EQUITABLE ELECTRIFICATION: COULD CITY AND STATE POLICIES AGGRAVATE ENERGY INSECURITY?

by Sara Savarani and Danielle Spiegel-Feld

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SUMMARY

Progressive cities and states have begun enacting policies to reduce greenhouse gas emissions from buildings, one of the leading sources of such emissions in the United States. The same jurisdictions have also generally committed to pursuing decarbonization equitably, without exacerbating the disadvantages faced by historically marginalized communities. Electrification is currently a favored policy for decarbonizing buildings. This Article examines the potential for building electrification to impact tenant energy costs through a case study of New York City. It focuses on whether there are gaps in current protections for low- and moderate-income tenants, and reveals several loopholes that leave tenants of unregulated housing in particular vulnerable to cost increases. At the same time, a survey of industry stakeholders suggests few owners of multifamily buildings are actually likely to electrify their properties under the current policy framework. These findings suggest that creative reforms are needed both to catalyze electrification of New York City's building stock and to protect its most vulnerable households from cost increases when it occurs.

Electrification of building heating systems is expected to play a central role in New York City's and New York State's long-term efforts to decarbonize.[1] From a climate perspective, this makes sense; buildings will not be able to dramatically reduce their carbon footprints without moving away from on-site combustion of fossil fuels for their heating.[2] Especially in New York City, where energy use in buildings accounts for roughly three-fourths of total greenhouse gas emissions,[3] dramatic cuts in building energy use are required for the city to meet its climate objectives.

Electrification makes sense from a public health perspective too, because electrification can improve local air quality, especially in densely populated urban areas.[4] These air quality improvements may be particularly valuable in low-income communities of color, which are disproportionately burdened by many sources of air pollution, including residential building emissions.[5]

What is less clear, however, is how the transition toward electric heating will affect utility expenses for tenants in multifamily housing. Much of the existing literature on the benefits of electrification has examined impacts on

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1. New York City Housing Authority (NYCHA), NYCHA Climate Mitigation Roadmap: Meeting Local Law 97 Through Energy Efficiency and Beneficial Electrification (2020); Urban Green Council, Going Electric: Retrofitting NYC's Multifamily Buildings (2020).
2. Imran Sheikh & Duncan Callaway, *Decarbonizing Space and Water Heating in Temperate Climates: The Case for Electrification*, 10 Atmosphere 435 (2019); Keith Dennis et al., *Environmentally Beneficial Electrification: The Dawn of "Emissions Efficiency,"* 29 Elec. J. 52 (2016).
3. City of New York, One City Built to Last 24 (2014), https://www1.nyc.gov/assets/builttolast/downloads/OneCity.pdf. Energy use in multifamily buildings alone account for nearly 30% of total citywide greenhouse gas emissions. City of New York, Handbook for Multifamily Buildings 1 (2016), http://www.nyc.gov/html/gbee/downloads/pdf/nyc_carbon_challenge_handbook_for_multifamily_buildings.pdf [hereinafter Handbook for Multifamily Buildings].
4. Amber Mahone et al., Energy and Environmental Economics, Residential Building Electrification in California: Consumer Economics, Greenhouse Gases, and Grid Impacts (2019), https://www.ethree.com/wp-content/uploads/2019/04/E3_Residential_Building_Electrification_in_California_April_2019.pdf.
5. Christopher W. Tessum et al., $PM_{2.5}$ *Polluters Disproportionately and Systematically Affect People of Color in the United States*, 7 Sci. Advances eabf4491 (2021), https://www.science.org/doi/pdf/10.1126/sciadv.abf4491.

single-family and/or owner-occupied homes,[6] and the dynamics may be different in the multifamily rental context: because many leases hold tenants responsible for paying their electricity, but not their heat, a move toward electric heating could shift utility burdens from landlords toward tenants and add a new type of charge to their electricity bills. On this point, a recent Urban Green Council report touted that electrification would "open[ ] the door for landlords to bill tenants for their actual heating consumption, a practice that's common in Europe, but very rare in New York City."[7]

With this concern in mind, this Article explores the potential for building electrification to impact tenant energy burdens among low- and moderate-income (LMI) households, through an original case study of the current laws and market dynamics in New York City. We use New York City as a central case study for analysis, but the findings are relevant for many other American jurisdictions that are evaluating how to incentivize an equitable transition toward electrification in the multifamily housing stock.

Some environmental justice advocates have already called out the potential for electrification to increase household utility costs.[8] And in fact, a recent study of New York City's pioneering building decarbonization law, Local Law 97 (LL97), found that without targeted legal protections for tenants, LL97 could cause an increase in tenant utility costs in environmental justice communities by encouraging electrification.[9] In New York City, where approximately 25% of households are considered "energy burdened," including 32% of Black households and 33% of Hispanic households,[10] it is essential that policymakers understand whether the electrification of heating is likely to exacerbate energy insecurity among LMI tenants,[11] so that appropriate complementary protections can be developed.[12] This is particularly important because energy burdens are not only a financial strain for many New Yorkers, but have become a health risk as well.[13] Moreover, New York State has a goal to dramatically ramp up building electrification, including in multifamily housing,[14] and the federal Inflation Reduction Act, passed in August of 2022, includes a number of incentives for electrification.[15]

There are at least three ways[16] in which electrifying building heating systems could impact tenant utility expenses:

6. A substantial number of scholars have examined how electrifying residential heating systems would impact homeowners' annual energy costs. For example, a study examining the costs of decarbonizing heating systems in Geneva, Switzerland, projected that homeowners' annual costs would decline if they switched from natural gas-fired boilers to air source heat pumps. M. Jibran S. Zuberi et al., *Techno-Economic Comparison of Technology Options for Deep Decarbonization and Electrification of Residential Heating*, 14 Energy Efficiency 75 (2021).

   In the American context, a recent study by Lucas Davis found that requiring homeowners to electrify their heating systems would substantially *increase* average annual energy expenses for households in states with cold climates, but would not significantly increase costs for households in states with warmer climates. Lucas Davis, *What Matters for Electrification? Evidence From 70 Years of U.S. Home Heating Choices* (Energy Institute at Haas, Working Paper No. 309R, 2021). The same study also found that local energy costs are the single most important factor impacting whether a homeowner voluntarily chooses to electrify his or her home. *Id*. Along these lines, researchers in Ontario forecasted that reducing electricity prices would significantly increase the rate of heat pump adoption there. Alex Szekeres & Jack Jeswiet, *Effects of Technological Development and Electricity Price Reductions on Adoption of Residential Heat Pumps in Ontario, Canada*, 9 Int'l J. Energy & Env't Eng'g 201 (2018).
7. Urban Green Council, *supra* note 1, at 20.
8. Emerald Cities Collaborative, The Building Electrification Equity Project 17-18, 20-22 (2020), https://emeraldcities.org/wp-content/uploads/2021/04/BEE_Report_Final.pdf.
9. Danielle Spiegel-Feld et al., Carbon Trading for New York City's Building Sector: Report of the Local Law 97 Carbon Trading Study Group to the New York City Mayor's Office of Climate & Sustainability 56 (2021).
10. American Council for an Energy-Efficient Economy (ACEEE), Energy Burdens in New York City (2020), https://www.aceee.org/sites/default/files/pdfs/aceee-01_energy_burden_-_new_york_city.pdf; *see also* Ariel L. Drehobl et al., ACEEE, How High Are Household Energy Burdens? An Assessment of National and Metropolitan Energy Burdens Across the U.S. (2020), https://www.aceee.org/research-report/u2006. Some predict that energy insecurity in New York City will increase in the coming years. Diana Hernández & Eva Siegel, *Energy Insecurity and Its Ill Health Effects: A Community Perspective on the Energy-Health Nexus in New York City*, 47 Energy Rsch. & Soc. Sci. 78 (2019).
11. The New York State Energy Research and Development Authority (NYSERDA) defines and categorizes LMI households based on their annual income: very low-income households are those with an income less than 130% of the U.S. Department of Health and Human Services poverty guidelines; low-income households are those with an income between 130% and 150% of the guidelines or less than 60% of the state median income for New York; and moderate-income households are those with incomes greater than the greater of 150% U.S. Dept of Health and Human Services poverty guidelines versus 60% state median income for New York but less than the greater of 80% state median income for New York versus 80% public use microdata area median income. NYSERDA, NYSERDA LMI Glossary (2017), https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Publications/PPSER/Program-Evaluation/2017ContractorReports/LMI-Mkt-Characterization-Study---Glossary.pdf.
12. There is also mounting concern about LMI households' ability to pay their utility bills. A recent city council hearing highlighted this point, exploring the necessity of legislation to establish a utility advocate office. *See* Cassidy Strong, *Council Committee Holds Hearing for Utility Advocate Legislation*, CityLand (July 12, 2022), https://www.citylandnyc.org/council-committee-holds-hearing-for-utility-advocate-legislation/.
13. Samantha Maldonado, *As Heat and Utility Bills Rise, Expensive Electricity Becomes Health Risk*, City (June 1, 2022), https://www.thecity.nyc/health/2022/6/1/23151009/heat-electricity-inflation-health.
14. New York State has set a target of two million electrified or electrification-ready housing units by 2030, 800,000 of which must be units for LMI households. Press Release, NYSERDA, Governor Hochul Announces Plan to Achieve 2 Million Climate-Friendly Homes by 2030 (Jan. 5, 2022), https://www.nyserda.ny.gov/About/Newsroom/2022-Announcements/2022-01-05-Governor-Hochul-Announces-Plan-to-Achieve-2-Million-Climate-Friendly-Homes-By-2030. Recent legislation introduced at the state level also promotes the development of thermal energy networks to advance building electrification. *See* S.B. S9422, 2021/2022 Leg. Sess. (N.Y. 2022), *available at* https://www.nysenate.gov/legislation/bills/2021/S9422 (stating the purpose of the bill is to "direct[ ] the public service commission to develop a regulatory structure for utility thermal energy networks that scales affordable and accessible building electrification").
15. *3 Ways the Inflation Reduction Act Would Pay You to Help Fight Climate Change*, NPR (Aug. 11, 2022), https://www.npr.org/2022/08/11/1116769983/3-ways-the-inflation-reduction-act-would-pay-you-to-help-fight-climate-change (indicating the bill's rebate program that would grant up to $8,000 for a heat pump for space heating or cooling); Samantha Maldonado, *New York's Climate and Energy Goals Would Get Jolt With Federal Bill's Green*, City (Aug. 11, 2022), https://www.thecity.nyc/environment/2022/8/11/23302492/new-yorks-climate-and-energy-goals-advance-with-inflation-reduction-act (discussing impact of Inflation Reduction Act on New York, including rebates and tax credits for heat pumps).
16. Note that electrification could also increase costs of tenants in buildings that do *not* electrify. The reason for this is that as the customer base for gas utilities shrinks, gas rates for those who remain will likely need to rise because the utility will recoup the cost of investments that it has made from a smaller pool of ratepayers. For an empirical study of these effects, see Lucas Davis & Catherine Hausman, *Who Will Pay for Legacy Utility Costs?* (Energy Institute at Haas, Working Paper No. 317R, 2022).

