SIERRA CLUB
ATLANTIC CHAPTER

Legislative Hearing on All-Electric Buildings

ASSEMBLY STANDING COMMITTEE ON ENERGY
ASSEMBLY STANDING COMMITTEE ON GOVERNMENTAL OPERATIONS
ASSEMBLY STANDING COMMITTEE ON ENVIRONMENTAL CONSERVATION
ASSEMBLY CLIMATE CHANGE WORK GROUP

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10:00 A.M.

My Name is Roger Downs. I am the Conservation Director for the Sierra Club Atlantic Chapter. I represent a volunteer-led organization of more than 50,000 members statewide committed to protecting New York's air, water and remaining wild places. We wish to thank the Chairs Englebright, Cusick, and Zebrowski for holding this hearing on the feasibility and timing of the implementation of all-electric requirements in new construction, and to examine potential impacts to energy infrastructure and ratepayers.

Any discussion about the transition to an all-electric building sector must first be grounded in the irrefutable facts of the climate crisis and acceptance that there are significant economic and social costs to inaction and the status quo. The State of New York cannot ignore its decarbonization obligations as required by the Climate Leadership and Community Protection Act (CLCPA). The Building sector represents one third of New York's total greenhouse gas (GHG) emissions and unless we start the rapid transition to full electrification of our heating, cooling, and cooking using renewable energy sources, we will not stave off the worst of future storms, floods, droughts, heatwaves, mass extinctions and public health emergencies.[1]

The CLCPA commits New York to reaching net zero greenhouse gas emissions by 2050. The ambitious law mandates that 70% of the state's electricity come from renewable energy by 2030, and 100% of the state's electricity supply be emissions free by 2040. Residential and commercial buildings account for approximately 60% of total energy use and greenhouse gas emissions in New York State. Phasing out fossil fuels in favor of geothermal, air source heat pumps and induction stoves is a cost-effective tool in reducing greenhouse gas emissions. Renewable energy-driven, total electrification of our buildings is a critically important step in attacking the climate crisis head on. In order to meet New York's legally mandated greenhouse gas emissions targets, 1-2 million homes need to transition to heat pumps by 2030.[2]

Sierra Club believes the goals of the current building decarbonization bills before the legislature are not only feasible but in New York's best economic interests. It is understandable that such a rapid transition to a

[1] https://www.ipcc.ch/report/ar6/wg3/
[2] https://climate.ny.gov/Our-Progress

100% electrified and zero emissions building sector will lead to concerns about costs, reliability, labor standards and job security for those especially invested in the old infrastructure. The Sierra Club is confident that if the legislature acts boldly, provides adequate transition funding, secures strong labor protections and removes regulatory barriers to new technologies we can keep pace with our necessary climate goals, create healthier communities and generate economic growth that benefits working families.

Building electrification is cost competitive for new construction

Last year, NYC enacted a law banning gas hookups in new buildings effectively requiring all-electric heating and cooking for all construction moving forward, which takes effect in December 2023 for buildings under seven stories; and until 2027 for taller buildings. The 'All-Electric Buildings Act,' S.6843-A (Kavanagh)/A.8431 (Gallagher) would expand this ban to the entire state.

Specifically, the 'All-Electric Buildings Act' would:

- After 2024, prohibit cities, towns, and villages from issuing a permit for the construction of any new commercial, residential, or mixed-use mixed fuel building, except when such all-electric building is proven to be infeasible.
- Require state agencies to identify policies to ensure affordable electricity for all-electric buildings.

A frequently articulated concern for the 'All-Electric Buildings Act' is that such mandates will serve, in effect, as a moratorium on all construction out of concern that there will not be enough heat pumps for installation in new buildings, the trained workforce of installers will not be able to keep up with demand, and renewable heat technologies will be too costly. All of these fears are unfounded.

