

**INSURANCE &
CLIMATE RISK:
RESILIENCE
STRATEGIES FOR
CCC'S FLORIDA
PORTFOLIO**

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SIPA Capstone Team

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EXECUTIVE SUMMARY

A core challenge facing Citi Community Capital's (CCC) affordable housing portfolio in Florida is the escalating impact of climate change. The state's increased exposure to more intense hurricanes, severe storms, and chronic coastal flooding due to rising sea levels directly threatens the physical integrity of properties, the safety of tenants, and the overall stability of CCC's investments.

This climate risk drives extreme volatility in Florida's insurance market, marked by retreating insurers and soaring premiums, undermining affordable housing feasibility. With insurance solutions offering limited help, navigating this market isn't a sustainable primary risk strategy for CCC.

Given this limitation, improving physical resilience is a more favorable alternative, but relying solely on minimum Florida Building Code (FBC) standards is inadequate. These reactive codes lag behind escalating climate threats, potentially failing to protect assets or ensure future affordability against future threats.

Research and stakeholder input strongly recommend building beyond code. Enhanced standards like FORTIFIED, robust foundations, or increased elevation directly reduce risks where code minimums fall short. This proactive approach is vital for physical protection and serves as a key financial strategy to improve long-term stability, insurability, and insurance costs for CCC's portfolio.

As a result, our team offers the following practical tools and actionable resources for immediate integration into CCC's operations:



PIONEERING PORTFOLIO-WIDE RISK MAPPING

We conducted a first-of-its-kind analysis for CCC, visually illustrating the specific climate vulnerabilities facing its existing 139 properties in Florida. Overlaying CCC's assets onto detailed maps of expected annual economic loss from climate hazards—such as coastal flooding and hurricane risk—revealed a significant concentration of investments in high-risk coastal counties such as Miami-Dade, Broward, Palm Beach, and Hillsborough. Nearly 95% of CCC's Florida mortgages are in counties ranking in the top 20% nationally for coastal flooding likelihood, and almost all are in counties ranking similarly high for hurricane risk. This stark representation provided CCC with compelling evidence of the urgent need for adaptive action and what types of mitigants will be the most effective against specific hazards depending on location.



ADVANCED CLIMATE RISK ASSESSMENT TOOLS

We identified and evaluated cutting-edge climate risk assessment platforms. We recommend CCC use resources like the free Enterprise Portfolio Protect Tool, built specifically for affordable housing operators, or the more sophisticated First Street Enterprise Suite (designed for financial institutions), to analyze projected climate and economic risks for prospective investments across its full portfolio. Integrating this sophisticated risk analysis into the underwriting process will empower data-driven investment decisions and more effectively target resource allocation.



ACTIONABLE MITIGATION TOOLKIT FOR UNDERWRITING

We developed a detailed mitigant checklist specifically designed for seamless integration into CCC's existing underwriting spreadsheets. This powerful toolkit focuses on 13 key, high-impact physical resiliency measures across 5 critical building areas: Roof, Floor/Foundation, Mechanical System, Envelope, Site & Drainage. It provides underwriters with a clear, practical framework to evaluate the resilience features of potential investments, prioritize lending to projects incorporating enhanced standards, and directly address vulnerabilities before capital is committed. This checklist forms the foundation for tangible risk reduction at the building level.



NEXT PHASE: QUANTIFYING MITIGATION ROI

Building on this report, a subsequent phase should quantify the direct financial benefits, specifically insurance premium reductions, realized from implementing the toolkit's mitigation measures. The deliverables, quantitative data and cost-benefit analyses tailored to different projects, are designed to equip CCC and its borrowers to justify resilience investments and bolster advocacy for necessary insurance and building code reforms.

By embedding resilience into every stage of the investment process, using the risk assessment tools, the underwriting checklist, and the strategic focus on building beyond code provided in our report, CCC can proactively reduce insurance costs, safeguard its portfolio against escalating climate threats, protect tenants, and ensure the long-term sustainability and success of its vital affordable housing mission in Florida and beyond.

RECOMMENDATIONS

1 Strategic Priority: Physical Resilience over Insurance Navigation

The core recommendation is a fundamental strategic shift to prioritizing direct physical risk reduction in the portfolio by encouraging and prioritizing projects that build beyond the code—using enhanced, resilient construction standards. This is based on the volatile and uncertain Florida insurance landscape and the evidence that current Florida Building Code (FBC) minimums are insufficient against accelerating climate threats. Proactively investing in properties built beyond code is the most dependable strategy: it directly mitigates potential physical losses, enhances long-term asset stability, improves insurability, and ultimately provides a more reliable path to securing CCC's investments.

2 Operational Integration: Tools for Risk Management

→ Utilize Portfolio Risk Mapping Insights: The first-of-its-kind portfolio mapping reveals significant geographic concentrations of risk, particularly in coastal counties like Miami-Dade, Broward, Palm Beach, and Hillsborough. These visual insights should inform strategic decision-making regarding asset management, potential retrofitting priorities, and geographic considerations for future investments.

→ Adopt Advanced Climate Risk Assessment Platforms: CCC should use cutting-edge climate risk assessment tools such as the free Enterprise Portfolio Protect Tool or First Street Enterprise Suite. Integrating these platforms into the underwriting and portfolio review processes will enable data-driven analysis of projected climate hazards and associated economic impacts, enhancing investment decisions.

→ Embed the Actionable Mitigation Toolkit: The detailed mitigation checklist should be integrated directly into CCC's existing underwriting spreadsheets. This provides a practical framework to systematically evaluate the resilience features of potential investments, prioritize projects incorporating enhanced standards, and address vulnerabilities before capital commitment.

3 Future Research: Quantify the Return on Investment (ROI) of Mitigation

Building on this report's foundation, we strongly recommend that CCC work to quantify the direct financial benefits—specifically insurance premium reductions—achieved by implementing the mitigation measures identified in the toolkit. Quantitative data and cost-benefit analyses will vary across projects, but together they can serve to empower CCC and its borrowers to further justify necessary upfront investments in resilience, and strengthen advocacy efforts for crucial insurance market and building code reforms.

SECTION I

THE CLIMATE CRISIS AND THE THREAT TO INSURING AFFORDABLE HOUSING



Escalating Climate Risks and Insurance Volatility in Florida Affordable Housing

Worsening climate change is exacerbating the intensity and frequency of natural disasters across the globe. Florida's concentrated coastal population and proximity to warming sea temperatures make it incredibly susceptible to severe storms and tropical cyclones.¹ Due to Florida's low-lying terrain, it is facing accelerating rising sea levels at greater rates than the rest of the world. It is estimated that by 2040 the coastline's sea level will have risen by a median of 8 to 9 inches, compared to 7 inches globally.² Across the United States, approximately 40% of people reside in coastal areas³; in Florida, about 75% of the population lives in its coastal zones.⁴

From January to May of 2024, the state experienced seven severe storms that totaled a loss of \$18.6 billion. From August to December of 2024, four cyclones hit the Floridian region resulting in an additional estimated cost of \$117.9 billion.⁵ Furthermore, while the average number of climate disasters in the state exceeding a cost of \$1 billion from 1980 to 2024 is only 2.1, the number of yearly events from 2020 through 2024 jumped to 6.8.⁶

This loss of assets manifests dramatically in the insurance market. Between 2022 and 2024, insurance premiums surged by 150% for multifamily properties in Florida.⁷ As a result, the average cost per unit for insurance premiums skyrocketed from \$800 to \$2,000, the highest home insurance premiums in the country for multifamily developments.⁸

The rising costs to reimburse policyholders after a severe natural disaster has left insurers grappling with the viability of this business model. Further, the insurance market is facing challenges such as rising insurance premiums, growing non-

¹ Center for Climate and Energy Solutions. "Hurricanes and Climate Change." Accessed April 4, 2025. <https://www.c2es.org/content/hurricanes-and-climate-change/>.

² Raimi, Daniel, Amelia Keyes, and Cora Kingdon. "Florida Climate Outlook: Assessing Physical and Economic Impacts through 2040." Resources for the Future, 2020. https://media.rff.org/documents/Florida_Climate_Outlook.pdf.

³ "Economics and Demographics." NOAA Office for Coastal Management. Accessed April 8, 2025. <https://coast.noaa.gov/states/fast-facts/economics-and-demographics>.

⁴ Benedict, James, and Danny Dougherty. "In Florida, Coastal Counties Fuel Population Rise—and Climate Concerns." The Wall Street Journal, September 14, 2021. <https://www.wsj.com/articles/in-florida-coastal-counties-fuel-population-rise-and-climate-concerns-11631631600>.

⁵ "Billion-Dollar Weather and Climate Disasters: Florida Summary." National Centers for Environmental Information (NCEI). Accessed April 4, 2025. <https://www.ncei.noaa.gov/access/billions/state-summary/FL>.

⁶ Ibid.

⁷ Reis, Matthews. "Florida Multifamily: Impact of Soaring Insurance Costs." MatthewsTM, April 4, 2024. <https://www.matthews.com/florida-multifamily-operational-costs/>.

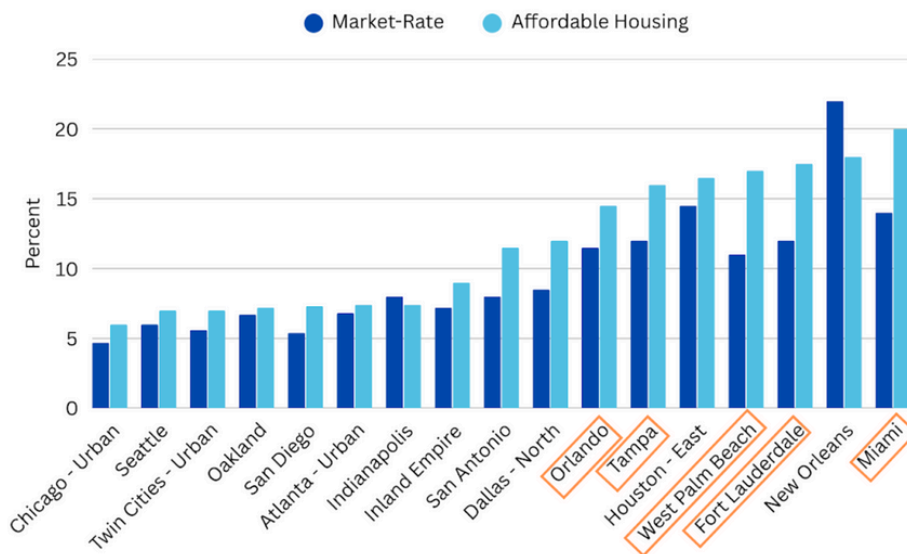
⁸ "Florida Multifamily: Impact of Soaring Insurance Costs." Matthews Real Estate Investment Services, April 4, 2024. <https://www.matthews.com/florida-multifamily-operational-costs/>.

renewal notices, and limited last-resort policy options. Home insurance premiums rose by 30%, on average, from 2020 to 2023. This leap is attributed to a myriad of factors: climate change, increasing construction costs, high litigation rates, and inflation.⁹ Moreover, Florida, the most expensive state for homeowners insurance, saw a 40% increase in construction costs from 2017 to 2023.¹⁰

Foregoing Insurance Coverage to Cope with Rising Costs

Rising insurance costs are significantly increasing operating expenses for the multifamily sector nationally, with per-unit costs jumping 33% between 2023 and 2024.¹¹ This issue is especially pronounced in Florida metropolitan areas like Miami, Fort Lauderdale, and West Palm Beach, where insurance premiums for affordable housing now account for over 15% of total property expenses.¹² Such steep increases pose a critical threat to affordable housing providers, jeopardizing project financial feasibility, restricting new development, and straining existing operations, thereby hindering the preservation of housing affordability.¹³

Figure 1: Insurance premium share of total expense for multifamily market-rate and affordable properties (%) - Select metros¹⁴



In Context: The CCC Florida Portfolio is At Risk

In order to begin developing future investment strategies or underwriting guidelines for CCC, assessing the current portfolio's climate risk is critical to better understanding the extent of vulnerability to specific disasters.

⁹ Tran, Tu-Uyen. "Homeowners Insurance Costs Are Growing Fast but Coverage Is Shrinking: Federal Reserve Bank of Minneapolis." Federal Reserve Bank of Minneapolis, August 28, 2024. <https://www.minneapolisfed.org/article/2024/homeowners-insurance-costs-are-growing-fast-but-coverage-is-shrinking>.

