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Before the
United States Senate Committee
on Banking, Housing, and Urban Affairs

Reauthorization of the National Flood Insurance Program: Local Perspectives on Challenges and Solutions

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Marsh McLennan

Marsh McLennan is the world's leading professional services firm in the areas of risk, strategy and people. Our more than 85,000 colleagues advise clients in 130 countries. We help corporate and public sector clients navigate an increasingly dynamic environment and address the most complex challenges of our time through four market leading businesses — Marsh, Guy Carpenter, Mercer, and Oliver Wyman.

We have a deep understanding of flood-related risk and insurance issues, having been engaged with property insurance challenges since our beginning more than 150 years ago. We work with clients — including individuals, businesses, organizations, governments, and communities — to analyze their flood risk exposures; help them implement solutions before, during and after an event; and to address and mitigate the financial impact of natural disasters, including flooding, through insurance and other risk transfer tools.

Executive Summary

Flood risk in the US is systematically underestimated, contributing to gaps in the insurance coverage and the resilience measures that can help communities minimize and recover from losses. Federal policies and programs, including the National Flood Insurance Program (NFIP), are essential, but state and local officials and homeowners play essential roles in flood resilience.

Closing the flood resilience gap

There are several ways to improve risk readiness and mitigate the impact of floods. These include NFIP reforms and complementary solutions:

- Strengthen the NFIP with a long-term reauthorization and reforms, and protect it with reinsurance.
- Grow the private flood market and promote additional coverage to complement the NFIP.
- Address gaps in NFIP coverage.
- Embrace parametric insurance.
- Leverage existing NFIP incentive programs such as the Community Rating System (CRS).

Actions at the state and local levels are also necessary.

State resilience programs such as South Carolina's Strategic Statewide Resilience and Risk Reduction Plan with $200 million primarily directed at flood risks, as well as hurricane mitigation grant programs for homeowners including Strengthen Alabama Homes, My Safe Florida Home Program, South Carolina Safe Home, and Louisiana's new hazard mitigation grant program, are examples of non-federal approaches to reducing disaster impacts.

Community-based catastrophe insurance

Community-based catastrophe insurance (CBCI) is an innovative approach to boosting insurance purchasing, providing property coverage arranged by a local government, quasi-governmental body, or community group. The benefits of CBCI include enhancing financial resilience, providing affordable coverage, and creating incentives for risk reduction at the community and individual

levels. A CBCI pilot program is boosting financial resilience of a community in New York City.

A comprehensive flood resilience strategy

Federal, state, and local officials need a clear vision that strikes a balance between addressing crises and fostering resilience. Insurance and risk transfer have an important role to play, but must be combined with a broader, coordinated resilience strategy that includes risk reduction measures. Incentives for such measures exist now in the form of federal grant programs. To fully close the flood resilience gap, innovations beyond these programs and a broader range of stakeholder engagement will be necessary, including:

- Building code adoption, enforcement and retrofits, as well as zoning laws.
- Stafford Act incentives.
- Community Disaster Resilience Zones
- Engaging cross-industry stakeholders as co-beneficiaries of resilience investments

The flood resilience gap

Despite being one of the most common and destructive natural hazards, flood risk is systematically underestimated, which contributes to inadequate insurance, underinvestment in flood resilience, and policy decisions that, in many cases, may not be helping. And the gap between economic and insured losses from flood has only been widening. Between 2007 and 2021, only 17% of global flood losses were insured, according to a Marsh McLennan analysis.

With the increasing frequency and severity of flood events, together with population growth, economic development, and urbanization, the nation's people and infrastructure are at greater risk. Significant flooding events in the US in 2023 included:

- Tropical Storm Hilary was the first such storm to hit southern California in more than 80 years, setting rainfall records for Los Angeles and elsewhere.
- Record rains caused catastrophic flooding in four counties in western Kentucky.
- More than 25 inches of rain fell in Fort Lauderdale, Florida in six hours, bringing flash floods, overwhelming local water infrastructure, and forcing the airport to close.
- Historic rainfall in Vermont led the state to declare a disaster in all 14 of its counties.

Gaps in flood risk protection exist not only in insurance coverage, but in resilience measures that can help communities minimize and recover from losses.

In inflation-adjusted 2021 dollars, global economic losses from floods increased from $504 billion in the 15-year period between 1992 and 2006 to $729 billion between 2007 and 2021. According to the Marsh McLennan Flood Risk Index, 18% of the global population is currently threatened by flooding, a number projected to rise considerably in the coming years.

