FEANTSA POLICY BRIEF

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THE NEW YORK STATE CLIMATE LEADERSHIP AND COMMUNITY PROTECTION ACT

LESSONS FOR SHAPING AN INCLUSIVE ENERGY TRANSITION IN THE EU

FEANTSA

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EXECUTIVE SUMMARY

Similar to the countries of the European Union (EU), disadvantaged communities in the United States face higher exposure to pollution, higher burden of energy costs, and live in poorly insulated, leaky homes. An ambitious legislation, New York State's **Climate Leadership and Community Protection Act (CLCPA)**, seeks to address these challenges and leads the way with ambitious goals to reduce emissions while ensuring that at least 35% - with a goal of 40% - of the benefits from climate funding directly support disadvantaged communities. This investment mandate addresses the unequal impacts of climate change on vulnerable groups and offers a strong example for the EU. This policy brief analyses policies in the fields of building repair and renovation, decarbonisation of heating and cooling, access to and ownership of renewable energy, and inclusive workforce development, and how they have been shaped for a just transition by the investment mandate adopted under the **CLCPA**.

ABBREVIATIONS

CJWG – Climate Justice Working Group
CLCPA – Climate Leadership and Community Protection Act
CEF – Clean Energy Fund
DACs – Disadvantaged Communities
DCIM – Disadvantaged Communities Investment Mandate
DOE – (Federal) Department of Energy
EJCs – Environmental Justice Communities
LIHEAP – Low Income Home Energy Assistance Program (federal)
LMIs – Low and Middle Income Households
NOAH – Naturally Occurring Affordable Housing
NYCHA – New York City Housing Authority
NYSERDA – New York State Energy Research & Development
RAD – Rental Assistance Demonstration
RGGI – Regional Greenhouse Gas Initiative
SEEF – Solar Energy Equity Framework

INTRODUCTION

On 18 July 2019, the State of New York enacted the **Climate Leadership and Community Protection Act (CLCPA)**, deemed one of the most ambitious climate laws in the nation. The legislation mandates New York State achieves a 40% reduction in greenhouse gas (GHG) emissions by 2030 and a minimum of 85% reduction by 2050, using 1990 levels as the baseline. In achieving these goals, 35-40% of all investments must be spent to the benefit of low-income households and disadvantaged communities.

> 'Climate change especially heightens the vulnerability of disadvantaged communities, which bear environmental and socioeconomic burdens as well as legacies of racial and ethnic discrimination. Actions undertaken by New York state to mitigate greenhouse gas emissions should prioritize the safety and health of disadvantaged communities, control potential regressive impacts of future climate change mitigation and adaptation policies on these communities, and prioritize the allocation of public investments in these areas' (Declaration 7 of the CLCPA).
>
> 'The CLCPA defines an **investment mandate for disadvantaged communities (DCIM)** that state agencies shall invest ... to achieve a **goal** for disadvantaged communities to receive **40% of the overall benefits, ... however no less than 35%** of spending on clean energy and energy efficiency programs, projects or investments in the areas of housing, workforce development, pollution reduction, low income energy assistance, energy, transportation and economic development.' (art. 75-0117 CLCPA).

The law defines "**Disadvantaged communities**" as communities that are burdened by cumulative environmental pollution and other hazards that can lead to negative public health effects, areas with concentrations of people that are of low income, high unemployment, high rent burden, low levels of home ownership, low levels of educational attainment, or members of groups that have historically experienced discrimination on the basis of race or ethnicity, and areas vulnerable to the impacts of climate change such as flooding, storm surges, and urban heat island effects.

This brief will focus on four areas of climate action that we consider particularly relevant for energy poverty policy in Europe and look at how the responsible state agencies spelled out the investment mandate. These are measures facilitating the decarbonisation of heating and cooling, repair and renovation of buildings, access to and ownership of renewable energy, and inclusive workforce development. You can find an overview of the relevant policies and equity targets in **table 1**.

The policy brief will present the main policies that were developed to implement the **CLCPA** in these four areas and analyse whether the law succeeds in directing climate spending towards disadvantaged communities. Finally, it will draw lessons for the EU regarding key pieces of legislation: the **Energy Efficiency Directive (EED)**, the **Energy Performance of Buildings Directive (EPBD)**, the **Energy Market Directive (EMD)**, such as the **Renewable Energy Directive (RED)**, as well as legislative and policy initiatives in the new mandate, such as the **Action Plan for Affordable Energy Prices** and the **Citizen Energy Package**.

We begin with an outline of current inequalities in the US with regard to climate and energy.

TABLE 1: CLIMATE LEADERSHIP AND COMMUNITY PROTECTION ACT – OVERVIEW OF KEY CLIMATE AND EQUITY PROVISIONS AND IMPLEMENTATION PLANS

Climate targets	» 10 000 MW distributed solar by 2030 » 185TBtu of end-use energy savings (compared to 2025 forecast values) by 2030 » 85% of GHG emission reduction (compared to 1990 levels) by 2050 » 100% zero-emission electricity by 2040
Equity provisions	» Disadvantaged Community Investment mandate (DCIM) : 35-40% of investments have to benefit DACs and LMI households » Climate Justice Working Group (*CJWG*) » Just Transition Group for Workforce » Community Air Monitoring Program

Policy Area	Implementation (plans, laws and initiatives)	Equity Targets
Access to and ownership of renewable energy	NY-Sun Order (2020) Solar Energy Equity Framework	40% of newly developed solar (that is 1600 MW) for DACs and regulated affordable housing
Building repair and renovation	LMI Implemention Plan (2023) Empower+	20% of energy efficiency investments for DACs
Electrification	Governor Kathy Hochschul's 2 million climate-friendly homes initiative (2022)	2 million electrified or electrification-read homes, 40% (that is 800 000) among DACs
District Heating and Cooling (DHC)	Utility Thermal Energy Network and Jobs Act (2022)	25-40% of proposed DHC projects in DACs
Workforce Development	Clean Energy Workforce Development Program	$52.6 million allocated to Regional Clean Energy Hubs

OVERVIEW OF THE POLICIES AND EQUITY TARGETS

CLIMATE AND ENERGY (IN-)JUSTICE IN THE U.S.

Low-income households in the U.S. face disproportionately **high energy burden,** spending an average of 8.1% of their income on energy costs compared to 2.3% for non-low-income households. In New York City, 70% of low-income households are highly burdened (spending over 6% of their income on energy), and nearly half (48%) are severely burdened (over 10%). Racial disparities are also evident: 32% of Black households experience high energy burden, and 21% are facing severe energy burden (compared to 9% among non-Hispanic white households). Older adults are similarly affected, with 39% having high energy burdens.[1] These disparities in energy burden can be explained largely by low-income households disproportionately living in inefficient housing with inefficient household appliances and limited access to energy efficiency upgrades. Low-income households often experience **high energy use intensity** (energy consumption per square foot) due to older, less efficient appliances and poorly insulated homes, unlike high-income households that consume more energy due to larger homes and numerous electronic devices. **Energy efficiency programs often fail to address these inequities**, as utility-driven initiatives prioritise cost efficiency narrowly in terms of utility costs saved without considering broader health, economic, and community benefits. **Despite low-income households representing 30% of the U.S. population, only 17% of energy-efficient improvements in recent years were made in these communities.**[2]

"NINE OUT OF TEN NEIGHBOURHOODS WITH THE HIGHEST INCIDENTS OF THREE OR MORE MAINTENANCE DEFICIENCIES IN RENTER HOUSEHOLDS ARE IN DISADVANTAGED COMMUNITIES"

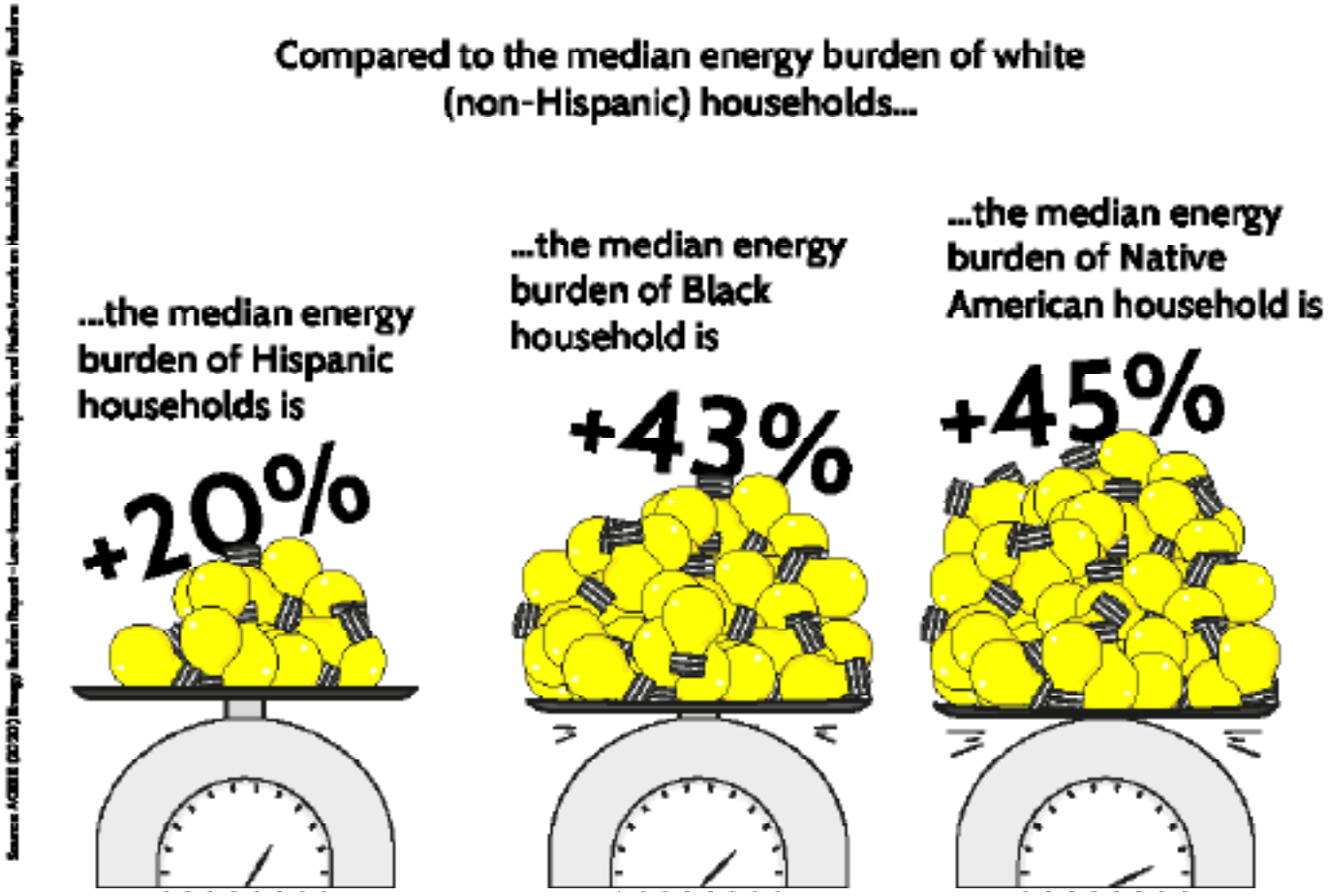
Due to historically unfair housing policies and urban planning practices, BIPOC communities (Black, Indigenous, People of Colour) had less access to mortgages and home ownership and tend to live in areas with more environmental pollution and a less well-maintained housing stock. Neighbourhoods reporting the most **housing maintenance deficiencies** are disproportionately in historically redlined neighbourhoods such as the Bronx, Central Brooklyn, and Upper Manhattan. Nine out of ten neighbourhoods with the highest incidents of three or more maintenance deficiencies in renter households are in disadvantaged communities. These

1 Ariel Drehobl, Lauren Ross, and Roxana Ayala, 'How High Are Household Energy Burdens? An Assessment of National and Metropolitan Energy Burdens Across the U.S.' (American Council for an Energy-Efficient Economy ACEEE, 2020), https://www.aceee.org/research-report/u2006.

2 Ariel Drehobl, Lauren Ross, and Roxana Ayala.

are also the neighbourhoods with the lowest rates of air conditioning.[3]

According to data by the *NYSDEC* 2024 Heat-Related Mortality Report, Black New Yorkers are more likely to die from heat stress with death rates two times higher than White New Yorkers. **Lack of access to home air conditioning** is the most important risk factor for heat stress death. Moreover, there is a strong connection between poverty and asthma due to the shortage of healthy housing with conditions like mould, pests, and leaks triggering asthma or making it worse. Polluting heating devices, such as propane, diesel oil are more frequently used in disadvantaged areas.[4]



Finally, historically redlined neighbourhoods in New York have the greatest levels of **pollution-attributable hospital emergency visits**. Apart from unhealthy housing discussed above, this is due to major highways and heavy-duty vehicle traffic running through these neighbourhoods, parking facilities for medium and heavy-duty fleets, as well

3 NYC Mayor's Office of Climate & Environmental Justice, 'EJNYC. A Study of Environmental Justice Issues in New York City' (New York City, 2024), https://climate.cityofnewyork.us/wp-content/uploads/2024/04/EJNYC_Report_FIN_20240424.pdf.