¹⁰ "Managing Expectations: Why Florida Homeowners Insurance Premiums Are Not Likely to Go Down." Karen Clark & Company, October 9, 2023. <https://www.karenclarkandco.com/news/publications/managing-expectations-why-florida-homeowners-insurance-premiums-are-not-likely-to-go-down>.

¹¹ Ibid.

¹² "Multifamily Economic and Market Commentary." Fannie Mae, May 2024. <https://www.fanniemae.com/media/51396/display>.

¹³ The Alarming Risk of Rising Insurance Costs for Affordable Housing, March 2024. <https://thenyh.org/wp-content/uploads/2024/03/Affordable-Housing-Insurance-Policy-Brief-3.16.24-Final.pdf>.

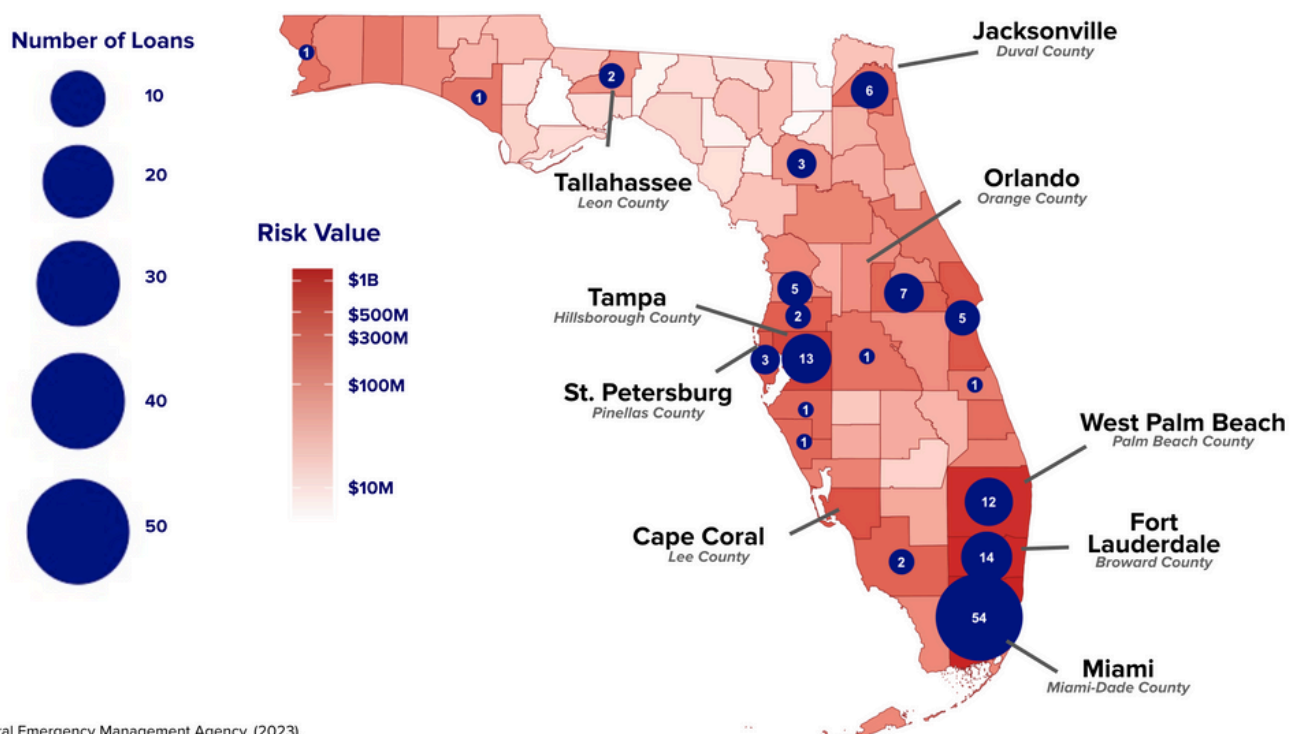
¹⁴ "Multifamily Economic and Market Commentary." Fannie Mae, May 2024.

Figure 1 below indicates the expected annual loss of building (residential and commercial) and agricultural value, in U.S. dollars, as a result of climate disasters for each county in Florida. The darker the red on the color scale indicates higher costs associated with climate disasters.¹⁵ This estimated loss is calculated annually based on climate data from the previous 5 years.¹⁶ Specifically for Florida, expected annual loss by county ranges from roughly \$10 million in smaller Panhandle counties to over \$1 billion in southeast counties like Miami-Dade.¹⁷

The blue points represent the concentration of CCC's investment in the county measured by the number of loans. As expected, the counties in which CCC has the highest density of investment are along the coast. As of March 2025, CCC lends to over 10 developments in each of Florida's Broward, Palm Beach, and Hillsborough counties. In Miami-Dade, CCC lends to over 50 developments.¹⁸

Figure 2 provides a visual representation of the concentration of CCC's portfolio in each county and the associated climate risk economic loss in those regions.¹⁹

Figure 2: Climate Risk Value and Loan Holdings by County in Florida



Source: Federal Emergency Management Agency. (2023). FEMA National Risk Index Data v 1.19.0 [Dataset]. Department of Homeland Security.

¹⁵ Federal Emergency Management Agency. "National Risk Index Technical Documentation," March 2025. https://www.fema.gov/sites/default/files/documents/fema_national-risk-index_technical-documentation.pdf.

¹⁶ Ibid.

¹⁷ Federal Emergency Management Agency. (2023). FEMA National Risk Index Data v 1.19.0 [Dataset]. Department of Homeland Security. <https://hazards.fema.gov/nri/data-resources>.

¹⁸ Calculated using SIPA DCR Breakout Fin Analysis 2010-24 Annualized Q3 Complete incl Loan Data Citi AM Data Tape dataset provided to team by client in March 2025.

¹⁹ The climate economic risk value is equivalent to the expected average annual loss of building and agricultural value due to climate disasters throughout the county.



Mapping By Climate Types

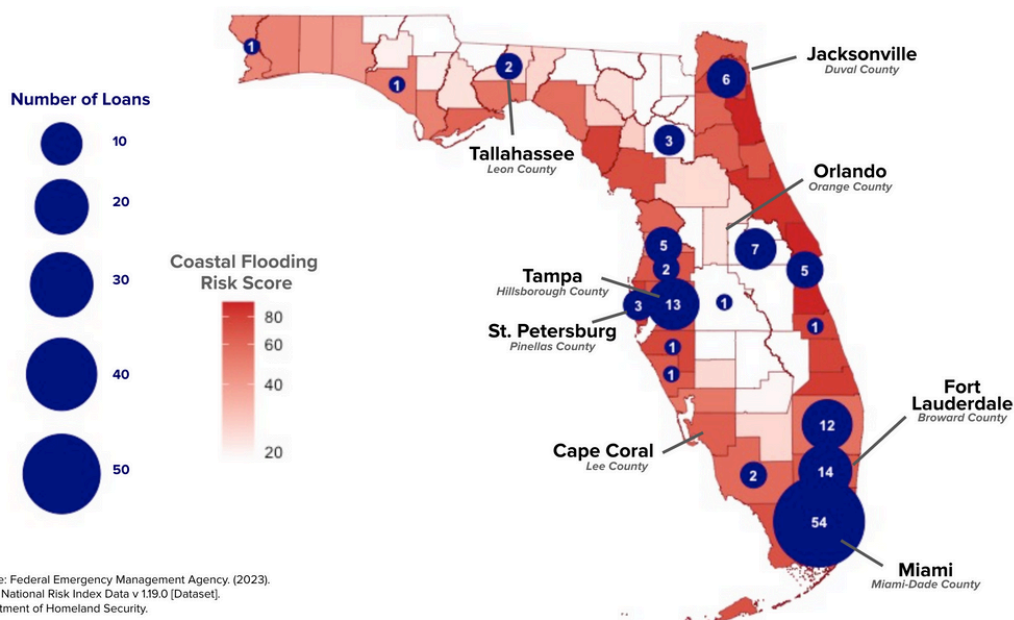
To assess the types of climate risk most prevalent where CCC's portfolio is concentrated, we produced a series of maps that depict predisposition to specific climate disasters. These maps illustrate each county's climate risk score for a particular disaster, such as coastal flooding or hurricane events. The climate risk score is determined by the county's national percentile ranking based on the likelihood of a specific type of climate event occurring in that county compared to all other US counties.

Nearly every county along the Floridian coast ranks in the top 20% for likelihood of coastal flooding.²⁰ Approximately 95% of the mortgages are at risk of major coastal flooding events. In the case of hurricane risk, 18 of the 19 counties in which CCC holds a loan rank in the top 20% for likelihood of hurricane damage.²¹ The county of Miami-Dade, where roughly 38.8% of CCC's mortgages lie, has been reportedly named as one of the greatest at-risk areas for coastal flooding and storm related damages in the world.²²

Additionally, Figure 2 and Figure 3 demonstrate the high risk associated with lending to affordable housing developments in the state. This concentrated risk profile underscores the urgency for CCC to refine its investment strategies and underwriting guidelines to account for the escalating climate threats.

Figure 3 showcases the relationship between CCC's affordable housing loan holdings and coastal flooding risk²³

Figure 3: Coastal Flooding Risk Score and Loan Holdings by County in Florida



²⁰ Federal Emergency Management Agency. (2023). FEMA National Risk Index Data v 1.19.0 [Dataset]. Department of Homeland Security. <https://hazards.fema.gov/nri/data-resources>.

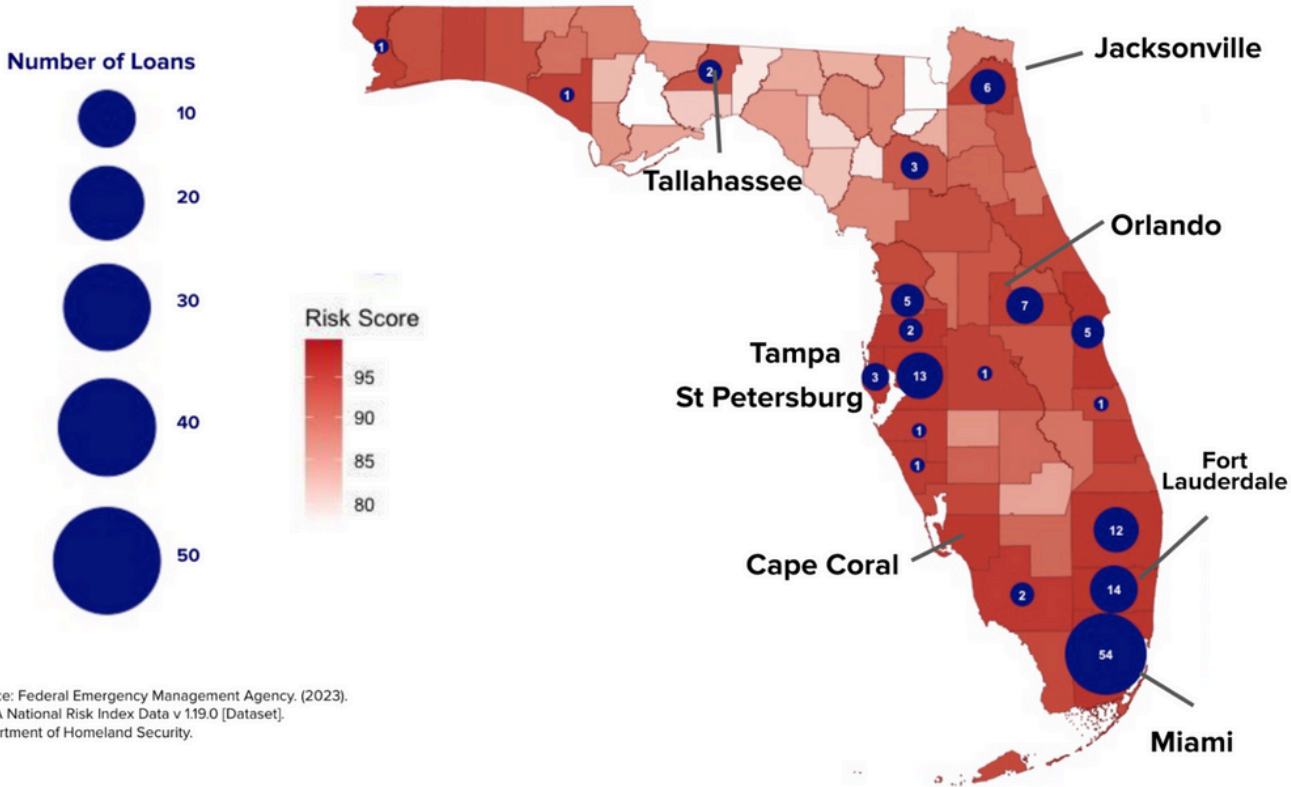
²¹ Ibid.