We believe that risk reduction and risk transfer are key to increasing the resilience of communities to the pervasive risk of flooding. Federal policies and programs, including the National Flood Insurance Program (NFIP), are essential, but communities and individuals are ultimately responsible for managing and mitigating flood losses. Whether investing in flood mitigation measures, including public infrastructure upgrades and retrofitting homes and buildings, or purchasing flood insurance, local officials and homeowners play essential roles in flood resilience.

As highlighted in our recent report— *Staying above water: A systemic response to rising flood risk* — we believe that local officials must consider how to manage flood risk and build resilience, in addition to flood insurance. This entails:

1. Learning to live with floods through a cross-societal push for resilience, with communities, businesses, and governments implementing small-scale measures to mitigate risks and minimize damage.
2. Building strategic protection by deploying large-scale systemic interventions to protect critical assets and ensure financial resilience.
3. Preparing for relocation by facilitating resettlements of people and assets from high-risk areas in a timely, equitable, and financially viable way.

Funding and implementing these strategies will require decisive action, effective leadership, and innovations such as those being tested now in Community-Based Catastrophe Insurance (CBCI)

projects. Critical enablers across governance and risk culture, land use and building codes, and engagement and incentive structures involving a range of industries and all levels of government are necessary to turn the flood resilience vision into reality.

Closing the flood resilience gap

Flooding disproportionately affects lower-income communities, which are more vulnerable and more exposed to flooding. One way to help bridge the divide is by increasing participation in flood insurance. Studies have shown that individuals and communities with flood insurance recover better and faster than those without.

It's important to keep in mind that insurance is but one piece of a flood resilience strategy, along with investment in risk reduction measures, enhanced access to flood risk data, and smarter land use planning. But, while insurance is a critical part of recovery from natural disasters, many households and businesses simply do not have adequate coverage for repairs and rebuilding.

The reasons for low coverage rates vary and include affordability constraints, limited risk awareness, poor understanding of insurance, and behavioral biases in decision-making. The continuing flood resilience gap in the United States means that many individuals, businesses, and communities do not have the financial resources to effectively recover following a flood or other disaster.

Flood Insurance

We believe there are several ways to improve risk readiness and mitigate the impact of floods. These include:

Strengthen the NFIP. With current debt of more than $20 billion and hundreds of millions of dollars in interest payable annually, the NFIP needs reform and long-term reauthorization to become a sustainable source of flood insurance. A sound financial framework for the NFIP authorized by Congress would help reinforce the program.

A key part of FEMA's sound financial framework is its new pricing methodology, Risk Rating 2.0. The rating program is intended to make NFIP premiums more actuarially sound to better reflect the underlying flood risk and recognize loss mitigation efforts. To address affordability concerns associated with the new risk-adjusted rates, Congress could consider authorizing targeted assistance, such as a means-tested assistance program.

Protect the NFIP with reinsurance solutions. Guy Carpenter, a business of Marsh McLennan, is FEMA's broker, providing reinsurance for the NFIP. Reinsurance is backed by professional reinsurers and capital market investors; these programs help supplement the financial resources of the NFIP following significant flooding events while at the same time protecting the NFIP and taxpayers by transferring risk. For example, Hurricane Harvey triggered a full reinsurance payout, saving taxpayers over $850 million.

Grow the private flood market. The Biden administration has proposed a package of NFIP reforms in which it recognizes the role of a private flood insurance market in supplementing and supporting the government-backed program. Private flood insurance can offer options that make purchasing flood coverage easier and more attractive. Each property that obtains flood coverage in the private market is a risk the NFIP and US taxpayers do not have to bear. The private market offers the possibility for innovation and products to further close the flood insurance gap.

Address gaps in NFIP coverage. The NFIP has gaps in coverage for residential and commercial properties. For residential properties, additional living expenses (funds to pay living expenses while the flooded property is repaired) are not included in NFIP policies. For commercial properties, business interruption is not covered by NFIP. As we have seen in previous flood events, those homeowners and businesses without these types of coverage struggled to recover. Of note, private flood policies often do cover these expenses for homeowners and businesses, respectively.