1. To accommodate the rising demand for electricity, electrification will require additional investment to upgrade the electricity grid, which could cause electricity rates to rise.[17] If this is the case, households will have to pay more for each unit of electricity they purchase, whether for heating, light bulbs, lighting, or appliances.
2. Retrofitting properties to electrify them requires capital expenditure, and it is possible that property owners will try to recoup these costs via rent increases.[18]
3. Electrification may shift heating costs onto tenant utility bills without sufficiently offsetting rent reductions to hold housing costs constant. Many leases currently make individual tenants responsible for paying their electric bills while landlords pay for and provide heating. Where this is the case, electrification may allow landlords to shift heating expenses onto tenants' utility bills, thereby reducing the services that landlords provide without necessarily reducing the rent.[19]

While cognizant of the potential for electrification to increase tenant costs through all three pathways, the main goal of this study is specifically to build understanding about the extent to which electrification is likely to *shift* the cost of heating onto tenants without commensurate rent reductions. We address two main questions:

1. Are there gaps in the legal protections for tenants in New York City (either as written or applied) that put low-income tenants at risk of cost-shifting as building heating systems are electrified?
2. How likely is it that landlords will electrify their properties' heating systems in a manner that shifts costs onto tenants?

To answer these questions, we conducted two phases of research. In Phase I, we performed a detailed review of the existing laws and regulations that govern tenant utility expenses in New York City, in order to map out the legal protections for different classes of tenants and the technical feasibility of installing electric heating systems in different types of residential buildings.[20] A virtual round table was held on April 7, 2022, to bring together experts and stakeholders from different perspectives to discuss our preliminary findings and solicit input on further areas for assessment.[21] For Phase II, we conducted interviews with property managers and building engineers to better understand the materiality of the protections and risks identified during Phase I. This Article is a product of our individual research and the round table discussion.

The remainder of the Article proceeds as follows: Part I provides background information on how heating is typically provided and paid for today in New York City's residential properties as well as the technical pathways through which these systems may be electrified. This section lays the foundation upon which the remainder of the Article relies. Part II briefly describes different types of affordable

17. *See*, *e.g.*, Eric Daniel Fournier et al., *Implications of the Timing of Residential Natural Gas Use for Appliance Electrification Efforts*, 15 Env't Rsch. Letters 124008 (2020); Ankita Gaur et al., *Deep Electrification of Residential Heating and Possible Implications: An Irish Perspective*, 173 E3S Web Confs. 03003 (2020); Element Energy & E4Tech, Cost Analysis of Future Heat Infrastructure Options (2018); Samuel J.G. Cooper et al., *Detailed Simulation of Electrical Demands Due to Nationwide Adoption of Heat Pumps, Taking Account of Renewable Generation and Mitigation*, 10 IET Renewable Power Generation 380 (2016); Jenny Love et al., *The Addition of Heat Pump Electricity Load Profiles to GB Electricity Demand: Evidence From a Heat Pump Field Trial*, 204 Applied Energy 332 (2017). Note that the Fournier study was conducted in a cooling-dominated energy system geography, which affects the overall annual heating and cooling total energy demands.

18. There may be situations as well where charges for major capital improvements (MCIs) present a risk that additional costs will be passed on to tenants. N.Y. Comp. Codes R. & Regs. tit. 9, §2522.4(a)(1) (2022). However, there are protections in place for rent-stabilized units. Generally, landlords may request an increase in rent for MCIs, but any MCI rent increases must be approved by the Department of Homes and Community Renewal (HCR), and applications for rent increases must be filed within two years of completion of the installation. HCR Office of Rent Administration, Fact Sheet #26: Guide to Rent Increases for Rent Stabilized Apartments (2022), https://hcr.ny.gov/system/files/documents/2022/07/fact-sheet-26-07-2022.pdf [hereinafter Fact Sheet #26]. Note that landlords also have the option to apply for J-51 tax abatements for the improvement. Furman Center for Real Estate and Urban Policy, *Major Capital Improvement (MCI)*, https://furmancenter.org/coredata/directory/entry/major-capital-improvement-program (last visited Aug. 22, 2022). Where an improvement occurs in the middle of a lease period, it is possible for rent to increase; however, rent for stabilized units can only be increased during this lease period "with HCR approval, if the owner installs a building-wide major capital improvement." HCR Office of Rent Administration, Fact Sheet #1: Rent Stabilization and Rent Control (2020), https://hcr.ny.gov/system/files/documents/2020/11/fact-sheet-01-09-2020.pdf [hereinafter Fact Sheet #1]; N.Y. Comp. Codes R. & Regs. tit. 9, §2522.4.

    Further, the Housing Stability and Tenant Protection Act (HSTPA) of 2019 has imposed several stronger protections for tenants against burdensome costs associated with MCIs; for example, it imposes limits on whether or how much landlords are able to charge tenants for MCIs, as well as for how long the charges remain as part of a tenant's legal regulated rent. Fact Sheet #26, *supra*; New York City Mayor's Office to Protect Tenants, *New Protections for Rent-Regulated Tenants*, https://www1.nyc.gov/content/tenantprotection/pages/new-protections-for-rent-regulated-tenants (last visited Aug. 22, 2022). For example, MCI rent increases may not be applied in buildings with 35% or fewer rent-regulated apartments. HCR Office of Rent Administration, Fact Sheet #24: Major Capital Improvements (MCI) (2022), https://hcr.ny.gov/system/files/documents/2020/11/fact-sheet-24-10-2019.pdf.

    In addition, there is an annual 2% rent increase cap, and rent increases associated with an MCI are not permanent—they must be removed from the rent in 30 years. *Id*. Further, rent stabilization regulations appear to explicitly exclude from the schedule of rent adjustments for MCIs any improvements associated with a conversion from centralized to submetering or direct metering. *See*, *e.g.*, New York State Division of Housing and Community Renewal (DHCR), Operational Bulletin No. 2014-1 (2014), https://hcr.ny.gov/system/files/documents/2018/11/orao20141.pdf [hereinafter Operational Bulletin No. 2014-1] ("Pursuant to the Rent Code Amendments of 2014, DHCR is no longer authorized to grant Major Capital Improvement (MCI) rent increases for the equipment installed in a conversion from master to direct metering or submetering."); N.Y. Comp. Codes R. & Regs. tit. 9, §2522.4(a)(3)(22) ("excluding work done to effectuate conversion from master to individual metering of electricity approved by HCR pursuant to paragraph (d)(3) of this section" from the schedule of MCIs). Note, however, that rewiring is included in the schedule of MCIs. *Id.*

19. Urban Green Council, *supra* note 1.
20. Our legal research relied on both desk research as well as interviews with government officials and experts in housing law. Interviews were held under the Chatham House Rule, and as such are not attributed to any one individual in this Article.
21. The round table was co-organized by the Guarini Center on Environmental, Energy, and Land Use Law at New York University School of Law and WE ACT for Environmental Justice.

and regulated housing in New York City, focusing on the more common categories in the city.[22]

In Part III, we map out the existing legal protections available to tenants in each category of housing identified in Part II, setting out a spectrum of legal vulnerability. Part IV discusses our findings from a series of interviews with industry stakeholders about how material the risks of cost-shifting are for different types of housing, given the economic calculations that owners face and the technological realities of the affordable housing stock. Part V concludes.

I. Background

Many households in New York City struggle to pay for energy. Nearly 1.3 million New York State residents are behind on utility payments,[23] owing more than $2.4 billion to utility companies.[24] Recent swings in energy prices have also led to greater-than-usual precarity among New York City residents. Energy prices climbed nearly 50% between December 2021 and January 2022 and have stayed high.[25] Household debt to utilities is rising too; in February 2022, households in New York City owed an average of $2,085 to Con Edison.[26]

Advocates have expressed concern about the design of some existing assistance programs that are intended to protect these struggling tenants. For example, while the Home Energy Assistance Program (HEAP)[27]is supposed to provide financial aid to tenants who are unable to pay their heating bills, advocates have raised concerns about the accessibility and sufficiency of HEAP benefits, noting that the application process is not user-friendly.[28] Others have called the program a "Band-Aid" that fails to address the inefficiencies of both the grid and the building stock.[29] And while utility providers also offer subsidy programs of their own to protect qualified tenants from increases on their bills,[30] these subsidies have not solved the problem of energy insecurity.

A. *The Status Quo: How Heat Is Provided and Charged in Multifamily Buildings Today*

Today, heat in multifamily buildings in New York City typically is generated centrally in a natural gas or oil-fired boiler and then distributed to the individual units.[31] Landlords purchase the heating oil or natural gas on which the system runs, and are generally responsible for supplying the heat to tenants as part of their rent.[32]

Electricity, by contrast, is more often charged to tenants directly. There are three options for how electricity can be billed in multifamily housing: it can be master metered, direct metered, or submetered (also called check-metered).[33] When a property is master metered, a single meter serves the entire property, and tenants will have a fixed share of the building's total electric costs included in their rent.[34] When a property is directly metered, individual units have their own meter, and the utility company bills tenants directly for the amount of electricity they use.[35] Finally, when a property is submetered, tenants will have an individual meter in their unit that records their actual usage and determines the portion that they will pay; this amount is paid to the landlord, rather than directly to the utility provider.[36]

Critically, it is the fact that tenants often are charged separately for electricity but not heat that raises the possibility that landlords could shift the cost of heating to tenants following electrification: if tenants are charged for their electricity and the heating system is fueled with electricity, it becomes technically possible to add the cost of heating to tenants' electric bills. Whether it is legally or

22. "Affordable housing" is defined as "housing on which the occupant is paying no more than 30 percent of gross income for housing costs, including utilities." U.S. Department of Housing and Urban Development (HUD), *Glossary of Terms to Affordable Housing*, https://archives.hud.gov/local/nv/goodstories/2006-04-06glos.cfm (content archived Aug. 18, 2011).
23. Sophie Mellor, *New York's Eye-Watering Energy Price Hikes Hit Home as 1.3 Million Residents Fall Behind on Bill Payments*, Fortune (Mar. 18, 2022), https://fortune.com/2022/03/18/new-york-energy-price-hikes-con-edison-million-residents-behind-on-bill-payments.
24. Patrick McGeehan, *Utility Bills Piled Up During the Pandemic. Will Shut-Offs Follow?*, N.Y. Times (Mar. 19, 2022), https://www.nytimes.com/2022/03/19/nyregion/ny-utility-bill-moratorium.html.
25. Mellor, *supra* note 23.
26. Quratulain Tejani, *New York Is Facing a Pandemic-Fueled Home Energy Crisis, With No End in Sight*, Inside Climate News (May 20, 2022), https://insideclimatenews.org/news/20052022/new-york-utility-bills/.
27. HEAP provides financial support to tenants for their heating bills; eligibility for and size of HEAP benefits is based on income, household size, and the primary heating source. New York State Office of Temporary and Disability Assistance, *Home Energy Assistance Program (HEAP)*, https://otda.ny.gov/programs/heap/ (last visited Aug. 22, 2022). If a tenant is eligible, they will receive one regular benefit per year, the amount of which is based on the tenant's living situation. HEAP benefits are set at certain amounts, however, and are not designed to cover the actual amount of an individual's electricity bills. Emergency HEAP is also available for tenants who "are in danger of running out of fuel or having [their] utility service shut off." *Id.*
28. Equitable Electrification for New York City Round Table (Apr. 7, 2022) [hereinafter Round Table].
29. *Id.*
30. *Id. See also*, *e.g.*, Con Edison, *Payment Plans and Assistance*, https://www.coned.com/en/accounts-billing/payment-plans-assistance (last visited Aug. 22, 2022).
31. Handbook for Multifamily Buildings, *supra* note 3, at 19; Emily Pontecorvo, *New York City Bans Gas Heating and Stoves From New Buildings*, Grist (Dec. 15, 2021), https://grist.org/buildings/new-york-city-bans-gas-heating-and-stoves-from-new-buildings/ (stating that less than 1% of buildings in New York City are heated using electricity). New York City has recently moved, however, to ban natural gas and fuel oil in new buildings. Scott Disavino, *New York City Bans Natural Gas in New Buildings*, Reuters (Dec. 15, 2021), https://www.reuters.com/markets/us/new-york-city-set-ban-natural-gas-new-buildings-2021-12-15/.
32. *See infra* Part III.
33. As of 2016, in New York City, "over 90 percent of properties with no subsidy are submetered, 84 percent of LIHTC [Low-Income Housing Tax Credit] properties are submetered, 77 percent of Section 8 properties are submetered, and only 36 percent of Public Housing properties are submetered." Vincent Reina & Constantine Kontokosta, New York University Furman Center, Low Hanging Fruit? Energy Efficiency and the Split Incentive in Subsidized Multifamily Housing (2016) (unpublished manuscript), https://furmancenter.org/files/NYUFurmanCenter_EnergyEfficiency_WorkingPaper_July2016.pdf.
34. HUD, *Public Housing Energy Conservation Clearinghouse: Key Utility Terms*, https://www.hud.gov/program_offices/public_indian_housing/programs/ph/phecc/definitions (last visited Aug. 22, 2022).
35. *Id.*
36. *Id.* Note that landlords that participate in master metering or submetering can buy electricity at a bulk rate. Thus, there are cost advantages from a tenant perspective to using submeters instead of direct meters.