²² Raimi, Daniel, Amelia Keyes, and Cora Kingdon. "Florida Climate Outlook: Assessing Physical and Economic Impacts through 2040." Resources for the Future, 2020. https://media.rff.org/documents/Florida_Climate_Outlook.pdf.

²³ The risk score is determined by the county's national percentile ranking based on the likelihood of a coastal flooding event occurring in that county compared to all other US counties.

Figure 4 below showcases a more jarring picture, illustrating the relationship between hurricane risk and CCC's portfolio.²⁴

Figure 4: Hurricane Risk Score and Loan Holdings by County in Florida



Source: Federal Emergency Management Agency. (2023). FEMA National Risk Index Data v 1.19.0 [Dataset]. Department of Homeland Security.

²⁰ Federal Emergency Management Agency. (2023). FEMA National Risk Index Data v 1.19.0 [Dataset]. Department of Homeland Security. <https://hazards.fema.gov/nri/data-resources>.

²¹ Ibid.

²² Raimi, Daniel, Amelia Keyes, and Cora Kingdon. "Florida Climate Outlook: Assessing Physical and Economic Impacts through 2040." Resources for the Future, 2020. https://media.rff.org/documents/Florida_Climate_Outlook.pdf.

²³ The risk score is determined by the county's national percentile ranking based on the likelihood of a coastal flooding event occurring in that county compared to all other US counties.

SECTION II

FLORIDA INSURANCE MARKET STUDY



An Unstable Market Threatens Affordable Housing

Florida's property insurance market is in crisis, significantly threatening affordable housing investments like those held by CCC. Intensifying natural disasters are driving up costs, prompting private insurers to drastically reduce coverage, issue widespread non-renewals, or exit the state entirely, particularly in high-risk areas.²⁵ This exodus leaves affordable housing developments, which depend heavily on stable operating costs, facing alarming premium hikes and a dangerously shrinking pool of insurance options. Despite the state efforts toward stabilization, the market's underlying volatility persists, making it an unreliable foundation for securing long-term investments.

For lenders like CCC, a functioning insurance market is crucial: it protects collateral value and minimizes catastrophic default risk. However, Florida's cycle of destructive storms, coupled with strained recovery funding mechanisms, fuels extreme market instability. Affordable housing projects are acutely vulnerable, as their tight operating margins and restricted rent increases offer little capacity to absorb the escalating insurance expenses. This instability directly affects CCC's portfolio by increasing loan default risk and weakening overall financial stability, potentially hindering CCC's ability to meet its Community Reinvestment Act (CRA) obligations. Understanding this critical vulnerability within the Florida market is therefore essential for shaping CCC's current operations and future lending strategies.



The Private Market Collapse

The severity of the crisis is starkly evident in the private insurance sector. Since 2020 alone, numerous private insurers operating in Florida have become insolvent due to the compounding pressures of hurricane risk, excessive litigation, and alleged fraud.²⁶ Major national carriers have largely withdrawn, replaced by smaller, potentially less capitalized insurers. Those remaining often limit coverage in high-risk zones or impose stricter underwriting standards.²⁷

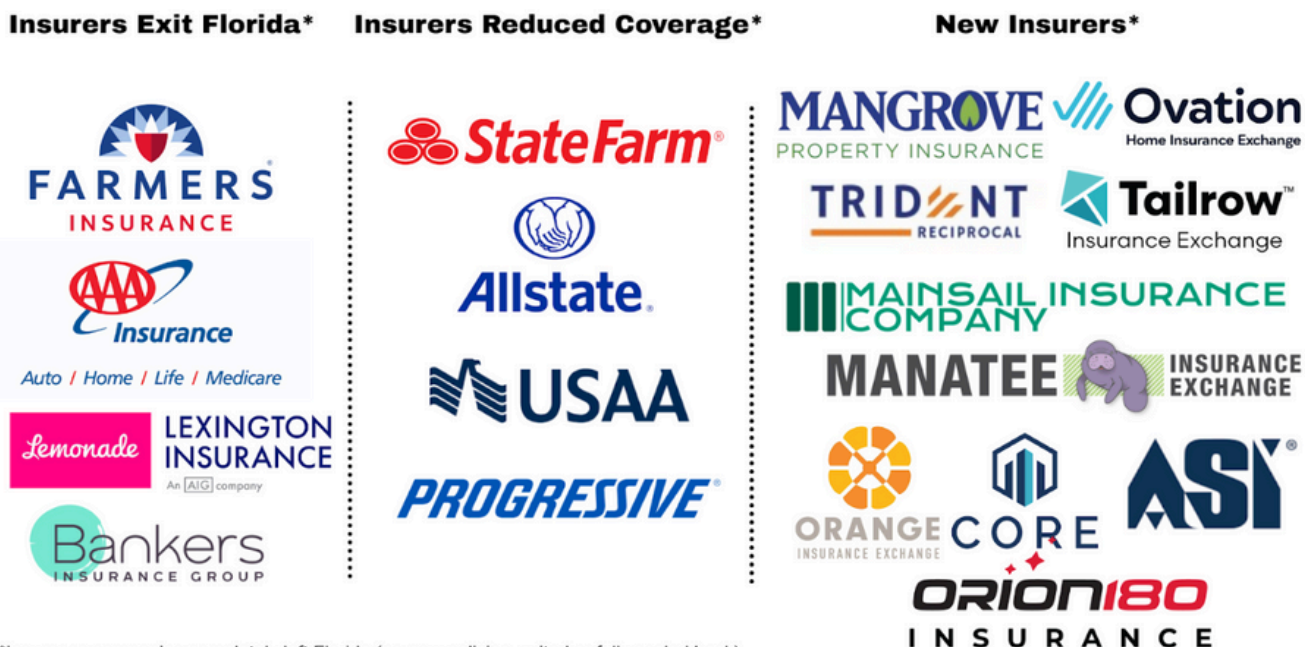
²⁵ Donnellan, Aimee. "Insurers Will Struggle to Dodge Climate-Change Tab." Reuters, February 26, 2025. <https://www.reuters.com/breakingviews/insurers-will-struggle-dodge-climate-change-tab-2025-02-26/>.

²⁶ Florida Insurance Guaranty Association (FIGA). "Insolvency." Accessed April 14, 2025. <https://figafacts.com/category/insolvency/>.

²⁷ Sastry, Parinitha, Ishita Sen, and Ana-Maria Tenekedjieva. "When Insurers Exit: Climate Losses, Fragile Insurers, and Mortgage Markets." SSRN Electronic Journal, November 17, 2023. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4674279.

This implosion of the private market has pushed affordable housing portfolios, including CCC's, into limited and often inadequate coverage options. Non-renewal rates surged following Hurricane Ian in 2022, reaching the highest levels in the U.S. By early 2025, estimates suggested 15-20% of Florida homeowners were uninsured, reflecting deep market dysfunction.²⁸ Public anxiety remains high, with a Spring 2025 poll indicating housing and insurance costs are the top concern for Floridians.²⁹

Figure 5: Current Private Insurers in Florida³⁰



*Insurance companies completely left Florida (no new policies, exited or fully scaled back).

*Insurance companies stopped writing new policies but continues serving existing customers.

*New private insurance companies entered the market since historic legislative reforms.



Florida's Public Insurance Backstops: Creative but Unreliable

Florida established government-backed insurance mechanisms, notably the Florida Hurricane Catastrophe Fund (FHCF) in 1993, and Citizens Property Insurance Corporation ("Citizens") in 2002, both largely in response to the insurance market disruption caused by Hurricane Andrew in 1992. While innovative by U.S. standards, these public entities introduce their own layers of unreliability and risk for CCC's portfolio.

²⁸ Rojanasakul, Mira, and Christopher Flavelle. "See Where Home Insurance Policies Were Dropped in Your State." The New York Times, December 18, 2024. <https://www.nytimes.com/interactive/2024/12/18/climate/insurance-nonrenewal-rates-policies-state-map.html>.

²⁹ "UNF Poll: Florida Voters Most Concerned about Housing and Insurance Costs." 2025. University of North Florida PORL.

https://www.unfporl.org/uploads/1/4/4/5/144559024/unf_porl_-_spring_2025_statewide_press_release.pdf.

³⁰ See U.S. News & World Report, "Best Homeowners Insurance in Florida," <https://www.usnews.com/insurance/homeowners-insurance/local/florida>. Accessed April 16, 2025. Insurance Information Institute, "Top 10 Writers of Homeowners Insurance in Florida," <https://www.iii.org/top-10-writers-of-homeowners-insurance-in-florida>. Accessed April 16, 2025., Duvall, Mel. "Home Insurance Companies Leaving Florida: What You Need to Know," Insurance.com, <https://www.insurance.com/home-and-renters-insurance/home-insurers-leaving-florida>. Accessed April 16, 2025., and Florida Office of Insurance Regulation. "Commissioner Mike Yaworsky Approves over 10 Property & Casualty Insurers to Enter the Market Following Historic Reforms." Accessed April 8, 2025. <https://fioir.com/home/2025/01/27/commissioner-mike-yaworsky-approves-over-10-property-casualty-insurers-to-enter-the-market-following-historic-reforms>.

A. Florida Hurricane Catastrophe Fund (FHCF): The FHCF provides reinsurance to both public and private insurers for hurricane losses at below-market rates. It funds itself through insurer premiums and pre-event bonds. However, like Citizens, it relies on issuing potentially massive post-event bonds if major hurricane losses deplete its reserves. Frequent hurricanes have significantly strained the FHCF's finances. As of the 2025-2026 season, projections show a potential \$8 billion funding gap if a severe storm occurs, requiring substantial post-event financing.³¹ Accessing capital markets for such sums after a disaster is uncertain. Additionally, under the current Trump administration, there is heightened uncertainty in the municipal and corporate bond market and liquidity concerns that could further weaken the responsiveness of these public funding mechanisms. Ultimately this strained capacity raises concerns about the availability and timeliness of reinsurance payouts, which could indirectly delay claims payments to property owners, including those financed by CCC.³²

B. Citizens Property Insurance: The overburdened "Insurer of Last Resort" created as a safety net for those unable to secure private insurance, Citizens has become Florida's largest property insurer, particularly concentrated in high-risk coastal areas like Miami-Dade, Broward, and Palm Beach counties.³³ However, its state-mandated low premiums, often significantly below actuarially sound rates, have led to persistent operational deficits and financial vulnerability. While legally backed by the state, Citizens also relies heavily on its ability to issue post-event bonds and levy surcharges on all Florida insurance policies (including auto and business) to cover shortfalls after major disasters. This reliance creates systemic risk; a major event could strain its capacity to pay claims promptly, disrupting cash flow for property owners in CCC's portfolio.³⁴ Recent state-mandated "depopulation" efforts aim to shrink Citizens by transferring policies back to the fragile private market.³⁵ While Citizens reported improved financials in 2023 after years of losses and its policy count has recently decreased, its fundamental structure remains dependent on post-event financing and assessments, making it an unreliable long-term solution, especially if a major catastrophe strikes.³⁶

³¹ Florida Hurricane Catastrophe Fund, Florida Hurricane Catastrophe Fund (FHCF) Overview Presentation (State Board of Administration of Florida, May 16, 2024), <https://fhcf.sbafla.com/media/2ahbrivh/20240516-fhcf-presentation.pdf>. Accessed April 4, 2025.

³² Florida Hurricane Catastrophe Fund, Probable Maximum Loss (PML) Report (State Board of Administration of Florida, March 2024), <https://fhcf.sbafla.com/media/elzjfd3m/fhcf-2025-pml-report.pdf>. Accessed April 4, 2025.

³³ Kousky, Carolyn and Lori Medders, The Evolution of Florida's Public-Private Approach to Property Insurance (Florida Policy Project, April 2024), 6, https://floridapolicyproject.com/wp-content/uploads/2024/05/FINAL_Florida-Insurance-Market-Report.pdf. Accessed April 16, 2025.

