

Why Multifamily Affordable Housing Lenders Must Manage Climate Risks, and How to Start

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The purpose of this discussion brief is to explore these questions:

- What is climate resilience, and what does it look like in the multifamily affordable housing (“multifamily”) sector?
- How is climate change relevant to real estate lenders, investors, and insurers?
- How is climate change especially relevant to multifamily housing tenants and capital providers?
- How is resilience currently being incorporated into disaster recovery efforts?
- How can the multifamily sector make a strategic shift toward proactive resilience?

Are you working on climate resilience in multifamily housing? Do you have responses to these questions? Learn more about the Multifamily Climate Resilience Finance Working Group and participate in this growing dialogue at <https://sahlln.energyefficiencyforall.org/climateresilience> to participate in this growing dialogue.

What is climate resilience, and what does it look like in the multifamily housing sector?

Broadly defined, resilience is “the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience.”²

This broad definition of resilience encompasses shocks and stresses including, but not limited to, those related to climate change. Climate-related shocks include storms with high winds and precipitation, heat waves, droughts, wildfires, hurricanes, floods, and tornadoes. Non-climate related shocks include cyber and terrorist attacks. Sources of chronic stress on individuals and communities include poverty, racism, urbanization, and globalization. From a community perspective, holistic resilience consists of capacity to withstand all relevant shocks and stresses.³

In the context of this broader conception of resilience and because of the emergent nature of climate-related risks, this fact sheet focuses specifically on climate resilience. For a multifamily housing property, climate resilience is the ability of a building to remain functional or recover quickly after a major disruption.⁴

Strategies for bolstering climate resilience in the multifamily sector include, but are not limited to:

- *Emergency preparedness planning* before disaster strikes helps to limit disruption by engaging residents, strengthening social cohesion, and ensuring provision of critical services during and after a shock. This planning can happen at the city, neighborhood, or individual property level.
- *Upgrading individual existing properties to be more resilient* can make those properties better able to provide a livable space during and after a disruption as well as reduce ongoing operating, replacement, and insurance costs (see box 1).
- *Updating existing processes* includes reviewing existing planning, funding, design, construction, and operations processes to ensure that all new infrastructure built and maintained within that framework will be resilient.
- *Building neighborhood-level green infrastructure*, like rain gardens that reduce the volume of stormwater runoff, reduces the risk that properties in the area surrounding the infrastructure will be damaged due to extreme weather events.

By becoming more holistically resilient, multifamily housing properties become pillars in the overall system of infrastructure. By maintaining operations through shocks and any potential underlying stresses, their stability not only benefits residents, property owners, and property investors, but also the broader community. A resilient building strengthens the overall community system, while individual building elements also become safer and stronger.

BOX 1. EXAMPLE MEASURES FOR UPGRADING AN EXISTING A MULTIFAMILY PROPERTY⁵

- Relocate or protect equipment that shouldn’t be exposed to water.
- Use moisture-resistant building materials below the design flood elevation (DFE).
- Seal all cracks and openings in exterior walls below the DFE.
- Install backflow prevention devices in floor drains, and permanently seal floor drains that are no longer in use. Before anticipated flooding, sandbag the floor drains.
- Obtain waterproof covers for vents and louvers located under the DFE and install them before an anticipated flood.
- Ensure that all equipment located on the roof and attached to the building is properly anchored.



The Town of Pacific Junction Iowa Submerged in the Flood of March 2019. Photo: iStock

How is climate change relevant to real estate lenders, investors, and insurers?

As climate change continues to increase the frequency and severity of extreme weather events, those with financial interests in real estate ignore at their peril the potential financial consequences of climate change on their portfolios.

- Impacts of climate change include more frequent and more extreme weather events. These events can lead to prolonged and costly power outages, property damage, and resident evacuation.
- For the past several years, the United States has experienced an average of 15 weather and climate disasters costing over a billion dollars every year. According to NOAA estimates, March 2019's Hurricane Michael alone caused damages of \$25 billion.⁶
- RealtyTrac, a real estate research firm, found that 43 percent of U.S. homes and condominiums — a total of 35.8 million homes — are at a high or very high risk of at least one type of natural disaster.⁷
- Tasked with understanding and valuing future risks, the insurance industry has already taken major steps to account for climate changes.⁸

“Without substantial and sustained global mitigation and regional adaptation efforts, climate change is expected to cause growing losses to American infrastructure and property and impede the rate of economic growth over this century.”

