October 12, 2018

Grace Power
NJ BPU Chief of Staff
Energy Master Plan Chair
Board of Public Utilities
44 S Clinton Avenue
Trenton NJ 08625

Dear Chief of Staff Power,

My name is Dawn Zimmer. I served as the Mayor of Hoboken, NJ from 2009 to 2017, during the time when Hoboken was devastated by Superstorm Sandy. I write this letter as the former Mayor with a deep commitment to helping to alleviate the impact of climate change by reducing our carbon footprint as much as possible. I am currently working in the private sector where I am focusing on developing strategies and solutions that will positively impact and mitigate the excessive use of energy by waste water treatment facilities.

Having been the leader of an urban municipality dependent on public transportation, I have a deep appreciation for our State's public transportation system. I view it as a critical foundation for NJ's economy and quality of life. While I understand that previous energy master plans have included the potential benefits of biomass energy, I am writing to propose a specific focus on creating sustainability strategies that connect the potential energy use of our State's municipal waste and food waste, with other potential energy needs such as transportation fuel and electricity.

In my new role with Schneider Electric, I have gained a greater understanding of the opportunities that are available to significantly reduce our State's energy use by focusing on energy solutions for waste water treatment plants. These facilities are one of the largest energy consumers in NJ. A more sustainable and energy efficient approach could convert our State's wastewater liability into an energy asset.

Currently our waste water treatment plants are primarily operating as a liability that cost communities' money to provide an essential service. The methane created by wastewater could instead be converted into a renewable asset, such as renewable natural gas (RNG), or heat and electricity. If some waste water treatment plants created RNG, this could be used to help provide essential transportation services by expanding NJ Transit's RNG buses and defray the $318 million fuel costs appropriated in their 2018 budget. There are many renewable opportunities, but an approach that shifts our waste water treatment facilities from a liability to an optimized asset can be implemented cost-effectively in the near term, helping the State to significantly reduce its carbon footprint.

Since our densely populated State will always produce waste, and NJ will always need a public transportation bus system, I hope the suggestions in this letter can be strongly considered and evaluated as part of the State's energy master plan and possibly included in an action plan going forward. Converting wastewater treatment facilities into a State renewable asset can be an important part of the plan to make near term progress to reach Governor Murphy's 2050 renewable energy goal.

Converting Waste water from a Liability into an Asset:

States such as California and Colorado are implementing projects that take the bio-methane gas created through an anaerobic digestion process and clean and convert it into compressed natural gas (CNG).

This CNG is then used to fuel public bus fleets. For example, in Grand Junction, CO the anaerobic digestion system produces 400-500 CNG daily, providing fuel for 37 city-owned vehicles. This is the equivalent of providing 165,000 gallons of gas and reduces carbon emissions by 3 million lbs. of Co2 per year.

Converting Food waste from a Liability into an Asset:

As the former Mayor of Hoboken, I know that the City is responsible for picking up all the trash for our 100-plus restaurants. That waste is then transported to a landfill in Virginia, resulting in higher and higher costs and a waste of energy. Many NJ communities are faced with the same challenge of managing food waste. Since high strength food waste improves the operations of anaerobic digestor systems, this food waste liability could be converted into an energy asset for the State. NJ could capitalize on its high strength food waste by using it to create more methane and converting that methane into renewable energy resources. This approach could provide several co-benefits including reducing energy consumption, reducing costs for municipalities and counties, and reducing the amount of waste shipped to landfills that are running out of capacity.

According to a biomass assessment report by Rutgers University in 2015, NJ could potentially harness the energy of 4 million dry tons of NJ's biomass to produce energy for heat or transportation fuels. Their report estimated that this could deliver 6.4 percent of NJ's electricity consumption or 230 million gallons of gas equivalent, approximately 4.3 percent of transportation fuel consumed.

If State facilities such as Passaic Valley Sewerage Commission were to invest in an anaerobic digestion system it could produce CNG for NJ Transit buses. While this would require a significant financial investment, the returns on that investment would be substantial. According to NJ Transit's fiscal year report, the agency appropriated $318 million for fuel, power and other materials in 2018. This large cost could be reduced with the addition of more buses powered by CNG. NJ Transit's fleet already includes 210 CNG buses, and this could be expanded as part of an overall sustainability strategy that converts Passaic Valley's millions of gallons of wastewater into CNG fuel. The US Department of Energy's Renewable Fuel Standard program could make this approach even more financially viable.

Co-Benefits for Energy & Cost Savings to Achieve Governor Murphy's Goals:

Overall, implementing an expanded program that strongly incentivizes and supports energy efficiency investments and transforms our waste water facilities from liabilities into assets could provide tremendous benefits including:

1. Optimizing and reducing the State's energy use, making significant progress toward Governor Murphy's goal for NJ to become 100% powered by renewable energy by 2050.

2. Reduce energy costs for municipalities and waste water treatment authorities. Since NJ has the 6th highest energy costs in the nation and waste water treatment energy costs are usually the highest energy users in a community (according to the US Department of Energy), savings would be substantial. Nationwide, waste water treatment facilities use an estimated 6 percent of our nation's energy. They

also use five times more energy than needed, and their energy demands are expected to increase by 20 percent in the future (according to the US Department of Energy).

3. Reduce the amount of biosolids required to be transported to limited state landfills. According to a NJ DEP study last updated in 2014, there are 846 landfill sites in NJ. There are currently only 16 that are open and accepting waste. As noted above, this situation has forced counties such as Hudson County to incur the cost of having to transport waste out of State all the way to Virginia.

One important strategy to enable more waste water treatment facilities to implement these critical energy saving solutions, would be to integrate the infrastructure funding opportunities available through the NJ Infrastructure Bank with the Savings Improvement Program offered through the BPU. Currently, the complexity involved in coordinating these two programs discourages communities from taking advantage of them. Establishing a simple unified process would make these programs more user friendly, enabling more communities to take advantage of them to achieve energy savings and help the State to meet Governor Murphy's energy goals.

Thank you for the opportunity to provide comments.

Sincerely,

Dawn Zimmer
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