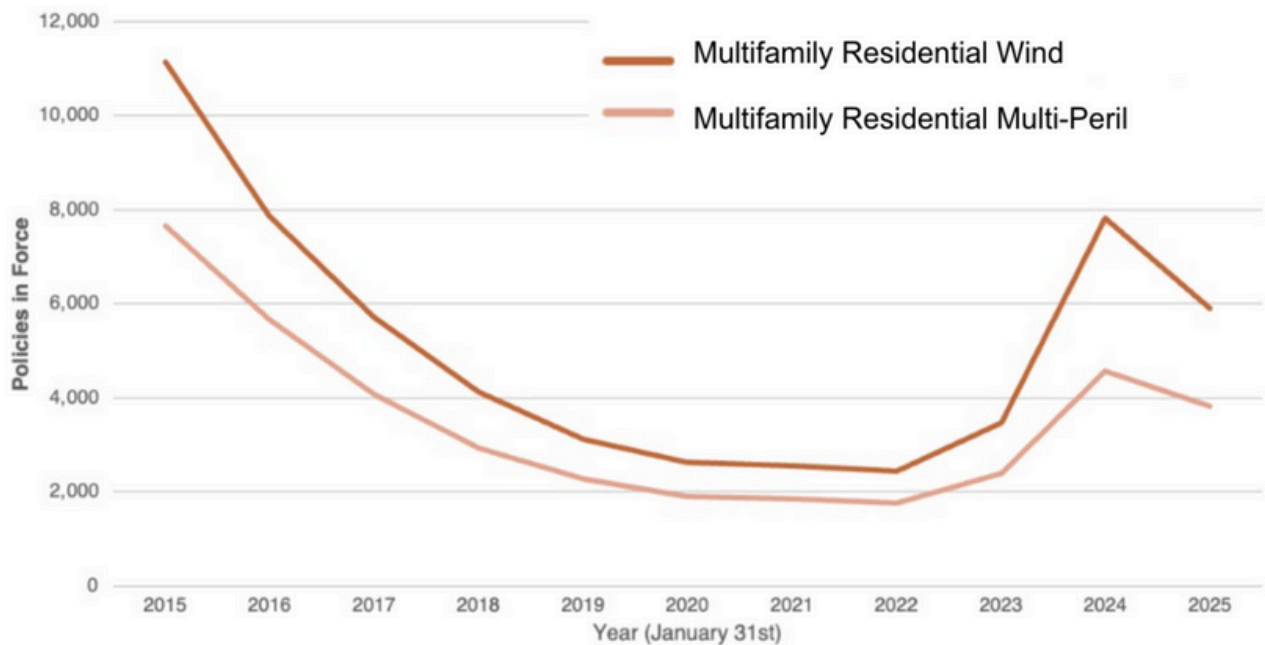
³⁴ Citizens Property Insurance Corporation, <https://www.citizensfla.com/who-we-are>. Accessed April 16, 2025.

³⁵ *Ibid.*

³⁶ Citizens Property Insurance Corporation, 2024 Operating Budget, Accessed April 8, 2025.

<https://www.citizensfla.com/documents/20702/30166328/20231206+02B+2024+Operating+Budget+ph.pdf/6b097c52-9169-f862-52c1-2349a809dfe1?t=1706027627495>.

Figure 6: Citizens' Floridian Policies in Force (2015-2025)³⁷



Legislative Reforms: Steps Towards Stabilization, Uncertain Impact for Affordable Housing

Facing widespread insurance market collapse, Florida enacted significant legislative reforms in 2022 and 2023 (e.g., SB 2A, HB 837).^{38, 39} The primary goals were to curb rampant litigation abuse—Florida accounted for nearly 80% of U.S. property insurance lawsuits despite having only 9% of claims in 2022—and stabilize the market. Key changes included restricting attorney fee structures and assignment of benefits (AOB) agreements that fueled lawsuits.⁴⁰

Early signs suggest these reforms are having some positive effects. Homeowners' insurance rate increases have reportedly slowed, new insurers are cautiously entering the market, some existing insurers have filed for rate decreases, and domestic insurers reported improved profitability in late 2024. Reinsurance costs for Florida carriers have also eased slightly.⁴¹ However, cautious skepticism is warranted. The affordable housing sector, particularly, faces unique underwriting challenges and perceived higher risks. The reforms' intent is that a more stable, less litigious, and competitive general market will improve insurance availability and affordability across all segments, including CCC's portfolio. In theory, reduced litigation costs and increased insurer confidence should encourage writing more policies, potentially including affordable housing. Yet, translating this into broad premium relief faces hurdles like underlying climate risks

³⁷ Citizens Property Insurance Corporation

³⁸ "2022A Bill Summaries - the Florida Senate." 2022. Flsenate.gov. 2022. <https://www.flsenate.gov/Committees/BillSummaries/2022A/html/2878>.

³⁹ "House Bill 837 (2023) - the Florida Senate." 2023. Flsenate.gov. 2023. <https://www.flsenate.gov/Session/Bill/2023/837>.

⁴⁰ "Trends and Insights: Florida Homeowners' Insurance Crisis." 2022. Insurance Information Institute. https://www.iii.org/sites/default/files/docs/pdf/triple-i_trends_and_insights_florida_issues_brief_08082022.pdf.

⁴¹ Griner, Mariah. 2024. "Florida's Insurance Commissioner Provides Update on Continued Property Insurance Market Stabilization." The Florida Office of Insurance Regulation (FOIR), October 10, 2024. <https://foir.com/newsroom/archives/item-details/2024/10/10/florida-s-insurance-commissioner-provides-update-on-continued-property-insurance-market-stabilization>.

and global reinsurance costs. Specific data on the direct impact on this sector is still emerging, and providers may continue to struggle with factors like building age, location, and tight budgets making even stabilized premiums difficult to absorb. Therefore, despite recent legislative reforms and tentative signs of stabilization like improved insurer incomes and slowing rate increases, cautious skepticism is warranted regarding the depth and sustainability of the market recovery. The success for the affordable housing sector will ultimately depend on whether general market improvements translate into increased insurer appetite and capacity for these specific risks.



Exploring Alternative Insurance Models: Not a Blanket Solution

Given the systemic weaknesses in Florida's traditional public and private insurance markets, exploring alternative models like parametric and captive insurance is warranted. However, these currently offer limited, niche solutions rather than comprehensive answers for CCC's portfolio needs.

A. Parametric Insurance: This model offers rapid payouts based on pre-defined, objective triggers (e.g., hurricane wind speed reaching a certain threshold in a specific location), rather than assessed damages. This speed can accelerate recovery. However, the primary drawback is basis risk—the payout might not match the actual losses incurred if the trigger doesn't perfectly correlate with the damage. Parametric insurance is typically event-specific, requiring supplemental traditional coverage. While useful for specific, predictable risks, it doesn't replace comprehensive property insurance.⁴² **[See Appendix A for Case Study]**

B. Captive Insurance: This involves self-insurance, where entities (or a group) pool funds to cover their own potential losses, potentially reducing reliance on volatile external markets and tailoring coverage. This offers greater control but requires significant upfront capital, ongoing financial commitment, and sophisticated risk management. The organization bears the full risk of loss, which can be substantial. While initiatives like the Milford Street Association Captive in New York (pooling resources for affordable housing properties) show promise, scaling this model effectively in a high-risk environment like Florida presents major hurdles.⁴³ **[See Appendix A for Case Study]**

⁴² Swiss Re Corporate Solutions, "Case Studies in Parametric Solutions," <https://corporatesolutions.swissre.com/insights/knowledge/case-studies-in-parametric-solutions.html>. Accessed April 14, 2025.

⁴³ More information in the Appendix.



Strategic Recommendation: Proactive Physical Resilience over Insurance Navigation

While insurance reforms offer limited promise, Florida's market remains too unstable for CCC's affordable housing portfolio. Research confirms the most reliable path is proactive physical resilience. By championing and incentivizing enhanced building standards, CCC can directly mitigate risk, ensure long-term stability, and sustainably protect its assets, rather than relying on navigating the turbulent insurance sector.

SECTION III

BUILDING AHEAD OF THE CODE

For CCC's Florida investments, relying solely on minimum Florida Building Code (FBC) standards presents growing financial risks due to accelerating climate change and impacts property value through escalating insurance costs. While modern codes initially improved resilience and insurance access, the increasing frequency and severity of storms mean today's FBC requirements may not guarantee future affordability or adequately protect assets. This analysis argues for proactively building beyond current mandates—a necessary strategy for CCC to enhance durability, safeguard investments, and secure more stable, favorable insurance outcomes long-term. Evidence presented through case studies below will demonstrate the critical benefits of adopting these enhanced, "beyond code" standards.



Building Codes Overview

Building codes represent a fundamental policy tool for state and local governments aiming to protect communities and structures from the impacts of extreme weather. These codes establish minimum requirements for construction, both in affordable and market rate housing, often mandating specific features like durable roofing materials, increased building elevation in flood-prone areas, and impact-resistant windows. The core purpose is to enhance the structural resilience of buildings, thereby reducing potential damage from events such as hurricanes, floods, and other natural disasters.

Jurisdictions typically develop their building codes by adapting model codes, often provided by the International Code Council (ICC). These models serve as a baseline, which can then be adjusted—either strengthened or relaxed—to meet local needs and risk profiles. Consequently, building code standards vary significantly across the United States. Codes are generally updated every three to six years, and in recent times, many areas have strengthened their requirements in response to the growing frequency and severity of extreme weather events. Florida stands out for maintaining building codes that are stricter than the national average, particularly concerning wind risk mitigation. Major metropolitan areas like Miami have implemented even more rigorous local standards to bolster new developments against future hurricane threats.

⁴⁴ International Code Council. "Four Steps to Using Building Codes to Mitigate the Impact of Disasters." Building Safety Journal, October 29, 2024. <https://www.iccsafe.org/building-safety-journal/bsj-dives/four-steps-to-using-building-codes-to-mitigate-the-impact-of-disasters/>.

⁴⁵ Ibid.

⁴⁶ "Understanding Building Codes." National Institute of Standards and Technology, June 21, 2022. <https://www.nist.gov/buildings-construction/understanding-building-codes>.

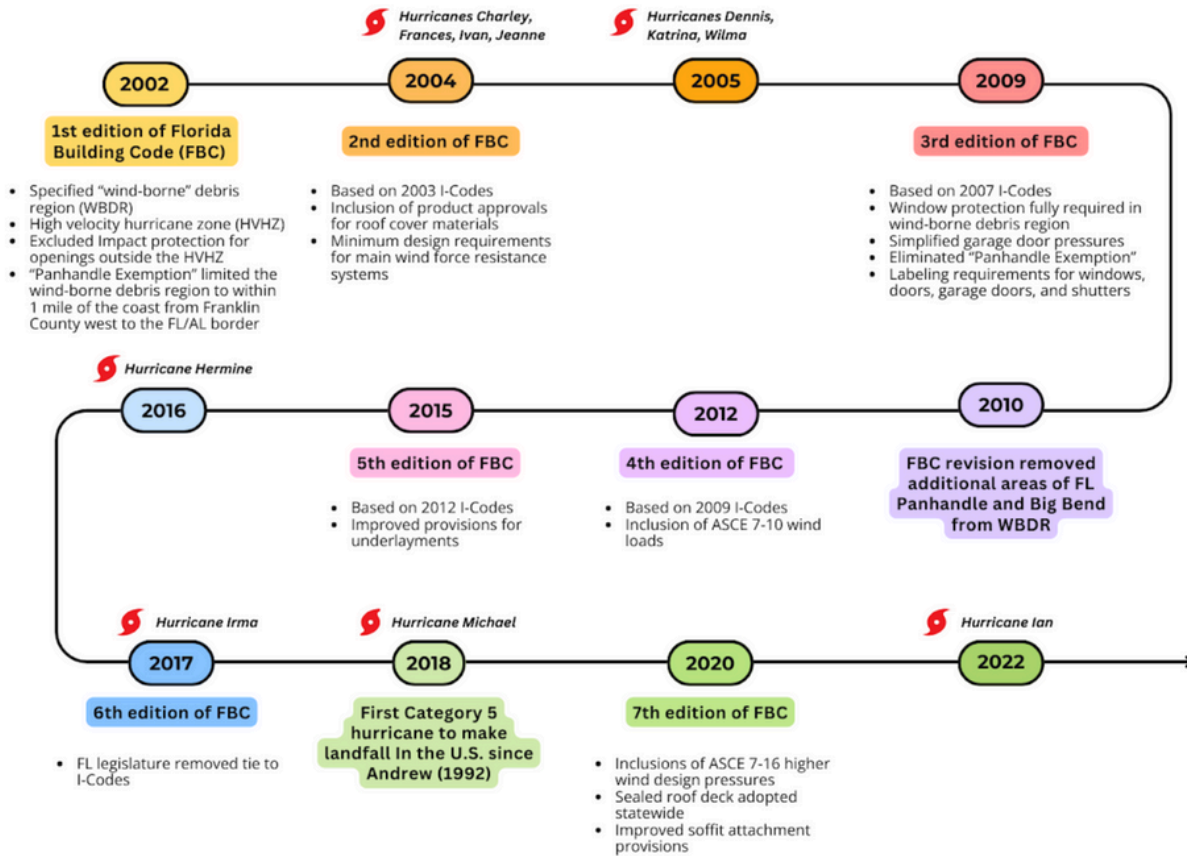
⁴⁷ CJ Reynolds (Director of Resilience and Disaster Recovery at the Florida Housing Coalition) interview on March 21, 2025.