Embrace parametric insurance. A form of alternative risk transfer that is growing in demand as a tool to improve disaster resilience, parametric insurance solutions deploy a measurable index with predefined triggers. Unlike most forms of traditional property insurance, pricing is based primarily on the probability of the loss indexed being triggered rather than the specific risk of damage suffered by the benefit's recipients. This is particularly effective where it is either not possible, feasible, or desirable to assess the underlying exposed interests. Parametric solutions offer a more expedited contract payout, typically getting funds into the hands of those who have suffered loss in a matter of days, which can accelerate recovery. This is particularly important when it comes to flood as a delay in restoration can result in proliferation of mold, which over time contributes to health problems.

Promote excess flood coverage to complement the NFIP. While the NFIP remains a valuable source of flood insurance, its coverage limits are insufficient for many higher-value properties with flood exposure. Such properties need excess coverage to supplement NFIP protection. For example, in the third quarter of 2023, the median price of homes sold in the US was $431,000, according to Federal Reserve data; this substantially exceeds the NFIP dwelling limit of $250,000.

Leverage existing NFIP incentive programs such as the Community Rating System (CRS). CRS is a voluntary incentive program that recognizes and encourages community floodplain management practices that exceed the NFIP's minimum requirements. Over 1,500 communities participate nationwide.

In CRS communities, flood insurance premium rates are discounted to reflect the reduced flood risk that results from community efforts to address the program's three goals:

1. Reduce and avoid flood damage to insurable property
2. Strengthen and support the insurance aspects of the NFIP
3. Foster comprehensive floodplain management

Tulsa, Oklahoma, and Roseville, California, are the only two communities to have achieved the highest rating of Class 1. NFIP policyholders in these cities receive the CRS program maximum discount of 45%. Both communities made concerted efforts to invest in flood resilience following catastrophic flooding events.

Miami-Dade, Florida is the latest community to receive an upgraded CRS rating. The Insurance Information Institute highlighted this achievement, specifically noting how the city's investments in flood resilience will benefit the community. With its new Class 3 rating, NFIP policyholders in Miami-Dade will receive a 35 percent discount on flood insurance premiums—an estimated $12 million in savings.

"This is a huge step forward in resilience for our county," Miami-Dade County Mayor Daniella Levine Cava said after FEMA announced that Miami-Dade had leaped ahead two rankings in the flood-risk rating. "It indicates that we have been able to demonstrate that we can create more

resilience, more protection for our community."

To encourage further participation in the CRS program, FEMA offers tailored products and guides for local officials. FEMA could potentially provide additional assistance and resources to flood-prone communities, such as the Repeatedly Flooded Communities Preparation Act, which received broad support from the insurance industry and other stakeholders.

Innovative state and local resilience programs

While federal resilience grants often receive the most attention, several states are allocating state budgets and leveraging other funding sources to build resilience programs. Some are primarily focused on flooding, such as South Carolina's Strategic Statewide Resilience and Risk Reduction Plan, released in June 2023. The plan is especially notable because the state provided $200 million to fund the plan's identified project priorities, a move that caught the attention of national flood stakeholders:

"The budget that Governor McMaster signed into law today puts $200 million into projects that will help the state withstand flooding exacerbated by increasingly more frequent and severe weather-related disasters," Mathew Sanders, a senior manager with The Pew Charitable Trusts' flood-prepared communities project, said in a prepared statement. "This unprecedented funding is an impressive commitment for a state of this size, positioning South Carolina as a leader."

In addition to funding state and municipal infrastructure and other government projects, some states offer resilience grant programs directed to homeowners. While these programs often focus on home retrofits for wind events, they can serve as models for states aiming to directly support flood-prone residential structures.

Florida: My Safe Florida Home Program aims at strengthening homes against hurricanes. Owners of single-family homes and townhouses may apply for a free home hurricane inspection. If recommended by the inspection, homeowners become eligible to apply for improvements to roofs, doors, and windows. It is a matching program — for every $1 invested by the homeowner the state will provide $2 toward the project, equivalent to two-thirds of the project cost, up to $10,000. The program also waives state sales tax (6%) on the retail purchases of impact-resistant doors, garage doors, and windows. The Florida legislature provided over $176 million for the program.

South Carolina: The South Carolina Safe Home program, administered by the South Carolina Department of Insurance, provides matching and non-matching grant funds to help coastal property owners retrofit their homes to make them more resistant to hurricanes and high winds. The funds provided by the program are for the sole purpose of retrofitting owner-occupied, single-family homes.

Alabama: The Strengthen Alabama Homes program provides grants for homeowners to fund wind mitigation measures for single-family homes. The grants pay 100% of mitigation costs up to $10,000 to meet the Insurance Institute for Business and Home Safety (IBHS) FORTIFIED™ standard, designed to reduce wind and wind-driven water impacts caused by hurricanes. Funding for this program is provided by the insurance industry, rather than the government (which administers the program).