4 Daniel Carrión, W. Victoria Lee, and Diana Hernández, 'Residual Inequity: Assessing the Unintended Consequences of New York City's Clean Heat Transition', International Journal of Environmental Research and Public Health 15, no. 1 (January 2018): 117, https://doi.org/10.3390/ijerph15010117.a series of policies, known as the Clean Heat Program (CHP

polluting industrial facilities placed in these neighbourhoods such as waste processing or energy plants. In 2021**, 13 out of 19 "peaker" power plants (coal-fired) were located in disadvantaged communities** or less than a block from one.[5]

The combined effect of environmental pollution, poor housing quality, and a lack of or insufficient and costly heating and cooling poses significant **health risks**, including carbon monoxide poisoning, lead exposure, and respiratory conditions like asthma and chronic bronchitis. The combined effect of environmental pollution, poor housing quality, and a lack of or insufficient and costly heating and cooling poses significant **health risks**, including carbon monoxide poisoning, lead exposure, and respiratory conditions like asthma and chronic bronchitis. Particularly, the Bronx have some of the highest asthma rates in the entire country.[6] Poor insulation and faulty heating or cooling systems can lead to thermal discomfort, increasing the risk of hypothermia in winter and heat stress in summer. Many low-income households, facing high utility costs, adopt unsafe coping strategies, such as using stoves or space heaters for warmth, which can expose residents to toxic gases and fire hazards. Moreover, energy insecurity forces one in five U.S. households to sacrifice essential needs like food or medicine to pay energy bills, negatively affecting long-term health and well-being.[7]

Lower-middle income households also have **less access to distributed renewable energy**. A study specifically dedicated to the income and demographic trends among residential solar adopters found that the median income of 2020 solar adopters was $115,000 higher than that of all owner-occupied households ($79,000) and almost double the income of all households in the US including tenants ($63,000). Compared to the broader population, solar adopters tend to identify as non-Hispanic white, be primarily English-speaking, live in rural areas, have higher education levels, be middle-aged, work in business and finance-related occupations, live in higher-value homes, and live in neighbourhoods with higher average credit scores. The often-cited decrease in the costs of solar technology did lead to a decrease in the median income of solar adopters over the past 10 years but still left rooftop solar firmly anchored in an above average income bracket (from 180% of the median relative income in 2010, to 158% of the median relative income on county-level). [8,9]

5 NYC Mayor's Office of Climate & Environmental Justice, 'EJNYC. A Study of Environmental Justice Issues in New York City'.

6 Carrión, Lee, and Hernández, 'Residual Inequity'.a series of policies, known as the Clean Heat Program (CHP

7 Ariel Drehobl, Lauren Ross, and Roxana Ayala, 'How High Are Household Energy Burdens? An Assessment of National and Metropolitan Energy Burdens Across the U.S.'

8 As higher-income households cluster together, the disparities are decreasing as the comparison region shrinks, the disparities are much higher at state and federal level.

9 Galen Barobse, Sydney Forrester, and Eric O'Shaughnessy, 'Residential Solar-Adopter Income and Demographic Trends: 2022 Update', 2022, https://escholarship.org/uc/item/5vd6w51m.

THE CLIMATE LEADERSHIP AND COMMUNITY PROTECTION ACT (CLCPA)

The **CLCPA** places a significant emphasis on **climate justice**, recognising that climate change and environmental pollution disproportionately impact disadvantaged communities that have higher vulnerability. The CLCPA requires the identification and consideration of disadvantaged communities in implementing both the CLCPA and other State-led actions, including decisions about the placement of polluting industries. The law encompasses several key instruments to achieve that goal.

First, the CLCPA contains a **disadvantaged community investment mandate (DCIM)**: a requirement of 35% - with a goal of 40% - of the benefits from the State's investments must be directed to disadvantaged communities (DACs), and State agencies need to consider impacts on disadvantaged communities in decision making.

"CLCPA CONTAINS... A REQUIREMENT OF 35% - WITH A GOAL OF 40% - OF THE BENEFITS FROM THE STATE'S INVESTMENTS MUST BE DIRECTED TO DISADVANTAGED COMMUNITIES"

Second, the CLCPA adopts an **inclusive governance** approach and set up a *Climate Justice Working Group (CJWG)* consisting of representatives from disadvantaged communities, also called *environmental justice communities (EJCs)* across the state, including three from New York City, three from rural communities, and three from urban communities in upstate New York, as well as representatives from the state departments of environmental conservation, health, labour, and the *New York State Energy Research and Development Authority (NYSERDA).*

The *CJWG* has three interrelated tasks. First, based on the above broad definition of disadvantaged communities, the *CJWG* defines the exact criteria for how specific census tracts are defined as disadvantaged communities and beneficiaries of the CLCPA. Second, the *CJWG* monitors how state agencies incorporate climate justice principles into their programs and policies. Third, it sets the criteria for targeting programs of the Act. A report **on the most important hurdles and barriers disadvantaged communities** face in accessing and gaining ownership of clean and affordable energy was developed based on eight focus groups with 56 participants from and working in disadvantaged communities.[10] The report informed the CLCPA Action Plan and its climate justice program elements.

Finally, the law also sets up a **Community Air Monitoring Program** to track air pollution and make sure that efforts to reduce carbon emissions don't unfairly harm communities already dealing with high pollution.

10 NYSERDA, 'New York State Disadvantaged Communities Barriers and Opportunities Report' (New York, 2021).

FOUR POLICY AREAS

1. DECARBONISATION OF HEATING AND COOLING

Given that approximately 30% of New York State's greenhouse gas emissions were from the heating and cooling of buildings in 2018, the goal of carbon neutrality requires a major investment in the decarbonisation of heating and cooling as well as energy efficiency of buildings. However, low-income households are decarbonising at a slower pace and need additional support. New York is tackling this challenge with a dual strategy: first, it ringfenced the number of electrification-ready homes among low-income households – acknowledging that some homes need to be adapted and repaired before they can enter electrification. Second, it started pilot projects for geothermal specifically targeting low-income households.

DECARBONISATION DISPARITIES IN THE BUILDINGS SECTOR

Disadvantaged communities **decarbonise at a slower pace.** A 2022 study by the *Department of Buildings (DOB)* on the decarbonisation of buildings in New York City found that by 2019, **about half of the buildings that had previously exceeded the legally binding emissions limit introduced in 2019 had moved into compliance**. However, the study highlighted a stark disparity: '**buildings that moved into compliance were generally in relatively advantaged areas**. Only 39% of newly compliant buildings are in DACs. This suggests there may be structural challenges to compliance.'[11] This shows that a mere focus on sectoral carbon emissions reduction risks producing carbon ditches among disadvantaged communities.

The reasons for this slower pace are multiple. An example of this dynamic is in 2016, the *City Government of New York* introduced the **Clean Heat Program** to reduce air pollution by banning residual diesel fuel oils and propane by 2030. However, a substantial number of buildings are still using this fuel. In 2022, 53% of these diesel-dependent buildings (a total of 1724) were in the historically disadvantaged neighbourhoods of Northern Manhattan and the Bronx. The main reasons for this slow transition are a lack of trust in fuel switching, fear of dependence on fuels with volatile

11 The City of New York Mayor Eric Adams, 'Getting 97 Done. A Plan to Mobilize New York City's Large Buildings to Fight Climate Change', September 2023, https://climate.cityofnewyork.us/wp-content/uploads/2023/09/Getting-_LL97Done.pdf.

prices, and a lack of information among building owners about what transitioning to another heating method would entail.[12]

Owners of affordable housing face significant barriers to heat pump retrofits as they have **low capital reserves available for retrofit projects,** and other capital needs are perceived as more urgent.[13] Many buildings in disadvantaged communities suffer from **years of neglect and underinvestment**, making retrofitting for energy efficiency far more expensive. Unlike buildings in well-resourced areas, which may only require **minor upgrades**, properties in EJCs often need **major structural improvements** before they can even begin addressing energy efficiency measures.

EFFICIENCY FIRST - ELECTRIFICATION STARTS WITH HOME REPAIR

New York has coined the term "**beneficial electrification**", which 'reduces building emissions without creating additional costs for residents, and without stretching the energy grid in ways that may increase pollution and other environmental burdens in communities already disproportionately impacted by climate change'.[14] The main goal of beneficial electrification is to **maintain energy affordability and consumer protections while providing the benefits and increasing access to clean energy solutions** for disadvantaged communities and LMI households.[15] The main goal of beneficial electrification is to **maintain energy affordability and consumer protections while providing the benefits and increasing access to clean energy solutions** for disadvantaged communities and LMI households.

In 2022, as part of the implementation of the greenhouse gas emission reduction goals of the CLCPA, Governor Kathy Hochschul announced the two million climate-friendly homes initiative, setting a **target of two million electrified or electrification ready housing units by 2030**. She ringfenced **800,000 of these units for LMI households**.[16] To make homes electrification ready, the fund includes support for exchanging electrical wiring, increasing insulation to increase energy efficiency, and removing health and safety threats such as mould. The initial rollout of the program prioritises the conversion of homes that heat with electric resistance and fuels such as oil and propane. Funding for the pre-electrification has been increased with the IRA Home Energy Appliances Rebate (HEAR).

12 Carrión, Lee, and Hernández, 'Residual Inequity'.a series of policies, known as the Clean Heat Program (CHP

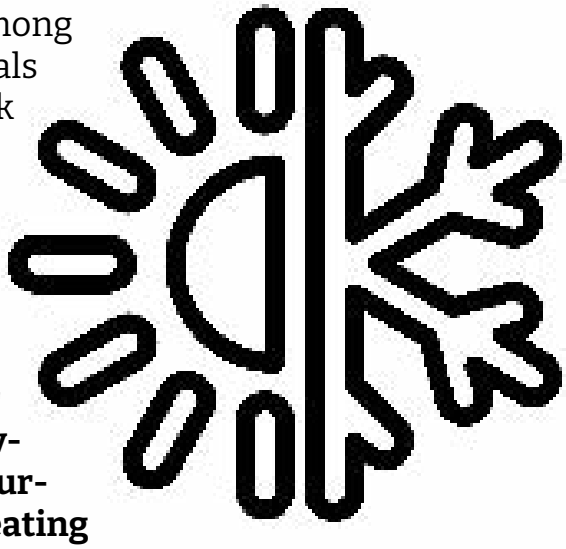
13 'Statewide Low-to Moderate-Income Portfolio Implementation Plan', 2024, https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={D04BF195-0000-C411-8D35-1ABFB4CD9312}#:~:text=In%202024%20the%20Program%20Administrators%20continued%20the%20implementation,electricity%20systems%20and%20dramatically%20reduce%20greenhouse%20gas%20emissions.

14 'Statewide Low-to Moderate-Income Portfolio Implementation Plan'.

15 'Statewide Low-to Moderate-Income Portfolio Implementation Plan'.

16 Governor Kathy Hochul, 'Governor Hochul Announces Plan to Achieve 2 Million Climate-Friendly Homes by 2030 | Governor Kathy Hochul', 2022, https://www.governor.ny.gov/news/governor-hochul-announces-plan-achieve-2-million-climate-friendly-homes-2030.

COMMUNAL SOLUTIONS TO THE TRANSITION: DISTRICT HEATING AND COOLING



To address the slower pace of decarbonisation among low-income households and ensure that emission goals of the CLCPA are met, in 2022 the State of New York adopted the **"Utility Thermal Energy Network and Jobs Act" (Thermal Energy Act).** The Act recognises that buildings are New York's largest source of greenhouse gasses and other climate emissions due to the combustion of fossil fuels for heating, domestic hot water, cooking and other end uses and states that the **decarbonisation of buildings must be pursued in a manner that is 'affordable, accessible, preserves and creates living-wage jobs**'. It proposes the construction of **neighbourhood and utility scale thermal networks to provide heating and cooling,** and warm water at affordable prices and to create jobs for disadvantaged communities.

Thermal energy networks consist of pipe loops between multiple buildings and energy sources carrying water at ambient temperature. Building owners can connect to these loops using water source heat pumps installed inside the building, providing heating, cooling, and hot water services.