Between the years 2005 and 2015, the Northeast region of the U.S. had the fewest residential electric heat pumps deployed of any census region. However, the region experienced significant market growth over the last decade, with close to 440,000 more Northeastern households reporting primary electric heat pumps in 2015 compared to a decade earlier, demonstrating a 200% increase.[3] The residential heat pump industry share in North America reached more than $14 billion in 2021, and some estimates suggest that there will be a compound annual growth rate of nearly 8% until 2028 with increasing governmental mandates to minimize GHG emissions and transition to more sustainable technologies. By those same estimates, the regional demand for Air Source Heat Pumps (ASHP) in the Northeastern United States is poised to exceed $23 billion through 2028 due to the growing public demand for heat pumps (low carbon footprint, longer lifespan, and economical operations) and rapid supply chain expansion for the technology.[4]

Players operating across the North America residential heat pump market projecting to increase manufacturing capacity in the US and globally include Danfoss, Trane, Glen Dimplex Group, Bosch Thermotechnology GmbH, Daikin, Carrier Corporation, Johnson Controls, Stiebel Eltron GmbH & Co., NIBE Industrier AB., MODINE Manufacturing Company, Bryant Heating & Cooling Systems, Bard HVAC, WaterFurnace International, Inc., ClimateMaster, Inc., Earthlinked Technologies, Spectrum Manufacturing,

[3] https://atlasbuildingshub.com/2022/04/22/trends-in-residential-heat-pump-adoption-in-the-united-states/
[4] https://www.gminsights.com/industry-analysis/north-america-residential-heat-pump-market

OCHSNER Warmepumpen, Mitsubishi Electric Corporation, Nortek Global HVAC, Aermec S.p.A., Swegon Group AB, Green Planet Supply Technologies, Maritime Geothermal, Dandelion, GeoSmart Energy, Goodman Manufacturing Company, Lennox International and Rheem Manufacturing Company.[5] New York State can send a strong market signal to these manufacturers by setting a fossil fuel phase out date ensuring there were no impediments to the growing demand for ASHP and other renewable heat technologies. But what should be most compelling to the legislature, especially at a time when the cost of fossil fuel energy is spiking due to global geopolitical disruptions, is that renewable heating and cooling technologies are now beyond cost competitive - they are saving homeowners and businesses money while improving air quality and reducing climate risks.

According to recent estimates, households using gas for heat in 2022 should expect to pay $161 more than what they paid over last year's heating season, and households using propane and fuel oil should expect to pay over $500 more. In contrast, households utilizing electric heat pumps in 2022 can only expect to pay $21 more (due to increases in electrical costs) – just 13% of the cost increase gas heated homes are facing. In fact, over the past two decades, modern electric heat pumps would have supplied 38% lower bill volatility than fossil fuels for home heating as the grid price of electricity has remained relatively stable in comparison with the price fluctuation of gas and oil heat.[6]

A study by the New Buildings Institute analyzed both the incremental first cost and life cycle cost of two common building types, all-electric and mixed-fuel. Results indicated that the all-electric single-family home is $7,500-$8,200 cheaper to construct than the baseline code home, due to the avoided cost of installing fossil fuel infrastructure.[7] The impact of this "first cost" savings then translates into additional avoided costs such as a higher down payment and more mortgage interest paid. Electric-ready construction saves homeowners thousands of dollars, as compared to necessary retrofitting to accommodate electric equipment replacements. Overall, researchers found that the all-electric single family home had the highest cost savings for the homeowner, except when there were high-cost fixed rates.

These recently demonstrated financial advantages to all electrified building heating and cooling systems do not even factor in additional cost savings to consumers in the form of government incentives. The NYS legislature just passed a heat pump tax credit in the FTY 2022-23 budget, and a $500 million fund in the Environmental Bond Act to further fund renewable heat installations and retrofits for municipal buildings, schools and hospitals. There are almost two dozen other state and federal incentive programs that can significantly reduce the cost for residential and commercial buildings, old and new, for installing efficient, all-electric heating and cooling systems, including energy efficiency rebate programs, ground source heat pump rebate programs, and rural energy rebate programs.[8] As we ramp up ASHP installations an economy of scale will naturally see additional price reductions for the consumer.

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[5] https://www.gminsights.com/industry-analysis/north-america-residential-heat-pump-market

[6] *Energy Bill Security for American Households Through Electrification*; Calisch, Grace, Daly and Matusiak https://www.rewiringamerica.org/policy/energy-bill-security

[7] https://newbuildings.org/wp-content/uploads/2022/04/BuildingDecarbCostStudy.pdf

[8] https://programs.dsireusa.org/system/program/ny/geothermal

False solutions like burning hydrogen for heating can derail our climate goals

Private utility and fossil fuel companies have advocated that preserving existing gas heating infrastructure in New York buildings and continuing to outfit new construction with gas lines and appliances will in the future accommodate the burning of hydrogen for heating and cooking, and yield a simpler transition to low carbon sources over full electrification.[9] But in truth, attempting to replace even a fraction of the gas combusted in buildings with green hydrogen would strain renewable energy demands rather than alleviate further pressure on the electrical grid.