economically possible to do so, and whether tenants who are charged directly for heating must receive a reduction in rent, are separate questions.

The governing New York City and state laws prohibit landlords from directly charging some types of tenants for their heating.[37] In these cases, if a landlord were to convert to electric heating, he or she would be prohibited from shifting the cost of heating onto the tenant bills. However, this is not uniformly the case. To the contrary, the degree of protection afforded varies depending on the regulations that govern the particular type of housing and tenant. Tenants in rent-regulated units, for example, generally receive more protection against cost-shifting than tenants in market-rate units.[38] And given the significant number of LMI households living in unregulated units (so-called market-rate housing),[39] it is important to understand the full spectrum of protections available to different types of tenants.

The legal protections afforded to tenants may also vary according to the technological approach to electrification that is employed. Broadly speaking, there are two different ways that owners of multifamily housing can electrify their heating systems. First, owners can replace a *centralized* fossil-fuel system with a centralized electric-fueled system; in these centralized systems, heat is generated from a central point in the building and then distributed to the units. Second, owners can decommission the central boiler and install heat pumps in each *individual unit*.

Throughout this Article, we refer to the first type of heating conversion as "centralized conversion" and the second type of heating conversion as "decentralized conversion." The approach that a landlord takes impacts tenants' protections because when a building pursues a centralized conversion with heat pumps, tenants can be submetered based on the tracking of refrigerant flows even though there is technically no submetering of electricity; because there is no submetering of electricity, there is less regulatory oversight from the Public Service Commission (PSC) of the conversion.[40] This is an area where technology seems to have gotten ahead of the law.

To summarize, in order to properly assess a given tenant's vulnerability to cost-shifting, one must understand both the legal protections that govern that tenant's type of lease (rent regulated, subsidized, market-rate, etc.) as well as the approach to electrification that their landlord is likely to pursue (centralized conversion versus decentralized conversion). In the following sections, we first identify the different types of affordable housing that exist in New York City, and then map the protections that govern the utility payment in each housing type. Then, in Part III, we describe our findings regarding the likelihood that landlords of multifamily LMI housing in New York City would pursue either centralized electrification, decentralized electrification, or maintain the status quo.

Before continuing further, it is important to note that there are environmental arguments for wanting to make tenants directly responsible for their heating costs, including that doing so encourages conservation.[41] Numerous studies show that energy use declines when they are required to pay for their utilities directly, which suggests that tenants often use more energy than necessary when it is included in the rent.[42] However, directly charging tenants for their energy also puts tenants at an increased risk of price volatility, which LMI households may struggle to accommodate, and will increase housing costs overall if there are no offsetting reductions in their rents. With these concerns in mind, the next section examines whether there are gaps in the legal protections for LMI households that risk increasing energy insecurity in New York City, whether by increasing exposure to utility cost fluctuations or by shifting the cost of heating onto tenants without commensurate reductions in rent.

II. Types of Housing in New York City

The field of multifamily housing law in New York is complicated, in part due to the wide variety of tenancy types and the number of agencies involved with setting laws and regulations regarding eligibility for subsidies, rent, and so

37. For example, rent-stabilized tenants often have heat included in their rent as a "required service," and landlords may not then switch to tenant-paid heating unless agency approval is granted. *See infra* Part III. Further, the New York City Department of Housing Preservation and Development (HPD) has prohibited landlords of HPD-subsidized projects from charging their tenants for electric heat unless they are a part of a new Tenant-Paid Heat Pump Pilot. *See* HPD, *HPD Electric Heating Policy*, https://www1.nyc.gov/site/hpd/services-and-information/hpd-heating-policy.page (last visited Aug. 22, 2022).

38. For tenants of rent-subsidized units, where tenants pay for their electricity directly, either via submetering or direct metering, they will generally be provided with a "utility allowance" that is intended to offset their costs. A utility allowance is a reduction that is applied to a tenant's rent if a tenant is responsible for paying their own utility bills separate from their rent. HUD, *Utility Allowances*, https://www.hud.gov/program_offices/public_indian_housing/programs/ph/phecc/allowances (last visited Aug. 22, 2022).

39. Oksana Mironova & Thomas J. Waters, *Testimony: NYC Rent Guidelines Board Hearing*, Cmty. Serv. Soc'y (Apr. 25, 2019), https://www.cssny.org/news/entry/testimony-nyc-rent-guidelines-board-hearing (noting that 237,000 low-income residents live in unregulated housing in New York City, as of 2017). Of the households living in unregulated housing in 2021, 21% had a median annual income of less than $25,000, 39% had a median annual income of less than $50,000, and 68% had a median annual income of less than $100,000. HPD, 2021 New York City Housing and Vacancy Survey: Selected Initial Findings 49 (2022), https://www1.nyc.gov/assets/hpd/downloads/pdfs/services/2021-nychvs-selected-initial-findings.pdf.

40. As will be explained in Part III, *infra*, the regulations that restrict landlords' ability to shift costs to market-rate tenants specifically apply to the submetering of the electricity used for heat; however, when heat pumps are used to electrify systems on a decentralized basis, it is possible to submeter tenants by tracking refrigerant flows from the centralized heating system to individual apartments. While electricity use is ultimately used to bill tenants, it is not what is tracked, and the PSC has not recognized this as electric submetering. At present, there do not appear to be any regulatory controls that restrict landlords' ability to submeter based on refrigerant flows. Hansong Xiao et al., *Methods for Performance Metering of Indoor Units in Variable Refrigerant Flow Systems Based on Built-In Sensors*, 196 Applied Thermal Eng'g 117268 (2021); William Goetzler, *Variable Refrigerant Flow Systems*, ASHRAE J., Apr. 2007, at 24, https://www.researchgate.net/profile/W-Goetzler/publication/238770499_Variable_Refrigerant_Flow_Systems/links/56cb147908ae5488f0dadd10/Variable-Refrigerant-Flow-Systems.pdf.

41. *See*, *e.g.*, Arik Levinson & Scott Niemann, *Energy Use by Apartment Tenants When Landlords Pay for Utilities*, 26 Res. & Energy Econ. 51 (2004).

42. *See*, *e.g.*, *id.*; Kenneth Gillingham et al., *Split Incentives in Residential Energy Consumption*, 33 Energy J. 1 (2012).

on. It becomes even more complicated when utilities are factored in, as different types of tenancy afford different protections against utility cost-shifting to tenants. It is also possible for multiple types of tenancy and their corresponding laws and regulations to apply to a single rental unit in certain situations. As an example, a unit can be both subject to Mitchell-Lama regulations (a state program) and receive a subsidy from a Section 8 voucher (a federal program).[43]

A. Overview of New York City Housing Law

Housing law in New York City has undergone a constant shifting of control between federal, state, and local governments over the past 100 years. In 1920, New York City adopted Emergency Rent Laws to address increased evictions and decreased housing construction after World War I.[44] Federal rent regulation began in 1942, in response to expected wartime housing shortages and inflation.[45] After the expiration of federal rent regulations in 1951, New York State's own rent regulations went into effect.[46] New York State subsequently transferred to New York City the authority to administer rent controls and to enact its own local rent regulations in 1962.[47]

The federal government began establishing its own affordable housing programs during the 20th century as well. The U.S. Congress created the Federal Housing Administration in 1934, and subsequently created the U.S. Department of Housing and Urban Development (HUD) in 1965, both to alleviate housing affordability concerns. In 1969, Congress passed the Brooke Amendment, which limited the amount tenants paid for rent in public housing to 25% (later raised to 30%) of their income.[48] The Housing and Community Development Act of 1974 created the Section 8 program, which gave HUD the authority to provide property owners monthly assistance payments in exchange for their agreeing to rent to low-income families at income-based rents in newly constructed units.

Section 8 also allowed local public housing authorities (PHAs) to enter into rental assistance contracts for certain existing units.[49] The Housing and Urban-Rural Recovery Act of 1983 created the first Section 8 voucher program, providing greater flexibility to PHAs.[50] This would be later reformed into its modern incarnation, the Housing Choice Voucher (HCV) Program, by the Quality Housing and Work Responsibility Act of 1998.[51] The 1986 Tax Reform Act marked another milestone for federal affordable housing policy in that it created the Low-Income Housing Tax Credit (LIHTC), a program that allocated tax credits to property owners.[52] More recently, the 2012 Rental Assistance Demonstration allowed PHAs to convert public housing units to private units and instead receive Section 8 rental assistance.[53]

Turning back to the state and local levels, the New York City Council enacted legislation establishing a rent stabilization system in 1969.[54] A brief period of decontrol occurred over the next couple years, which the state halted with the enactment of legislation to address a housing emergency in 1974.[55] Nine years later, the Omnibus Housing Act of 1983 passed the administration of rent regulations from New York City back to New York State.[56] Since the passage of this Act, the New York State Division of Housing and Community Renewal (DHCR) has been designated as the agency responsible for regulating residential units covered under rent control and rent stabilization programs.[57]

A series of state rent regulation and reform acts were subsequently passed in the 1990s and 2000s, each of which replaced the previous iteration and amended the rent control and rent stabilization laws.[58] The most drastic change to housing laws in the city occurred in 2019 with the state's passage of the Housing Stability and Tenant Protection Act (HSTPA), which made numerous changes for rent-regulated units. For our purposes, two of the most significant changes that the HSTPA brought about were to limit land-