The law obliged the seven largest gas and electric corporations to submit at least one and as many as five project proposals to deliver heat networks. Each had to submit at least one proposal located in a disadvantaged community and at least two located in a disadvantaged community if they submitted five proposals (meaning, **25-40% of the proposed district heating and cooling projects had to be in disadvantaged communities).** In April 2024, nine pilot projects entered the stage of drafting engineering plans. Out of these, four developments have a focus on disadvantaged communities and low-income households.[17]

- In the Con Edison Chelsea neighbourhood of New York, the project collects excess heat from data centers and office cooling and sends this through a one-block-long thermal main to a heat pump central plant at an NYCHA community. The project provides heating, cooling, and domestic hot water for residents.
- In the Con Edison Mount Vernon, a densely populated disadvantaged community, the thermal energy network project targets an urbanised area containing a leak-prone gas pipe. The project will utilise a common geothermal borefield[18] to

17 Upgrade NY, 'Nine Utility Thermal Energy Network Pilot Projects Advance,
Moving New York Closer To Neighborhood-Scale Clean Heat And Cooling', Upgrade NY (blog), 2024, https://www.upgradeny.org/nine-utility-thermal-energy-network-pilot-projects-advance.

18 A borefield in geothermal energy consists of multiple boreholes drilled into the ground, containing loops of pipes that circulate a heat-transfer fluid. This system exchanges heat with the Earth's stable underground temperature, providing energy-efficient heating and cooling for buildings. Connected to a geothermal heat pump, a bore-

provide heating, cooling, and domestic hot water to a diversity of customer buildings, including large multifamily, small 1- to 3-family homes. The project aims at providing all new heating and cooling equipment at no cost to participating customers. Participating residential customers receive free energy efficiency and electric upgrades as needed. Customer energy bills will be capped so that their energy costs are not greater than what they would have been using the customer's existing heating and cooling equipment.

- O&R project in Haverstraw will use a common geothermal borefield to serve various municipal and private residential and commercial properties in the urban core of a Disadvantaged Community in the Lower Hudson Valley. Other thermal energy resources are to be explored, including sewer main heat recovery. The project is broken into two separate thermal energy networks, which may be interconnected in the future as additional customers are added to the system. The eastern thermal energy network will support providing heat, cooling, and hot water to new affordable housing construction on the waterfront.

Small district heating and cooling networks based on renewable or waste heat show how district heating and cooling networks can strongly contribute to **building decarbonisation** without burdening the electricity network. They offer significant advantages for low-income households in **reducing the usage of polluting on-site heating devices**, such as propane or diesel oil.

ONGOING CHALLENGE: RISK OF ENERGY BILL INCREASES

In implementing the CLCPA, *NYSERDA* acknowledges that electrification in the LMI (Low and middle income) sector presents unique challenges and economic and institutional barriers. Nearly one-third of LMI residents heat with a delivered fuel, like oil and propane. In markets where natural gas is less expensive than electricity, switching from gas-fired boilers or furnaces to heat pumps **risks increasing the utility bills** for LMI customers, who are least equipped to deal with higher living costs. Tenants in rental housing face the potential for additional monthly utility bills should a heat pump retrofit result **in shifting costs for heating fuels born by owners to electricity costs born by tenants.**[19]

The **risks of electrification** for tenants can be seen from the New York State's **Home Energy Assistance Program (HEAP)**, which finances, for example, the installation of Air Conditioners. The program is too small in scale (runs out by mid-summer each year), and fails to address a major problem of summer energy poverty: unaffordable bills - **'Approximately 21 percent, or 493,000 rental households across the city, have an air**

field harnesses renewable thermal energy, reducing reliance on conventional heating and cooling methods.

19 'Statewide Low-to Moderate-Income Portfolio Implementation Plan'.

conditioner but don't use it because of the cost, last year's housing and vacancy survey found'.[20]

With the construction of district heating networks, it is also important to make sure that construction costs do not increase the energy bills of low-income households. This was one of the aims of the above-described projects, but we do not know whether and how it was realised.

2. ENERGY EFFICIENT HOMES

The CLCPA set a goal of reaching 23% reduction of end-use energy by 2025 compared to 2012 levels. The Climate Justice Working Group highlights the importance of prioritising repair work as a first step to making sure disadvantaged communities are equipped to participate in the climate transition. The building stock in disadvantaged communities is frequently old and in dis-repair. This can limit the reach of building decarbonisation and resiliency programs; the poor state of a building increases the cost of climate and energy-related upgrades. The **need to address more critical priorities** (e.g., roof repair), structural deficiencies, or health and safety issues can lead to **homes being deferred from energy efficiency and weatherization program participation** until such issues are addressed. The state of the building is also an important precondition for participation in distributed renewable energy programs.

NYSERDA adopted repair and renovation measures that are specifically targeted at low-income households and disadvantaged communities. *NYSERDA* requires spending 20% of energy efficiency funding on LMI customers, with 40% of that spending allocated to affordable multifamily buildings.

REPAIR AND RENOVATION

In July 2023, *NYSERDA* launched **EmPower+ program** to support low- and moderate-income residents in New York State with no-cost home energy assessments and energy efficiency upgrades. The program combines two existing *NYSERDA* programs (**Empower NY** for low-income households and **Assisted Home Performance** for moderate-income households), which started in 2004 and 2001, respectively, to tackle the issue of delayed maintenance that many LMI households suffer from.

EmPower+ helps reduce the energy burden for residents by providing them with insulation, air sealing, heating system replacement, energy-efficient lighting, door sweeps, weather stripping, and the replacement of inefficient refrigerators or freezers. The program also provides health and safety benefits such as smoke and carbon monoxide detectors and furnace filters. After completing air sealing and insulation, contractors may

20 Jeanmarie Evelly, 'Should NYC Require Landlords to Provide Air Conditioning?', City Limits, 13 November 2024, https://citylimits.org/2024/11/13/should-nyc-require-landlords-to-provide-air-conditioning/

recommend further heating and cooling equipment upgrades through the program, leading to reductions in energy bills and improved living conditions for residents.

New York State and especially New York City have higher rates of renter-occupied housing than most other parts of the country. Thus, **EmPower+** works to provide services directly to renters (energy upgrades and energy-related health and safety upgrades within the flat), if possible, and determine the best strategies to incentivise landlord participation.

- Low-income single-family households can receive up to $10,000 (no-cost energy efficiency improvements).
- Moderate-income single-family households can receive up to $5,000 (50% of the costs of energy efficiency improvements).

A SYSTEM TO PAY 100% OF UPFRONT COSTS

For renovation funding, homeowners can select a contractor or have one assigned to them. The energy efficiency services are provided by a **network of nearly 100 private contractors and Weatherization Agencies accredited by the *Building Performance Institute (BPI).*** The **EmPower+** participating contractor will automatically deduct the eligible rebate amount from the total project cost, up to 100% in line with the project caps specified above. Prior to the upgrade, a home energy assessment is completed to identify a building's needs and eligibility for upgrades. The contractor will then notify the owners which of the upgrades can be covered by the program fully or if there may be any out-of-pocket costs. Apart from individual housing units (flats), the program also allows for upgrades to common areas.

"EMPOWER+ PARTICIPATING CONTRACTOR WILL AUTOMATICALLY DEDUCT THE ELIGIBLE REBATE AMOUNT FROM THE TOTAL PROJECT COST, UP TO 100%."

To make funding accessible to low-income households, as in the renovation program, the home appliances upgrade program pays contractors directly through the state agency. To receive funding for appliances, households must upload a pre-installation photo, then receive coupons from which they can then buy appliances such as heat pumps or clothes dryers. The participating contractors then submit post-installation photos.

MULTIPLE FORMS OF OUTREACH AND ELIGIBILITY ASSESSMENT

To reach low-income households, the program works with multiple forms of eligibility assessment and outreach.

The program application is available in multiple languages, and outreach services are provided by the *Regional Clean Energy Hubs*.[21] It is implemented in cooperation with the *New York State Offices for the Aging* which

21 Environmental Protection Agency, 'NYSERDA EmPower+ Program Profile', 2024, https://www.epa.gov/system/files/documents/2024-01/empower-program-profile-draft_revised_2024-01-15_508.pdf.

provides older adults with access to supportive services that supplement informal care and the *New York State Office of Temporary and Disability Assistance* which oversees programs that provide temporary cash aid, food assistance, heating support, child support, services for the homeless and aid to immigrant populations. In addition, **households can be referred into EmPower+ by human service organisations and community-based organisations** and the local government. The program also supports community campaigns and other approaches to aggregate demand for energy upgrades and reduce per-home costs.

To qualify for the program, New York residents in single- to four-unit homes must be considered low-or moderate income. Eligibility is determined by one of three methods:

- income verification (tax returns, pay stubs),
- categorical verification (participation in another low-income program such as **Home Energy Assistance Program** or **Weatherization Assistance Program (WAP)**, or
- geo-eligibility (home is located in a certain census block).

In 2023, the program provided approximately $150 million in incentives and served 22,000 homes. For the total duration of the program, nearly 210,000 low-income and 46,000 moderate-income households received energy efficiency upgrades. While there is no such evaluation of the **EmPower+,** an evaluation of its two predecessor programs provided to 5400 homes from 2017-2019 found that the average home serviced by the **Empower NY** program saved 357 kWh per year in electricity costs and 238 kWh per year for homes by the **AHP program**.[22]

ONGOING CHALLENGE: PREVENTING EVICTIONS AND DISPLACEMENT

In renovation and decarbonisation concerns remain about unintended consequences—particularly **evictions and gentrification**. Historically, when building codes tighten, landlords in low-income areas often face difficult choices: either raise rents to afford the required upgrades, or sell their property to developers who will make the repairs but drive-up rents.

Either scenario risks displacing tenants, making climate policy a potential driver of **housing instability**. To address this, the **Climate Justice Working Group** has recommended pairing stricter building codes with **an amnesty program** for income-eligible property owners. This program would **provide financial assistance** for necessary upgrades while imposing **rent increase limits** to prevent landlords from passing costs onto tenants.

Furthermore, the report highlights an ongoing issue: **reactive code enforcement**. Currently, health and safety violations are often only addressed when tenants file complaints. Unfortunately, renters with the time, language skills, and knowledge of government systems are more likely to report

22 Environmental Protection Agency.

issues - while those most vulnerable to unsafe housing conditions may suffer in silence. A more **proactive** approach to enforcement, combined with financial support for property owners, could ensure that buildings in EJCs improve without displacing the very people these policies aim to protect.

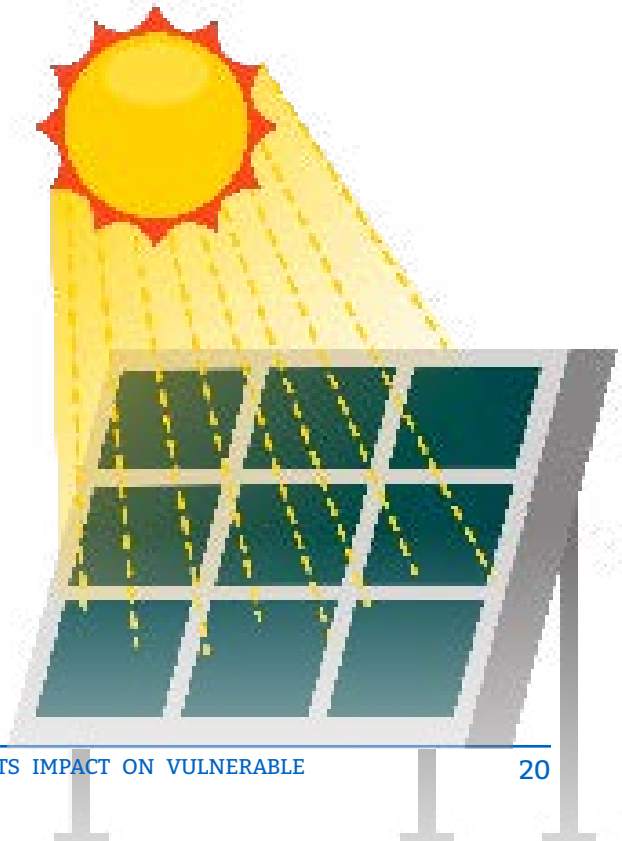
A new rent law passed in July 2019 aimed to **protect rent-regulated tenants** from undue rent hikes and significantly restrict owners from increasing rents to recoup the costs of capital investments like heat pumps. The risk of an increase in rent in the course of electrification is particularly high in so-called "naturally occurring affordable housing", which refers to **rent-unregulated housing** in the market.[23]

3. ACCESS TO AND OWNERSHIP OF RENEWABLE ENERGY

The **CLCPA** sets the goal of adding 4,000 MW of distributed solar energy by 2030, with 40% of the benefits realised in disadvantaged communities. The **CLCPA Action Plan** requires *NYSERDA* to consider increased incentive payments for solar projects that serve disadvantaged communities and 'result in **energy cost savings or demonstrate community ownership models**'.[24] To reach that goal, the *NYSERDA*-proposed **Solar Energy Equity Framework (SEEF)**, approved as the Public Service Commission's **NY-Sun Order**, supports mainly subscription models, meaning people can access solar energy without having to own the system.