— 2018 NATIONAL CLIMATE ASSESSMENT⁹

How is climate change especially relevant to multifamily housing tenants and capital providers?

Natural hazards and other impacts from climate change put a strain on all households and communities, but disproportionately affect low income people and people of color, who may be more burdened by shocks and take longer to recover. There are many reasons for this, including individuals' living in older and lower cost properties that have low capacity to withstand disasters, lack of a car to evacuate in case of a disaster, lack of disposable income to purchase items like extra food, and communications challenges that leave residents unaware of a coming disaster.¹⁰ Many of these individuals are tenants in multifamily housing.¹¹

The financial, physical, and emotional strain of recovering from disruptions has long-term consequences for financial stability and human health. For example, moisture and resultant mold after a flooding event can lead to respiratory issues that incur additional health care costs.¹²

“People who are already vulnerable, including lower-income and other marginalized communities, have lower capacity to prepare for and cope with extreme weather and climate-related events and are expected to experience greater impacts”.

— 2018 NATIONAL CLIMATE ASSESSMENT¹³

Increased strain on tenants is a threat to mission-driven property owners and lenders. But tenants’ financial strain also translates to non-mission-driven property owners’ financial strain, and that financial instability is a risk to the property’s lenders and investors. Altogether, financial and social instability of tenants, owner losses due to evacuation and property damage, and other consequences of extreme weather can have a tremendous impact on all multifamily stakeholders, from residents to owners to capital providers and insurers.

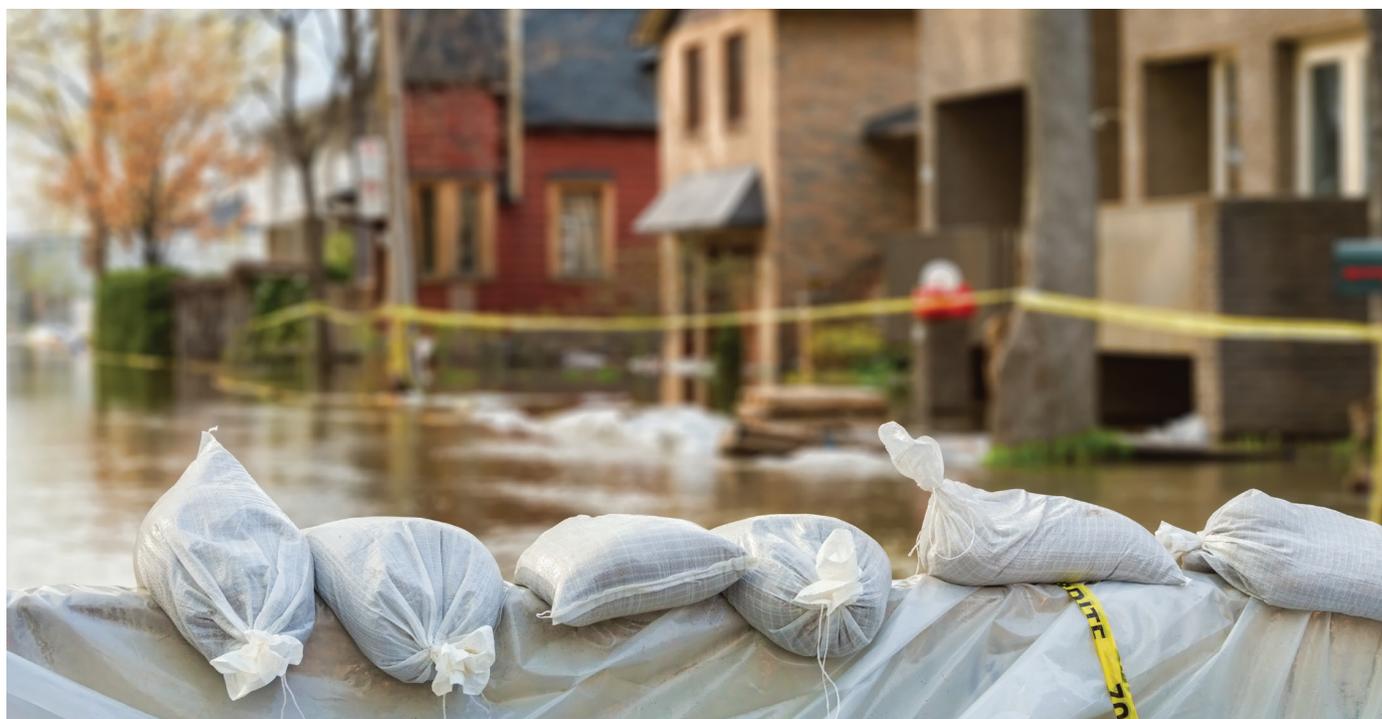
How is resilience currently being incorporated into disaster recovery efforts?