43. *See* Rules of N.Y.C. §3-03.
44. Timothy L. Collins, An Introduction to the New York City Rent Guidelines Board and the Rent Stabilization System (rev. ed. 2020), https://rentguidelinesboard.cityofnewyork.us/wp-content/uploads/2020/01/intro2020.pdf. Under the Emergency Rent Laws of 1920, courts would review tenant rent increases based on a "reasonableness" standard, and any increases from year to year were "presumed 'unjust, unreasonable and oppressive' unless an owner could demonstrate otherwise." *Id.* at 19. These laws expired in 1929, after the vacancy rate reached 8%. *Id.* at 20.
45. Emergency Price Control Act (EPCA), 56 Stat. 23 (1942), https://www.govinfo.gov/content/pkg/USCODE-2011-title50/pdf/USCODE-2011-title50-app-emergency.pdf. EPCA established a national "price regulation system." Collins, *supra* note 44, at 22. After the passage of federal rent controls, New York State adopted "stand by" rent control legislation, intended to take effect should federal rent controls expire. *Id.* at 24.
46. New York State took over the administration of rent controls when the state activated its 1946 "stand by" legislation in 1950 and made its own rent control system operational in 1951. Collins, *supra* note 44, at 24.
47. Collins, *supra* note 44, at 25. New York State passed the Emergency Housing Rent Law, which created a State Housing Commission to administer rent controls within the state. Guy McPherson, *It's the End of the World as We Know It (and I Feel Fine): Rent Regulation in New York City and the Unanswered Questions of Market and Society*, 72 Fordham L. Rev. 1125, 1135 (2004). After the grant of authority from the state, New York City passed the Local Emergency Housing Rent Control Act of 1962. *Id.*
48. Housing and Urban Development Act of 1969, Pub. L. No. 91-152, §213(a), 83 Stat. 389; National Low Income Housing Coalition, *A Brief Historical Overview of Affordable Rental Housing*, *in* Advocates' Guide 1-7 (2015), https://nlihc.org/sites/default/files/Sec1.03_Historical-Overview_2015.pdf.
49. Maggie McCarty et al., Congressional Research Service, RL34591, Overview of Federal Housing Assistance Programs and Policy 6 (2019).
50. *Id.*
51. *Id.*
52. *Id.*
53. *Id.*
54. Rent Stabilization Law of 1969, Local L. No. 16, 1969 N.Y. Local Laws 176; McPherson, *supra* note 47, at 1135. The law was passed "in an attempt to reduce the shortage of residential housing because no new apartments would be subject to rent control regulations." Lauren C. Wittlin, *Access Denied: The Tale of Two Tenants and Building Amenities*, 31 Touro L. Rev. 615, 622 (2015).
55. Emergency Tenant Protection Act of 1974, 1974 N.Y. Laws 767, ch. 576; Gabrielle DeNaro, *Welcome to the Jungle, Where the Rent Is Too Damn High: Using Rent Regulation in New York City to Maintain an Affordable Housing Stock*, 16 Cardozo J. Conflict Resol. 939 (2015).
56. Collins, *supra* note 44.
57. Wittlin, *supra* note 54.
58. *See*, *e.g.*, Rent Regulation Reform Act of 1993, L.1993 ch. 253; Rent Regulation Reform Act of 1997, L.1997 ch. 116; Rent Law of 2003, L.2003 ch. 82.

lords' ability to increase rents to pay for the cost of making energy-efficiency improvements, and to prevent the deregulation of rent-stabilized units. The second change essentially made the rent stabilization protections permanent.[59]

Not only are there overlapping local, state, and federal laws that govern affordable housing in New York City, but there is also a wide range of agencies at *each* level of government involved in administering these programs and setting policy guidelines. Besides these agencies administering affordable housing programs, the Public Service Commission regulates utility services, including electricity and gas services in residential properties. This means that law reforms may need to target multiple agencies to be fully effective.

There are several key agencies involved in housing and utility law including:

- At the *federal level*, HUD administers federal housing laws and affordable housing programs, provides housing support, and regulates subsidized and public housing programs; though federally funded, these programs are often implemented at the state and local levels, with HUD guidance.[60] The Internal Revenue Service (IRS) is also responsible for administering tax-based affordable housing programs.[61]

- At the *state level*, the Department of Homes and Community Renewal (HCR) oversees the rent regulation program, which includes both rent-controlled and rent-subsidized units; it also administers some rent subsidy programs, such as Mitchell-Lama and Section 8. The state PSC regulates utilities in New York, including electricity, and specifically regulates when multifamily housing buildings are allowed to convert from master metering or direct metering to submetering for electricity.

- At the *local level*, the New York City Housing Authority (NYCHA)[62] is responsible for administering the public housing program and various affordable housing programs in the city, and the New York City Department of Housing Preservation and Development (HPD) develops and administers various additional subsidy programs to incentivize and protect affordable housing.

Several other government entities also administer subsidy programs or provide additional financial resources for tenants. For example, at the city level, the Department of Finance administers the Senior Citizen Rent Increase Exemption (SCRIE) Program and the Disability Rent Increase Exemption (DRIE) Program, which prevent rent increases for eligible tenants; the Housing Development Corporation funds various housing projects in the city; the Rent Guidelines Board (RGB) sets the maximum rent adjustments for rent-stabilized housing in the city; and the Office of Temporary and Disability Assistance administers HEAP, which provides financial support to tenants struggling to pay their heating bills.

The multitude of agencies involved in this field makes it generally challenging to determine the protections and risks for individual tenants and especially challenging to make generic statements about the LMI households' vulnerability to cost-shifting from electrification as a group. Table 1 provides a brief overview of some of the key agencies involved in housing and utility law across each level of government.

Table 1. Key Agencies Involved in Housing and Utility Law in New York City

FEDERAL	STATE	LOCAL
HUD	HCR, PSC	HPD, NYCHA
• Subsidizes housing • Issues guidance for state and local housing authorities	• Subsidizes housing (HCR) • Administers state rent regulations (HCR) • Regulates electric and gas utilities (PSC)	• Subsidizes housing (HPD, NYCHA) • Administers affordable housing programs (HPD, NYCHA) • Owns and operates public housing (NYCHA)

In sum, a complex web of federal, state, and local laws governs landlords' and tenants' rights in New York City. In order to begin to understand the legal protections for tenants as they exist today, the first step is to lay out the different types of tenancies that make up the affordable housing stock in New York City so that we can map out the different protections to which each type of tenant may be entitled. Table 2 provides a summary of the most common types of tenancy; the following section provides more detail on the laws and policies that govern each type of tenancy. Note that we consider both protections that run with the property ("project-based" regulations), as well as protections to which certain types of individuals are entitled ("tenant-based" regulations).

B. Unregulated Market-Rate Housing

Unregulated units in the private market account for approximately 937,000 of the 2.2 million rental units in the city.[63] Of these, roughly 49,800 units are naturally occurring affordable housing (NOAH), which is defined as unregulated, market-rate housing whose rent naturally

59. Gerald Lebovits et al., *NY's Housing Stability and Tenant Protection Act of 2019—Part I: What Lawyers Must Know*, N.Y. State Bar Ass'n (Sept. 3, 2019), https://nysba.org/nys-housing-stability-and-tenant-protection-act-of-2019-part-i-what-lawyers-must-know/. HSTPA also introduced general rent protections for tenants, including rent increase notifications, eviction protections, and fee protections. *Id.*

60. For example, Section 8 housing.

61. For example, LIHTC.

62. Note, however, that NYCHA falls partly under the state's Public Housing Law. *See, e.g.*, N.Y. Pub. Hous. Law art. 13, tit. 1.

63. RGB, *Housing Types*, https://rentguidelinesboard.cityofnewyork.us/resources/apartment-hunting/housing-types/ (last visited Aug. 22, 2022).

Table 2. Common Types of Tenancy in New York City

Market-Rate Housing	
Includes naturally occurring affordable housing (NOAH) units	
Affordable Housing	
Project-based	Tenant-based
• Rent stabilized • Inclusionary housing • 421-a, J-51 tax abatements • Public housing • Mitchell-Lama • LIHTC	• Section 8 HCV • SCRIE/DRIE

falls within the realm of affordable housing.[64] Most of these buildings have between three and five units, and there are no restrictions on who can reside in them.

C. *Rent-Regulated Housing*

Around one million housing units in New York City are rent regulated.[65] This category includes both *rent-controlled* and *rent-stabilized* units. Rent and eviction terms are heavily regulated in both types of properties.[66] Rent-regulated units are freely available to all on the private market, with no eligibility requirements for particular income levels.[67]

The rent control program is administered by the New York State HCR. Rent-controlled units are those in buildings constructed before February 1947 that have been continuously occupied by the same tenant since the units were put into rent control in 1971.[68] Because of the nature of the program—both the fact that no new apartments are added and that many apartments under rent control have been decontrolled since the enactment of rent control—the number of apartments subject to rent control has steadily declined since 1971. Today, less than 2% of the current apartments in New York City are subject to rent control.[69] Due to the low number of rent-controlled units, the rest of this Article focuses on rent stabilization.

Rent stabilization covers (1) units in buildings with six or more units that were built between February 1, 1947, and January 1, 1974; (2) units in buildings within six or more units that were built before February 1, 1947, and are occupied by tenants who moved in after June 30, 1971[70]; and (3) units in buildings with three or more units that were either constructed or renovated after 1974, and that receive tax or program benefits which require the units to register as rent stabilized.[71] Rent stabilization differs from rent control in that tenants in rent-stabilized units are not required to continuously live in the apartment for the unit to maintain its regulation.[72] As with rent-controlled units, HCR regulates the rent and evictions proceedings for rent-stabilized units.

Rent-stabilized units must register their rent annually with HCR.[73] The initial legal regulated rent set for tenants establishes the amount at which rent is stabilized,[74] and any future rent increases must abide by the terms of the RGB.[75] A landlord may decide to set a preferential rent instead that is lower than the legal regulated rent, and any rent guideline increases are applied to this amount.[76]