⁴⁸ Ibid.



Florida's Building Code: A History Forged by Disaster

Figure 7: A History of FBC⁴⁹



While adherence to building codes sets the legal and compliance baseline, it's crucial to recognize that their evolution, particularly in Florida, has been largely reactive. Significant updates to the Florida Building Code (FBC) have often followed catastrophic natural disasters, highlighting vulnerabilities in previous standards. The devastation caused by Hurricane Andrew in 1992, resulting in \$26 billion in damages and the displacement of 250,000 people, was the primary catalyst for the creation of a unified FBC in 1998, with its first edition implemented in 2002.⁵⁰ This initial version introduced standardized regulations for roofing and designated High Velocity Hurricane Zones (HVHZ) in vulnerable counties.⁵¹ Subsequently, the active 2004 hurricane season revealed weaknesses, particularly in tile roof systems where inadequate hip and ridge components led to widespread failures; this directly informed the second edition of the FBC (2004), which mandated more stringent roofing requirements. The damaging hurricane seasons of 2004 and 2005 further influenced the third edition in 2009.

⁴⁹ Giammanco, Ian M, Emily Newby, William H Pogorzelski, and Milad Shabaniyan. "Observations of Building Performance In Southwest Florida During Hurricane Ian (2022); Part II: Performance of the Modern Florida Building Code." https://ibhs1.wpenginepowered.com/wp-content/uploads/HurricaneIan_PartII_FBC.pdf

⁵⁰ Silvers, Mike. "Impact of Recent Hurricanes on Florida Building Codes." Florida Roofing And Sheet Metal Contractors Association, Inc., May 16, 2022. <https://www.floridaroo.com/Impact-of-Recent-Hurricanes-on-Florida-Building-Codes--May-2022-1-13450.html>.

⁵¹ Ibid.

Similarly, major code adaptations in 2017 and 2020 incorporated lessons learned from significant hurricane impacts in the intervening years

This history underscores a critical point: building codes primarily address vulnerabilities exposed by past events. In a dynamic environment like Florida, where climate change is intensifying storms and altering risk landscapes, solely relying on standards based on previous disasters may not adequately prepare structures for future, potentially unprecedented, weather events. Building beyond the current code is essential to stay ahead of the curve.



Code Effectiveness, Insurance Recognition, and the Limits of Compliance

Modern, stricter building codes have demonstrably improved climate resilience in Florida. Research consistently shows that buildings constructed under more recent versions of the FBC experience significantly less damage during hurricanes compared to older structures.⁵³ For instance, following Hurricane Ian in 2022, the Insurance Institute for Business and Home Safety (IBHS) evaluated building performance and found that structures built under modern codes, particularly those with updated tile roof fastening systems, sustained significantly less damage compared to older structures prevalent during Hurricane Charley (2004).⁵⁴ IBHS confirmed that "improvements... adopted [in] code provisions... were effective at decreasing damage severity."⁵⁵ Furthermore, a 2023 Moody's report analyzing the economic benefits of code improvements reached a similar conclusion. By comparing average annual damage across different building code eras, Moody's found that Florida buildings constructed under post-2002 codes (which include requirements like impact-resistant windows and reinforced doors) saw more than an 80% reduction in average annual damage compared to structures built to 1990s standards.⁵⁶

This proven link between stronger codes and reduced damage is recognized by the insurance industry. Consequently, newer developments built to modern codes generally require lower insurance premiums compared to older properties.⁵⁷ However, merely meeting the current code may no longer be sufficient to guarantee long-term insurance affordability. As climate risks escalate, insurers are becoming increasingly sophisticated in their risk assessments. They recognize that the minimum standards set by codes, which are often updated only after major events, may not adequately protect against future, more intense storms.⁵⁸

⁵² "Adapting to Hurricane Risk Quantifying Benefits Now & in the Future for Insurers and Real Asset Investors: A Florida Case Study." Moody's, 2023.

<https://www.moody's.com/web/en/us/insights/resources/adapting-to-hurricane-risk.pdf>.

⁵³ "Is Homeowners Insurance Cheaper on New Construction?" Rolwes Company. Accessed April 23, 2025. <https://rolwesco.com/blog/homeowners-insurance-cheaper-new-construction/>.

⁵⁴ Giammanco, Ian M, Emily Newby, and William H Pogorzelski. "Observations of Building Performance In Southwest Florida During Hurricane Ian (2022): Part I: Roof Cover Damage Assessment on Residential and Light Commercial Structures." (p. 3) Insurance Institute for Business & Home Safety, September 2023.

<https://ibhs.org/wind/building-performance-in-sw-florida-during-hurricane-ian-2022/>.

⁵⁵ Ibid.

⁵⁶ "Adapting to Hurricane Risk Quantifying Benefits Now & in the Future for Insurers and Real Asset Investors: A Florida Case Study." Moody's, 2023.

<https://www.moody's.com/web/en/us/insights/resources/adapting-to-hurricane-risk.pdf>.

⁵⁷ "Strengthen Alabama Homes." A Division of the Alabama Department of Insurance. Accessed April 16, 2025. <https://www.strengthenalabamahomes.com/>.

⁵⁸ "Post-Hurricane Assessments Reveal Importance of Florida Building Code Updates." 2022. Burns & Wilcox. December 29, 2022.

<https://www.burnsandwilcox.com/insights/post-hurricane-assessments-reveal-importance-of-florida-building-code-updates/>.



Securing Lower Premiums by Exceeding Requirements

Thus, building beyond the code becomes a critical strategy for managing insurance costs. Insurers are actively looking for, and willing to reward, verifiable resilience features that surpass minimum FBC requirements. By incorporating enhanced mitigation measures—such as stronger roofing systems meeting IBHS Fortified standards, increased foundation robustness, or greater elevation freeboard than mandated—developers can differentiate their properties as lower-risk investments. This provides a strong rationale for negotiating more favorable insurance premiums compared to properties merely built to code. Evidence from state programs, like those in Alabama and Louisiana where homeowners receive insurance discounts for certified mitigation upgrades funded by the insurance industry itself, demonstrates insurers' willingness to directly price-in the value of specific, beyond-code resilience measures.⁵⁹ Through FORTIFIED Home, the mitigation standard for the Strengthen Alabama Homes program, insurers are required to provide discounts ranging from 25-55% for wind coverage, depending on the extent of mitigation efforts outlined by the State.⁶⁰ Therefore, proactively adopting higher standards is not just about physical protection; it is a key financial strategy to improve the likelihood of securing and maintaining lower insurance premiums throughout the lifetime of a development, hedging against future market volatility and rising baseline expectations. Investing in enhanced mitigation strategies today promises tangible dividends through potentially lower insurance costs.⁶¹



Case Study Evidence from Recent Hurricanes

The imperative to build beyond the FBC minimums, both for physical resilience and insurance advantage, is clearly illustrated by examining building performance during recent major hurricanes in Florida. Case studies from Hurricane Ian (primarily wind-driven damage) and Hurricane Helene (primarily flood-driven damage) reveal specific areas where exceeding code requirements provides substantial benefits.

Assessments after Hurricane Ian showed that while the modern FBC provided excellent structural protection (virtually no structural failures in post-2002 multifamily buildings studied), it was less effective at preventing damage to external components and cladding. Widespread damage occurred to asphalt shingle roofs, siding, soffits, and fascia, even on buildings meeting modern code.⁶² As shown in figure 8, we can see throughout the evolution of FBC, the most damages are to external roof deck loss and roof cover damage. Before Hurricane Ian, there was widespread wall failure and structural damage but as decades of changes tightening the FBC, most of the damages are limited to roof and external claddings. This highlights that while the core structure

⁵⁹ Ibid.

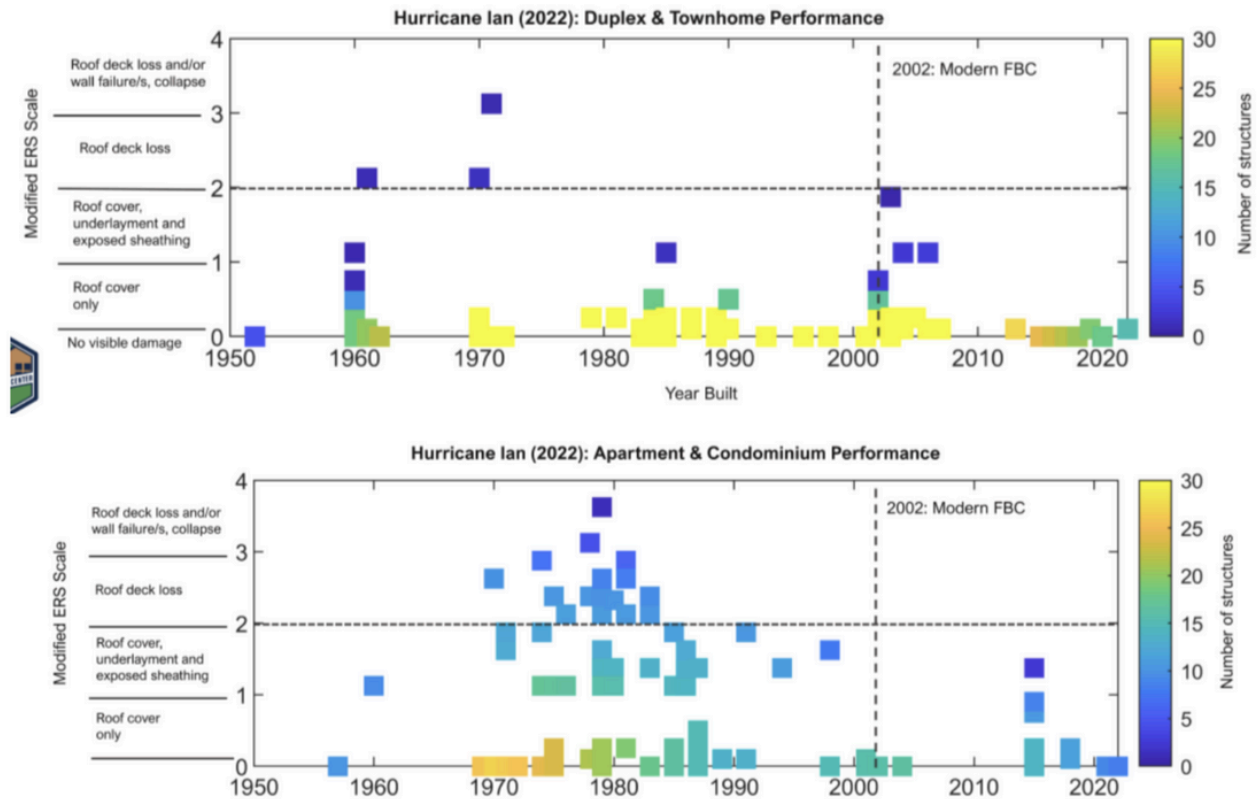
⁶⁰ "Incentives for Residents of Alabama." FORTIFIED Home. Accessed April 21, 2025. <https://fortifiedhome.org/incentives-alabama/>.

⁶¹ "Strengthen Alabama Homes." A Division of the Alabama Department of Insurance. Accessed April 16, 2025. <https://www.strengthenalabamahomes.com/>.