The **NY-Sun Order** (May 2020) dedicates over $200 million to benefit LMI households, by supporting affordable housing, and disadvantaged and environmental justice communities. In April 2022, the **NY-Sun Order** expanded the investment mandate and directed that **no less than 1,600 MW of distributed solar** (40% of the 4,000 MW of new capacity needed to reach the 10,000 MW target by 2030) be **dedicated to low- and middle-income residents, regulated affordable housing, and disadvantaged communities**.

Through the expanded **NY-Sun Order**, *NYSERDA* allocated an additional $251.8 million in dedicated funding to the SEEF. The measures primarily focus on higher incentive levels and/or capacity targets for projects that provide direct savings to LMI customers and disadvantaged communities, as well as providing technical assistance to said projects. Predevelopment costs received 15% of the funding. The beneficiaries can be large insti-



23 Sara Savarani and Speigel-Feld, 'Equitable Electrification: Could City and State Policies Aggravate Energy Insecurity?', Policy Brief (Guarini Center on Environmental, Energy & Land Use Law, New York University School of Law, 2022), https://guarini-center.org/document/equitable-electrification-policy-brief/.

24 NYSERDA and Department of Public Services, 'New York's 10 GW Distributed Solar Roadmap: Policy Options for Continued Growth in Distributed Solar' (New York, 2021).

tutional customers serving disadvantaged communities (such as public housing authorities and public schools). To ensure that SEEF capacity isn't used only by large institutional customers with lower investment costs, the SEEF sets a target for disadvantaged communities. It aims to direct 20% of the total 4,000 MW new capacity to LMI residential customers.

This includes:

- **LMI homeowners who install residential solar**
- **LMI residents who subscribe to community solar**
- **LMI residents automatically enrolled in opt-out community solar programs**

These customers will also receive direct, guaranteed savings on their electric bills.[25]

"LMI SOLAR POLICIES TYPICALLY PROMOTE ACCESSIBILITY BY ADDING FINANCIAL INCENTIVES FOR PROJECTS THAT TARGET LMI HOUSEHOLDS OR BY REQUIRING SOME MINIMUM PERCENTAGE OF LOW-INCOME SUBSCRIBERS"

Community solar energy is broadly adopted in the United States. At the federal level, the Department of Energy (DOE) announced in 2021 an ambitious target under the **National Community Solar Partnership (NCSP)** to enable community solar systems to power the equivalent of five million households by 2025 and create $1 billion in energy bill savings. DOE defines "LMI household access" as ensuring that community solar projects or programs include at least 40% of subscribers from LMI households.

In 2022, in the United States, a total of 17 states had adopted legislation that expanded community solar access for LMI households. These policies aim at incentivising project developers to add low-income tenants. LMI solar policies typically promote accessibility by adding financial incentives for projects that target LMI households (**adders**) or by requiring some minimum percentage of low-income subscribers (**carve-outs**). Moreover, the federal **Inflation Reduction Act** includes tax credits for projects serving LMI communities or customers, and at least 17 states have incentives or regulations that promote LMI community solar.[26]

TARGETS FOR LOW-INCOME SUBSCRIBERS & DISADVANTAGED AREAS

As the first major community solar strategy to be implemented within the SEEF, the **Inclusive Community Solar Adder (ICSA)** was launched on July 20, 2021, with an initial budget of $52.5 million to provide additional financial incentives to developers of community solar projects. It serves low- to moderate-income subscribers, affordable housing,

25 NYSERDA and Department of Public Services.

26 Kaifeng Xu et al., 'Expanding Solar Access: State Community Solar Landscape' (National Renewable Energy Laboratory, 2022), https://www.nrel.gov/docs/fy23osti/84247.pdf.

and non-profit and public facilities serving disadvantaged communities. These incentives seek to **offset the additional costs that solar developers associate with LMI households**, such as higher acquisition costs, renters posing a higher customer turnover risk, and additional subsidies that may increase costs for bill management.

Another incentive is the **Multifamily Affordable Housing Adder**, which is available for **projects situated at and serving rent-regulated multifamily affordable housing properties**. To be eligible for this incentive, a project must offset the usage of the affordable housing property (behind-the-meter)[27] or its residents. If the project has offsite subscribers, the project must demonstrate that no less than 40% of the project capacity will be dedicated to LMI residential subscribers. For individual customers, the program works with an **automatic enrolment** based on eligibility for state energy assistance programs (HEAP). This lowers the administrative costs both for the state and for the solar developers.

The SEEF also addresses **barriers to developing solar in areas where distributed solar is not yet that common or in territories burdened with pollution**. To address this problem, the SEEF proposes **segmenting the solar targets by utility territory and system size** to ensure that not all solar capacity is realised with large-scale developments in areas that are already relatively well-serviced. A certain percentage of projects must be realised in under 1 MW projects. Particularly in New York City, finding suitable sites is challenging because **large parcels or rooftops that can support more than a few hundred kilowatts are both costly and hard to secure**. As a result, many projected sites in Con Edison territory will likely be under 1 MW. Additionally, a **higher added incentive** is available to projects that **benefit environmental justice communities** burdened by, for example, the proximity of fossil-fuel based electric power generating facilities.

PREDEVELOPMENT TECHNICAL ASSISTANCE

In addition to incentive programs that encourage LMI subscribers to join new and existing solar projects, *NYSERDA* offers the **Affordable Solar and Storage Predevelopment Technical Assistance Program**. This program provides funding to community organisations, housing providers, municipalities, and other developers to support solar and storage projects that serve LMI customers and disadvantaged communities (DACs). As of 2023, $5.1 million has been committed to 35 local initiatives throughout the State. The Program supports site assessments and permitting focused on predevelopment work (permitting, site selection, feasibility studies).

27 Behind-the-meter (BTM) refers to a generation unit that supplies electric energy to an end user on-site without connecting to the bulk power system or local electric distribution facilities. BTM systems are focused on self-generation and consumption, there are no subscribers in BTM systems, the benefits are limited to the owner or tenants of the property where the system is installed.

CONSUMER PROTECTION: GUARANTEED BILLS SAVINGS & REGULATORY ADVOCACY

In addition to the policies at state level, the federal **Community Solar Partnership** contains a couple of consumer protection provisions for low-income households.

First, it defined a target of at least **20% reduction in annual electricity bills** for residential subscribers of community solar to put them in terms of savings on par with average savings from individual rooftop solar installations.

In addition, some states in the United States are **actively facilitating community participation** in community solar (subscription model) projects by addressing barriers such as limited time, resources, or technical expertise. For example, some states allow proceeding participants ("intervenors") to recover the costs of their participation. In California, the **Intervenor Compensation Program** administered by the California Public Utilities Commission can cover the cost of having attorneys, experts, or other staff participate in regulatory proceedings on behalf of residential or small commercial electric utility customers. The goal is "regulatory advocacy," which means the program covers costs for legal and expert advice to help shape energy policies, rates, and customer protections, ensuring that the needs of LMI and DAC customers are considered in decision-making.

No more than 40% of a facility's generation can be attributed to one subscriber. These maximums are most relevant for non-residential subscribers that may have electricity loads high enough to subscribe to an entire project if they were allowed to do so. Non-residential subscribers can be desirable as they can lower the cost of a project by decreasing subscriber acquisition costs and ensuring that the developer has access to lower-cost capital.

ONGOING CHALLENGE: LIMITATIONS OF ENERGY SHARING, BENEFITS OF OWNERSHIP

The Climate Justice Working Group report highlighted community energy ownership as very desirable. It points out that ownership of distributed solar generation capacity '**is a way to grow community wealth and bring community control of the resources**.'[28] **Community ownership** of renewable IS desirable as it gives back control (protection from disconnection and unstable energy prices), and can be a source of generating income. However, to date, the biggest category of solar policies funded under the CLCPA is **community solar**, that is, off-site subscription models, where participating households benefit from energy savings generated by subscribing to an off-site solar power generation facility owned by a larger developer. The reason for this is that rooftop solar (ownership rather than sharing) '**faces significant barriers including**

28 NYSERDA, 'New York State Disadvantaged Communities Barriers and Opportunities Report'.

the lower likelihood of homeownership, the potential of LMI customers moving more often, and the lack of suitable roofs' (NY-Sun Expansion Order, pp. 24-24).

In line with the community solar policies in place, a 2024 study found that, to date, **LMI households are mostly benefitting from community solar (as subscribers)**, while higher income households have rooftop solar (as owners of solar): 'community solar adopters are about 6.1 times more likely to live in multifamily buildings than rooftop solar adopters, 4.4 times more likely to rent and earn 23% less annual income'.[29] However, overall, even with incentives in place, uptake of community solar among LMI households is still very small and made less than 1% of the total community solar market in 2024.

"COMMUNITY OWNERSHIP OF RENEWABLE IS DESIRABLE AS IT GIVES BACK CONTROL...AND CAN BE A SOURCE OF GENERATING INCOME"

Moreover, a **bill reduction of 20%** among LMI households, as prescribed in LMI solar subscription policies in the US, **still leaves LMI households an energy cost burden of of 10% or more of of their income**. A study in Massachusetts found that the policy reduced the energy burden of LMI households from 16.5 to 13.3%. Rooftop solar (ownership), by comparison, leads to 5-45% of reduction in bills among households whose energy burden is already only around 2% - way below the affordability threshold in the US of 6% of disposable income.[30]

Finally, despite its accessibility benefits (such as no upfront costs), community solar is a model that generates savings in energy bills but does not allow households to claim the benefits that come with **ownership of a renewable** energy generation – that is, generate additional **income through surplus energy** and be **protected from disconnections** for non-payment.

4. INCLUSIVE WORKFORCE DEVELOPMENT

The **CLCPA** emphasises the creation of green jobs, particularly in disadvantaged communities and segments of the population that may be underrepresented in the clean energy workforce, such as veterans, women and formerly incarcerated persons (CLCPA). *NYSERDA*'s **Clean Energy Workforce Development** programs provide training and job placement services in the renewable energy sector, ensuring that residents of these communities benefit from the clean energy transition and can secure skills and jobs beneficial for a carbon-neutral economy, with funding of

29 Eric O'Shaughnessy et al., 'Evaluating Community Solar as a Measure to Promote Equitable Clean Energy Access', Nature Energy 9, no. 8 (August 2024): 955–63, https://doi.org/10.1038/s41560-024-01546-2.

30 Jenny Heeter and Tony Reames, 'Incorporating Energy Justice into Utility-Scale Photovoltaic Deployment: A Policy Framework', Renewable Energy Focus 42 (1 September 2022): 1–7, https://doi.org/10.1016/j.ref.2022.04.003.

$170 million. A total of $52.6 million was allocated to create clean energy hubs in each of the state's ten economic development regions. The funding will also help build local capacity, ensuring that disadvantaged communities benefit from the growing clean energy economy. For example, the **Regional Clean Energy Hub** established in Buffalo offers workforce training programs to prepare residents for jobs in the renewable energy sector, with specific opportunities for historically underrepresented communities. This can include paid internship opportunities for job seekers, training for the green workforce, learning certifications, and developing transferable skills. Additionally, the Hub provides technical assistance and support for clean energy projects in low-income neighbourhoods, further ensuring that residents in these areas have the opportunity to participate in the growing renewable energy workforce.

These Hubs also help and provide information to individuals, small businesses, and affordable housing owners about the benefits of the clean energy economy, ways to reduce energy use and costs, and how to make more informed energy decisions.

The services they provide include:

- Assist with accessing job training and employment in the clean energy sector
- Discuss a home energy assessment and why it would be useful
- Help someone fill out an application for a free home energy assessment
- Show what types of energy incentives a person or business may qualify for
- Share information about clean energy upgrades and equipment, including heat pumps, solar energy, and weatherproofing, plus available incentives to reduce costs
- Find a qualified contractor to perform clean energy upgrades
- Locate a community solar program and help residents and businesses sign up for it

The **weatherization programs** are running into problems with workforce shortage, particularly in downstate New York. In response to this, *NYSERDA* also mobilised IRA funding for workforce development. *NYSERDA* plans to use US DOE funding to offer incentives for training and certification for over 6,000 residential energy contractors. The incentives will be higher for individuals from disadvantaged communities, Priority Populations, and for employees of Minority- and Women-Owned Business Enterprises (MWBEs) and Service-Disabled Veteran-Owned Businesses (SDVOBs).

The program will complement *NYSERDA*'s existing workforce develop-

ment and training initiatives, including *NYSERDA*'s **On-the-Job Training Program** which provides financial support to clean energy businesses to hire and train new employees. It reimburses 50-75% of their wages up to $24/hour for up to 6 months. This allows businesses to grow their workforce by bringing on new employees that they might otherwise not have been able to hire without the *NYSERDA* funding.