64. Howard Husock & Alex Armlovich, *NOAH in New York: The Surprising Extent of Naturally Occurring Affordable Housing*, 40 Manhattan Inst. for Pol'y Rsch. 1 (2015).
65. RGB, *supra* note 63.
66. In rent-controlled units, the RGB establishes a maximum base rent for each apartment, adjusted every two years. Owners who provide required services and do not have ongoing violations may raise the rent the lesser of either the average of the five most recent annual rent increases for one-year renewal leases or 7.5%, until they reach the maximum base rent. In rent-stabilized units, the RGB sets rates for maximum rent increases each year. Fact Sheet #1, *supra* note 18. Tenants can only be evicted from rent-regulated apartments for good cause, such as nonpayment of rent, nuisance, or in limited cases where an owner seeks to repossess the unit for their personal use. Met Council on Housing, *About Rent Stabilization*, https://www.metcouncilonhousing.org/help-answers/about-rent-stabilization/ (last visited Aug. 22, 2022).
67. Note that tenants may find rent-stabilized housing in affordable housing lotteries, and the lottery itself might have qualification requirements. However, there are also rent-stabilized units that are freely available on the market, and they do not inherently have any qualification requirements—tenants can also look at lists and databases of rent-stabilized apartments or go to brokers to find them. Landlords must disclose that a unit is rent stabilized, but for these apartments, there is no requirement on who the landlord rents to. So, while lottery apartments might typically be rent stabilized, not all rent-stabilized apartments are part of a lottery.
68. There are succession rights, in which family members can take over a rent-controlled apartment. HCR Office of Rent Administration, Fact Sheet #30: Succession Rights (2019), https://hcr.ny.gov/system/files/documents/2020/11/fact-sheet-30-11-2019.pdf.
69. *Id.*
70. Note that prior to HSTPA, it was possible for units to sunset from the rent stabilization program under certain conditions—for example, after vacancy when the rent reached $2,774.76 or if the tenant's income rose to $200,000. Lebovits et al., *supra* note 59. HSTPA changed the rent stabilization program to be permanent for existing stabilized units. Under the HSTPA, rent-regulated apartments may only be deregulated if 75% of apartments in a building are replaced or the building is demolished. *Id.*; S. 6458, A. 8281, 2019/2020 Reg. Sess. Sen.-Assemb. (N.Y. 2019).
71. For example, units receiving 421-a or J-51 benefits must be rent stabilized. Note, however, that the 421-a program recently ended in June 2022. *See* Janaki Chadha & Danielle Muoio Dunn, *Uncertain Future Following End of 421-a*, Politico (June 21, 2022), https://www.politico.com/weekly-new-york-real-estate/2022/06/21/uncertain-future-following-end-of-421-a-00040812.
72. Typically, once a rent-controlled unit was vacated, or when the income of the tenant rose above a certain amount, apartments in buildings with fewer than six units became deregulated, while apartments in buildings with six or more units became subject to rent stabilization. However, with the passage of the HSTPA by the New York State Legislature in 2019, rent-stabilized units are no longer decontrolled upon vacancy. There are, however, some exceptions, such as 421-a and J-51 tax abatements.
73. N.Y.C., N.Y., Admin. Code §26-517.
74. N.Y. Rent Stab. Law §2521.1. The rent may only increase from this initial amount as authorized by law.
75. RGB, *Explanation of the Rent Guidelines Process*, https://rentguidelinesboard.cityofnewyork.us/rent-guidelines/explanation-of-the-rent-guidelines-process/ (last visited Aug. 22, 2022).
76. N.Y. Rent Stab. Law §2521.2. A preferential rate is defined as "a rent that an owner agrees to charge that is lower than the legal regulated rent that the owner could lawfully collect." HCR, *Leases (Security Deposits, Roommates, Sublets, and More)*, https://hcr.ny.gov/leases (last visited Aug. 22, 2022). With the passage of the state HSTPA, any rent guideline increases, and any other rent increases, will be applied to the preferential rent, rather than the legal regulated rent, until the unit is vacated. Lebovits et al., *supra* note 59.

D. Rent-Subsidized Housing

"Subsidized housing" is broadly defined as "programs that reduce the cost of housing for low- and moderate-income residents."[77] Generally, these programs require that tenants only pay a portion of their income toward rent; the subsidy program pays the remainder of the rent. Participation in the programs is often restricted to tenants who satisfy certain qualification requirements, based on income, age, household size, or other criteria. While there are many rent-subsidized programs offered in New York, we focus in this Article on some of the more common federal programs, which are described below; other programs not discussed here might face additional or different legal protections and risks.

1. Public Housing

While federally authorized and funded, state public housing authorities (PHAs) are responsible for developing, owning, and managing the public housing projects. The designated PHA for New York City is the New York City Housing Authority (NYCHA),[78] which manages approximately 180,000 public housing apartments located in New York City.[79] Eligibility for public housing is based on household size and income.[80]

2. Section 8

HUD also provides housing subsidies to eligible low-income families through a program commonly referred to as "Section 8."[81] The program aims to help low-income and moderate-income households "to rent a housing unit of better quality than they could unassisted."[82] State and local PHAs administer the program; in New York City, NYCHA primarily administers the Section 8 program, though HPD provides some Section 8 funding.[83]

Section 8 benefits are either tenant-based or project-based. For tenant-based benefits, a tenant receives a certificate or voucher that allows them to find their own unit on the private market (e.g., HCVs),[84] whereas project-based benefits are tied to a particular unit of housing (e.g., project-based rental assistance (PBRA)).[85] In New York City, the HCV program, which is the primary Section 8 program in the city, serves approximately 201,938 households.[86] Eligibility for the HCV program is based on a household's gross annual income and family size. Participation in the program is voluntary for landlords—tenants must find landlords willing to accept HCVs.

3. LIHTC

Created by the federal Tax Reform Act of 1986, the LIHTC program gives state and local agencies the authority to offer a dollar-for-dollar reduction in federal income tax liability to investors for the acquisition, rehabilitation, or new construction of rental housing targeted to lower-income households.[87] If developers set aside a portion of their property as affordable housing units, and commit to keeping the units affordable for 30 years, they will receive a tax credit.[88] Tenants qualify for the housing based on their income. The program is administered by the IRS; as pertains to New York City, the IRS allocates tax credits to HCR, and HCR allocates credits to HPD for developments in the city. There are approximately 1,000 affordable housing units in New York City that are allocated LIHTCs per year.[89]

E. Other Housing Programs

There are other programs in New York State and City that are not neatly categorized as either rent stabilized or rent subsidized.

1. Mitchell-Lama

The Mitchell-Lama program was created in 1955 by the Limited Profit Housing Companies Act in order to provide subsidies for the construction of affordable housing for middle-income residents.[90] All Mitchell-Lama units have occupancy and income requirements, though they vary across developments.[91] Both city and state loans finance

77. HUD, *supra* note 22.
78. N.Y. Pub. Hous. Law §401.
79. NYCHA, Frequently Asked Questions, https://www1.nyc.gov/assets/nycha/downloads/pdf/applicant-faq.pdf.
80. For eligibility requirements, see NYCHA, *Eligibility*, https://www1.nyc.gov/site/nycha/eligibility/eligibility.page (last visited Aug. 22, 2022).
81. 42 U.S.C.A. §1437f; HPD, *Section 8 Voucher Types*, https://www1.nyc.gov/site/hpd/services-and-information/section-8-voucher-types.page (last visited Aug. 22, 2022); NYCHA, *About Section 8*, https://www1.nyc.gov/site/nycha/section-8/about-section-8.page (last visited Aug. 22, 2022).
82. RGB, *supra* note 63.
83. *Id.* Most Section 8 vouchers fall under NYCHA administration. *Id.* However, some are also administered by the state, and other state-supervised programs may be eligible for Section 8 subsidies—for example, Mitchell-Lama households.
84. Project-based vouchers are also available, with similar rules, though tenants receiving project-based vouchers have restrictions against moving to retain the assistance. Center on Budget and Policy Priorities, Policy Basics: Section 8 Project-Based Rental Assistance (2022), https://www.cbpp.org/sites/default/files/atoms/files/PolicyBasics-housing-1-25-13PBRA.pdf. An additional 17,915 units receive project-based vouchers. NYCHA, NYCHA 2022 Fact Sheet (2022), https://www1.nyc.gov/assets/nycha/downloads/pdf/NYCHA_Fact_Sheet_2022.pdf.
85. In PBRA programs, HUD provides owners with financial assistance to build and maintain affordable housing units; tenants are given notice that the project-based Section 8 program was phased out in New York in 1983. McCarty et al., *supra* note 49. The rest of this Article will thus focus on the Section 8 HCV program.
86. NYCHA, *supra* note 84.
87. Roman Pazuniak et al., Utility Allowances in Federally Subsidized Multifamily Housing (June 10, 2015) (unpublished manuscript).
88. There are various options that developers may choose in allocating space for affordable housing, depending on the percentage of units reserved and the median family income of the tenant.
89. HPD, *Low Income Housing Tax Credits*, https://www1.nyc.gov/site/hpd/services-and-information/lihtc.page (last visited Aug. 22, 2022).
90. HCR, *Mitchell-Lama*, https://hcr.ny.gov/mitchell-lama (last visited Aug. 22, 2022).
91. RGB, *supra* note 63.

these projects: HPD finances the projects at the local level, and HCR finances them at the state level.[92]

As of 2017, the city oversaw 46,000 units in the city, and the state oversaw another 53,000 units throughout the state.[93] Developments maintain their own application process; there is no centrally managed application or waiting list.[94] Waiting times for an apartment can vary from a few months to many years.[95] Some developments are in such high demand that their waiting lists are closed and admittance to their waiting list is conducted via periodic HPD-supervised lottery.[96]

2. SCRIE/DRIE

Tenants that live in either rent-stabilized or Mitchell-Lama housing may receive additional benefits if they are eligible for either the Senior Citizen Rent Increase Exemption (SCRIE) or Disability Rent Increase Exemption (DRIE). SCRIE exempts low-income tenants who are 62 or older from rent increases, and DRIE exempts tenants with disabilities from rent increases.[97] As of 2016, there were approximately 59,524 tenants that receive SCRIE benefits and approximately 10,743 tenants that receive DRIE benefits in New York City.[98]

III. Taxonomy of Legal Protections and Risks

As suggested in Part I, not all types of LMI tenants in New York City appear equally susceptible to utility cost increases as a result of electrification. Instead, the relevant housing regulations accord differing degrees of protection to tenants based on the terms of the tenancy and the approach through which electrification is accomplished. Given the intersecting regulatory regimes, it is challenging to create a taxonomy of legal risks that neatly differentiates all types of tenants.

At a general level, however, we have identified a sliding scale of tenants' vulnerability to cost-shifting, ranging from those whom the law leaves most vulnerable to those who are not legally vulnerable. The types of tenancy that fall into each category are presented in Table 3. Critically, this taxonomy only assesses the degree of legal protection against cost-shifting these different types of tenants enjoy; it does not consider whether landlords of a particular type of housing are actually likely to electrify their properties. We consider the likelihood that different types of landlords will electrify their properties in Part IV.

Table 3. Categories of Vulnerability Based on Risks and Uncertainties

Most vulnerable	Market-rate housing (including NOAH)
Less vulnerable	Stabilized housing and subsidized housing
Not vulnerable	SCRIE, DRIE, and public housing

These categories provide a broad generalization of tenants' potential vulnerability, and there will be variation in levels of vulnerability both across different types of tenancy and within a particular category of tenancy. There are nuances between programs and multiple factors at play within every tenancy type that may affect their level of vulnerability. Two rent-stabilized units, for example, may have different levels of protection depending on whether heat is a required service. Tenants of rent-subsidized units may also see different levels of protection, depending on whether utilities are included in their rent or if they receive a utility allowance, which might be insufficient to offset their actual electricity bill.

It is important to note as well that for all tenancy categories, there are additional programs available that offer support to tenants facing difficulty in paying their heating bills. As outlined in Part I, however, these programs have proven insufficient to stave off energy insecurity in New York City.[99] This section sets out the various legal regulations in some greater detail to explain how we distilled the legal protections against cost-shifting in each category of vulnerability that is presented in Table 3.