⁶² Insurance Institute for Business & Home Safety (IBHS).

holds up, weaknesses in components, often related to testing standards lagging behind real-world conditions, remain. Vulnerabilities in specific systems like low-slope roofs were identified even after Hurricane Andrew.⁶³ Adopting enhanced standards, such as those promoted by the IBHS Fortified program, offers superior protection against these common failure points—protection insurers may recognize in their underwriting.⁶⁴

Figure 8: IBHS analysis of damage rates multifamily housings during Hurricane Ian⁶⁵



Similarly, Hurricane Helene demonstrated the critical importance of elevation in coastal and flood-prone areas. Non-elevated structures suffered catastrophic failures, including foundation scouring, wall collapse, and complete dislocation from foundations due to storm surge.⁶⁶ In contrast, elevated structures performed significantly better. However, even elevated buildings were vulnerable if their elevation (freeboard) was insufficient or if connections between the superstructure and foundation piles were inadequate to resist surge forces. Damage to breakaway walls, garage doors, and balconies on lower levels was also common. This underscores the need to mandate elevation above minimum FEMA requirements⁶⁷ and ensure foundation systems are robustly designed for surge and wave loads, going beyond basic code stipulations—features that directly reduce flood risk and thus enhance insurability.⁶⁸

⁶³ Fronstin, Paul and Alphonse G. Holtmann, "The Determinants of Residential Property Damage Caused by Hurricane Andrew," *Southern Economic Journal* 61, no. 2 (October 1994): 387–397, <https://www.jstor.org/stable/1059986>.

⁶⁴ Giammanco, Ian M., et al., *Observations of Building Performance in Southwest Florida During Hurricane Ian (2022): Part I* (IBHS Research Report, September 2023).

⁶⁵ *Ibid.*

⁶⁶ Bret Webb et al., *Hurricane Helene Preliminary Virtual Reconnaissance Report (PVRR)* (StEER Network, December 2024), <https://doi.org/10.17603/ds2-rgnq-e383>.

⁶⁷ Federal Emergency Management Agency (FEMA), *Incident Page – Hurricane Helene*, FEMA Geospatial Resource Center, accessed April 16, 2025, <https://gis-fema.hub.arcgis.com/pages/incident-page-hurricane-helene-2024>.

⁶⁸ *Ibid.*

These real-world examples vividly demonstrate that while the FBC provides a crucial foundation, it doesn't eliminate significant vulnerabilities. Structures incorporating enhancements beyond the code consistently show greater resilience.

Figure 9: Elevated structure in Dekle Beach, FL, with minor roof damage (Source: Paul Ratje)

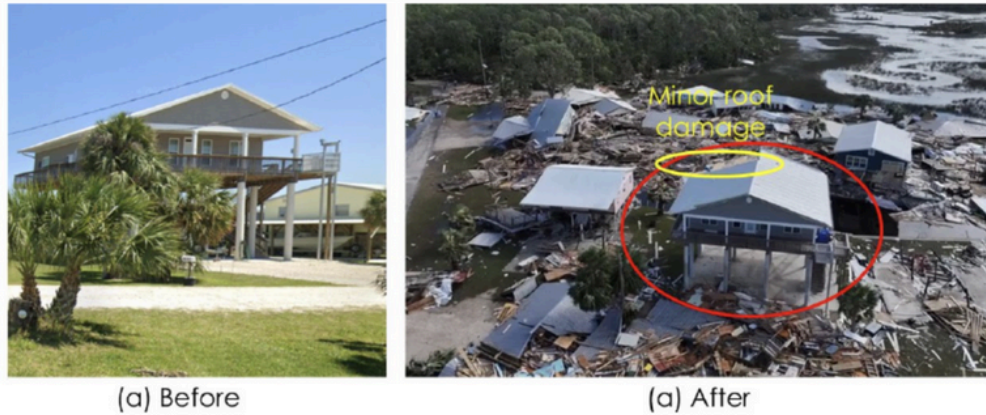


Figure 10: Damage to non-structural elements at ground floor of elevated buildings in Siesta Keys, FL (Source: Christian Casale)



Figure 11: Damage to balconies, facades and other non-structural elements of elevated buildings in Steinhatchee, FL (Source: Kathleen Flynn, Reuters)





Strategic Recommendation: Proactive Physical Resilience over Insurance Navigation

The evidence is compelling: while Florida's building codes are relatively strong and have improved significantly over time, they represent a reactive baseline that may not suffice for future climate realities or guarantee optimal insurance outcomes. The case studies of Hurricanes Ian and Helene clearly show that adherence to minimum code standards still leaves buildings vulnerable to costly damages, particularly to building envelopes from wind and foundational systems from flooding.

For CCC, adopting a development strategy that deliberately builds beyond the current Florida Building Code is not merely advisable; it is a prudent investment in long-term resilience and financial stability. By viewing the FBC as a starting point rather than a final goal, and by systematically incorporating advanced mitigation strategies tailored to specific site risks (wind, flood, etc.), CCC can better protect its assets and the residents they house. Crucially, this proactive approach, prioritizing verifiable, enhanced standards for roofing, cladding, elevation, and foundations, directly strengthens the case for lower, more stable long-term insurance costs by demonstrably reducing the property's risk profile in the eyes of insurers. This strategy leads to more durable properties, reduces future repair costs, and significantly improves the likelihood of maintaining affordable insurance coverage in an increasingly challenging market. The following sections will detail specific risk evaluation tools and mitigation techniques recommended for CCC's implementation.

SECTION IV

TOOLKIT FOR FUTURE RISK EVALUATION AND REDUCTION

As building developments continue to rely on minimum standards like building codes, the financial implications for properties and investments like those held by CCC will become increasingly severe. As a result, CCC will require the continued risk assessment of future investment options, both locationally and structurally, in hopes of limiting future mortgage defaults. This section details a two-step framework to integrate climate risk assessment in the CCC underwriting process using a risk evaluation tool and mitigant checklist.



Step 1: Future Risk Evaluation for Mitigant Selection

We recommend outsourcing or creating an internal climate-risk tool for CCC's team to understand the projected climate and economic risk of prospective investments. Currently, there are a variety of tools, both paid and open source, which are preexisting and aid in this risk assessment. Inputting an address for a prospective property, these assessment tools provide comprehensive risk by risk scoring and a list of associated tools for developers to utilize when planning development on sites with high climate risk probability.⁶⁹ This section provides two options for future risk assessment specifically related to a development site.

A. Enterprise Portfolio ProtectSM Tool

Built specifically for Affordable Housing owners and operators, the Enterprise Portfolio Protect Tool is a free platform designed to assist in understanding a property's exposure, in turn informing the identification of high risk properties.⁷⁰ The tool takes as an input a specific building or site's address and compares data from the Center for Disease Control, Federal Emergency Management Agency, and National Oceanic and Atmospheric Administration, to provide a risk score for the existing risks associated with a specific location.⁷¹

⁶⁹ Enterprise Community Partners. "Portfolio Protect." Accessed April 9, 2025. <https://www.enterprisecommunity.org/impact-areas/resilience/portfolio-protect>.

⁷⁰ Ibid.

⁷¹ Enterprise Community Partners. "Identifying Your Climate Vulnerability Using Portfolio Protect: Enterprise Portfolio Protect Tool User Guide," November 2022. <https://www.enterprisecommunity.org/sites/default/files/2022-12/19-2014.22-keep-safe-florida-portfolio-protect-user-guide-r6.pdf>.

Appendix B provides an overview of each of the types of risk included in the Portfolio Protect Tool, from Social Vulnerability Index to specific climate disaster risk levels.⁷² Included also in the appendix are the data sources from which these scores are calculated and resources to reduce the risk to affordable housing posed by each hazard.

We recommend using this tool to help assess and underwrite prospective mortgage holdings when they are presented to CCC. Separately we have provided to CCC an Excel spreadsheet which includes all of the current Florida properties under CCC's portfolio, their address, and the risk scores pulled from the Enterprise Portfolio Protect tool to help inform the understanding of the current risks facing CCC's investments.⁷³ As new properties or developments in need of loans come across CCC's desk, we recommend adding them to this spreadsheet to continue comparing risk among the current portfolio and the prospective investments.

B. First Street's Enterprise Street

Similarly to the Enterprise Portfolio Protect Tool, First Street has also developed a tool to assess the climate risk of specific properties. While First Street's Enterprise Suite is a paid service, it is specifically designed for financial institutions like CCC to analyze the impact of climate risk on real estate investment decisions.⁷⁴ Their goal is to help facilitate projects at financial institutions which attempt to connect climate and financial risk.⁷⁵

First Street's Enterprise Suite is a quad pronged interface, tracking property detail, portfolio exposure, catastrophe modeling, and macroeconomic impact. First, using this tool, CCC can access climate related property details for any building in the US. Specifically, First Street provides an assessment, using a physics-based model, of the impact that future climate risk will have on a property's value, operating income, and credit risk from now until 2055. Second, CCC can upload their portfolio to the Enterprise Suite and access a comprehensive set of climate hazards facing their properties, complete with exposure and damage statistics. Specifically, the portfolio exposure tool details flooding, hurricane winds, wildfire, extreme heat, and air quality risk. Third, Enterprise Suite conducts catastrophe modeling and uses its results to inform future estimations of damage. Based on adjusted historical climate and disaster data, First Street simulates about 200,000 years of climate disasters to estimate the probability of expected maximum losses for a property due to climate change. Estimates like these are useful for CCC as they have been used to directly negotiate down insurance plans and premiums by recontextualizing for providers the actual probability of risk facing an investment. Finally, to understand the full cost CCC's investments can face, the Enterprise Suite details the macroeconomic impact of climate risk by analyzing expected population migration, GDP impacts, and, most importantly for CCC, forecasted insurance price changes.⁷⁶

⁷² Ibid.

⁷³ This spreadsheet is provided to the client separately from this report as an .xlsx file.

⁷⁴ First Street. "Climate Risk Reports for Banks and Financial Institutions." Accessed April 14, 2025. <https://firststreet.org/pricing/banking-enterprises>.

⁷⁵ Ibid.

⁷⁶ All info in this paragraph pulled from the First Street website. See, First Street. "Climate Risk Reports for Banks and Financial Institutions." Accessed April 14, 2025. <https://firststreet.org/pricing/banking-enterprises>.

Utilizing such tools—the Enterprise Portfolio Protect Tool or First Street’s Enterprise Suite—will provide CCC with a robust foundation for integrating climate risk analysis into its investment and underwriting process. If these tools are too generalized, we recommend CCC build something similar internally to continuously integrate climate risk assessment into the core of their underwriting process. These platforms not only enable a granular assessment of climate risks at prospective investment sites but also allow CCC to advocate for more favorable insurance terms by strategically prioritizing risk mitigation measures, specifically those detailed in Step 2.



Step 2: Mitigant Checklist for Underwriters⁷⁷

We have demonstrated that adaptation measures at the design and operational level are essential for ensuring financial viability and safeguarding tenant wellbeing. Buildings in Florida need additional protection that goes beyond the building code. Thus, once CCC has identified the risks facing a prospective investment, we recommend their underwriters look for the following mitigants in their development plans in order to prioritize investing in climate resilient designs that minimize loss and thus, hopefully lower premiums.

While this report demonstrates that adaptation measures are essential for financial viability and tenant wellbeing in Florida—necessitating protections beyond standard building codes—we could not quantify the specific Return on Investment (ROI) for these measures at this time. Establishing precise, data-driven linkages between specific mitigations and insurance premium reductions requires analysis that was beyond the scope of this project due to significant constraints. These included time limitations, a lack of readily available granular insurance premium data, and challenges in securing candid discussions with industry contacts.

Building on the foundation of the below checklist, we strongly recommend CCC undertake targeted future research to quantify the direct financial impact of these measures. Obtaining this granular data is a critical next step to empower CCC and its borrowers with cost-benefit analyses and further justify upfront investments in resilience.

Below is an outline of 13 key climate-safe housing mitigants that enhance resilience to extreme weather events like flooding, hurricanes, and heatwaves. The 13 mitigants are

⁷⁷ Completed checklist is integrated into the client’s existing underwriting spreadsheet and included as part of the final submission as a .xlsx file.

grouped into 5 Mitigation Areas based on common areas of vulnerability observed across affordable housing developments.

- Roof
- Floor/Foundation
- Mechanical System
- Building Envelope
- Site & Drainage

While this report provides an overview of the mitigant and some key considerations, a more detailed and easy-to-use checklist can be found in the accompanying excel. This is designed for easy implementation during underwriter analysis of a property and can serve as a “what to look for” tool.

Where applicable, mitigation strategies reference regulatory frameworks such as FEMA Technical Bulletins, the National Flood Insurance Program (NFIP), and industry standards like FORTIFIED Multifamily.

Recognizing the diversity of CCC’s portfolio, from new builds to older structures, the checklist prioritizes design recommendations for new developments as well as practical retrofits. This section forms the foundation for risk reduction at the building level.