The **Thermal Energy Act** (discussed above) states that the decarbonisation of buildings must be pursued in a manner that is 'affordable, accessible, preserves and creates living-wage jobs'. It seeks to create jobs for disadvantaged communities. Specifically, it aims 'to promote the use of pre-apprenticeship programs that will fortify efforts to recruit and assist persons from underrepresented and low-income communities by providing such persons with remedial education, social services and unique opportunities for direct access into high quality apprenticeship programs and gainful employment in the growing building decarbonisation workforce'.

TARGETING: WHAT WORKS AND DOESN'T WORK

After this detailed discussion of specific policy areas, we conclude with some challenges in the design and implementation of the **CLCPA** more generally. The **DCIM**, namely the aim of directing 35-40% of benefits to underserved communities, depends on the correct identification of disadvantaged communities.

HOW WERE DISADVANTAGED COMMUNITIES IDENTIFIED?

The **CLCPA** uses two sets of indicators to identify disadvantaged communities: environmental burdens and climate change risks, on the one hand, and population characteristics and health vulnerabilities on the other. Within these two categories, the *CJWG* defined a total of 45 indicators. Based on the combined score of these 45 indicators, the top 35% of the census tracts are considered disadvantaged communities. Additionally, 19 tracts with federally designated reservation territory or State-recognised Nation-owned land are automatically classified as disadvantaged communities, regardless of their ranking based on these indicators.

In addition to the geographic disadvantaged communities criteria, the **CLCPA** recognises households with an annual income at or below 60% of the State Median Income as eligible, as well as households that are otherwise categorically eligible for low-income programs (i.e. Home Energy Assistance Program (HEAP)). Such criteria were added to account for rural poverty, as the geographic criteria favour areas with high population density.

The process was obtained by allocating a numerical score to each of New York State's 4,919 census tracts based on its relative performance over 45 variables divided into two categories:

1. **environmental burdens and climate change risk** (proximity to remediation sites, extreme heat projections, vehicle traffic density), and
2. **population characteristics and health vulnerabilities** (e.g., income below 80% of the area's median income, unemployment rate, percent of single-parent households, percent of Black, African American, or Asian households, or the percent of asthma emergency department visits).

Census tracts are a set of geographic units that are relatively stable over time. They contain a population size of between 1,200 and 8,000 people.

Census tracts serve the presentation of statistical data, and the targeting of the US Census Bureau delineates census tracts with the goal of relative homogeneity of indicators like income, race and health outcomes so that the averages are an accurate representation of the socioeconomic reality of one group rather than a meaningless average of different groups. The census tract boundaries can be updated by local participants as part of the Census Bureau's Participant Statistical Areas Program. Census tracts generally have a population size between 1,200 and 8,000 people.

WHAT ARE PROBLEMS IN GEOGRAPHIC TARGETING?

The geographical identification of disadvantaged communities purely by score led to problems, including relatively advantaged populations being identified as disadvantaged. For example, a segregated affluent white community on Long Island is marked as "disadvantaged" because it neighbours a marginalised community of colour.[31] Through a process of public consultations, such cases have been removed from the list of disadvantaged communities. However, the problem remains to some extent. In some census tracts marked as disadvantaged communities, it is the more advantaged households that become the beneficiaries of energy projects. For example, in thermal network construction, one of the pilot projects was named as 'located within a DAC [area] but not servicing DAC households' because it was middle-class households and not disadvantaged community households that were the beneficiaries of the project.[32]

"IN SOME CENSUS TRACTS MARKED AS DISADVANTAGED COMMUNITIES, IT IS THE MORE ADVANTAGED HOUSEHOLDS THAT BECOME THE BENEFICIARIES OF ENERGY PROJECTS"

To improve the targeting, in its final version of the DAC criteria published in 2023, the *CJWG* introduced additional criteria: LMIs are households with an annual income **at or below 60% of State Median Income** or otherwise eligible for the Home Energy Assistance Program (HEAP). This additional targeting is to account particularly for **rural poverty** and ensuring rural populations access to the State's energy affordability investments.

DOES THE INVESTMENT MANDATE RESTORE JUSTICE?

Restorative justice seeks to make up for previous harm by installing mechanisms that aim to compensate disadvantaged communities by allocating a share of the funding to them that is relatively larger than their share of the total population. In that, restorative justice seeks to compensate for previous exclusion from funding programs (such as redlining), environ-

31 Natalie Bump Vena, 'Opinion: Which NY Communities Are Most Susceptible to Climate Change Harms? Weigh In By Aug. 5', City Limits, 17 June 2022, https://citylimits.org/2022/06/17/opinion-which-ny-communities-are-most-susceptible-to-climate-change-harms-weigh-in-by-july-7/.

32 Upgrade NY, 'Nine Utility Thermal Energy Network Pilot Projects Advance,
Moving New York Closer To Neighborhood-Scale Clean Heat And Cooling'.

mental injustice (placement of polluting industries in the neighbourhood), disinvestment, and so forth.

While the selection process is elaborate and able to capture multiple inequalities, the **CLCPA** falls short in terms of restorative justice. The **CLCPA** disadvantaged community investment mandates decrees that 35%-40% of the benefits of climate funding should accrue to disadvantaged communities and income-eligible households. However, 35% of census tracts are defined as disadvantaged communities, and on top of that, an additional number of people qualify as beneficiaries through income eligibility. This means the total number of eligible households under the investment mandate is at or even higher than 35-40% of the total population. Restorative justice would demand that the policy makes up for **a past history of disinvestment and allocates a proportionally higher share of benefits to these previously disadvantaged groups than their share in the total population, which is not the case.**

FUNDING: WHAT WORKS AND DOESN'T WORK

GRANTS, NOT TAX CREDITS

Modelled after the **CLCPA**, the **Biden-Harris Administration adopted the disadvantaged communities investment mandate as part of its famous Inflation Reduction Act (IRA)**. Committing to $369 billion in investments and tax credits for environmental causes, it is one of the largest climate packages in U.S. history.

The majority of the IRA funding is handed out in **tax credits**, which is difficult to claim for low-income households that do not pay much in taxes and who also have difficulties making the upfront investment. To bridge this gap, the **Home Efficiency Rebates** program, which is a program of $8.8 billion federal state funding adopted with the IRA by the Biden administration in 2022 **specifically for states to pass on to low-income households who need to make energy-saving changes** to their properties.

In May 2024, New York state launched the **Home Electrification and Appliance Rebates (HEAR)** program. Through the federal **HEAR** program funding, New York State makes available $8,000 for heat pumps, $1,750 for heat pump water heaters, $2,500 for electrical wiring upgrades, $4,000 on electrical service upgrades and $1,600 on air sealing, insulation, and ventilation. The **HEAR** funding can be combined with **EmPower+** funding and can comprise up to $24,000 for low-income households. Eligible are owners of residential buildings with one to four units with household incomes below 80 percent of the Area Median Income.

REVENUES FROM CAP-AND-TRADE SYSTEMS FOR THE MOST VULNERABLE

With the adoption of the CLCPA, *NYSERDA* had to tap into **new forms of funding** in order to expand existing LMI programs under NY-Sun to **make them inclusive of a wider range of LMI households**. Before the adoption of the SEEF, solar programs were funded through the Clean Energy Fund (CEF). The CEF is funded through the surcharge applied to the bills of customers of regulated utilities, like large investor-owned utilities (Con Edison, National Grid, NYSEG). It can only benefit those who pay the surcharge. This means that until the adoption of the SEEF, utility customers, such as those served by municipal utilities, rural electric cooperatives, or public housing authorities, could not benefit from the LMI solar. To enlarge the circle of beneficiaries of LMI solar programs, *NYSERDA* leveraged $29 million in funding from the **Regional Greenhouse Gas Initiative (RGGI)**.

Unlike the CEF, RGGI revenues are collected from power plant operators through carbon auctions and can be allocated to various groups facing difficulties in the energy transition, including communities typically left out.[33]

To date, the RGGI Memorandum of Understanding (MOU) requires participating states to allocate at least 25% of carbon auction revenues toward 'consumer benefit or strategic energy purposes,' such as energy efficiency, renewable energy, or emissions reduction programs. However, states have broad discretion over how to use the funds and only some have taken steps to direct a portion specifically to disadvantaged communities. For instance, Delaware allocates at least 15% to low-income programs, and New York channels funding to include underserved groups through *NYSERDA* initiatives. Advocacy groups like the Acadia Center have called for stronger equity mandates, recommending that **40–50% of RGGI proceeds be invested in environmental justice communities**, though such ringfencing is not currently required across all states.

Ringfencing makes existing programs more inclusive. By allocating $800,000 of RGGI funding, New York made the Technical Support Program available for projects serving customers who are ineligible under the CEF. This helps non-utility-paying vulnerable groups benefit from energy communities—particularly those relying on delivered fuels, who remain highly represented in disadvantaged areas. By contrast, the **California Intervenor Compensation Program**, which supports regulatory advocacy for low-income households entering energy communities, is funded by utility ratepayers and can only be used by utility ratepayers.

PROPER RINGFENCING

The definition of the **Disadvantaged Community Investment Mandate** was quite contested and changed at the point of adoption of the law. Instead of mandating that no less than 35% of all clean energy funds be spent in disadvantaged communities, the adopted bill requires that 'no less than thirty-five percent *of the* ***overall benefits*** *of spending* on clean energy and energy efficiency programs, projects or investments' go to disadvantaged communities.[34] Environmental justice groups involved in the drafting of the law, such as the coalition NYRenew, argued that the State of New York should '**measure compliance with the investment mandate by dollars spent, not value of benefits**'.

Given the ultimate emergence of the term "benefits", NYRenew asked the state to develop an investment rubric 'to ensure **high and consistent**

33 NYSERDA and Department of Public Services, 'New York's 10 GW Distributed Solar Roadmap: Policy Options for Continued Growth in Distributed Solar'.

34 Justine Calma, 'Cuomo Guts Key Labor Provisions in Last-Minute Changes to New York's Landmark Climate Bill', Grist, 18 June 2019, https://grist.org/article/cuomo-guts-key-labor-provisions-in-last-minute-changes-to-new-yorks-landmark-climate-bill/.

standards for **what qualifies as beneficial spending** so that benefits will actually accrue to DACs'.[35] However, the implementation plans do not include any specific budget allocations.

A year after the adoption of the **CLCPA**, NYRenew called upon the State of New York to publicly audit all state agencies for compliance with the **DCIM**. In July 2024, in cooperation with New York Lawyers for Public Interest (NYLPI), NYRenew published its own evaluation report "Flouting the Law. Major State Agencies are Ignoring New York's Climate Mandates" saying **that state 'agencies have invested at least $1.9 billion in clean energy and energy efficiency** programs **without completing the requisite climate and equity screens or complying with the investment mandate**'. Investigating one of the main state development agencies, the Empire State Development Cooperative (ESD), which has historically contributed to environmental harms placed on disadvantaged communities, NYLPI found that it **did not commit any of its spending in alignment with the DCIM**.[36]

35 Hillary Aidun, Julia Li, and Antonia Pereira, 'The Climate Leadership and Community Protection Act's Environmental Justice Promise' (New York: Sabin Center for Climate Change Law, Columbia Law School, 2021), https://climate.law.columbia.edu/sites/default/files/content/CLCPA%20EJ%20White%20Paper%204.8.21.pdf.

36 NYLPI, 'Flouting the Law. Major State Agencies Are Ignoring New York's Climate Mandates' (NYLPI and NYRenews, 2024), https://www.nylpi.org/wp-content/uploads/2024/08/Flouting-the-Law_NY-Renews_NYLPI-Report_English.pdf.

CLCPA IMPLEMENTATION CASE STUDY: NYCHA SUSTAINABILITY AGENDA

As an example, for the implementation of the CLCPA and the associated benefits and challenges, we can look at the **New York City Housing Agency (NYCHA)**, which houses about 400,000 low-income residents. In September 2021, the NYCHA released its updated **Sustainability Agenda** that outlines the ambitious goal to reduce greenhouse gas emissions by 80% by 2050, in compliance with New York City's **Climate Mobilization Act (2019)**.

The main challenge of this housing stock is **deferred maintenance**. In 1973, President Nixon created a moratorium on public housing spending and introduced a voucher system which provides subsidies to private landlords for housing low-income tenants. Since then, public affordable housing stock has not only shrunk but, what does exist, has fallen into states of serious disrepair. 'Tenants were (and continue to be) forced to live with broken elevators, leaks, mould, faulty sewerage pipes, and pests as their buildings aged and required large-scale renovations and stabilisation'.[37] The **accumulated repair needs of the public housing stock are estimated at $78.3 billion,** including new flooring, windows, kitchen appliances, upgraded outdoor spaces, and security systems.[38] Lack of funding also lead to **vast mismanagement**: Public Housing Agencies have deliberately left units empty, failed to enforce statutorily mandated tenants' rights, did not follow up on critical documents such as lead inspections.[39]

"IN 1973, PRESIDENT NIXON CREATED A MORATORIUM ON PUBLIC HOUSING SPENDING AND INTRODUCED A VOUCHER SYSTEM WHICH PROVIDES SUBSIDIES TO PRIVATE LANDLORDS FOR HOUSING LOW-INCOME TENANTS. SINCE THEN, PUBLIC AFFORDABLE HOUSING STOCK HAS NOT ONLY SHRUNK BUT, WHAT DOES EXIST, HAS FALLEN INTO STATES OF SERIOUS DISREPAIR."