A. Most Vulnerable: Market-Rate Housing

Tenants of market-rate housing have the fewest legal protections from cost-shifting. Generally, in market-rate housing, any tenant protections will come from the lease terms agreed upon between the landlord and the tenant; landlords are otherwise able to raise rent to whatever rate they wish—though they generally may not do so in the middle of a lease term.[100] Lease terms are typically short as well, so the rate can typically be changed within a short span of time. And while there is a legal requirement that landlords provide heat to tenants under the warranty of

92. Maria Cristiano Anderson & Paula A. Franzese, *Solutions to the Crisis in Affordable Housing: A Proposed Model for New York City*, 3 Rutgers J.L. & Urb. Pol'y 84, 86-88 (2005).
93. RGB, *supra* note 63.
94. *Id.*
95. *Id.*
96. *Id.*
97. There are also income eligibility requirements for SCRIE and DRIE benefits: the total household income cannot exceed $50,000 annually. New York City Department of Finance, Freeze Your Rent: A Guide for Tenants (2017), https://www1.nyc.gov/assets/finance/downloads/pdf/brochures/scriedriebrochure.pdf; HPD, Answers to the Most Frequently Asked Questions About SCRIE Benefits, https://www1.nyc.gov/assets/hpd/downloads/pdfs/services/scrie-faq.pdf. Tenants may not also receive other subsidy benefits, such as Section 8 or DRIE.
98. Bureau of Policy and Research, New York City Comptroller, Aging With Dignity: A Blueprint for Serving NYC's Growing Senior Population 22 (2017), https://comptroller.nyc.gov/wp-content/uploads/documents/Aging_with_Dignity_A_Blueprint_for_Serving_NYC_Growing_Senior_Population.pdf.
99. *See supra* note 27 and accompanying text.
100. RGB, *supra* note 63; RGB, *Rent Increases FAQ*, https://rentguidelinesboard.cityofnewyork.us/resources/faqs/rent-increases/ (last visited Aug. 22, 2022) ("If you find that your apartment is not rent stabilized, there is no limit on the rent increase that can be charged at the end of your lease."); *see also id.* ("If a lease is currently in effect, there can be no rent increases.").

habitability,[101] there is no legal requirement that landlords be the ones to pay for that heat.[102] Rather, who pays for heat will depend on the specific terms of a lease agreement, and the lease typically expressly states which party is responsible for utility payments.

Despite rent being "unregulated," electrical service in market-rate units still is subject to certain state utility regulations. The state PSC regulates utilities in the state,[103] including for multifamily housing, and sets conditions on submetering for electricity,[104] which is necessary to separately charge tenants for the electrical consumption used in a decentralized conversion to electric heat.

Pursuant to Part 96 of the PSC regulations, all residential buildings, regardless of tenancy type, are required to seek PSC approval when switching from master metering or direct metering to electric submetering, including for electric heat.[105] When the switch to submetering is for electric heat, landlords are required to provide a notice of intent to submeter,[106] which must include a study that forecasts that, "when submetering is introduced, more than 60 percent of residents are expected to pay less."[107] The application must also include a description of how rent would be reduced following submetering,[108] and a set rate cap that establishes the maximum rate for electric services that submetered residents will be charged.[109]

Landlords are also required to include in their application, where appropriate, notification of any available income-based housing assistance for tenants.[110] The PSC will only authorize electric heat conversions to a submetered system upon a case-by-case determination that submetering will be in the public interest.[111] This is a more rigorous standard than applies to requests to submeter electricity without heat, which *presumes* that submetering will be within the public interest.[112]

Still, there are two "loopholes" in the PSC regulations that leave market-rate tenants vulnerable to cost-shifting. First, the PSC does not regulate the submetering of heat *independent* of the submetering of electricity. Therefore, if a building already has submetered or direct-metered electricity, PSC will not review the decision to then later transfer heat onto the electric bill.[113] The reason for this is that the PSC's jurisdiction covers electricity, not heat in and of itself, so it is the *submetering of electricity*, not the conversion of heat, which triggers PSC review.[114] Thus, a building that is already submetered might not be subject to further PSC review under Part 96 if it puts another type of charge (like heating) on the submetered electricity bills.[115]

Second, the PSC does not review centralized conversions that track the flow of refrigerants under Part 96[116]; following a petition by a New York City landlord, the PSC determined that the process of apportioning refrigerant flows does not constitute electric submetering and would therefore not be regulated under Part 96.[117] Thus, a building

101. N.Y. Real Prop. Law §235-b; N.Y. Mult. Dwell. Law §79; N.Y. Mult. Resid. Law §173.
102. A Furman Center report on utility costs in market-rate multifamily housing refers to situations both where the property owner pays for utilities and where the tenant pays for their own utilities. Pazuniak et al., *supra* note 87.
103. Utilities regulated by PSC include natural gas, electricity, water, and telecommunication industries. Included in these regulations is the Home Energy Fair Practices Act of 2002, which provides residential utility customers with various protections for applications for services, billing, and payment complaints. PSC, PSC Regulations: Home Energy Fair Practices Act (2002), https://www.dps.ny.gov/HEFPA_Brochure_12-08.pdf.
104. *See* N.Y. Comp. Codes R. & Regs. tit. 16, pt. 96 (regulating conversion from master or direct metered electricity to submetered electricity).
105. *Id.* The section does not, however, include any legal requirement that PSC must give similar approval when switching from master metering to direct metering. Rather, Part 96 of the PSC regulations only address situations where a unit is switching from direct metering to submetering. In that case, PSC has similar requirements: a petition must be filed, notice must be provided to residents, and PSC must make a case-by-case determination that the switch to submetering is in the public interest. *Id.* §96.3(b)(2).
106. *Id.* §§96.3(c), 96.5 (providing the contents of the notice).
107. *Id.* §96.5(l).
108. Part 96 includes a requirement that the notice of intent to submeter must include, where applicable, a description of the method used to back out electric charges from rent, including a description of how monthly reductions to rent charges are calculated. *Id.* §96.5(e). Notably, this section does not include a standard for how this is to be calculated. Note as well that no reference to rent reductions is included in the electric submetering service conditions specified in *id.* §96.6.
109. Part 96 includes a requirement that the submeterers will not charge more than the applicable rate cap. *Id.* §96.6(c). The rate cap is typically set at "the rates and charges of the distribution utility for delivery and commodity in that billing period to similarly situated, direct metered residential customers." *Id.* §96.1(i). Critics, however, have called this rate cap effectively "useless," as it is difficult to determine what any particular tenants would owe if they were direct-metered customers. *See*, *e.g.*, Public Utility Law Project of New York, *Electricity and National Gas Utilities FAQs*, https://utilityproject.org/utilities/electricity-and-natural-gas-utilities-faq/ (last visited Aug. 22, 2022), noting as well that PSC:

> doesn't require utilities or sub-metering landlords to inform tenants of the amount they would be charged by the utility. Few utilities offer online tools or telephone support to allow sub-metered tenants to determine whether the bills they receive from their landlords exceed the rate cap. Nor does the PSC offer such tools.

110. N.Y. Comp. Codes R. & Regs. tit. 16, §96.5(k) (requiring the utility allowance or rent reduction applicable to residents to be included in the notice where at least 20% of residents receive income-based housing assistance). Income-based housing assistance includes direct subsidies, like Section 8 vouchers, or reduced-rate affordable housing, like 421-a units. 2018 N.Y. PUC LEXIS 140, at *6 (N.Y.P.S.C. Mar. 21, 2018).
111. N.Y. Comp. Codes R. & Regs. tit. 16, §96.3(b)(1)(iii). Note that in practice, however, PSC rarely, if ever, declines petitions to submeter; rather, there are usually particular issues that landlords have that need to be addressed before approval is granted. Telephone Call with PSC (Feb. 28, 2022) [hereinafter Call with PSC].
112. N.Y. Comp. Codes R. & Regs. tit. 16, §96.3(a)(3).
113. Call with PSC, *supra* note 111.
114. *Id.* Part 96 includes provisions that require submetering to remain "consistent with any conditions imposed by such order." N.Y. Comp. Codes R. & Regs. tit. 16, §96.2(a).
115. Call with PSC, *supra* note 111.
116. *Id.* Note that this decision was made due to the way the refrigerant flow is measured; if other systems measure refrigerant flows differently, there may be a case involving a different system where PSC approval would be required.
117. PSC issued a declaratory ruling that this sort of heat pump-based system for heating and cooling individual apartment units in a building "does not constitute electric submetering and does not require approval pursuant to 16 NYCRR [New York Codes, Rules, and Regulations] Part 96." Order Granting Declaratory Ruling, *Mitsubishi Electric*, Case No. 11-E-0513 (N.Y.P.S.C. Jan. 23, 2012), https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=11-E-0513. This is the most recent order issued by PSC on the matter; other landlords use this as a reference case to determine if PSC approval is required. Call with PSC, *supra* note 111.

    See also, *e.g.*, Notice of Intent to Submeter Electricity at 42 Broad Street West, Mount Vernon, New York, 10552, Located in the Territory of Consolidated Edison Company of New York, Inc. (Aug. 13, 2015), https://documents.dps.ny.gov/search/Home/ViewDoc/Find?id=%7B3C148674-7131-49AC-87FB-CC18D88355B7%7D&ext=pdf (citing to *Mitsubishi*

that continues to produce heat from a centralized system, but installs heat pumps to produce the heat, and charges tenants individually for their heating based on refrigerant flows, would not have to acquire PSC approval. Therefore, it seems that landlords looking to shift costs of utilities to tenants could pursue centralized conversions, and charge tenants of market-rate housing for their proportionate share of heating without PSC review or a related rent reduction. Nor would PSC have jurisdiction on putting unitized systems on an already direct metered building.

B. *Less Vulnerable: Rent-Regulated and Subsidized Housing*

There are two broad categories of tenants that we believe are less vulnerable to cost-shifting than market-rate tenants, yet still face some exposure; these are the tenants in rent-regulated housing and rent-subsidized housing. In both cases, the main reason for the vulnerability is that legally mandated rent reductions that accompany electrification are unlikely to vary as quickly as electricity prices, leaving tenants on the hook for potential swings in electricity prices. We provide more details on the mechanics of how this vulnerability could arise in the following sections.

1. Rent-Regulated Housing

Tenants in rent-stabilized units are protected by the same PSC regulations as market-rate units. However, HCR also grants these tenants additional protections against shifting the cost of heat onto tenants.[118]

Where a landlord of a stabilized unit included heat in the rent at the time that the property entered rent stabilization, heating is considered a "required service."[119] This characterization is important, because landlords may not adjust the legal regulated rent *or* make changes to the required services without HCR approval, and they can only do so for reasons specified in the regulations.[120] The prohibition against changing required services includes converting to direct metering or submetering for electricity.[121] If a landlord does receive approval to switch to direct metering or submetering, they must reduce rent based on a schedule provided by Operational Bulletin No. 2014-1.[122] Critically, if a tenant's actual utility expenses exceed the reduction in rent, the tenant is still responsible for paying for the full cost of service.

While many landlords seek and receive HCR approval to convert to submetered *electricity*, HCR currently has a policy against approving any reductions in the provision of required services that shift the cost of *heat* to the tenant.[123] This would either prevent landlords from switching to direct metering or submetering altogether, or require landlords to retain the costs in the event that they pursue any conversion to submetering.[124] Either outcome would seem to make concerns about cost-shifting moot. However,

Electric to establish that the building is not an "electric heat" property); Notice of Intent of 215 Chrystie Condominium to Submeter Electricity at 215 Chrystie Street, New York, New York, in the Territory of Consolidated Edison Company of New York, Inc., Order Authorizing Submetering, Case No. 18-E-0671 (Jan. 22, 2020), https://documents.dps.ny.gov/search/Home/ViewDoc/Find?id=%7B86ABF1EA-D6F3-4992-99EC-45B51BA2C690%7D&ext=pdf (citing to *Mitsubishi Electric* to state that "such systems that measure run-time of heating and air conditioning in the individual living units do not constitute submetering of electricity").

118. Operational Bulletin No. 2014-1, *supra* note 18; DHCR, Update No. 1 to Operational Bulletin No. 2014-1: Conversion From Master to Individual Metering of Electricity With Direct Payment by Tenant (2015) [hereinafter Update No. 1], https://hcr.ny.gov/system/files/documents/2018/11/update1operationalbulletin2014-1.pdf.