According to the Energy Information Administration, in 2021, New York's consumption of gas in residential and commercial buildings far outstripped gas use for electric power. Residential and commercial buildings consumed 426.8 Bcf and 291.4 Bcf respectively (718.2 Bcf in total), while gas-fired power plants consumed 448.5 Bcf. To achieve burn efficiency, hydrogen would likely need to be blended with methane so would not be fully replacing the gas in the pipelines, which would be incompatible with our climate goals. Replacing even 20 percent of the current fracked gas supply with green hydrogen would still require another massive buildout of renewable energy generation just to accommodate the necessary production electrolysis: heating both residential and commercial buildings would require roughly three times more renewable electricity to electrolyze green hydrogen compared with directly supplying a high efficiency heat pump. This is a result of the efficiency losses during the production of green hydrogen and the relative inefficiency of gas end-use appliances compared to electric.[10] There is simply no feasible path to rely on green hydrogen to anchor New York's decarbonization strategies for the building sector.

Even if it were possible to supply sufficient renewable energy to produce relevant quantities of hydrogen, there are numerous logistical challenges that affect the cost, feasibility, and prudence of building a climate compliance strategy around hydrogen. These challenges are well-documented,[11] but several are briefly described here:

Hydrogen production via electrolysis is inefficient and expensive*:* Due to the inefficiency of using green

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[9] https://www.nationalgrid.com/us/cop26/hydrogen-vision

[10]https://myemail.constantcontact.com/New-study-on-electrification-costs-shows-benefits-to-building-owners-and-society.html?soid=1102506053657&aid=fOfPJv2rRLA

[11] E.g., Sasan Saadat & Sara Gersen, Reclaiming Hydrogen for a Renewable Future: Distinguishing Oil & Gas Industry Spin from Zero-Emission Solutions, Earthjustice (Aug. 2021), available at https://earthjustice.org/features/green-hydrogen-renewable-zero-emission (hereinafter "Reclaiming Hydrogen"); Sierra Club, Hydrogen: Future of Clean Energy or a False Solution? (Jan. 2022), https://www.sierraclub.org/articles/2022/01/hydrogen-future-clean-energy-or-false-solution; Energy Innovation, Assessing the Viability of Hydrogen Proposals (Mar. 2022), available at https://energyinnovation.org/wp-content/uploads/2022/03/Assessing-the-Viability-of-Hydrogen-Proposals.pdf (hereinafter "Energy Innovation");Leigh Collins, Liebreich: 'Oil sector is lobbying for inefficient hydrogen cars because it wants to delay electrification,' Recharge (June 30, 2021), https://www.rechargenews.com/energy-transition/liebreich-oil-sector-is-lobbying-for-inefficient-hydrogen-cars-because-it-wants-to-delay-electrification-/2-1-1033226 (hereinafter "Liebreich"); David Schlissel et al. Blue Hydrogen: Technology Challenges, Weak Commercial Prospects,Innovation, Assessing the Viability of Hydrogen Proposals (Mar. 2022), available at https://energyinnovation.org/wp- content/uploads/2022/03/Assessing-the-Viability-of-Hydrogen-Proposals.pdf (hereinafter "Energy Innovation");Leigh Collins, Liebreich: 'Oil sector is lobbying for inefficient hydrogen cars because it wants to delay electrification,' Recharge (June 30, 2021), https://www.rechargenews.com/energy-transition/liebreich-oil-sector-is-lobbying-for-inefficient-hydrogen-cars-because-it-wants-to-delay-electrification-/2-1-1033226 (hereinafter "Liebreich"); David Schlissel et al. Blue Hydrogen: Technology Challenges, Weak Commercial Prospects, and Not Green, IEEFA (Feb. 2022), at Slides 18-20, available at Blue-Hydrogen-Presentation_February-2022.pdf (ieefa.org).