37 Elizabeth Gyori, 'Commodifying Public Housing: New York City's Use of the Rental Assistance Demonstration (RAD) Program As Neoliberal Political Project, Legal Rationality and Normative Theory', N.Y.U. Review of Law & Social Change 48, no. 1 (2023): 11.

38 The federal disinvestment of public housing started with a political decision to favour programs which subsidise the private sector. Since 2000 the overall budget of the US Department of Housing and Urban Development has been reduced by around 35% compared to the year 2000 and adjusted for inflation. Due to disinvestment and deferred maintenance, the number of public housing apartments fell from 1.3 million by the year 2000 to 950,000 homes in 2022. $70 billion is needed to meet the accumulated repair needs of the public housing stock.

39 Gyori, 'Commodifying Public Housing: New York City's Use of the Rental Assistance Demonstration (RAD) Program As Neoliberal Political Project, Legal Rationality and Normative Theory'.

In 2018, Mayor de Blasic announced that 62,000 NCHA apartments would receive comprehensive repairs by 2028. A substantial part of this commitment has already been implemented, including the following developments:

- **Manhattanville Houses (Harlem)**: A $445 million project is renovating 1,272 apartments, including new interior doors, windows, paint, air conditioners, and hardwired carbon monoxide/smoke detectors. Kitchens and bathrooms are being updated with new appliances, fixtures, countertops, cabinets, flooring, tubs, and showers. Building-wide improvements encompass energy-efficient heating and hot water systems, building envelope repairs, restored balconies, modernised elevators, electrical upgrades, ventilation improvements, façade repairs, and new security installations. Common areas and outdoor spaces are also being revitalised.
- **Brooklyn Bundle**: A $434 million revitalisation covers nine public housing developments across 37 buildings, totalling over 2,600 apartments. Renovations include full-scale replacements of kitchens, bathrooms, electrical panels, new flooring, roofs, elevators, windows, doors, plumbing fixtures, and trash removal systems.
- **Eastchester Gardens (Bronx)**: A $391 million project is set to rehabilitate 877 apartments. Upgrades involve new radiators, air conditioning, appliances, windows, and other building improvements, enhancing residents' quality of life.

COMMUNITY SOLAR AND INCLUSIVE WORKFORCE DEVELOPMENT

The NYCHA is one of the main beneficiaries of the **Solar Energy Equity Framework (SEEF)**. The NYCHA committed to hosting 30MW of solar renewable energy on its buildings and set the goal of putting solar panels on 15 of its buildings. In their 2024 progress report, the NYCHA reported that two leases of distributed solar energy[40] are currently under construction, accounting for 2.03MW and 869 kWh, respectively. Two additional leases are in negotiation. The NYCHA also built battery storage. Additionally, NYCHA receives a minimum of 20% of the power generated through the **Community Shared Solar** program dedicated to LMI New Yorkers.

This program is very important as many of the areas where NYCHA housing is located fall into the **Con Edison utility territory**, where the build-out of renewable energy is quite low and **electricity is generated mostly from fossil fuels.**[41]

40 Sol Purpose (for Pink, Parkside, Mariner's Harbor, Latimer Gardens, Richmond Terrace, New Lane) and Urban Energy (for Taft and King Houses)

41 NYISO, 'New York's Clean Energy Grid of the Future', The New York ISO Annual Grid & Markets Report (New

In solar development, NYCHA committed to employing NYCHA inhabitants. For example, for the **Sol Purpose** project, partner organisations (Green City Force and Solar One) focus on **hiring and training NYCHA residents** to do the installations. The NYCHA is also inclusive in choosing its contractors. Among the contractors is a New York-based Minority and Women-Owned Business Enterprise specialising in solar installation and an energy strategy consulting firm owned and operated by an NYCHA resident that manages community outreach and the enrolment of LMI electricity subscribers.

HOW IS THE PROGRAM FUNDED AND AT WHAT COST?

The NYCHA Sustainability Agenda says that key elements, such as electrification, deep energy retrofits, and partially also the construction of solar on NYCHA-owned buildings are **funded through the long-term leasing of approximately one-third of the NYCHA public housing stock to private developers**. This public-private partnership is presented in the Sustainability Agenda as the enabling conditions that allowed the NYCHA to use financial instruments such as tax credits and bonds that mobilise private investment for meeting accumulated repair needs of the public housing stock[42] estimated at $78.3 billion, including new flooring, windows, kitchen appliances, upgraded outdoor spaces and security systems.[43]

Introduced in 2012, privatisation schemes for public housing have been widely embraced as the solution to the problem of deferred maintenance and mismanagement. Most prominent among the, the Rental Assistance Demonstration (RAD) allows private landlords and management companies to receive federal subsidies in return for operating buildings or units serving low-income tenants. Unlike the voucher program mentioned before, project-based program funds the units or buildings themselves and require that a landlord to maintain tenants' rights such as waitlist and screening criteria. RAD has been widely embraced by Congress, State Department of Housing and Urban Development, Public Housing Authorities, developers, private landlords, and many affordable housing advocates as the solution for the chronic underfunding of public housing.[44] Since its first introduction, the cap on RAD conversions of public housing been raised three times from an initial 60,000 units nationally to 455,000 units. In addition, Public Housing Authorities are eyeing other similar pro-

York Independent System Operator, Inc., 2021), https://www.nyiso.com/documents/20142/2223020/2021-Power-Trends-Report.pdf/471a65f8-4f3a-59f9-4f8c-3d9f2754d7de.

42 The background of this is a political decision of federal disinvestment of the public housing in favour of programs which subsidise the private sector. Since 2000, the overall budget of the US Department of Housing and Urban Development has been reduced by around 35% compared to the year 2000 and adjusted for inflation. Due to disinvestment and deferred maintenance, the number of public housing apartments fell from 1.3 million by the year 2000 to 950,000 homes in 2022. $70 billion is needed to meet the accumulated repair needs of the public housing stock.

43 Tatyana Turner, 'NYCHA's RAD/PACT and Preservation Trust Plans, Explained', City Limits, 15 August 2023, https://citylimits.org/2023/08/15/nychas-rad-pact-and-preservation-trust-plans-explained/.

44 Gyori, 'Commodifying Public Housing: New York City's Use of the Rental Assistance Demonstration (RAD) Program As Neoliberal Political Project, Legal Rationality and Normative Theory', 14.

grams, such as the PACT (Permanent Affordability Commitment Together) conversion that is the primary tool used by NYCHA in the context of the sustainability agenda. NYCHA intends to privatise its entire public housing stock, which is the largest in the country. However, there are a number of problems with this narrative of the privatisation.

The first and most crucial is funding. The NY State Department of Housing and Urban Development calculated that the leverage ratio of the scheme is 19:1, that is, 19 dollars of private money for each one dollar of public money. However, this was a **miscalculation** that had **failed to properly distinguish between other public sector money therefore inflating the RAD leverage ratio.** RAD is subsidised by a wide array of governmental funding such as continued federal financing for Section 8 programs (subsidies to bridge the gap between market and affordable rents), federal aid such as federal emergency management support, governmental tax breaks for investors, such as LIHTC (Low Income House Tax Credit), and government housing incentive programs such as energy efficiency and solar grants, such as HEAP. All these funds, except for the rent paid by tenants, are paid by the government. Given all these, the **actual leverage ratio was 1.23:1**.[45]

Apart from the failed promise of attracting private capital, to provide the 99-year ground lease to private landlords, both **Public Housing Agencies and the relevant state departments** have to go through a '**complicated and paperwork-heavy [administrative] process**, PHA must liaise, negotiate and work with a multitude of actors, including HUD, prospective developers, private landlords, management companies, banks, development corporations, attorney, elected officials, and tenants'.[46]

The conversion also went along with **strain on the tenants**: decrease in services provided by NYCHA employees prior conversion, stalling of repair requests leaving tenants in unsanitary living conditions for the time of the conversion, or planned conversion as well as a year after the conversion. During conversion, a **further decrease in services** occurred that **threatened the security of tenure** as NYCHA employees refusing to add family member, effectuate interim recertification which can materially impact a tenant's rights because loss of applications to add family members, pets, or appliances pre-conversion can lead to eviction cases or succession issues post-conversion.

Once converted, **different management structures emerge** for different conversion. In some case, dubbed as "slumlords" for their bad treatment of tenants, repairs were at times of poor quality with pieces of the walls falling off and doorknobs breaking within two weeks after repair. The conversion also let to a loss of citywide transfer rights that NYCHA tenants had before if they required medical care from an institution that is more than 60 minutes away from their current location, if they are victims of

45 U.S. GOV'T ACCOUNTABILITY OFF., RENTAL ASSISTANCE DEMONSTRATION: HUD NEEDS TO TAKE ACTION TO IMPROVE METRICS AND ONGOING OVERSIGHT 10, 16 (2018), https://www.gao.gov/assets/gao-18-123.pdf

46 Gyori, 'Commodifying Public Housing: New York City's Use of the Rental Assistance Demonstration (RAD) Program As Neoliberal Political Project, Legal Rationality and Normative Theory', 18.

domestic violence, if the apartment is uninhabitable, for example. The privatisation also led to complication in the process of communication, as tenants must keep in mind and liaise with three separate entities: NYCHA section 8 department for adding household members, new private management company for repairs, and new private landlord, if legal action is required. The splitting up of management leads to disrupting solidarity among NYCHA tenants who are now subject to different rules. Finally, the RAD has also been criticised by labour unions as private entities provide not only poor quality services, but undercut unionised wages.[47]

"RENTS IN US PUBLIC HOUSING ARE FEDERALLY CAPPED AT 30% OF A HOUSEHOLD'S INCOME...DESPITE THE LABEL OF "AFFORDABILITY", SPENDING [THIS] CAN STILL BE A SIGNIFICANT BURDEN ON RESIDENTS WITH VERY LOW INCOMES."

The conversion allows private landlords, management companies, and developers to collect a variety of fees and payments: rent paid by tenants, management fees, developer fees, and federal subsidies meant to match market-rate rents, which become **even more profitable if building operations minimise costs**. For example, the maintenance of transfer rights has been **denied in court on the ground of the argument that it would cause additional administrative costs** to reproduce the NYCHA transfer system among the newly privatised entities. The disavowal of the transfer right, 'assumes that the purpose of public housing is **simply to provide a roof and four walls over the heads of marginalized tenants' rather than a place to thrive and enjoy a good life**[48].

Finally, the question of affordability. Rents in US public housing are federally capped at 30% of a household's income. The **PACT** conversion to private management emphasises to "remain affordable", that is, to not charge more than 30% – but also not less than that. Despite the label of "**affordability**", spending 30% of income can still be a significant burden on residents with very low incomes. Based on data from 2020, NYCHA reported that nearly 40% of its households are in arrears, despite some NYCHA tenants paying even less than 30% of their income in rent. With the conversion, all households will have to pay 30%.Human Rights Watch warned that the conversion had already led to an **increase in the eviction rate in NYCHA buildings**. At one of NYCHA's first conversions at Ocean Bay in Queens, the permanent eviction rate was 1.4% in 2017 and 1.1% in 2018 and 2019. These rates are more than **three times higher** than NYCHA's city-wide annual permanent eviction rate for these years of 0.3%.[49]

47 Gyori, 19.

48 Gyori, 53.

49 Jackson Gandour, '"The Tenant Never Wins"', Human Rights Watch, 27 January 2022, https://www.hrw.org/report/2022/01/27/tenant-never-wins/private-takeover-public-housing-puts-rights-risk-new-york-city.

The argument of how private entities can bring in bond financing overlooks how crumbling public infrastructure across the U.S. has been accompanied by this dominant financing model. In New York, for example, the Metropolitan Transit Authority (MTA)—which runs the city's subways and commuter rails—has faced pressure from private investors to raise tolls and fares in order to maintain its bond ratings and reduce borrowing costs. While this may appeal to financial markets, it has led to a steep rise in debt servicing costs, even as revenues have declined and service quality has worsened. As a result, the public ends up paying more through increased tolls and fares, while receiving little to no improvement in service. This trend highlights a broader issue: when public benefit corporations rely heavily on debt financing to fund infrastructure, it often leads to greater financial burdens on the public without delivering better outcomes.[50]

The **main question that remains is why**, with significant management effort for the conversion and public funding during and after the conversion and the lack of private money leveraged, **it is necessary to do the repairs via privatisation**. it is unclear why creating an entirely new administrative and legal process was considered a better way to fund repairs for public housing developments than simply adequately funding public housing with public money. RAD's proponents say, that repairs occur 'without having to provide a cent more in public financing'[51] and that has been politically attractive. The reality is however a different one. The only thing that disappeared is overt public funding for public housing while conditions for tenants did not improve beyond what the state could have provided if it invested into the repairs and into improving management.