119. "Required services" are defined as:

> That space and those services which the owners was maintaining or was required to maintain on the applicable base dates set forth below, and any additional space or services provided or required to be provided thereafter by applicable law. These *may include*, but are not limited to, the following: repairs, decorating and maintenance, the furnishing of light, *heat*, hot and cold water, elevator services, janitorial services and removal of refuse.

N.Y. Comp. Codes R. & Regs. tit. 9, §2520.6(r)(1) (emphasis added).

120. *Id.* §§2522.1, 2522.4. This has proven to be problematic in the past, and in 2015, the state Tenant Protection Unit launched an investigation into landlords who illegally converted from a centralized to decentralized heating system, charging tenants for their heat. HCR, *Tenant Protection Unit*, https://hcr.ny.gov/tenant-protection-unit (last visited Aug. 22, 2022) (describing the investigation, including how landlords were "ordered to make the necessary steps to rectify their illegal acts, including making a formal application to the ORA [Office of Rent Administration], seeking permission to modify their building's heating/hot water service and implementing a permanent rent reduction for the regulated tenants"); *see also* Ben Fractenberg, *Hundreds of Rent-Regulated Tenants Illegally Forced to Pay for Heat: Cuomo*, DNAInfo (Dec. 22, 2015), https://www.dnainfo.com/new-york/20151222/williamsburg/hundreds-of-rent-regulated-tenants-illegally-forced-pay-for-heat-cuomo/; Kenneth Lovett, *New York State Cracks Down on Landlords Who Illegally Remove Central Heating Systems*, N.Y. Daily News (Dec. 22, 2015), https://www.nydailynews.com/news/politics/n-y-cracks-landlords-remove-central-heating-article-1.2473499.

121. N.Y. Comp. Codes R. & Regs. tit. 9, §2522.4(d)(3); Order and Opinion Denying Petitions for Administrative Review, HCR Docket No. BO410030RT (2019) (permitting a landlord to remove electricity from the required services included in rent upon conversion to submetering where the landlord properly filed an application).

122. N.Y. Comp. Codes R. & Regs. tit. 9, §2522.4(d)(3); Operational Bulletin No. 2014-1, *supra* note 18; Update No. 1, *supra* note 118. Operational Bulletin No. 2014-1 provides different rent reductions based on the number of rooms in the unit; the bulletin was updated in 2015 with a new rent schedule. Update No. 1, *supra* note 118. Note that the schedule of rent decreases for submetering is lower than the schedule for direct metering. There are additional restrictions against submetering and direct metering for SCRIE/DRIE tenants in rent-regulated housing.

123. The Operational Bulletin applies for electricity, but HCR requires, as a matter of policy, that the landlord continue to pay for heat. *See, e.g.*, Order and Opinion Denying Petitions for Administrative Review, HCR Docket No. TH220060RO (2008):

> With regard to charging the tenant separately for heat and hot water, it has been long-standing DHCR policy, upheld by the courts, that rent regulated tenants are not liable for the cost of heat and/or hot water under *any* circumstances. The provision of heat and hot water is a fundamental service which must be provided by the owner and included in the tenant's rent.

124. While several cases involving converting to submetered electric heat have been approved by HCR in the past, these involved owners who continued to pay for electric heat rather than pass on the costs to tenants. *See*, *e.g.*, Order and Opinion Denying Petitions for Administrative Review, HCR Docket No. IX410007RT (2021) (determining that the conversion from a central heating system to an electric decentralized system was a permissible substitution of services where there was no change in the legal regulated rent and where the owner paid for the cost of electricity); Order and Opinion Denying Petitions for Administrative Review, HCR Docket No. BO410030RT (2019) (allowing electricity to be removed from the bill where the landlord has ensured that "no cost for heating via fans or otherwise are passed on to the tenants").

this policy also significantly disincentivizes electrification, which puts it at odds with state climate goals, and HCR has indicated that it might consider permitting landlords to shift the cost of heating to tenants with a commensurate rent reduction in the future.[125]

If HCR permits the cost of heating to be added to tenants' electricity bills—and, as described in Part I, there are environmental arguments for doing so[126]—tenants will face increased risk of electricity price fluctuations; whereas previously, electricity price fluctuations only impacted the cost of lighting, cooling, and refrigeration, now heating costs will be variable as well. Given that New York is a restructured state, where electricity generation prices fluctuate far more regularly than the schedule of rent reductions could be updated,[127] shifting heating costs from the landlord to the tenant also shifts the risk of price fluctuations toward the tenant, who may be less able to cover the variation. As a case in point, New York City residents experienced a 23% increase in their electricity costs in January 2022 compared to the year before, and some saw their utility bill "double overnight."[128]

Finally, if heating is *not* included as a "required service," the HCR approval and rent-reduction requirements pursuant to the Operational Bulletin do not apply.[129] Thus, owners of new stabilized buildings that excluded heating from the regulated rent from the outset could continue to do so.[130] These tenants will not face a new type of charge, as they have always paid for electricity, but they are likely to see greater price fluctuations in the future if, as some scholars project, electricity price volatility increases as we "electrify everything."[131]

2. Rent-Subsidized Housing

Tenants that participate in a subsidy program, such as Section 8 or LIHTC, or projects with regulatory agreements with agencies, also enjoy enhanced protections against cost-shifting compared to market-rate tenants. Subsidy programs cap the total combined payment that a tenant has to make for rent and utilities; the total tenant payment, which includes utilities, generally cannot exceed 30% or 40% of the tenant's income.[132] For tenants that pay for their utilities separately from rent, the rent is reduced by a utility allowance, and there is a utility allowance schedule that is designed to match the estimated cost of paying for electric heat.[133] Tenants are also subject to all PSC regulations that require review of a landlord's decision to submeter electricity, HUD approval requirements,[134] as well as any other regulations applicable to that particular unit—for example, if the unit were designated as Mitchell-Lama or rent stabilized.[135]

Still, as with rent-regulated tenants, tenants of subsidized housing will have to pay the difference if their electric heating utility allowances are less than tenants' actual costs. Therefore, even if the utility allowances adequately offset tenants' costs on an average annual basis, tenants will become increasingly susceptible to short-term price fluctuations for electricity once they are responsible for their own

125. *See*, *e.g.*, Order and Opinion Denying Petitions for Administrative Review, HCR Docket No. ER410002RO (2017) (stating that, in a case where the landlord was requesting a modification of the building's heating, ventilation, and air-conditioning (HVAC) system, the landlord has an option to "either (1) establish that the subject HVAC changeover is being effected at no charge to the tenants, or (2) to assist the DHCR in determining an appropriate permanent reduction in the legal rent going forward").

126. *See supra* Part I.

127. Federal Reserve Bank of St. Louis, *Average Price: Electricity Per Kilowatt-Hour in New York-Newark-Jersey City, NY-NJ-PA (CBSA)*, https://fred.stlouisfed.org/series/APUS12A72610 (last updated Aug. 10, 2022). Average electricity prices in New York State fluctuate on a monthly basis. NYSERDA, *Monthly Average Retail Price of Electricity—Residential*, https://www.nyserda.ny.gov/Researchers-and-Policymakers/Energy-Prices/Electricity/Monthly-Avg-Electricity-Residential (last visited Aug. 22, 2022).

128. Katherine Blunt, *Why Your Electric Bill Is Soaring—And Likely to Go Higher*, Wall St. J. (Mar. 14, 2022), https://www.wsj.com/articles/why-your-electric-bill-is-soaringand-likely-to-go-higher-11647250380; Mellor, *supra* note 23.

129. In some circumstances, HCR has determined that heating is not a required service, such as when a unit becomes rent stabilized and a tenant who has already occupied the unit has been and continues to be responsible for paying for heating. *See*, *e.g.*, Order and Opinion Denying Petitions for Administrative Review, HCR Docket No. DN210010RT (2015) (determining that electric heat was not a required service eligible for a reduction in rent where the tenant assumed the cost of electric heat and it was not registered as a base date service, and thus there was no decrease in service); Order and Opinion Denying Petitions for Administrative Review, HCR Docket No. FO210014RO (2021) (determining that, where the tenant was responsible for heating costs in their lease, and where a unit later became rent stabilized pursuant to J-51 requirements, the heating was not included as a required service and any rent reductions must be paid back to the owner). In these circumstances, while PSC requirements for submetering would likely still apply, there may not be additional rent-reduction protections afforded by rent stabilization laws.

130. This includes, for example, projects that were constructed using 421-a or J-51 tax credits, though the 421-a program expired in June 2022. N.Y. Real Prop. Tax Law §421-a(2)(f); N.Y.C., N.Y., Admin. Code §11-244; Matthew Haag & Mihir Zaveri, *Will Ending a Lucrative Tax Break Ease or Fuel the N.Y.C. Housing Crisis?*, N.Y. Times (Mar. 31, 2022), https://www.nytimes.com/2022/03/31/nyregion/nyc-tax-credit-housing-crisis.html; HCR Office of Rent Administration, Fact Sheet #41: Tax Abatements (2022), https://hcr.ny.gov/system/files/documents/2022/07/fact-sheet-41-07-2022.pdf.

131. Fournier et al., *supra* note 17.

132. For example, LIHTC caps rent and utilities at 30%, as does public housing. 26 U.S.C. §42(g)(2); 42 U.S.C. §1437a(a)(1)(A). Section 8 requires rent and utilities to not exceed 40% of the tenant's area median income, depending on the payment standard. 42 U.S.C. §1437f(o)(2)(A) (noting that if rent and utilities is less than the payment standard (the maximum monthly assistance payment), then the tenant's burden may not exceed 30% of their adjusted monthly income); 24 C.F.R. §982.305(a)(5) (noting that if rent and utilities does exceed the payment standard, then the tenant's burden is capped at 40% of adjusted monthly income); *see also* Pazuniak et al., *supra* note 87.

133. *See*, *e.g.*, 24 C.F.R. §965.502(a); *id*. §982.517; 26 U.S.C. §42(g)(2); HUD, Utility Allowance Guidebook 49 (2008), https://www.nhlp.org/wp-content/uploads/HUD-UA-Guidebook-for-PH-2008-unofficial.pdf.

Traditionally in New York City, NYCHA rolls out utility allowances, and other agencies defer to them. However, NYCHA allowances have not been particularly nuanced, accounting for types of building, age, and so on. As a result, HPD has started on a small scale to develop HPD allowances as part of a long-term plan to roll out across the city. Telephone Call with HPD (Mar. 7, 2022) [hereinafter Call with HPD]; NYCHA, Utility Allowances (2022), https://www1.nyc.gov/assets/nycha/downloads/pdf/section8-hcvp.pdf (Section 8 2022 Utility Allowance Schedule); HPD, 2022 Home & LIHTC—Income & Rent Limits (2022), https://www1.nyc.gov/assets/hpd/downloads/pdfs/services/2022-home-lihtc-income-and-rent-limits-nyc.pdf (LIHTC 2022 Utility Allowance Schedule).

134. 24 C.F.R. §965.402 (requiring a cost-benefit analysis before switching to submetering with cost-shifting).

135. Mitchell-Lama units, for example, need HPD approval if adjusting rent for utilities. Rules of N.Y.C. tit. 28, §3-11.

heating bills.[136] And while rent schedules are typically reexamined every year,[137] a tenant's rent is set based on the utility allowances at the start of the lease term—meaning that the utility allowance is not necessarily going to be revisited and revised until the lease term ends. Thus, tenants' utility allowances may not accommodate price volatility that occurs within a lease term.