Unfortunately, current disaster funding favors wealthier households (typically homeowners) over lower income households (typically renters). For example, one federal

program purchases flooded or otherwise affected homes, providing homeowners with funds to move elsewhere. Of course, this buyout is not an option for a renter. The system needs to change to equally prioritize recovery funding for renters and thus reduce strain and risk on affordable housing providers.¹⁴ For the time being, the deprioritization of renters in disaster recovery efforts makes it even more important to make pre-disaster investments to enable renters to withstand and bounce back from disasters with limited recovery resources.

When recovery funds have been available, in some instances those funds have been used to fund resilience measures to better prepare a property and its tenants to withstand future events.

An example of this occurred in Hoboken, New Jersey after Superstorm Sandy.¹⁵ Hoboken suffered heavy damage to its buildings and infrastructure, including a six-unit building. After the storm, the property faced escalating insurance costs. To mitigate future risk and reduce insurance premiums, the owner chose to undergo wet floodproofing, which added nine flood vents on the first floor and used 9 inches of gravel and concrete fill to raise the floor to ground level. To minimize heat loss during cold weather, the owner chose insulated flood vents. Total cost of the renovation, including installation of flood vents and the first floor fill, was \$25,000. The one-panel flood vents cost \$200 to \$250 each. After the retrofit, the building experienced an 83 percent reduction in the cost of its flood insurance policy. Originally, the owner paid \$12,000 for \$300,000 worth of coverage; after the retrofit, their premium fell to \$2,000 and coverage rose to \$820,000. The owner experienced a return on investment in just two and a half years.



Flood Protection Sandbags with flooded homes. Photo: iStock

The current reactive approach to climate change treats the symptom, requiring a community to suffer a loss before investing in resilience measures that would have prevented that loss. Multifamily housing lenders, investors and other organizations should use these lessons learned from rebuilding with resilience to proactively invest in resilience before disaster strikes. As documented by the Insurance Institute for Business & Home Safety and many others, investing proactively to reduce risk saves lives and results in significant long-term savings.¹⁶

How can the multifamily sector make a strategic shift toward proactive resilience?

The shift from a sole focus on post-disaster recovery to greater investment in pre-disaster resilience requires new, complementary uses of public and private resources.

Public agencies, nonprofits, and philanthropic entities have taken many approaches to supporting communities in their resilience planning and implementation. For example:

- Enterprise Community Partners provides housing owners and operators and partner communities with many resources on disaster preparedness planning, recovery, and rebuilding.¹⁷ Partnering with agencies like HUD, DOE and FEMA as well as local technical experts in resilience and risk mitigation, Enterprise has created first of kind tools to help housing owners and communities reduce risk from natural hazards.
- Since 2013, the Center for Neighborhood Technology (CNT) has worked with Chicago area municipalities and residents to develop and implement RainReady, an initiative that includes community-first urban flooding resilience planning, a building retrofit program, and policy advocacy.¹⁸
- In 2014, HUD launched the \$1B National Disaster Resilience Competition to help communities develop and implement efforts to increase climate resilience.¹⁹

Multifamily lenders and investors have an opportunity and responsibility to do their part to help properties implement resilience upgrades. This includes financing:

- Energy and water efficiency and renewable energy systems that bolster resilience (see box 2); and
- Resilience measures that do not fit into the categories of efficiency or renewable energy. These other “climate resilience measures” depend on the specific hazards to which a property is vulnerable, but can include adding stormwater infiltration features, elevating equipment, or installing backwater valves. While these measures have value streams that are to date less defined than efficiency and renewable energy, it is important that housing owners and capital providers develop ways to value and finance these measures as well.²⁰