The case study shows that the critique of the privatisation of public housing is not simply about rent increases and the displacement of tenants, but about the **absorption of public money by private entities that convert management to a profit motive and not the protection of tenants**. It is also about the question **why public money should be spend on financialisation and private entities when it does not bring substantial, additional public benefits**.

50 David Meyer and Vincent Barone, Subway Riders Might Pay for MTA's Debt with Fare Raises, Cut Service, N.Y. POST (Mar. 11, 2020), https://nypost.com/2020/03/11/subway-riders-might-pay-for-mtas-debt-with-fare-raises-cut service/

51 AD Fact Sheet, RAD RESOURCE DESK, https://www.radresource.net/pha_data2020.cfm

12 LESSONS FOR THE EU

DECARBONISATION OF HEATING AND COOLING

1. EFFICIENCY FIRST – ELECTRIFICATION STARTS FROM REPAIR & RENOVATION

The EU recognises the need for efficiency first in the EED, particularly for vulnerable households. Article 24 states that Member States 'shall implement energy efficiency improvement measures ... as a priority among people affected by energy poverty, vulnerable customers, people in low-income households, and where applicable people living in social housing.' To support these groups, Member States shall 'make best possible use of public funding ... for investments into energy efficiency as a priority measure'.

The revised EED also includes a specific requirement that Member States 'achieve a share of their energy savings among people affected by energy poverty, vulnerable customers, and low-income households.'

The EPBD complements this with a target that at least 55% of the average primary energy use reduction should come from renovating the 43% worst-performing residential buildings. For non-residential buildings, it emphasises renovation of the worst-performing stock as a priority due to their high decarbonisation potential and social benefits.

What is missing

The poorest often need basic repairs before energy efficiency measures. Electrification programs are sometimes included in plans targeting low-income households without showing how they comply with the efficiency first principle.

Why it is important

Low-income households, especially in private rentals, often live in buildings with serious maintenance issues. Heat pumps require a minimum level of energy efficiency to function properly and avoid high bills. They also need safe, modern electrical systems. FEEDS estimated in 2021 that around half of EU buildings have obsolete wiring, posing safety risks during electrification.

Lesson for the EU

The EU can follow the US example by adopting *electrification-readiness* as a metric and setting binding targets for electrification-ready homes among low-income households.

2. TARGET VULNERABLE HOUSEHOLDS AND POLLUTED AREAS DISTRICT HEATING AND COOLING

EU directives emphasise the role of renewable and waste energy in district heating and cooling. The 2018 **Renewable Energy Directive (REDII)** sets a target for annually increasing renewable district heating and cooling, and encourages Member States to allow third-party access to grids. The **Energy Efficiency Directive (EED)** promotes developing the economic potential of efficient district heating.

The **Ambient Air Quality Directive** underlines the need for measures in 'areas where vulnerable population groups, including children and older people, are exposed to high levels of air pollution.'

The EU recognises the potential of renewable and excess heat to meet future district heating needs. The council conclusion adopted in December 2024 calls upon the Commission to prepare a strategy on expanding **geothermal energy**. Geothermal could supply up to 75% of heating and cooling needs by 2040, though it made up less than 3% of supply in 2022.

What is missing

No EU directive sets specific targets for district heating benefits for **vulnerable households** or **polluted areas**.

Why it is important

District heating and cooling are communal solutions well suited to addressing both **energy poverty** and **air pollution**. Without clear targets, vulnerable communities risk being excluded from the transition.

Lesson for the EU

The **CLCPA** in New York offers a model: its **Thermal Energy Network and Jobs Act** requires that 25–40% of benefits from thermal networks go to disadvantaged communities. The EU should integrate similar targets in its **geothermal strategy**, ensuring benefits arrive at low-income households and polluted areas.

3. SAFEGUARDS AGAINST ENERGY AND GRID COST INCREASES

The EU has set the goal to **double the share of electricity** in the Union's final energy consumption by **2040**. This transition involves not only switching end-user technologies (from combustion to electric), but also expanding and modernising **electricity grids**. The Commission estimates that electricity network development will require

investments of **€500 billion by 2030**. These infrastructure costs will be at least partially **recovered from electricity consumers via grid tariffs**, directly impacting electricity bills.

The **Energy Efficiency Directive (EED)** underlines in Article 24(3) that Member States must 'make best possible use of public funding' to support energy efficiency for people in energy poverty and social housing, which implies that any rise in electricity costs should be mitigated for these groups.

The **Energy Taxation Directive (ETD)** recast proposal includes provisions on exempting energy poor households and charitable organisations from the energy excise on heating fuels and electricity for a period of 10 years.

What is missing

There is **no clear policy** outlining **who bears the costs** of grid expansion and modernisation. Higher income households consume more electricity, designing the grid tariff based on volume of consumption can be one way to ensure that low-income households do not subsidise the network connection of better-off households with more high-intensity equipment. Also, there is no regulation addressing the **distribution of new electrification-related costs**, especially how they may **shift from landlords or the state to tenants**.

Why it is important

Electrification, if not equitably managed, **risks transferring heating costs** that were previously borne by **landlords or covered by social aid** to **tenants and low-income consumers**. This is already a problem in parts of the EU, where energy-poor households face **higher bills** not due to usage, but due to fixed network charges passed through grid tariffs. Higher-income households

Lesson for the EU

The EU should adopt a strategy for **'beneficial electrification'** that includes **mandatory equity assessments** for any electrification program or grid development. These assessments should evaluate the **distributional impacts** on vulnerable households, including **potential price increases** from grid tariffs and the **shifting of heating costs** to tenants or energy-poor consumers.

4. ADDRESS FINANCIAL BARRIERS - COVER 100% OF UPFRONT COSTS

The EU already recognises the **difficulties energy poor households face in accessing commercial loans and lacking own resources**, and asks Member States to provide adequate support. The **Energy Performance of Buildings Directive (EPBD)** provides that Member States shall 'provide appropriate financing, support measures and other instruments able to address market barriers in order to deliver the necessary investments identified in their national building renovation plan' (Art. 17(1) EPBD), and shall also 'assess and, where appropriate, address barriers related to up-front costs of renovations' (Art. 17(3) EPBD).

The **Commission Recommendation on Energy Poverty** recognises that 'structural measures, especially those for access to energy efficiency, building renovation or renewable energy require significant upfront and continuous funding' and that it is 'important that public expenditures and financing schemes are adequately adapted to support vulnerable households in energy poverty'.

Moreover, the Recommendation acknowledges that **households affected by energy poverty lack own resources and have limited access to commercial loans**, and therefore 'need public financial support that can take the form of direct upfront subsidy, a direct payment for the energy efficiency or renovation works.'

The **Staff Working Document** accompanying the Recommendation further specifies that '[w]hen it comes to financing measures aimed at energy poor, the primary obstacle to implementing energy efficiency measures, including transition to renewable energy sources, is the lack of access to capital due to their low credit rating. Therefore, vulnerable groups in energy poverty should preferably have access to grants.'

These statements reflect a growing awareness at EU level that **market-based financing models alone are insufficient** for reaching low-income households and achieving inclusive climate goals.

What is missing

Despite the language in the EPBD and the Energy Poverty Recommendation, there is still **no clear and binding commitment** at EU level that **low-income households should receive 100% grant-based support** for renovation and energy transition measures. Many Member States are left with flexibility, resulting in mixed and often inadequate approaches.

Why it is important

Despite these important provisions and recommendations, **many Member States design their renovation support schemes in ways that continue to require co-financing or upfront contributions** from households. This design **effectively excludes energy poor households** who have neither the capital nor the credit rating to participate in these programs, even when they are most in need. Without addressing this gap, EU climate and energy goals risk reinforcing social inequalities rather than alleviating them.

Lesson for the EU

Cover 100% of upfront costs for low-income households and ensure that **a network of certified contractors** can be **paid directly by the state** or program administrators. This would unburden low-income households from upfront expenses, increase uptake, and ensure renovations are accessible, fair, and inclusive. The EU should make this a binding requirement in the implementation of climate and building renovation policy.

5. MULTIPLE FORMS OF OUTREACH AND ELIGIBILITY ASSESSMENT

The **Energy Performance of Buildings Directive (EPBD)** already recognises that there can be **administrative hurdles** for low-income households to access funding. It requires Member States to 'ensure that applications and procedures for public financing are simple and streamlined in order to facilitate access to financing, especially for households' (Art. 17(2) EPBD).

The **Staff Working Document** accompanying the **Commission Recommendation on Energy Poverty** also stresses that '[g]rants and subsidies should have easy administrative rules and the lowest administrative complexity possible. They should be accompanied by other initiatives, such as targeted information campaigns, communication and empowering measures.'

These provisions acknowledge that simplifying procedures and actively reaching out are necessary to ensure that vulnerable groups can benefit from energy transition programs.

What is missing

Despite these provisions, **many national schemes rely on single, narrow eligibility criteria** and a passive approach to outreach. However, **targeting of energy poor households has to consist of multiple methods and eligibility criteria**. Energy poor households are among those that often **fall through the cracks of traditional state aid systems,** for example, households with insecure tenancy, undocumented status, or informal income sources.

Relying solely on piggy-backing on existing forms of state aid (such as automatic

eligibility based on social welfare receipts) can reduce administrative burden but risks excluding many who are in need but not formally recognised as beneficiaries. This is especially problematic in **Member States with less comprehensive social security systems**, where many vulnerable groups remain invisible to formal eligibility mechanisms.

Why it is important

Without **proactive, flexible outreach** and eligibility mechanisms, even well-funded programs risk failing to reach the very people they are intended to help. Households with insecure living conditions, low digital literacy, language barriers, or mistrust of public institutions may **never apply** if outreach is not diversified and inclusive. Moreover, if Member States do not **combine categorical eligibility with local identification efforts**, such as partnerships with trusted community-based organisations and local governments, they will miss large portions of the energy poor population.

Lesson for the EU

In the drafting of **National Building Renovation Plans (NBRPs)** and **Social Climate Plans (SCPs)**, **Member States should be required to implement diversified outreach strategies and flexible eligibility assessments**. This includes **automatic or categorical eligibility** based on participation in other state-aid programs where feasible, but also **active cooperation with community organisations and local authorities** to identify households who are poor but not formally registered as such. These actors can help bridge the gap between policy and people. See also **Lesson 10 on inclusive governance**.

6. PREVENT EVICTIONS AND DISPLACEMENT

The **Energy Performance of Buildings Directive (EPBD)** acknowledges that 'inefficient buildings are linked to energy poverty and social problems. Vulnerable households are particularly exposed to increasing energy prices as they spend a larger proportion of their budget on energy products. By reducing excessive energy bills, building renovation can lift people out of energy poverty and also prevent energy poverty. At the same time, building renovation does not come for free, and it is essential to ensure that the social impact of the costs for building renovation, in particular on vulnerable households, is kept in check.' It stresses that the **Renovation Wave strategy should leave no one behind** and be seen as an opportunity to improve the situation of vulnerable households, calling for a fair transition. To this end, it states that **financial incentives and other policy measures should as a priority target vulnerable households, people affected by energy poverty, and people living in social housing**, and that **Member States should also take measures to prevent evictions because of renovation, such as caps on rent increases** (Recital 63). The directive explicitly mandates that **'Member States shall address the eviction of vulnerable households caused by disproportionate rent increases following energy renovation of their residential building or building unit'**.

Additionally, the **Council Recommendation on ensuring a fair transition towards climate neutrality** calls on Member States to **'ensure access to affordable essential services and housing, in particular for those in vulnerable situations.'**

What is missing

These provisions primarily focus on **rent increases after renovation**, but **displacement frequently occurs even before renovations begin**. This is visible both in the U.S. and in the EU.

For example, the **Corvin Quarter development in Budapest** saw the **municipality demolish social housing buildings**. The treatment of residents who had to vacate their homes varied sharply based on their **rental contract type and financial situation**. Households with **open-ended contracts and no utility or rent debt** were eligible for compensation. However, around **20% of Hungarians have utility debt**, with even higher rates among poorer households. These indebted households were **typically evicted without compensation or alternative housing**, and some ended up homeless.

Tenants with **closed-ended rental contracts**, such as one-year leases, were not compensated at all.

Even among those who received compensation, **amounts varied widely and were generally too low to secure a comparable apartment in the same area**. Many were forced to **relocate to rural areas**, where housing prices aligned with the compensation but **comfort levels were often even lower** than the already substandard conditions of municipal housing stock.

