation to the Board of an appropriate Total FY26 Funding Level for DERs at \$12,588,216, which does not include *any* funding for CHP-FC. Even the proposed modified funding of \$10,205,741 is insufficient considering prior years' funding and the immense benefits of CHP.

CHP saves energy, reduces criteria pollutants, lowers business costs, and avoids CO<sub>2</sub> emissions. CHP remains a beneficial component of a carbon mitigation strategy by avoiding CO<sub>2</sub> emissions now, in the present and near term. As the grid decarbonizes, CHP can and will, de-carbonize as well. There's a large existing base of systems either operating, or else capable of operating on renewable fuels. Available equipment for delivering low and no carbon heat and power from CHP systems will continue to expand significantly over time. CHP is not technology lock in. Systems can be readily adapted and replaced. If better alternatives are available, CHP can be reevaluated at the site, reconfigured to support decarbonization, or retired if it proves to be an impediment to decarbonization.

As noted above, DOE's Industrial Decarbonization Roadmap recognizes the myriad benefits available from CHP systems, today, as well as in the medium- and long-term. CHP delivers invaluable resiliency benefits for critical infrastructure, necessary public health and safety services, and can provide refuge centers, allowing vulnerable populations to safely shelter in place, during outages of extended duration.

We urge you to consider the science discussed above, which demonstrates the decarbonization potential of CHP when compared to marginal grid emissions. The proposed reduction of NJ's support for CHP now is counterproductive given the large volume of emissions still being produced by central power plants, in addition to the increasing demand for electricity due to electrification and a growing, robust data center market. CHP can work in complimentary fashion, assisting decarbonization and electrification, by reducing some of the risks, increasing the affordability of electrification schemes. CHP facilitates a 100% renewable grid, by providing necessary grid services, as a distributed and dispatchable resource. Accordingly, the BPU Staff must revise the FY26 Funding Level to restore funding for CHP-FC to \$31,500,69, consistent with the FY25 Funding Level, and extend the program beyond 12-31-25 to the end of FY 2026, June 30, 2026.

Respectfully,

The Northeast Chapter of the Combined Heat and Power Alliance