

TESTIMONY: FEBRUARY 14TH ENVIRONMENTAL CONSERVATION HEARING

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The following are my comments for the Joint Legislative Budget Hearing on the 2023 Executive Budget Proposal: Topic Environmental Conservation (Date 2/14/2023).

INTRODUCTION

The burning of fossil fuels to power energy use in buildings is responsible for the greatest amount, almost a third, of New York State's greenhouse gas (GHG) emissions. To meet the goals of the CLCPA, New York's Climate Law, the electrification of 85% of buildings with heat pumps is recommended by 2050. Constructing buildings with heat pumps (air or ground source) eliminates health risks, saves energy, and saves money.

OUR STORY WITH AIR SOURCE HEAT PUMP (ASHP)

My husband and I transitioned our home (4 bedroom, 2.5 bath, 2700 s.f.) off fossil fuels to all-electric in 2020. We are heating & cooling our CNY home with cold climate air source heat pumps (ASHP), we drive EV's, and use all electric indoor & outdoor appliances including an induction stove. We are dedicated to mitigating the effects of climate change and feel obligated to do whatever we can to reduce our carbon footprint and help others do the same. That is why we made a video with help from CNY Heat Smart which explains the process with a timeline, reviews our costs, and concludes with a virtual tour.

<https://www.youtube.com/watch?v=dmjHQpzUkWo&t=118s>

Our *original* configuration consisted of:

- Natural gas boiler and hot water baseboard system
- Hot water tank driven by the gas boiler
- In-window air conditioners
- ICE vehicles (mid-size)

Our *new* configuration includes:

- Rooftop Solar Panels (36 - 310 Watts (11.2 kW total))
- Air source heat pumps and ductless mini-split units (*Mitsubishi MXZ Hyper heat 2.5-TON*)
- ASHP Hot water heater
- EV vehicles (mid-size)

Many people question the use of air source heat pumps in cold climates. During a recent cold snap of -18 degrees Fahrenheit, we were able to keep our home at a comfortable temperature using only our ASHP system. This is a testament to the efficacy of air source heat pumps in New York State's cold climate areas. In 2022 we experienced 14 overnight lows of below zero temperatures with the lowest being -14 degrees. We were again able to maintain a comfortable, consistent room temperature of 68 degrees more easily than with our gas boiler. We experience not only warmth in the coldest of winter but also improved hot water efficiency. We have come to value the ASHP air conditioning which we didn't have with our hot water baseboard heat system. Our ASHPs, *MITSUBISHI MXZ HYPER HEAT 2.5-TON*, are rated for -14 degrees Fahrenheit. Meaning, while at this temperature they are working at 74% efficiency and will perform with 100% efficiency through 5 degrees and above. It doesn't mean when they reach a temperature of -14 degrees that they will turn off.

As stated previously, the heating and cooling of buildings with fossil fuels is the biggest contributor to air pollution followed by transportation. For that reason, we decided to go electric with renewable energy. The main components are rooftop solar, electric vehicles, two ASHP pumps, six mini-splits, and an ASHP hot water heater. We believe this grassroots effort makes a difference. As per the EPA calculator, our original configuration produced an estimated 15 Tons of CO₂/year. While our new configuration produces an estimated 1.5 Tons of CO₂/year. This is a tenfold reduction in CO₂ from only one household. Just think if we get 1.5 million similar homes to go fossil free by 2030...that would be over 20 MILLION TONS of carbon NOT going into the air.

BUDGET: LEGISLATION & FUNDING NEEDS

For NY to become the Climate World Leader, we MUST pass the legislation that electrifies NY NOW. I recommend the following NYS legislation with the necessary funding to transition all New Yorkers to clean affordable energy in a just and cost-effective manner.

LEGISLATION

All-Electric Building Act (S562A Kavanagh/A920 Gallagher)

I recommend this legislation which will transition NY State off fossil fuels to a renewable economy by requiring homes and commercial building space statewide be electrified with energy-efficient heat pumps and thermal energy networks. This legislation will also support the scale up of clean energy resources, such as land-based

wind and solar, offshore wind, hydropower, fuel cells that use renewable fuels, and energy storage.

