

Honorable Governor Murphy,

May 11, 2022

The NJ 50 x 30 Building Electrification Team supports your plan to dedicate \$305 million to construct 3,300 affordable housing units. This is a good move to get working families into homes and alleviate the burden on towns looking for new ways to fund the construction of affordable housing. But it can be an even more noteworthy accomplishment in that it offers a great opportunity for NJ to make progress on electrifying buildings, as part of the EO 274 and GWRA goals to reduce greenhouse gas emissions 50% by 2030 and 80% by 2050. This approach also leverages the EMP Objective 4.1.2, “Partner with private industry to establish electrified building demonstration projects.” Fully electrifying these new affordable housing units can showcase NJ’s commitment to its climate mitigation goals, and be a proof-of-concept that building electrification using the latest technology is possible while providing energy cost savings to residents.

These new units should be all-electric, Zero Energy Buildings, heated and cooled with high efficiency air source cold-climate or ground source heat pumps, thus minimizing energy use and future decarbonization expenses. Air source cold climate heat pumps will keep residents warm down to an outside temperature of minus 15 degrees and cool in the hottest summer. Ground source systems can be effective anywhere subsurface temperatures are stable and moderately warm – about 52-57°F for NJ.¹ A district ground source system might provide an opportunity to spread the cost among many residential or commercial users. Electric heat pump water heaters and dryers and induction stoves complete the electrification without the need for any gas hookups. These homes will never need to be transitioned off gas, nor will any gas infrastructure assets ever be stranded.

Energy for the housing units would be met by rooftop solar or, if infeasible, an alternative such as community solar, realizing significant savings for residents. The NJ Energy Master Plan, as documented in its Integrated Energy Plan, states that building “electrification reduces annual costs by 50% in 2050, compared to retaining gas use in buildings. Building heating and cooling appliance costs are lower when buildings are electrified.” Such operational savings are especially important, given these will be affordable housing units.

Clean, electric appliances improve air quality and safety in our communities, lower energy bills, use local clean energy resources, and help mitigate the worst impacts of climate change. The health benefits of electric appliances over those powered by gas are substantial. Fossil fuel combustion in buildings is a significant contributor to both indoor and outdoor air pollution and adverse health outcomes in New Jersey, particularly in low-income communities and communities of color. Research from the Harvard T.H. Chan School of Public Health quantified the impacts of outdoor air pollution, including premature mortality from gas and oil burning in residential and commercial buildings. New Jersey had one of the highest health burdens from outdoor air pollution directly related to the combustion of fossil fuels in buildings of any state in the country, with over 250 premature deaths and \$2.8 billion in monetized health impacts annually.²

Public health experts have increasingly highlighted the harms of indoor air pollution from gas stoves. Households with gas stoves regularly exceed safe levels of nitrogen dioxide and carbon

¹ <https://www.nj.gov/dep/ages/geothermal-heat-pumps.html>

² All information cited on health effects from use of gas and fossil fuels is taken from the Acadia Center’s report: *The Future is Electric*, <https://acadiacenter.org/resource/the-future-is-electric/>

monoxide— among other pollutants—and have significantly higher levels of indoor air pollution than those with electric cooking. A 2013 meta-analysis showed that children in homes with gas stoves have a 42% higher likelihood of asthma incidents and a 24% higher likelihood of asthma prevalence.³

We hope you will take advantage of this opportunity to demonstrate the benefits of building electrification to low-income residents and the rest of NJ. We look forward to hearing an announcement of this additional set of requirements for this program. We would welcome a meeting with you or any of your staff to discuss this proposal.

This letter is authorized by the NJ 50 x 30 Building Electrification Team, whose members are volunteers and involved in many other environmental organizations in the state.

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³ *ibid*