It is worth noting, however, that some discretionary agency policies may protect tenants, more so than their legal protections. Of particular importance, while HPD technically provides an avenue for tenant-paid electric heat,[138] the agency has in practice prioritized owner-paid electric heat, particularly where tenants are especially vulnerable; HPD has noted as well that many landlords seem in favor of this strategy, and are converting to heat pumps while maintaining the responsibility for electricity bills.[139]

C. *Not Vulnerable: SCRIE/DRIE*

Tenants in rent-regulated and Mitchell-Lama housing that are eligible for SCRIE or DRIE benefits have strong protections against cost-shifting for electric heating.[140] These tenants have their rents frozen at a fixed rate, which is either the legal rent amount or one-third of the tenant's monthly income.[141] Landlords receive a property tax abatement credit reflecting the difference between the tenant's fixed rent amount and the legal rent for the unit that would have been charged if the unit did not receive SCRIE/DRIE. While the amount at which a tenant's rent is frozen does not typically include utilities,[142] Operational Bulletin 2014-1 provides that landlords remain responsible for paying for electricity when the landlord converts to submetering, preventing any cost-shifting to the tenants.[143]

* * *

To summarize, current law leaves open several pathways through which LMI tenants could see their monthly utility costs increase following electrification. Market-rate tenants could start being charged for heating without corresponding rent reductions if they are already submetered or if the landlord electrifies via centralized conversion. In addition, all tenants who start to pay their own heating bills will face greater exposure to fluctuation in electricity prices, as it is highly unlikely that HPD's utility allowances or HCR rent reduction schedules will be updated often enough to reflect swings in the electricity markets.

Tenants' heightened exposure to electricity price fluctuations will increase the importance of designing and maintaining effective safety net programs to ensure access to a minimum level of service. It also underscores the importance of pursuing aggressive energy efficiency alongside electrification, because the more resource-constrained the electricity system is, the more volatile prices are likely to be.

IV. Market Dynamics

The levels of vulnerability identified in Part III consider only the *legal potential* for cost-shifting as written, not the likelihood that a landlord of a particular type of housing would actually electrify their property and attempt to shift the cost onto tenants. In other words, they consider legal vulnerability in isolation, without consideration of market dynamics. The question then becomes: how material is the concern? With this question in mind, this part attempts to provide insight on two discrete questions:

1. How likely are owners of different types of properties to electrify their properties?
2. To the extent that owners are likely to electrify their properties, are they likely to do so on a centralized or decentralized basis? (Recall that the means of electrification matters, because there is no PSC oversight of centralized conversions that charge tenants based on refrigerant flows.[144])

To answer these questions, we conducted interviews with 10 experts in New York City. Five of the individuals own residential apartment buildings themselves or represent owners of residential apartment buildings. The other five individuals are sustainability consultants and building engineers. The interviews were conducted between May and July of 2022.[145] Our interviews yielded three key findings:

i. Few owners of multifamily housing are actively contemplating electrifying existing heating systems.

Interview subjects were nearly (but not entirely) unanimous in their opinion that it would not be economical for owners to retrofit their properties to electrify heating systems under present circumstances. "Every single economic indicator says not to do this," one owner argued. The interviewees gave several reasons for their skepticism:

- Irrespective of the type of tenants that a building houses, retrofitting New York City's large, often pre-

136. *See, e.g.*, Samantha Maldonado, *Surging Con Ed Bills Leave New Yorkers With Electric Burns*, City (Feb. 9, 2022), https://www.thecity.nyc/2022/2/9/22925345/surging-con-ed-bills-leave-new-yorkers-with-electric-burns.
137. *See, e.g.*, 24 C.F.R. §982.517(c); Call with HPD, *supra* note 133.
138. Landlords participating in the Heat Pump Pilot program can charge tenants for electric heat, with a heat pump utility allowance. HPD, *supra* note 37.
139. Round Table, *supra* note 28.
140. *See* Operational Bulletin No. 2014-1, *supra* note 18 (for rent-stabilized units); Mitchell-Lama R. §3-19 (noting rules for SCRIE beneficiaries). Note that Mitchell-Lama rules do not appear to have a similar provision for DRIE.
141. New York City Department of Finance, Your Guide to the Senior Citizen Rent Increase Exemption (SCRIE) Program and the Disability Rent Increase Exemption (DRIE) Program (2014). Rent is frozen at a fixed rate—either the prior rent amount or one-third of monthly income—excluding utilities. *Id.*
142. *Id.*
143. *See, e.g.*, Operational Bulletin No. 2014-1, *supra* note 18 (stating that "for those tenants the rent is not reduced and the cost of electricity remains included in rent").
144. *See supra* notes 116-17 and accompanying text.
145. Note that these interviews were conducted before passage of the Inflation Reduction Act, which includes some incentives for heat pumps.

war buildings to accommodate electric heating can be highly capital-intensive; when combined with the high cost of electricity in New York City, payback times for electric heat are generally extremely long, "up to 20-30 years for big retrofit projects," which makes electrification unappealing to owners.

- The lax requirements that LL97 sets for the early years after the law takes effect, and lack of clarity regarding the rules that New York City will develop to implement its building performance standard, have discouraged owners from taking action to electrify in the near term.[146] "No one wants to do anything right now because it will be at least 10 years until they have to pay fines," one sustainability consultant said.

- With respect to rent-regulated housing, the New York State rent reform regulations of 2019,[147] and further regulations imposed during the COVID-19 pandemic,[148] have left many owners of rent-regulated housing with very limited cash reserves; one subject referred to rent-regulated buildings as a "depreciating bond." In light of this, few owners of regulated housing have the cash to pay for the capital costs of retrofitting their properties, even with reasonably short payback periods. Moreover, the rent reductions set out in HCR's 2014 Operational Bulletin is too generous toward tenants "to make the numbers work for owners."

- With respect to subsidized housing, the size of the utility allowance that HPD authorizes for electric heat, which is based on the cost of resistance heat, is excessive. Thus, even if HPD were to allow owners to electrify heating and put it on the tenants' bill, it would be uneconomic for these owners.

Notably, two of the interview subjects were more sanguine about the economics of electrification. One subject argued that it may make economic sense for some owners to electrify after 2029, when the emissions limits set by LL97 become more stringent and more owners face the risk of paying penalties if they continue burning large amounts of fossil fuels onsite. Another individual noted that certain mission-driven owners who want to electrify for environmental reasons are able to "make the economics work," and thought that other owners could do so as well if they thought about the problem creatively. Finally, one owner pointed out that for newly constructed buildings with rent-regulated units, in which heating could be excluded from the list of "required services" from the time the building begins leasing units, the economics favor tenant-paid electric heat. The same owner noted that in newly constructed unregulated buildings, the economics also favor tenant-paid electric heat.

ii. The type of owner is an important predictor of which buildings will electrify.

All subjects agreed that owners of large portfolios of properties are more likely to electrify their properties than small owners, because few small owners have either the capital necessary to implement the changes nor the staff resources to figure out how best to electrify. This suggests that owners of NOAH with fewer than six units will be less likely to electrify their properties because these types of properties, which are typically smaller and older than other types of affordable housing, are less likely to be owned by large portfolio owners.

iii. Those owners who do choose to electrify their properties are more likely to do so on a centralized basis, rather than installing heat pumps in each individual unit.

Interview subjects were unanimous in their view that centralized conversions would be a superior strategy for most property owners, especially those who own high-rise buildings. Subjects identified several different reasons for why they preferred the centralized approach, including that the retrofit process causes less disruption to tenants, maintaining the system is less complicated if it does not require management to enter tenants' apartments, and a "centralized system makes a building more adaptable to new technology over time." Another subject also noted that laws protecting New York City landmarks often prohibit making the changes to building facades that are necessary to implement a decentralized approach.

All in all, the only scenario in which interviewees believed that the decentralized approach would make sense for rental apartments would be in low-rise buildings with small numbers of units; within the affordable sector, these smaller buildings are likely to be NOAH. That owners intend to electrify on a centralized basis is notable, because the state public utility law does not offer protections against cost-shifting where a property is converted on a centralized basis.[149]

The results of our interviews are summarized in Tables 4 and 5 below.

V. Conclusion

Taken as a whole, our research provides a mixed picture of whether building electrification is likely to shift the cost of heating onto tenants without commensurate reductions in rent. Despite city and state officials' hopes, our survey of real estate industry experts indicates that few apartment building owners have any plans to electrify their heating systems, and even fewer (if any) plan to do so before 2030. It remains to be seen whether the new Inflation Reduction Act will materially alter owners' incentives to electrify.

146. Owners specifically pointed to the uncertainty regarding the rules the city would establish for the greenhouse gas intensity of electricity that is purchased from the grid after 2030.

147. Lebovits et al., *supra* note 59.

148. During the COVID-19 pandemic, the state introduced an eviction moratorium for tenants who fail to pay their rent. *See* HCR, *COVID-19 Eviction Protections for Tenants*, https://hcr.ny.gov/covid-19-eviction-protections-tenants (last visited Aug. 22, 2022).

149. *See supra* notes 116-17 and accompanying text.

Table 4. Likelihood That Different Properties With Different Types of Tenants Will Electrify Given Current Costs and Regulations

Tenancy Type	Likelihood That Property Will Be Electrified
Market-rate housing (including NOAH)	Somewhat likely
Rent-stabilized housing	Not likely
Rent-subsidized housing	Not likely

Table 5. Approach to Electrification That Landlords Are Likely to Take

Tenancy Type	Electrification Approach
Market-rate housing (including NOAH)	Centralized or decentralized
Rent-stabilized housing	Centralized
Rent-subsidized housing	Centralized or decentralized

To the extent that electrification does occur in the multifamily sector, it is most likely to occur in market-rate housing that is owned by large owners and to be accomplished via centralized conversions. A relatively small share of LMI tenants occupy this type of market-rate housing in New York City, but those who do could be charged for their heating without reductions in rents. Thus, to a degree, concerns about cost-shifting are justified. Moreover, in states where rent regulation is prohibited,[150] much larger shares of LMI households may be vulnerable to cost-shifting.

Our findings suggest that LMI households that live in stabilized or subsidized housing appear unlikely to be charged for electric heating in the near future. Yet this is somewhat of a Pyrrhic victory, because it stems in part from the fact that the existing legal framework makes it particularly unlikely that owners of these kinds of buildings would electrify. For the city and state to achieve their climate policy goals, this dynamic will have to change. Whether via changes to the electricity rate design, utility allowances, LL97, or some combination of all three, New York City and State will need to find a way to incentivize landlords of affordable housing to retrofit their heating systems without leaving LMI households out in the cold.

At its core, our research underscores an unsavory reality about trying to design equitable climate policy: sometimes the measures that protect low-income households from paying the cost of pollution control also make those households least likely to enjoy the benefits of those controls. Figuring out how to lessen this tension is perhaps a defining challenge for the American environmental movement today.

150. As other cities are retreating from regulating their housing stock, New York City has strengthened its rent regulation protections for tenants. *See*, *e.g.*, *Battle Goes on as Rent Control Is Defeated in Massachusetts*, N.Y. Times (Nov. 22, 1994), https://www.nytimes.com/1994/11/22/us/battle-goes-on-as-rent-control-is-defeated-in-massachusetts.html (describing the prohibition of rent control in Massachusetts); Costa-Hawkins Rental Housing Act, Cal. Civ. Code §§1954.50 et seq. (1995) (state law limiting rent control in California).