hydrogen to replace gas, cost is likely to continue to be a barrier. The use of electricity to power electrolysis results in substantial energy losses — on the order of 20 to 40 percent according to GE,[12] and even higher according to BNEF founder Michael Liebreich.[13] Indeed, the independent research laboratory, Agora, explained that "the production of hydrogen is associated with high conversion losses" and noted that an electric heat pump is 6 to 12 times more efficient than a hydrogen fuel cell, with hydrogen combustion applications being more inefficient still.[14]

Hydrogen infrastructure can leak and is an indirect greenhouse gas*:* Due to its small molecular size, hydrogen is highly leakable. Leakage rates for hydrogen are expected to be 1.3-2.8 times greater than those for methane.[15]At the same time, hydrogen is an indirect greenhouse gas with a 100-year global warming potential 5.8 times greater than carbon dioxide.[16] Recent research suggests that on shorter (and more relevant) time scales, the global warming potential for hydrogen is far higher: 19 to 38 for 20-year global warming potential and 34 to 66 for 10-year global warming potential.[17] Any strategy built around hydrogen would need to consider and quantify the potential for adverse climate impacts due to hydrogen leakage during production, transport and use.

Hydrogen embrittles steel and cast iron pipelines, necessitating a costly replacement of existing pipeline infrastructure to accommodate hydrogen: The small molecular size of hydrogen also enhances its diffusion through the lattice structure of pipeline materials and causes embrittlement.[18] Researchers studying the potential for leakage and embrittlement of hydrogen in steel pipes found that "using pipelines designed for natural gas conduction to transport hydrogen is a risky choice" and recommended that the "replacement of the transported gas [with hydrogen] has to be preceded by feasibility studies taking in [*sic*] account both aspect of fatigue of material and pipeline failure due to overpressure and also due to hydrogen embrittlement."[19]

End-use appliances are not made to combust hydrogen and costly appliance replacement would be required to accommodate substantial hydrogen blends*:* Our current end use appliances, including gas space and water heaters, gas stoves, and gas dryers were not designed to combust hydrogen. Indeed, hydrogen cannot be readily substituted for methane for use in heating or consumer appliances above a 5 to

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[12] Energy Transitions Commission, Making the Hydrogen Economy Possible: Accelerating Clean Hydrogen in an Electrified Economy, at 22 (Apr. 2021), https://energy-transitions.org/wpcontent/uploads/2021/04/ETC-Global- Hydrogen-Report.pdf.
[13] Liebreich (identifying efficiency losses of at least 50 percent).
[14] Agora, The Future Cost of Electricity-Based Synthetic Fuels (Sept. 19, 2018), at 11, The Future Cost of Electricity-Based Synthetic Fuels (agora-energiewende.de).
[15] Derwent, R., Simmonds, P., O'Doherty, S., Manning, A., Collins, W. and Stevenson, D. 2006. "Global Environmental Impacts of the Hydrogen Economy." Int. J. of Nuclear Hydrogen Production and Applications. 1(1): 57-67. Available at:
[16] Derwent, R., Simmonds, P., O'Doherty, S., Manning, A., Collins, W. and Stevenson, D. 2006. "Global Environmental Impacts of the Hydrogen Economy." Int. J. of Nuclear Hydrogen Production and Applications. 1(1): 57-67. Available at: http://agage.mit.edu/publications/global-environmental-impacts-hydrogen-economy.
[17] Ilissa B. Ocko & Steven P. Hamburg, Climate consequences of hydrogen leakage, Atmospheric Chemistry & Physics (preprint, discussion started Feb. 18, 2022), available at https://acp.copernicus.org/preprints/acp-2022- 91/acp-2022-91.pdf.
[18] Zahreddine Hafsi et al., Hydrogen embrittlement of steel pipelines during transients, Procedia Structural Integrity 13 (2018), 210-217, available at https://www.sciencedirect.com/science/article/pii/S2452321618302683#:~:text=The%20transient%20regime%20is%20created,diffusion%20through%20the%20pipeline%20wall.
[19] *Id.*

20 percent blend without enormous costs and disruption, while low blends achieve very few greenhouse gas emission reductions and increase emissions of nitrogen oxides.[20]

Hydrogen has a substantially lower energy density than methane, which means that far greater quantities must be combusted to generate the same energy or heat*:* Hydrogen has a far lower heat content than methane gas: only approximately 30 percent.[21] Consequently, despite the expense and complexity, blending hydrogen into methane gas streams at low concentrations for home heating and cooking does very little to improve total greenhouse gas emissions.