Why it is important

While **rent caps and eviction monitoring after renovation** are necessary tools, they are **insufficient to prevent displacement throughout the full renovation process**. Vulnerable households can be pushed out even **before any renovation begins**. A full understanding of the social impact of renovation requires **monitoring from the moment a building is identified for renovation** through its completion. **Without this, many tenants, especially those with debt or insecure tenure, will be left behind.**

Lesson for the EU

In addition to addressing post-renovation rent increases, **Member States should implement comprehensive safeguards that cover the entire renovation process - from project planning through completion**. This includes **monitoring displacement risks**, securing **tenant protections regardless of contract type**, and **ensuring that compensation reflects real housing costs** in the same area. The **NYCHA case in the U.S.** shows the importance of an integrated cooperation process involving public agencies and tenant advocates.

The EU should require Member States to include a displacement prevention and tenant protection strategy in their renovation plans, with specific measures for households at risk due to debt or insecure contract.

ENERGY COMMUNITIES & ENERGY SHARING

7. BENEFIT SHARING: BINDING TARGETS FOR VULNERABLE AND LOW-INCOME CONSUMERS AND AREAS WITH HIGH POLLUTION

The EU legislative framework includes **Renewable Energy Communities (RECs)** and **Citisen Energy Communities (CECs)**, defined respectively in **Article 2(16) of the Renewable Energy Directive (REDII)** and **Article 2(11) of the Electricity Market Directive (EMD)**. These directives **recognise the participation of vulnerable and low-income households as an objective**.

REDII requires that Member States **ensure through enabling frameworks that 'participation in renewable energy communities is accessible to all consumers, including those in low-income or vulnerable households.'**

The **Energy Efficiency Directive (EED)**, which introduced the first EU-wide definition of energy poverty, emphasises that **energy communities can help fight energy poverty** by enabling energy efficiency, reducing consumption, and lowering tariffs (Recital 92). The recast **EMD** also addresses **energy sharing**, stating that **Member States must take appropriate and non-discriminatory measures** to ensure energy poor and vulnerable households can access these schemes. These measures **may include financial support or production allocation quotas**.

WHAT IS MISSING

Despite the recognition of the role of energy communities in addressing energy poverty, none of the directives set binding targets for participation by vulnerable or low-income households, nor do they prescribe minimum benefit thresholds or consumer protections.

In particular, there is no requirement that public funding or grid access for energy communities be contingent on delivering benefits to low-income consumers or those in polluted areas, where access to clean and affordable energy alternatives is especially urgent.

In practice, this gap means that energy communities can develop in ways that reproduce energy inequality, failing to reach or actively include the households most in need of support.

WHY IT IS IMPORTANT

As the EU expands energy communities as part of the **Clean Energy for All Europeans Package**, these entities are expected to become key players in ensuring energy access and affordability.

However, without **binding targets or obligations**, Member States may fail to design enabling frameworks that **truly prioritise or protect vulnerable consumers**.

Moreover, vulnerable households are often **locked out of participation** due to **previous disconnections, lack of district heating access, or limited upfront capital**—precisely the kinds of barriers that targeted benefit-sharing rules could address.

Polluted areas, often overlapping with low-income communities, would also benefit most from decentralised clean energy options, yet remain underprioritised.

LESSON FOR THE EU

The EU should go beyond general encouragement and **require that a share of public funding for energy communities be tied to tangible benefits for vulnerable and low-income households**, including those with past disconnections and those outside district heating sones.

Additionally, **Member States should be required to prioritise energy communities in areas with high air pollution** and to report on how disadvantaged groups are included and protected.

This can be implemented through **binding targets, minimum benefit thresholds, and equity impact assessments** in all national energy community programs.

8. CONSUMER PROTECTION FOR VULNERABLE MEMBERS OF ENERGY COMMUNITIES

Make sure that low-income households benefit from energy communities and energy sharing by

- **Guarantee bill savings**: energy poor customers have to receive priorly set and guaranteed bill savings (see here for similar recommendation for the EU)
- **Limit grid costs:** energy poor households that participate in energy sharing should be freed from grid costs, grid costs should be paid by the largest consumers irrespective of the siting of the energy generation.
- **Prioritise household customers**: set limits on the participation of corporate actors in energy communities

Protect vulnerable customers vulnerable consumers in energy communities should enjoy at least the same **consumer protection** as utility energy consumers, preferably use the transition to community energy to increase protection for these households, such as guaranteed cost savings, access to clear pre-contractual information, have the right to switch supplier and a guarantee that they will not be disconnected.

Strengthen the voice of vulnerable customers and households in energy poverty: To make enable energy poor households to participate in energy projects and markets and also to protect their rights as consumers, we propose to adopt r**egulatory advocacy along the lines of the** Intervenor Compensation Program in California which covers the cost of attorneys, experts, or other staff participate in regulatory proceedings on behalf of residential electric utility customers to help shape energy policies, rates, and customer protections, ensuring that the needs of energy poor and vulnerable customers are considered in decision-making.

INCLUSIVE WORKFORCE DEVELOPMENT

9. TRAIN AND EMPLOY WORKERS THAT WERE LEFT BEHIND

The **Union of Skills and Quality Jobs Roadmap** is a step in the right direction. The focus on skills, adult learning, vocational and education training and access to training is the right direction. The Council *Recommendation on the Integration of the Long-Term Unemployed* provides a strong model for action. By applying its principles—personalised support, skills development, and employer engagement—the EU can better connect long-term unemployed individuals with quality jobs in clean industries.

This means investing in targeted training programs, incentivising employers to hire and train these workers, and involving national employment services in providing active labour market services. These measures can ensure that vulnerable people can access jobs and by activating people, the industry can access a new pool of workers for a place-based delivery of the green transition to the transition.

It is important that in-kind benefits in the form of services are accessible to the most vulnerable and coordinated: for example, child-care that is available only if both parents are working excludes unemployed from training opportunities. A more prominent role of the local government in service provision should go along with more funding arriving at the local level.

A key opportunity lies in the renovation and construction sectors: training workers in vulnerable regions and giving them hands-on practice can directly contribute to upgrading the least-performing homes and constructing truly affordable homes. These measures can also help deliver the Affordable Housing Plan in a place-based way. Cohesion funding should actively contribute to the activation of the workforce to provide sufficient and well-trained capacity to deliver the transition, and this will improve social cohesion and deliver green. With every €1 million invested in energy renovations creating an average of 18 jobs, this is a win-win for workers, communities, and the climate.

10. INVOLVE AFFECTED POPULATION INTO THE POLICY MAKING PROCESS

Key pieces of legislation are implemented with planning documents that require stakeholder consultations. These include the EPBD (NBPRs), the EED (NHCPs), and funding instruments such as the SCF (NSCPs). Participation processes are regulated by the *Governance Regulation (EU) 2018/1999*, the Strategic Environmental Assessment (SEA) Directive, and the international Aarhus Convention. Member States must ensure that stakeholders—especially civil society, vulnerable groups, and subnational authorities—are *informed and have opportunities to participate early and effectively* in the preparation of plans.

What is missing?

Accountability for stakeholder consultation during the planning process remains low. WWF and CAN Europe have pointed to serious deficiencies in participation for the NECPs, with consultations often formalistic, inaccessible, or lacking in transparency. In the case of the EC Guidance for Participation in the preparation of the Social Climate Plans, targeted stakeholder consultations are presented as optional next to general public consultations, although the SEA Directive mandates targeted stakeholder consultations with groups affected by the plan. Moreover, what is missing is a *requirement* for *permanent and inclusive monitoring bodies* that oversee both the *implementation* and *results* of these measures and plans. The *Climate Leadership and Community Protection Act (CLCPA)* in New York demonstrates how such bodies can work for meaningful, institutionalised oversight rather than one-off consultations.

Why is it important for the EU?

Targeting the most vulnerable remains problematic in most Member States, as one-off consultation does not ensure sustained attention to their needs. Without permanent structures, issues of mis-implementation, inequity, or lack of access to benefits (e.g., in energy efficiency schemes or climate funding) are often identified too late or not at all.

Lessons for the EU:

- **Strengthen compliance with mandatory targeted stakeholder consultations:** Include binding requirements for consulting households affected by the plan in transparent, early, and accessible consultation
- **Institutionalise inclusive governance bodies**: The EU should go beyond minimum

consultation requirements and promote permanent advisory councils—particularly for SCF, NECPs, and climate-related social investments—that include civil society, vulnerable groups, and local actors in both planning and monitoring.

FUNDING

11. DO RINGFENCING - EFFECTIVELY

A number of directives and recommendations at EU level emphasise that **public money must be used effectively** to support those who **lack access to market-based funding** due to limited capital reserves and poor credit ratings.

- The **Energy Performance of Buildings Directive (EPBD)** states that **'Financial incentives shall target, as a priority, vulnerable households, people affected by energy poverty and people living in social housing'** (Art. 18).
- The **Energy Efficiency Directive (EED)** includes provisions on funding vulnerable households, including through **ETS revenues and the Social Climate Fund (SCF)**.
- The **Commission Recommendation on Energy Poverty** urges Member States to **'accommodate their plans and programs financed from the Union funds to target vulnerable households in energy poverty'** (point 43).

These directives and recommendations refer to particular funding instruments: the Social Climate Fund, ETS1+2 revenues, funds from the EU budget.

In order to make sure that the intentions are realised, it is important to have proper ringfencing and targeting, particularly for the MFF and for the revenues from the Emission Trading System, including the Social Climate Fund.

LESSONS FOR THE EU:

MFF:

The Cohesion Fund needs to target lower performing regions, but also pay attention to within regional inequalities. To do so, ERDF and ESF funding needs to be coupled strategically. ERDF should target the worst stock, national and local governments should distribute them by covering up front costs. The ESF+ should facilitate the access to funding by tackling key barriers, like debt and informality + technical, social and administrative assistance from the beginning to the end.

ETS:

Currently, the EU adopted rules for the usage of ETS1+2 funding, including social purposes. However, the exact percentage is unclear, leaving Member States lot of space. A clear quote would enhance policy making and investment planning for energy transi-

tion programs that are for the most vulnerable.

New York's experience with expanding solar access shows how emission trading revenues can be mobilised for social investments by allocating them into climate and energy justice measures. In the EU, ETS revenues can be allocated through the SCF to make sure they reach the most vulnerable.

PUBLIC AND AFFORDABLE HOUSING

12. PUBLIC MONEY FOR PRIVATE INVESTMENT FOR DISTRICT-LEVEL RENOVATIONS SHOULD COME WITH COMPREHENSIVE CONDITIONS AND MONITORING

The EPBD promotes district-level renovations to 'stimulat[e] the volume and depth of building renovations and... lead to a quicker and cheaper decarbonisation' and urges MS to provide 'higher financial, fiscal, administrative and technical support' to incentivise programmes targeting many buildings, especially worst-performing ones, through integrated district renovation. It also stresses renovations must not result in evictions or rent hikes (see lesson 6).

The EPBD underlines the role of financial institutions in offering 'targeted financial products, grants and subsidies' for buildings housing vulnerable households, including rural and multi-unit worst-performing buildings. A new draft delegate act—the Portfolio Framework to Increase Lending for Energy Renovations—aims to:

- **increase lending for energy renovations**
- **safeguard vulnerable households through blended funding**
- **encourage identifying and renovating worst-performing buildings.**

What's missing?

Beyond evictions and rent increases, the NYCHA case shows risks like fragile tenure due to poor transition management and loss of tenant rights (e.g., unit transfer), poor repairs, and unclear accountability. Public money should include criteria to prevent schemes driven by private profit over vulnerable tenants' rights and well-being.

Why it matters for the EU:

Institutional investment and privatisation of housing in the EU is worsening conditions for vulnerable groups—renovictions, gentrification, poor maintenance (FEANTSA 2024). With the upcoming Delegate Act on private financing for renovations, strict social standards and conditions for public money are crucial.

Lessons for the EU:

- Prioritise non-profit, public, cooperative, and social housing over private capital in the Affordable Housing Action Plan.
- Avoid evaluating social housing by how much private capital it attracts; this often undermines housing's social function.
- Make public investment visible and tied to permanent affordability and strict social conditions.

CONCLUSIONS

In the EU, the fair transition is currently hindered by an imbalance: **decarbonisation goals are largely binding** and **tied to clear indicators**, whereas policies ensuring the **"fairness"** of the transition are mostly **non-binding** and **lack the indicators** required to monitor progress.[52] The climate conditionality is not currently matched with a social conditionality. Social inclusion is added to climate policy frequently only as an afterthought. We believe that the CLCPA represents an important and, indeed, **pioneering first attempt at matching decarbonisation targets to equality indicators in the very design of climate policy**. It also shows the importance of mainstreaming energy justice considerations through related pieces of legislation, such as, importantly, consumer protection and tenant law.

52 Sabato and Vanhille, 'The European Green Deal and the "Leave No One Behind" Principle. State of the Art, Gaps and Ways Forward'.

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