Mitigant Area	Checklist
Roof	1. Wind and Wind-Driven Rain
Floor/Foundation	1. Wet Floodproofing 2. Dry Floodproofing 3. Site Perimeter Floodproofing 4. Sump Pumps 5. Elevated Living Space
Mechanical System	1. Resilient Elevators 2. Backwater Valves 3. Elevated Equipment 4. Distributed Heating and Cooling
Envelope	1. Envelope Efficiency 2. Window Shading
Site & Drainage	1. Surface Stormwater Management

Operational Checklist:

A. Mitigation Area 1: Roof

Mitigant 1: Wind and Wind-Driven Rain⁷⁸

Strengthen roofs, windows, doors, and the structural load path to resist high winds and driven rain. Use established standards (e.g., FORTIFIED) for upgraded roof covers, secure attachments, pressure-rated openings, and a continuous load path. Ensure roof decks are well-attached and roof-mounted equipment is secured.

B. Mitigation Area 2: Floor/Foundation

Mitigant 2: Wet Floodproofing^{79, 80}

Allow designated unoccupied areas, below Design Flood Elevation (DFE), to intentionally flood to reduce structural pressure. Requires using flood-resistant materials, installing NFIP-compliant flood vents for water entry/exit, and relocating or protecting utilities in these areas. Plan to move vulnerable contents before flooding.

Mitigant 3: Dry Floodproofing^{81, 82}

Seal the building envelope below the DFE to prevent water entry, using active or passive measures. Ensure walls and openings are sealed, utilities are protected, and systems can handle seepage. *Note: Generally not recommended by FEMA for primary residential structures due to failure risk.* Staff require training for temporary systems.

Mitigant 4: Site Perimeter Floodproofing⁸³

Deploy physical barriers (temporary like sandbags/inflatable tubes, or permanent like floodwalls/berms) around the property perimeter to block floodwaters. Ensure barriers are designed for expected water pressure. Plan for managing internal stormwater and maintaining resident/emergency access. Temporary barriers need proper installation and maintenance.

Mitigant 5: Sump Pumps⁸⁴

Install pumps in sump basins at low points (e.g., basements) to remove accumulating water. Use submersible-rated wiring with controls located above the DFE. Ensure the discharge pipe has a backwater valve. Connect to reliable backup power (generator) and perform regular inspections and cleaning.

⁷⁸ "Wind and Wind-Driven Rain." n.d. Climate Safe Housing. <https://www.climatesafehousing.org/wind>.

⁷⁹ "Wet Floodproofing." 2025. Climate Safe Housing. 2025. <https://www.climatesafehousing.org/wet-floodproofing>.

⁸⁰ "Wet Floodproofing Requirements and Limitations: For Buildings and Structures Located in Special Flood Hazard Areas in Accordance with the National Flood Insurance Program." Federal Emergency Management Agency (FEMA), May 2022. https://www.fema.gov/sites/default/files/documents/fema_nfip-technical-bulletin-7-wet-floodproofing-guidance.pdf.

⁸¹ "Dry Floodproofing." 2015. Climate Safe Housing. 2015. <https://www.climatesafehousing.org/dry-floodproofing>.

⁸² "National Flood Insurance Program: Flood Mitigation Measures for Multi-Family Buildings." (p. 87-106) Federal Emergency Management Agency (FEMA), October 2019. https://content.govdelivery.com/attachments/USDHSFEMA/2020/06/24/file_attachments/1481529/16-J-0218_Multi-FamilyGuidance_06222020.pdf.

⁸³ "Site Perimeter Floodproofing." 2025. Climate Safe Housing. 2025. <https://www.climatesafehousing.org/site-perimeter-floodproofing>.

⁸⁴ "Sump Pumps." 2025. Climate Safe Housing. 2025. <https://www.climatesafehousing.org/sump-pumps>.

Mitigant 6: Elevated Living Space^{85, 86}

Restrict areas below the Base Flood Elevation (BFE) to non-residential uses like parking, storage, and building access, per NFIP guidelines. Elevating new construction above grade also improves resistance. Ensure any equipment or belongings in these lower areas can be moved before a flood.

C. Mitigation Area 3: Mechanical System

Mitigant 7: Resilient Elevators⁸⁷

Protect elevators from flooding, especially pits. Key measures include locating electronic controls above the DFE, designing shafts below DFE to resist water pressure, installing sump pumps in pits, and considering holeless hydraulic systems in flood zones. Advanced controls can help manage operation during power outages.

Mitigant 8: Backwater Valves⁸⁸

Backwater valves are relatively inexpensive retrofits that prevent sewage from backing up into a building, which can occur due to sewer line blockages or storm drain overflows. Install one-way valves on the main sewer line where it exits the building to prevent sewage backflow during flooding or sewer system overflows. Ensure proper placement and enclose the valve in a pit or vault with access for regular inspection and cleaning.

Mitigant 9: Elevated Equipment⁸⁹

Elevate critical mechanical/electrical equipment (boilers, water heaters, electrical panels, generators) above potential flood levels. Place on platforms or relocate to higher floors/roof (must be above BFE where required). Anchor fuel tanks securely and ensure relocated equipment remains accessible for maintenance.

Mitigant 10: Distributed Heating and Cooling⁹⁰

Use individual-unit or high-wall heating/cooling systems (like mini-splits) instead of centralized basement equipment to avoid flood damage. Mount exterior components securely on raised platforms or walls, anchored against wind. Ensure regular maintenance and inform residents about efficient operation, especially if sub-metered.

D. Mitigation Area 4: Envelope

Mitigant 11: Envelope Efficiency^{91, 92}

Enhance the building envelope (walls, roof, windows) with improved insulation and air sealing, particularly around shafts and penetrations. This helps maintain habitable

⁸⁵ "Elevated Living Space." 2025. Climate Safe Housing. 2025. <https://www.climatesafehousing.org/elevated-living-space>.

⁸⁶ "National Flood Insurance Program: Flood Mitigation Measures for Multi-Family Buildings." (p. 52-58). Federal Emergency Management Agency (FEMA), October 2019. https://content.govdelivery.com/attachments/USDHSFEMA/2020/06/24/file_attachments/1481529/16-J-0218_Multi-FamilyGuidance_06222020.pdf.

⁸⁷ "Resilient Elevators." 2025. Climate Safe Housing. 2025. <https://www.climatesafehousing.org/resilient-elevators>.

⁸⁸ "Backwater Valves." 2025. Climate Safe Housing. 2025. <https://www.climatesafehousing.org/backwater-valves>.

⁸⁹ "Elevated Equipment." 2025. Climate Safe Housing. 2025. <https://www.climatesafehousing.org/elevated-equipment>.

⁹⁰ "Distributed Heating and Cooling." 2025. Climate Safe Housing. 2025. <https://www.climatesafehousing.org/distributed-heating-and-cooling>.

⁹¹ "Envelope Efficiency." 2025. Climate Safe Housing. 2025. <https://www.climatesafehousing.org/envelope-efficiency>.

⁹² "Decarbonization and Climate Resiliency Design Guide: Interim Guidance for New Buildings and Major Renovations For New York State Affected Entities." New York State Energy Research and Development Authority, November 2024. https://ogs.ny.gov/system/files/documents/2025/03/decarb-climate-resiliency-design-guide_final1.pdf.

temperatures during power outages and reduces energy demand. Ensure windows remain operable for ventilation and implement carefully to avoid moisture problems.

Mitigant 12: Window Shading⁹³

Use window treatments to manage temperature. Exterior options (overhangs, awnings, shutters) are typically most effective at blocking summer heat gain and may offer wind protection. Interior blinds/curtains also help insulate. Ensure windows remain operable for ventilation.

E. Mitigation Area 5: Site & Drainage

Mitigant 13: Surface Stormwater Management⁹⁴

Implement on-site strategies like permeable pavement, green roofs, bioswales (vegetated drainage areas), and rainwater harvesting (cisterns) to manage stormwater runoff and reduce localized flooding. Requires ongoing maintenance (cleaning, inspections) and potentially engineering consultation.

⁹³ "Window Shading." n.d. Climate Safe Housing. <https://www.climatesafehousing.org/window-shading>.

⁹⁴ "Surface Stormwater Management." 2025. Climate Safe Housing. 2025. <https://www.climatesafehousing.org/surface-stormwater-management>.

SECTION V

LOOKING AHEAD

There are two key areas where future research may prove useful for CCC's work.



Quantify the Financial Impact of Specific Mitigation Measures

While existing research strongly substantiates the connection between improved risk mitigation measures and lower insurance premiums, this report could not produce precise estimates quantifying the specific effect of various mitigations on present and future insurance costs. Obtaining such granular data is crucial for organizations like CCC seeking to perform robust cost-benefit analyses and justify upfront investments in resilience during development, specifically in affordable housing projects where funding is already tight. Future research should therefore focus explicitly on quantifying this impact, moving beyond anecdotal evidence to establish data-driven links between specific resilience investments (roof upgrades, flood vents, fire-resistant siding) and their effect on insurance costs and overall project financial performance within CCC's key regions. This could be achieved by commissioning targeted studies, potentially partnering with academic institutions or specialized consultants, conducting pilot programs focused on CCC projects, and developing detailed case studies.

Essential methodologies would include conducting in-depth interviews with insurers to understand their specific pricing adjustments for mitigation features and performing detailed financial analysis of affordable housing developments to isolate the impact of these investments. The findings would be invaluable for refining CCC's underwriting criteria, empowering borrowers to make informed decisions about resilience upgrades, supporting advocacy for insurance reform or updated building codes, and enhancing CCC's own risk assessment models.



Conduct Comparative State Analysis

Additionally, constrained by time, this report focused exclusively on Florida's affordable housing and insurance markets. However, rising insurance costs and availability challenges represent an increasingly pressing issue for affordable housing providers nationwide, impacting CCC's geographically diverse portfolio far beyond hurricane-prone areas. Consequently, a broader analytical scope is essential. Future research should undertake a comprehensive comparative analysis of the policy landscape across states where CCC operates.

This analysis should systematically compare state-level approaches to property insurance regulation, building code adoption and enforcement, the availability and structure of funding mechanisms for resilience retrofits, and climate risk disclosure requirements. It should also evaluate relevant existing or proposed federal policies and programs, such as those from FEMA or HUD, that influence affordable housing resilience and insurance. This is particularly salient as of writing (May 2025) during the Trump Administration. Federal funding streams, financing tools like tax credits, and overarching regulations dictate the resources and rules of the game in the affordable housing space. Therefore, potential policy shifts under a second Trump administration represent significant variables that could reshape CCC's operating environment, demanding constant vigilance and adaptability as this landscape evolves.

This research would allow CCC to understand the diverse and evolving policy environments influencing its investments, identify innovative policy models and best practices from various jurisdictions, and anticipate state-specific market changes or regulatory risks. The outputs, potentially including policy matrices, best practice case studies, or state-specific risk/opportunity briefs, would directly inform CCC's state-level investment strategies, enable more effective navigation of diverse regulatory environments, and strengthen its national advocacy efforts promoting affordable housing resilience.

APPENDICES



Section 2: Insurance Market Study

Appendix A: Alternative Insurance Models Case Study: Hurricane Beryl and the CCRIF⁹⁵

Hurricane Beryl, emerging as the earliest recorded Category 5 storm on July 1, 2024, severely impacted Caribbean islands including Grenada and St. Vincent and the Grenadines, causing catastrophic damage particularly in smaller islands, such as Carriacou and Union Island. The initial rapid assessments estimated substantial economic damage—approximately \$230 million USD for St. Vincent and the Grenadines (22% of GDP) and \$219 million USD for Grenada (16.5% of GDP).

The Parametric insurance model was introduced by the Caribbean Catastrophe Risk Insurance Facility (CCRIF) in 2007 as a regional risk pool designed to offer member countries timely financial resources after catastrophic events. Within eight days following Hurricane Beryl's landfall, CCRIF disbursed record parametric payouts:

- Grenada received approximately \$44 million USD.
- St. Vincent and the Grenadines received around \$1.8 million USD.

To mitigate the inherent basis risk and limited coverage scope associated with typical parametric insurance models, CCRIF introduced Aggregate Deductible Cover (ADC) in 2017 to activate smaller payments based on secondary event information, ensuring coverage even when primary parametric triggers were not fully met. This feature effectively provided supplementary financial protection for Trinidad and Tobago and the Cayman Islands following Beryl. Moreover, CCRIF provided sector-specific additional targeted payouts (\$12.6 million USD) for Grenada's electric and water utility companies and the fisheries sector. This innovative approach enables rapid restoration of essential services post-disaster.