Hydrogen is explosive and storage issues must be resolved*:* Hydrogen is highly combustible, even in low concentrations, raising concerns about the safety of its increased use in homes. A study by the UK government estimated that explosions in homes would increase more than fourfold if hydrogen were to replace methane gas in homes.[22]

Hydrogen combustion results in significant air pollution*:* While reaction of hydrogen in a fuel cell produces only water, combustion of hydrogen results in significant formation of harmful nitrogen oxides. Nitrogen oxides are a pollutant in their own right, and also the primary contributor to ground level ozone (smog) and a precursor of dangerous fine particulate matter. Indeed, combustion of pure hydrogen may result in far greater emissions of nitrogen oxides than burning methane.[23]A study in California concluded that a transition to zero-NOx appliances would make households more healthful, decrease health disparities in environmental justice communities, and advance the state toward its climate goals.[24] The study suggests that if California were to implement zero-NOx appliance standards, the electrification of buildings throughout the state would be accelerated through the increased installation of accessible, consumer-ready electric appliances with significant public health and environmental benefits.

While green hydrogen shows promise in some situations, such as certain energy-intensive industry and transportation applications, hydrogen cannot play a central role in decarbonizing New York's building sector. Green hydrogen production is highly inefficient and is not practical where the clean electricity that would be used for the electrolysis can directly support the desired end use. Hydrogen should not be pursued today as a direct replacement for fossil fuels used in power generation or in buildings where electric air- or ground-source heat pumps can readily serve the same need. Using hydrogen in buildings creates major challenges and safety risks throughout the existing natural gas infrastructure system due to the difference in

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[20] Energy Innovation at 3.

[21] Ulf Bossel & Baldur Eliasson, Energy and the Hydrogen Economy, at 5, https://afdc.energy.gov/files/pdfs/hyd_economy_bossel_eliasson.pdf ("at any pressure, the volumetric energy density of methane gas exceeds that of hydrogen gas by a factor of 3.2 (neglecting non-ideal gas effects)").

[22] Collins, Leigh, 'Hydrogen in the home would be four times more dangerous than natural gas': government report, (RechargeNews.com, last updated August 2, 2021), available at https://www.rechargenews.com/energy-transition/hydrogen-in-the-home-would-be-four-times-more-dangerous-than-natural-gas-government-report/2-1- 1047218.

[23] Reclaiming Hydrogen at 18 (citing Cellek Mehmet Salih & Ali Pınarbaşı, Investigations on Performance and Emission Characteristics of an Industrial Low Swirl Burner While Burning Natural Gas, Methane, Hydrogen- Enriched Natural Gas and Hydrogen as Fuels, 43 Int'l J. of Hydrogen Energy 1994, 1205 (Jan. 11, 2018), https://www.sciencedirect.com/science/article/abs/pii/S0360319917319791) (finding that burning pure hydrogen would emit more than six times more nitrogen oxides than burning methane).

[24] https://law.ucla.edu/sites/default/files/PDFs/Publications/Emmett%20Institute/PritzkerBrief_NOx.pdf

chemical properties between hydrogen and methane. Proponents of preserving existing natural gas infrastructure also argue that "renewable natural gas" can serve as a transitional low carbon fuel along with hydrogen.

Renewable Natural Gas is not 'zero emissions' and should not play a role in building decarbonization
Renewable natural gas or RNG is pipeline-quality methane that is produced from biological sources such as landfills, confined animal feeding operations, or gasification of biomass. Given that hydrogen can only constitute about 20% of the gas in the system absent a complete makeover of the system and all end use appliances, any non-electrification future is going to depend heavily on RNG. However, based upon the industry's own numbers, RNG is not available in quantities that can anchor the decarbonization of the buildings sector.[25] Despite industry claims, RNG should not be considered a zero-emissions fuel or even a low-emission fuel. Even if RNG were available in commercially relevant quantities in New York, significant further analysis would be required to ascertain its true emissions.

Because RNG is chemically just methane, it emits as much CO2 when burned and leaks as much methane when transported as gas produced from non-biological sources like hydraulic fracturing (fracking). Given methane's large, adverse climate impacts during transport and combustion—methane's global warming potential is approximately 87 times that of CO2 over a 20-year time horizon—the full lifecycle emissions implications of RNG must be carefully scrutinized before drawing any conclusions about its value to New York's goals of a decarbonized building sector. Moreover, because it is chemically methane, it emits as much conventional air pollution (NOx, CO, VOCs (including methane)) when burned as any other methane gas.