BOX 2. BUILDING AND OPERATING HIGH PERFORMANCE HOUSING: ENERGY EFFICIENCY, RENEWABLE ENERGY, AND RESILIENCE

Innovative financial products and programs that properly account for energy considerations can increase climate resilience.²¹ For example, most buildings are not equipped to remain habitable during extended power outages. Problems from heat loss, heat gain, poor ventilation, and poor sanitary conditions can arise when electricity is not available. A high-performance building envelope with proper insulation and sealing, natural ventilation, and shade trees around the building can help maintain safe living conditions and increase the buildings “passive survivability.”²² Reducing energy demand also allows a property to maintain critical functions longer when back-up power systems such as solar and energy storage systems are available.^{23, 24}

In addition to financing measures that bolster resilience in individual properties, multifamily investors would be prudent to assess climate risks across their portfolios. While the job of identifying and managing portfolio-level climate risks is not easy and may require institutions to work in new ways, this discussion brief aims to highlight ongoing efforts to develop tools and define processes to support individuals and organizations that are undertaking it.

Bellwether Enterprise, one of the largest commercial & multifamily mortgage banking companies in the country, is one lender on the vanguard of understanding and managing climate risk in its portfolio. It has brought together individuals from various divisions involved in housing investment, development, and operations into an internal Climate Risk Mitigation Working Group. To begin understanding climate risks, other lending agencies can establish their own internal Climate Risk Mitigation Working Groups that focus on long term risk reduction and adaptation to a changing climate.

As a first step, a working group can partner with the regional planning agency and/or state mapping agency to map their institution’s financed portfolio with physical and social vulnerabilities. These vulnerabilities include flood hazard areas, risks of future overheating, and vulnerable populations such as seniors, supportive housing, and children. Resources to use in this exercise include flood maps — such as but not limited to those developed by the FEMA — and National Climate Assessment hazard identifications by geographic region.^{25, 26} Demonstrating the importance of looking beyond FEMA flood maps, CNT has used historical insurance claim and FEMA assistance data to identify areas in one Illinois county that experience high levels

of flooding but are not represented on FEMA maps. This data on the prevalence and cost of flooding to property owners should be used to inform climate risk management by entities with financial interests in property in that county.

Next, Climate Risk Mitigation Working Groups or other representatives from lending agencies can:

- 1 Reach out to local jurisdictions to determine what climate mitigation and adaptation plans exist, if any, that include efforts related to multifamily housing.
- 2 Start discussions with area foundations and state agencies regarding risks, gaps, and potential resiliency-related (e.g. green infrastructure) funding opportunities.
- 3 Alert borrowers of how to assess their own climate risks and educate them on funding/financing opportunities to increase the resilience of their properties.²⁷ Multifamily housing developers and owners are in the process of developing processes for assessing climate risks and paying for mitigation measures. For example, the Delaware and Massachusetts housing authorities have partnered with New Ecology, Inc. to conduct portfolio-level climate vulnerability assessments for state-sponsored public and affordable housing in Delaware (approx. 200 developments) and Massachusetts (approx. 1,400 developments). These efforts will result in capital planning tools and institutional processes for resilience planning.
- 4 Incentivize owners to make investments in accordance with risk, such as by offering preferential terms for financing projects that increase resilience.
- 5 Allow borrowers to pay for resiliency assessments out of replacement reserves (i.e. make it an “eligible expense”).
- 6 Require all borrowers to work with their maintenance staff and residents to develop Emergency Preparedness Plans. This can be in the form of a requirement in term sheet diligence.
- 7 Evaluate how to fund and finance resilience investments by achieving a return on investment of these activities, such as by considering lifecycle costs rather than only up-front costs of capital improvements.²⁸

As demonstrated in the list of recommended actions above, lenders, investors, and insurers need to complement their internal planning process with engagement with public agencies, philanthropic groups, and technical service providers. These entities can provide the data, analysis, modeling, and further stakeholder engagement needed to manage emerging climate risks.

Any individual or organization motivated to increase climate resilience of the multifamily housing sector can:

- 1 Advocate to secure funding for clean energy and other climate resilience efforts with LMI set-aside and non-housing dollars to support housing resilience.
- 2 Highlight to providers of philanthropic and public capital the need for investment in research and demonstration projects related to climate resilient multifamily housing.