This event provided critical insights into the effectiveness of parametric insurance to bridge the immediate liquidity gap and highlights a critical missed opportunity within Florida's current insurance framework. Florida could leverage parametric insurance to secure more targeted risk mitigation strategies and provide coverage explicitly designed for critical sectors such as affordable housing.

⁹⁵ Meenan, Conor. "Hurricane Beryl: Record Parametric Payouts Underline the Evolution of CCRIF's Role in the Caribbean," Centre for Disaster Protection, November 27, 2025, <https://www.disasterprotection.org/blogs/hurricane-beryl-record-parametric-payouts-underline-the-evolution-of-ccrifs-role-in-the-caribbean>.
<https://www.burnsandwilcox.com/insights/post-hurricane-assessments-reveal-importance-of-florida-building-code-updates/>.



Alternative Insurance Models Case Study: Milford Street Association & Captive^{96, 97, 98}

Faced with skyrocketing insurance premiums in NYS, a group of developers and property managers founded the Milford Street Association & Captive in June 2024, which is dedicated to providing lower insurance exclusively to New York affordable rental housing properties. This initiative was first-of-its-kind and was born from a collective determination to take control of risk management and pricing rather than remain subject to a volatile insurance market. Supporters argue that affordable housing properties, due to stricter maintenance standards and better risk practices, are less risky than other buildings, justifying lower insurance costs.

Milford Street Association & Captive is governed by a diverse board that includes developers, independent industry experts, and political leaders to pool their money to cover claims, potentially reducing insurance costs and improving building conditions for tenants. This broad representation ensures balanced governance, with scheduled debate between coverage adequacy and rate setting. This composition is essential to maintain the health and adaptability of the captive insurance model in which collective action and innovation can overcome market failures.

Since its establishment, the Captive received subsidies from municipal, state, or federal housing agencies. In December 2024, the Captive applied for a \$2 million low interest loan from Empire State Development (ESD)^{99,100} to assist with incentivizing captive participation by using the loan funding to cover a portion of the initial capital contribution membership costs. In exchange, the captive has committed to securing general liability coverage for 4,000 additional New York City affordable housing residential units. As of February 2025, the Captive has insured about 3,000 apartments.¹⁰¹

⁹⁶ Scott Insurance. "Captive Insurance for Affordable Housing." Scott Insurance Blog. Accessed April 8, 2025. <https://www.scottins.com/blog/captive-insurance-affordable-housing/>.

⁹⁷ New York Housing Conference. "Milford Street Insurance Company." New York Housing Conference Projects. Accessed April 8, 2025. <https://thenyh.org/projects/milford-street-insurance-company/>.

⁹⁸ Wavecrest Management. "Affordable Housing's Liability Insurance Program: A New Path Forward." Accessed April 8, 2025. <https://wavecrestmanagement.com/affordable-housings-liability-insurance-program-a-new-path-forward/>.

⁹⁹ Captive International. "New York Housing Captive Could Get Loan Boost." Accessed April 8, 2025. <https://www.captiveinternational.com/new-york-housing-captive-could-get-loan-boost>.

¹⁰⁰ Andrew G. Simpson. "Captive Insurer Targets New York Affordable Housing Market." *Insurance Journal*, July 12, 2024. <https://www.insurancejournal.com/news/east/2024/07/12/782988.htm>.

¹⁰¹ Brand, David. "Ny Tries to Contain Rising Threat to Affordable Housing: Skyrocketing Insurance Costs." *Gothamist*, February 25, 2025. <https://gothamist.com/news/ny-tries-to-contain-rising-threat-to-affordable-housing-skyrocketing-insurance-costs>.

Section 4: Toolkit for Future Risk Evaluation and Reduction

Appendix B: Enterprise Portfolio ProtectSM Tool Hazard Descriptions and Data Sources¹⁰²

Hazard	Definition	Data Source	Resources to Reduce Risk
Cold Wave	A rapid fall in temperature within 24 hours and extreme low temperatures for an extended period.	FEMA National Risk Index - Cold Wave	Climate Safe Housing, Cold weather safety, Winter weather
Earthquake	Seismic Design categories assign a level of risk based on the likelihood of experiencing an earthquake and its intensity.	USGS Earthquake Hazard Data 2018	Earthquake Preparedness Resource, FORTIFIED Homeowner Resources, REDi, Disaster Ready Guide
Flooding	Flood zones defined by FEMA according to varying levels of flood risk.	FEMA NFHL Datasets	Climate Safe Housing, FEMA - What is Mitigation?, FEMA - Floodproofing, FEMA - Above the Flood
Heat Wave	A period of abnormally and uncomfortably hot and usually humid weather lasting two or more days.	FEMA National Risk Index - Heat Wave	Climate Safe Housing, Be Prepared for Extreme Heat, Green Roofs, Heat Islands and Equity
Hurricane	A tropical cyclone with organized thunderstorms and maximum sustained winds of at least 74 mph.	FEMA National Risk Index - Hurricanes	Climate Safe Housing, FORTIFIED Homeowner Resources, REDi, Guidance for Community and Residential Safe Rooms

¹⁰² Enterprise Community Partners. "Identifying Your Climate Vulnerability Using Portfolio Protect: Enterprise Portfolio Protect Tool User Guide," November 2022. <https://www.enterprisecommunity.org/sites/default/files/2022-12/19-2014.22-keep-safe-florida-portfolio-protect-user-guide-r6.pdf>.

Hazard	Definition	Data Source	Resources to Reduce Risk
Landslide	Areas susceptible to landsliding based on the response of the rocks and soils to natural or artificial changes.	USGS Professional Paper 1183	Ready.gov Landslides & Debris Flow , USGS Guide to Understanding Landslides
Sea Rise	Potential impacts of sea level rise and future flooding if the location is within 6 feet of current mean high water.	NOAA Sea Level Rise Data Download	Climate Safe Housing , Sea Level Rise.org
Social Vulnerability	The resilience of communities when confronted by external stresses such as natural disasters or disease outbreaks.	CDC's Social Vulnerability Index	Resilient Community Hubs Guide , Green Communities Criteria & Certification , Resilience Hubs
Strong Wind	Damaging winds, often from thunderstorms, classified as exceeding 58 mph.	Wind Design Speeds	National Risk Index - Strong Wind , FORTIFIED Homeowner Resources , REDi , High Wind Protection , Ready.gov
Tornado	Part of a severe convective storm, documented in every state of the U.S.	NOAA National Centers for Environmental Information	FEMA High Wind Protection , NOAA State of the Climate - Tornadoes , Ready.gov , REDi rating system: Extreme Windstorms , FORTIFIED Home

Hazard	Definition	Data Source	Resources to Reduce Risk
Tsunami	A sea wave generated by an earthquake, landslide, volcanic eruption, or a large meteor hitting the ocean.	<u>ASCE Hazard Tool</u>	<u>Ready.gov, FEMA Tsunami Guidelines PDF</u>
Wildfire	Wildfire hazard potential data helps inform evaluations of wildfire risk across large landscapes.	<u>USDA Forest Service Fire Modeling Institute</u>	<u>NFPA - Preparing homes for wildfire, Wildfire – Insurance Institute for Business & Home Safety, Prepare for Wildfire – DISASTERSAFETY.ORG, Ready.gov</u>

INTERVIEW FINDINGS

February 13, 2025

Lindsey Fields, *Senior Managing Director at Resilience Insurance Analytics*

Zuellen Moore, *Executive Director at Resilience Insurance Analytics*

Designing a building in a more resilient way is better than retrofitting, particularly for capital cost. Increases in insurance premiums are tied to where your property is located and its exposure to climate risk. The cost of replacing buildings has increased, due to code changes and the pandemic.

Well-constructed buildings will have more favorable insurance rates. Going above the building code is good practice, but results in a 15% higher construction cost. Projects that exceed the building code are usually not affordable housing developments because they are more expensive. However, high up-front costs may offset the insurance cost.

February 24, 2024

Brad Boyle, *Risk Manager at DRA Advisors*

Multifamily housing is a tough market, with a lot of losses in this space. Lenders want to see fully insured programs. The insurance market of the last five years is the worst they have ever seen. Recommends lenders and clients to secure their roofs and windows, redirect runoff, and build your property up.

February 28, 2025

Joel Patterson, *SVP of Development at Dantes Partners*

Affordable housing has very strict regulation, increasing major operating and development costs. Higher insurance costs increase a gap that you have to fill. Tax credit equity can only help so much with mitigating rising costs. Southern states have the worst insurance market.

March 11, 2025

Edward Poteat, *President of Carthage Advisors, LLC*

Rising insurance premiums have been a consistent issue even before the recent developments of persistent climate disasters. Insurers used the COVID-19 pandemic as an excuse to raise premiums as well. The current high rates can be attributed to a number of factors including the pandemic, inflation, and climate. Few factors will result in significant cost decreases in insurance as it is a profit-driven industry. In New York, there are issues with significant flooding. Engineers will utilize 100-year floodplain maps to inform developers of risk but exacerbating changes in weather events have turned the 100-year map to a 20-year map. Noted the importance of waterproofing basements following Hurricane Sandy. Believes it is usually cheaper to develop with climate-resilient infrastructure up-front than to retrofit.

March 12, 2025

Steven Zachary, *President of The Zachary Group*

Affordable housing is difficult to underwrite. Property insurance is a nightmare and supply is extremely restricted. In high climate risk zones, insurers have had to increase deductibles, increase premiums, or restrict coverage. The following mitigation strategies can impact insurance plans and premiums: improving wind resistance through siding windows and shingles, raising mechanical and living areas, and installation of slits and parking on the first floor.

March 21, 2025

CJ Reynolds, *Director of Resilience and Disaster Recovery at the Florida Housing Coalition*

Florida has a statewide building code that is updated every three years and is adequate by national standards. The code is strong for wind risk mitigation. The city of Miami has even more rigorous building codes. However, much of the population resides in older housing stock. People want to make resilience investments, but they do not have the money. Rising insurance prevents the developer from accurately estimating the costs of development.

March 25, 2025

Alecia Hill, *Vice President and Assistant Portfolio Manager at Foundation Capital Partners*

On the equity funding side, affordable housing equity investors typically have third party people conducting due diligence research on climate risk for certain properties. She suggested the National Multifamily Housing Council, Enterprise for Community Partners, and Affordable Housing Investors Council as reputable sources for the report. On the insurance side, there are alternative ways to get insured such as using pooling loan methods to decrease insurance costs.

March 26, 2025

Kevin Welsh, *Director of Acquisitions for Red Stone Equity Partners*

Developers should proactively obtain insurance quotes during the underwriting phase. This helps anticipate cost escalations and avoid last-minute surprises in the pro forma. Quotes should include both property and operational coverage. A key consideration is how a potential insurance premium increase—such as a 20% year-over-year hike—would affect the DSCR. If a property can still maintain a minimum DSCR of 1.15 under this stress scenario, the project remains viable from a lender's perspective. If the projected DSCR drops below the threshold due to higher insurance costs, an additional reserve should be considered. This could be structured as a contingency within the operating budget or as a lender-required escrow account.

Accounting for construction delays and cost overruns is important, especially in regions prone to natural disasters. Delays often affect insurance coverage terms and pricing. In a post-disaster context, the ability to rebuild quickly is often hindered by shortages of labor and materials. Developers may want to include clauses in construction contracts that lock in prices or timelines, and pre-negotiate arrangements with general contractors to ensure capacity during emergencies.

April 1, 2025

Krista Egger, *VP of Building Resilient Futures at Enterprise Community Partners*

Buildings that were designed years ago were not made to withstand the current climate, let alone what it will look like 20 years from now. Research has documented that when climate disasters strike in certain areas, communities with few resources struggle to pay to rebuild and/or easily find transition housing. It is easier to add resilience measures to new construction than it is to retrofit. It is challenging to identify and tap into government funding to pay for climate upgrades, especially as the market has not decided on how to price the risk nor who should bear that cost. Some of the most critical mitigants applicable nationwide would be the provision of backup power and cooling.

April 8, 2025

Barry Krinsky, *National Production Manager for Citi Community Capital*

Citi knows that building codes will be met so they are not very active in risk calculations. The checklist can be helpful in seeing how good building code matters; however, believes lenders will not require developers to go above building code.

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