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DOCKET NO. Q022050327 Input from Steven G Miller, co-leader of the “NJ 50x30 Building Electrification Team”

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Our Requests and Recommendations are identified in larger Bold Font, below

Building Electrification Objectives

We acknowledge the overall NJ goal is a 50% reduction from 2006 NJ levels of GHG emissions in all sectors by 2030 (thus 50x30, as per Governor Murphy's EO 274) and a reduction to net zero GHG emissions in NJ by 2050. Since emissions from building heating and appliances account for about 25% of NJ GHG emissions this is a very important area to address immediately.

- **BE Objective 1.** Work with all willing partners to develop targets for heat pump installations needed to meet the Governor's NJ 50x30 goal and obtain a commitment by the State to meet the target. We recommend a goal of 100K Cold Climate heat pump installations in new and existing NJ buildings by 2025, and 800K Cold Climate Heat Pump installations in new and existing NJ buildings by 2030
- **BE Objective 2.** Immediately start the transition for new construction, gut rehabs, and existing building retrofits to be net zero carbon. Disallow gas hookups in new construction. Assess existing building codes and any proposed or existing legislation or regulations, and identify gaps. Propose changes to building codes to address shortfalls and drive air- or geo-sourced heat pump installations (paired with rooftop solar, where applicable, and enhanced efficiency measures) in new construction or building remodeling. Have proposed changes adopted by the state.
- **BE Objective 3.** Start the transition to electrify existing oil, propane, and natural gas-fueled buildings, and switch to efficient heat pumps, as well as convert buildings heated by resistance electricity (e.g., electric baseboard heating) to heat pumps for a more sustainable electrical system. The switch to efficient building electrification includes heating systems and appliances (such as heat pump water heaters, clothes dryers, or induction cooktops). Work with BPU and the electric utilities to enhance the existing Clean Energy Program heat pump and appliance incentives for such conversions.
- **BE Objective 4.** Assess and improve education, marketing and incentives for energy efficiency audits and improvement programs now conducted by the NJ Clean Energy Program and utilities.

We request a process and financial incentive mechanism for achieving the goals of installing 100,000 cold climate air source heat pumps or electric ground source heat pump systems in new or retrofits of existing residential units by 2025 and 800,000 cold climate air source heat pumps or electric ground source heat pump systems in new or existing retrofits by 2030.

This will require an accelerated effort to deploy electric high efficiency cold weather heat pumps driven by increasingly cleaner and renewable electricity for space heating and other appliances in new and existing buildings. We will pursue new and amended laws and regulations to drive increasing deployment of electric heat pumps and other low GHG-emitting electric appliances, improved electric appliance efficiency and building codes, funding for building energy conservation measures and other incentives (with larger incentives for overburdened communities), and, as soon as possible, the

elimination of new gas hookups. This effort will require outreach, education, training and marketing campaigns for consumers and HVAC personnel to drive consumer choice toward electrification.

We recommend that NJ quickly move to "Zero Energy Building". We recommend all new and rehabilitated residential and commercial buildings to be zero energy building construction by 2025 with the goal of meeting a 50% reduction of overall NJ GHG by 2030. (This accelerates/shortens the "Zero Energy Ready" period when fossil fuel can be used for heating and appliances)

We recommend changes in the definition of a "Zero Energy Building"

Following definition is from DOE "A Common Definition for Zero Energy Buildings"

"Zero energy building" means an energy-efficient building where, on a source energy basis, the actual annual delivered energy is less than or equal to the on-site renewable exported energy.

We recommend that the following energy sources, not explicitly listed by the DOE, be additional sources of "on-site Renewable Energy" for the purpose of defining "Zero Energy" rehabilitated or new construction within NJ

- **Contracts for "Community Solar"**
- **Long term contracts for RECs**
- **Power Purchase Agreements**
- **Renewable content of electricity delivered by the local utility**