An excellent way for lending agencies and others to work toward understanding and managing climate risks is to connect with and exchange information with other organizations doing the same. To do so, learn more about the Multifamily Climate Resilience Finance Working Group and join us at <https://sahlln.energyefficiencyforall.org/climateresilience>.

While housing lenders will play a leading role in building resilience in the housing sector, CDFIs, impact investors, and providers of PRI/MRI that do not lend to the housing sector have an important role to play in enhancing the resilience of other types of critical infrastructure. To date, these entities have provided financing and support in the form of more discrete projects that might touch upon some piece of the overall resilience and sustainability puzzle, but not take a holistic view towards developing measurable co-benefits and “resilience dividends.” Moving forward, a common set of principles and a “screen” for investing in holistic pre-disaster resilience is in line with the long standing values and goals of affordable housing and community development. It will create stronger, safer and more inclusive communities prepared for a mix of shocks and stresses.

In 2018-2019, 100 Resilient Cities, with support from Bank of America, launched the pilot phase of the Resilient Community Development (ResCDF) Campaign to further build the resilience finance movement, including through the development of the Resilient Impact Screen for Communities (“RISC”) and its underlying Resilience Principles. This work will now continue and expand under the leadership of Opportunity Finance Network, with the ongoing support of Precovery Labs and a host of community development practitioners in its advisory group. For more information about the Resilience Community Development Campaign, contact Stewart Sarkozy-Banoczy at stewart@precoverylabs.com.

Endnotes

- 1 “Multifamily affordable housing” refers to both subsidized and unsubsidized affordable housing properties.
- 2 <http://100resilientcities.org/resources/#section-1>
- 3 <https://shelterforce.org/2019/05/13/resilience-101/>
- 4 <https://www.buildinggreen.com/news-analysis/resilient-retrofits-fires-floods-and-quakes>
- 5 https://www.multifamilyexecutive.com/property-management/how-to-protect-your-properties-from-storms-and-floods_o
- 6 <https://www.climate.gov/news-features/blogs/beyond-data/2018s-billion-dollar-disasters-context>; https://www.nhc.noaa.gov/data/tcr/AL142018_Michael.pdf
- 7 <https://www.realtytrac.com/news/realtytrac-2015-u-s-natural-disaster-housing-risk-report/>
- 8 <https://www.eesi.org/papers/view/fact-sheet-strengthening-financial-resilience-to-climate-change>
- 9 <https://nca2018.globalchange.gov/>
- 10 <https://ibhs.org/public-policy/vulnerable-populations/>
- 11 <https://www.enterprisecommunity.org/blog/2018/12/climate-change-disproportionately-affects-low-income-communities>; <https://www.cnt.org/urban-flooding/flood-equity>
- 12 Lawrence Berkeley National Laboratory study estimates that twenty-one percent of asthma cases are associated with building dampness or mold conditions (flood impact). <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1600-0668.2007.00474.x>
- 13 <https://nca2018.globalchange.gov/>
- 14 <https://www.npr.org/2019/03/05/688786177/how-federal-disaster-money-favors-the-rich>
- 15 <https://www.enterprisecommunity.org/download?fid=2154&nid=4325> (page 20)
- 16 <https://ibhs.org/public-policy/mitigation-matters/>
- 17 <https://www.enterprisecommunity.org/solutions-and-innovation/disaster-recovery-and-rebuilding/technical-resources>
- 18 <https://www.cnt.org/publications/rainready-chatham-plan>
- 19 https://www.hud.gov/program_offices/economic_development/resilience/competition
- 20 A forthcoming issue brief will elaborate on approaches to valuing and financing climate resilience measures.
- 21 <https://www.huduser.gov/portal/periodicals/em/spring17/highlight2.html>
- 22 <https://www.enterprisecommunity.org/download?fid=2154&nid=4325> (page 53)
- 23 <https://www.cleangroup.org/ceg-resources/resource/boulder-housing-partners/>
- 24 <https://www.solarpowerworldonline.com/2019/06/dearborn-homes-chicago-solar-come/>
- 25 <https://msc.fema.gov/portal/home>
- 26 <https://nca2014.globalchange.gov/highlights/regions/northeast#submenu-highlights-regions>
- 27 See “Affordable Housing Resilience Assessment Tool”, <https://doee.dc.gov/climateready>
- 28 An issue brief with information on identifying, valuing, and financing climate resilience investments in multifamily affordable housing is under development and will provide suggestions for pursuing this step.

