CHP Technical Assistance Partnerships

September 5, 2018

Kenneth Sheehan
Director, Division of Clean Energy
NJ Board of Public Utilities

Re: New Jersey Energy Master Plan 2019

Dear Mr. Sheehan,

DOE's CHP Technical Assistance Partnerships (CHP TAPs) work with end-users and policymakers to assist in transforming the market for CHP, waste heat to power, and district energy technologies/concepts throughout the United States.

In response to requested comments on Clean and Renewable Power we would like to offer the following:

Combined heat and power (CHP)—sometimes referred to as cogeneration—provides a cost-effective, near-term opportunity to improve our nation's energy, environmental, and economic future. CHP is an efficient and clean approach to generating on-site electric power and useful thermal energy from a single fuel source.

Combined heat and power (CHP) technologies hold enormous potential to improve the nation's energy security and resiliency and reduce greenhouse gas (GHG) emissions. CHP supports our move to a clean energy economy and the creation of green jobs. The Department of Energy (DOE) has long championed CHP technologies to harness the full power of CHP to help the nation meet its energy goals.

CHP solutions provide efficient, reliable, and more affordable power for businesses and institutions. CHP is now installed at more than 4,400 commercial, industrial, and institutional facilities across the nation, improving energy efficiency, ensuring environmental quality, promoting economic growth, and fostering a more robust and resilient energy infrastructure. CHP systems today represent over 81 gigawatts (GW) – or almost 8 percent – of the nation's total electricity capacity. Additional information on CHP basics and benefits is available at this site https://betterbuildingssolutioncenter.energy.gov/chp/chp-basics-benefits

CHP can be a dispatchable power resource that can work in conjunction with renewables including wind and solar to provide cost effective power in hybrid applications. Such applications, either at grid level or at a microgrid level, allow for a transition to a more renewable-based grid in a cost effective manner that is compatible with the existing grid infrastructure.

CHP as part of a community based hybrid microgrid including renewables and battery storage represents a cost effective means of providing resilient baseload power and thermal energy for the local community including critical infrastructure in an accessible way for all.

CHP when appropriately designed and operated is tested, proven, economic, reliable and clean. To assist in documenting the performance of existing CHP facilities, more than 130 CHP Project Profiles compiled by DOE's CHP Technical Assistance Partnerships (TAPs) can be searched by a variety of characteristics, including:

- State
- CHP TAP
- Market sector
- North American Industry Classification System (NAICS) code

System size
Technology/prime mover
Fuel
Thermal energy use
Year installed

This database can be found at
https://betterbuildingssolutioncenter.energy.gov/chp/chp-project-profiles-database

Fact sheets, providing a general overview of the state of combined heat and power (CHP) technologies in New Jersey (and all 50 states and the District of Columbia), that include data on current installations, technical potential, and economics for CHP have been prepared and are available at:
https://www.energy.gov/sites/prod/files/2017/11/f39/StateOfCHP-NewJersey.pdf

CHP can play a key role in addressing 24-hour baseload needs and can be configured to be dispatchable as necessary when renewables are not available. CHP provides a cost effective and clean near term technology option as other technologies are being developed. CHP can be designed to meet local thermal needs and export power to the grid when grid supplies are deficient to meet demand.

In closing, combined heat and power (CHP) is an efficient and clean approach to generating on-site electric power and useful thermal energy from a single fuel source. Instead of purchasing electricity from the distribution grid and burning fuel in an on-site furnace or boiler to produce thermal energy, CHP provides both energy services to a facility in one energy-efficient step. CHP is a suite of commercially available, predominantly gas-fired distributed generation technologies that produce both electricity and thermal energy on-site, thereby reducing line losses and strain on grid infrastructure while also increasing energy efficiency, reliability, and security. The advancement of CHP is part of the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE) mission to create and sustain American leadership in the transition to a strong and prosperous America powered by domestic, affordable, and secure energy for the industrial, manufacturing, federal, institutional, commercial, and multifamily sectors.[1]

Thank you for the opportunity to submit comments,

Sincerely Yours

Thomas Bourgeois Director, New York / New Jersey CHP Technical Assistance Partnership
Gearoid Foley Senior Advisor, New York / New Jersey CHP Technical Assistance Partnership

[1] Source: U.S. DOE's CHP Deployment Program fact sheet providing an overview of the program and the key services it provides. https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/CHP_deployment_program_fact_sheet_040318.pdf