I recommend The *All-Electric Building Act* be included in the Executive Budget with an effectivity date of **2024** for those buildings under seven stories and by **2027** for larger buildings which will require all new buildings be constructed without fossil fuel combustion systems or appliances. Let's follow New York City and Germany's example for CLEAN, SAFE, AFFORDABLE NEW BUILDINGS for the 21st CENTURY.

Other important legislation needed to remove fossil fuels out of buildings which should be passed into law this legislative session:

NY HEAT (Home Energy Affordable Transition) Act (S2016 Krueger & May|A####)
formerly the Gas Transition and Affordable Energy Act

This bill eliminates subsidies for new gas hookups (the "100-foot rule"), enables neighborhood scale building decarbonization by eliminating the "obligation to serve" gas, and protects low- and moderate-income families by ensuring no household pays more than 6% of their income for energy.

Energy Efficiency, Equity, and Jobs Act (S3126C Parker|A3996C Hunter)

This bill deploys funding for cost-saving energy efficiency retrofits in low-income communities and communities of color. It allows NYSERDA to fund non-energy measures like lead and mold remediation to remove barriers to efficiency upgrades in older homes and ensures that the workers hired for energy efficiency upgrades come from disadvantaged communities.

FUNDING

These three budget proposals should be included in the Executive Budget thereby providing New Yorkers with comprehensive access to the programs and resources they need to weatherize and electrify their homes. *These three budget items are included in the Climate and Community Protection Fund, part of New York Renew's Climate, Jobs & Justice Legislative package.*

Green Affordable Pre-Electrification (GAP) Fund (\$2 Billion) for low-to-moderate income households. The GAP Fund would also provide funds for property improvements to address deferred maintenance, mitigate environmental health hazards, update electrical and mechanical systems, and reduce fossil fuel use and energy bills. The fund enables LMI households to take advantage of and benefit from the substantial resources available for weatherization and electrification provided through New Energy New York (NENY), the Clean Energy Fund, and the federal Inflation Reduction Act (IRA). The beneficiaries of this fund are low- and moderate-income households, building owners, and society at large. In recognition of the significant benefit to landlords in the form of lasting property investments, the fund requires certain tenant protections that prevent displacement of existing tenants.

Strengthen NYSERDA's Regional Clean Energy Hubs **NYSERDA's Regional Clean Energy Hubs are a groundbreaking partnership between the state and community**

organizations to accelerate the adoption of clean energy in disadvantaged communities. These hubs, launched in 2022, will be on the front lines in helping residents all over NY overcome barriers to clean energy adoption. More resources are needed to provide the hubs with the technology, training, technical support, and staff necessary to achieve this goal. The hubs aim to provide a “one-stop-shop” experience for people to connect them with state, local, and federal programs that fund weatherization and electrification as well as other agencies that serve the needs of low-income residents.

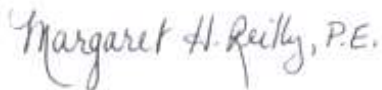
Direct NYSERDA’s Direct Green Jobs Green New York Program (\$900 Million) to establish 0% loans for weatherization and electrification. **Such loans are needed to ensure all New Yorkers have access to no-cost and low-cost capital** to finance the up-front costs of weatherization and electrification, regardless of fuel type. Amendments to the law are also needed to expand the scope of what the program finances so it includes all the project types listed in the GAP fund above, such as deferred maintenance.

CONCLUSION

If our ancestors could transition from coal to oil and then to natural gas, we can transition to cleaner alternatives such as heat pumps and geothermal systems. It is projected this transition would create an estimated 100,000 new jobs in energy-efficient construction.

As the Program Manager for the Sauquoit Creek Channel & Floodplain Restoration Program I see first-hand how our communities are seriously impacted by the climate crisis, experiencing more frequent and intense precipitation events causing flooding to homes and businesses. The time to act is now!

Sincerely,

A handwritten signature in cursive script that reads "Margaret H. Reilly, P.E.".

Margaret H. Reilly, P.E.