Again, hydrogen and RNG should play a very limited role in supporting a carbon-free economy, and its use should be reserved for the hardest to decarbonize end-uses in which no better alternatives exist. Electrification with high-efficiency alternatives results in a drastically more efficient use of clean electricity than green hydrogen, demonstrating an economic advantage.[26] Utility regulators and policymakers should require a high burden of proof from utilities to determine the value, cost-effectiveness, and environmental justice impacts of any hydrogen or RNG proposal in the building sector.

Existing Fossil fuel subsidies and "obligations to serve" are hurdles to success
If there are legitimate concerns about New York state not being able to meet mandates for all-electric buildings, potential shortfalls in achieving these climate goals are rooted in an entanglement of existing laws and regulations that continue to prop up the use of fossil fuels at the expense of alternatives.

While our climate laws are binding, our public service laws have lagged behind, in many cases subsidizing and prioritizing the continued use of the same fossil fuels we must eventually ban. Currently, gas companies

[25] https://gasfoundation.org/wp-content/uploads/2019/12/AGF-2019-RNG-Study-Full-Report-FINAL-12-18-19.pdf
[26]https://energyinnovation.org/publication/assessing-the-viability-of-hydrogen-proposals-considerations-for-state-utility-regulators-and-policymakers/

are spending billions of dollars to build out gas infrastructure in New York and utilities are working to get more new homes hooked up to fossil fuels before the anticipated climate regulations in 2024 mandate all-electric heat pumps and appliances. The Public Service Commission does not have the legal authority to fully stop this surge and utilities still maintain a legal "obligation to serve" any customer demanding gas service. The Sierra Club urges the legislature to pass the 'Gas Transition and Affordable Energy Act,' S.8198 (Krueger)/A.9329 (Fahy), a bill that will authorize the Public Service Commission to align a planned phase out of gas and oil home heating with anticipated new codes and regulations to facilitate an equitable and affordable transition to all-electric, renewable energy powered buildings.

Specifically, the Act will:

- Ensure that the Public Service Law will provide for the timely and strategic retirement of the gas distribution system in a just and affordable manner as required to meet the climate justice and emission reduction mandates of the CLCPA.

- Ensure that the Public Service Commission has the statutory authority and direction to align utility regulations and planning with the CLCPA, and require the PSC to take a proactive role in the timely identification and amendment of any laws, regulations, or rulings that may impede achievement of CLCPA mandates, especially as it relates to decarbonization of buildings.

- End ratepayer-subsidized utility incentives for fossil fuel expansion (the so-called "100 foot rule") while ensuring the equitable provision of electric service and efficient heating, cooling, cooking, and hot water services.

- Require the PSC, within one year, to develop a statewide gas service transition plan based on clear biannual gas sales reduction targets, robust analysis, and consideration of several electrification pathways.

- Ensure affordable access to electric heating and cooling services and protect low-and-moderate income customers from undue burdens as they electrify their buildings.

- Clarify that municipal gas bans are not preempted under New York State law.

The 'Gas Transition and Affordable Energy Act,' 'All Electric Buildings Act' and the recently passed 'Advanced Building Codes, Appliance and Equipment Efficiency Standards Act of 2021' create a level playing field where renewable heat, and other electrified technologies can thrive. These climate friendly alternatives to heating, cooling, cooking, and drying with fossil fuels will not only help us meet our greenhouse gas reduction goals, but achieve a standard of living that is healthier, more cost effective and efficient.

The various policies aforementioned are necessary to halt fossil fuel expansion, transition buildings away from fossil fuels, and make renewable technologies more affordable and accessible. Collectively, these

policies will reduce energy use and greenhouse gas emissions for decades to come, save New Yorkers billions of dollars on their utility bills, and improve public health.

Building an emissions free, renewable, energy-driven society is going to be a difficult enough task without allowing the fossil fuel industry to keep their thumbs on the scale. Electrification is a critically important step in confronting the climate crisis head on and we encourage the legislature to continue to expand upon the vision of the CLCPA by further phasing out fossil fuels and setting new targets and standards for healthier, more economical, low carbon buildings.

Thank you for your consideration of these comments and your continued work to protect New York's environment.

Sincerely,

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