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Thank you for the opportunity to speak. My name is Lindsay Speer, and I am the Director of Community Programs with Alliance for a Green Economy. Over the past three years I have helped over 100 homes and buildings install heat pumps through our local clean heating and cooling communities campaign and have firsthand knowledge of the challenges faced by homeowners wanting to make the switch.

I am writing in support of Governor Hochul's promise to make 2 million New York homes electric or electric ready by 2030. **To reach this goal, NY needs to pass the bills in the Renewable Heat Now 2022 Legislative Package, including:**

1. The All Electric Building Act (S6843A & A8431)
2. Advanced Building, Appliance, and Equipment Standards Act (S7176 & A8143)
3. The Fossil Free Utilities Act
4. Fossil-Free Heating Tax Credit (S3864 & A7493) and Sales Tax Exemption (S642A & A8147)
5. A \$1 billion per year commitment to a Green Affordable Housing Fund, 2022 State Budget

The funding and policies in this package complement each other and are necessary to stop fossil fuel expansion, transition buildings off fossil fuels, and make renewable heating, hot water, and cooking technologies affordable and available.

Efficient electrification with heat pumps is key to meeting our climate goals. The Climate Action Council has estimated that 1-2 million homes need to transition to heat pumps in order to meet the State's legally mandated greenhouse gas emissions targets. The All Electric Building Act will ensure that from 2023 onwards, residential homes and buildings must be designed without fossil fuel systems in order to receive building permits. The Advanced Building, Appliance, and Equipment Standards Act stands to save New Yorkers an average of \$135/year, or a total of \$1.3 billion total by 2030.

Both of these bills are an opportunity to improve the health and safety of New Yorkers. People want heat pumps. They are unhappy with their current dirty, expensive, often cobbled together and inadequate heating systems. They want cooling in the summer to help them adapt to our warming climate, and many want to switch simply to do the right thing for the environment by reducing their use of fossil fuels and their air and water pollution.

The upfront cost of retrofitting homes and apartments with heat pumps continues to be a challenge, but when it can be overcome the benefits to households are significant. We frequently work with the installers to string together multiple incentive and rebate programs to drive down the costs, and in doing that have been able to help over 40 low-to-medium-income homes switch to heat pumps at little to no cost to them, improving their quality of life and slashing their energy bills.

I want to emphasize two major barriers to the electrification of existing affordable housing: 1) Prerequisite renovations for electrification and 2) the scale of the investment required for heat pump installation. When grant programs choose homes as candidates for electrification, they audit the home for problems like mold, lead, and asbestos. They also check that the housing has an adequate level of insulation to ensure efficient use of the heat pumps. Because of systemic racism and redlining in our housing sector, these issues are far more common in low income and environmental justice communities; and while significant assistance is available through NYSEERDA's energy efficiency programs for low to moderate income households, the needed renovations often are more than the funding available and these households are often unable to afford the cost of such renovations. This often means that low-income households are denied grant money offered by programs that were specifically created for low-income households.

This is why we need an annual \$1 billion commitment to the Green Affordable Housing Fund in the budget. It will not be enough to simply transition affluent families off dirty, inefficient heating fuels - we must make electric, safe, comfortable, and affordable housing available for our environmental justice communities. The Energy Efficiency, Equity, and Jobs Act (S.3126/A.3996) is not in the Renewable Heat Now Package, but we also want to highlight this legislation's merits in helping more low-income and environmental justice homes become electrification ready, and we highly recommend that legislators vote yes on this bill as well.

As for the scale of investment required to convert a home from fossil fuels to heat pumps, the average cost of a single family whole home cold climate air source heat pump system in Central New York in 2021 was \$26,000, for a relatively modestly sized and insulated home, up from \$15,000 on average in 2019 and 2020. The average geothermal heat pump system in CNY has increased from \$41K to \$45K over the same time period. This is due to a combination of inflation and supply chain issues, but the complexity of current incentives are also costing installers significant staff time in order to get paid for a project, which ultimately drives up costs. It is absolutely crucial that new initiatives be substantial and last over the course of multiple years, rather than weeks.

Low to moderate income households frequently have no savings and little to no access to lines of credit. The financial assistance has to cover most to all of the cost of the system. We have seen three short-term clearly successful initiatives for low to moderate income households in the past two years that made a huge difference in getting people from "interested" to "installed": 0% financing, increasing "moderate" income to include households making up to

120% of area median income (providing matching grants to households that had savings to contribute to the projects) and NYSERDA's Heat Pump Demonstration Study Pilot.

With the Heat Pump Demonstration Study program, which essentially doubled the utility rebates in parts of the state, we were able to help people like Katherine in Tully, a single woman aging in place in a rural area, who was finding it more and more difficult to use her wood stove to keep her oil bill reasonable. She thought she could never afford heat pumps. We were able to install a ductless mini-split system at no cost to her. She is absolutely delighted with the new comfort of her home and no longer having to use any fossil fuels.

I am proud of what we have been able to accomplish. But NY is not going to reach our climate goals with the status quo. Here are things that need to change:

- It is far easier to install heat pumps in new buildings than retrofitting them. The sooner we can end the installation of fossil fuel systems in new buildings, especially affordable housing buildings, the fewer homes we will eventually have to pay to retrofit.
- We need significant, consistent, and understandable financial assistance for heat pump and insulation installation, coming through a single easy-to-access and transparent program without onerous reporting requirements. In the past three years we have seen multiple short term pilot programs come and go. This creates market confusion and uncertainty, and significant time spent re-training contractors' sales and design teams on the requirements of each program, some of which only last weeks before the money runs out.
- Two of the bills in the Renewable Heat Now package would address the need for improving financial incentives. The Fossil-Free Heating Tax Credit (S3864 & A7493) and Sales Tax Exemption (S642A & A8147) are both necessary to incentivize ground source heat pumps, the most efficient systems for heating, for homes that are interested in making the switch but financially unable to.
- We need bulk buying programs that reduce or eliminate the cost of the heat pumps themselves for installers. Labor will always be a cost in these retrofits, as significant work is often needed, but this could help control costs equitably across installers of all sizes. Experienced installers must be consulted in the selection of equipment.
- We need a bigger heat pump installation workforce. Right now people are requesting heat pumps and getting scheduled for conversions more than six months later. Existing on the job training programs help, but only the largest installers can make full use of them. Most of the installers are so busy they do not have time to train.
 - Geothermal drillers are scarce in many parts of the state.
 - We need to intentionally grow the workforce and develop apprenticeships, training programs and centers, and prevailing wage mandates to incentivize these jobs. Very important that we do this equitably and create resources in marginalized communities as well.
- We need to rework the industry such that the utilities or a public entity is helping with installations. For profit installers can pick and choose their projects, so they often pick the easiest and most profitable. Only with significant subsidies do LMI households fall into this category.

- We need refundable tax credits so that lower income households without significant tax liabilities can access the same financial assistance to install geothermal heat pumps as the wealthy. We also need credits for cold climate air source heat pumps and heat pump water heaters
- For market rate customers, the per-ton rebates are absolutely critical to making heat pumps make financial sense. Unfortunately, we are already seeing the utilities slash those rebates downstate and fear they will do the same upstate.

There is no question that widespread adoption of heat pumps is necessary for the future of our state and our world. The only question is how much longer we will delay the necessary changes to make heat pumps the logical first choice for heating and cooling systems. Please ensure that the NYS Budget has significant funding to support building electrification.

Thank you for your consideration of these points.