Given the program has been providing homeowners grants for a decade, researchers from the University of Alabama, Auburn University, and the University of Mississippi sought to determine the benefits of the program, and of hazard mitigation investments more broadly. Their landmark study

empirically demonstrated the value of hazard mitigation investments, providing strong incentives for homeowners to invest in hazard mitigation:

- **Lower insurance premiums**: *Fortified* homes have 16% to 40% lower property insurance premiums.
- **Higher resale value**: *Fortified* homes sell for 6% to 7% more than other homes.

This is not a federal program, but a standard promulgated by a non-profit organization (IBHS) together with a state statute linked to insurance premiums and real estate market dynamics. The study's findings demonstrate that a homeowner can be incentivized to invest in hazard mitigation even in the absence of federal funding.

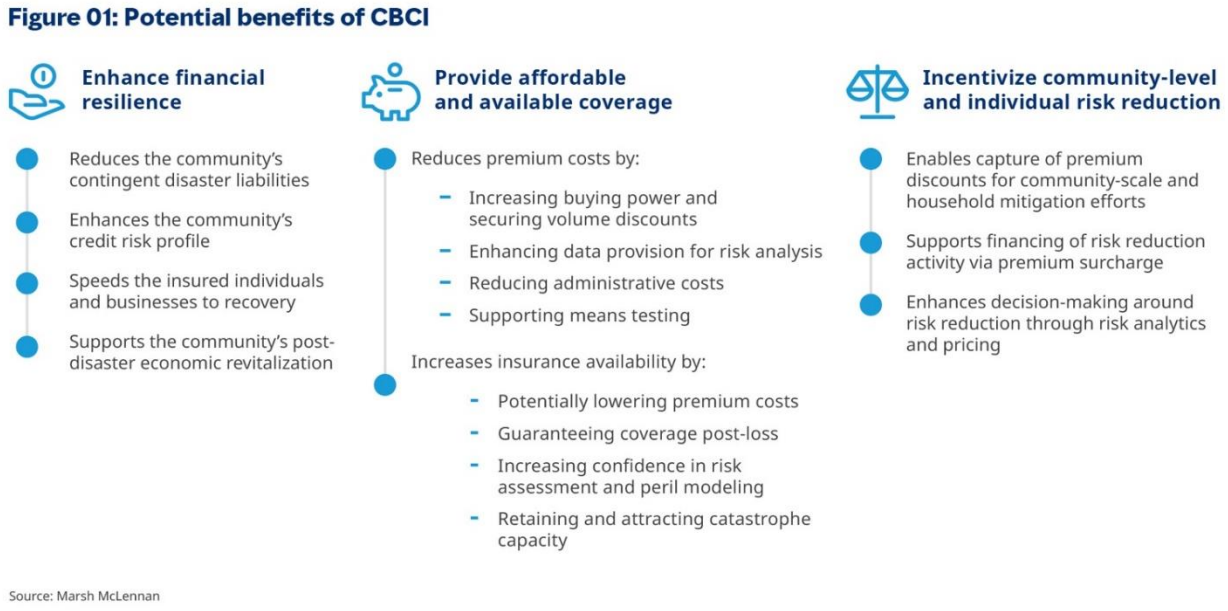
Louisiana: Louisiana officials announced a $30 million hazard mitigation grant program for residential and commercial buildings, modeled on the above-mentioned Alabama program. The grants will provide up to $10,000 to retrofit roofs to a *Fortified* home standard, thereby making Louisiana homes and businesses more resilient to hurricanes. Unlike the Alabama program, which is insurance-industry-funded, the Louisiana program is state-funded. Similar to what researchers found in Alabama, Louisiana residents who retrofit or build their homes to the *Fortified* standard could save 20% to over 50% on the wind portion of their homeowner's insurance.

Community-based catastrophe insurance

An innovative approach to boosting insurance purchasing that Marsh McLennan is involved in is known as community-based catastrophe insurance (CBCI). Essentially, CBCI provides disaster insurance arranged by a local government, quasi-governmental body, or community group to cover a group of properties.

The benefits of CBCI fall into three main areas: enhancing financial resilience; providing affordable coverage; and creating incentives for risk reduction at the community and individual levels (see Figure 1).

Figure 01: Potential benefits of CBCI

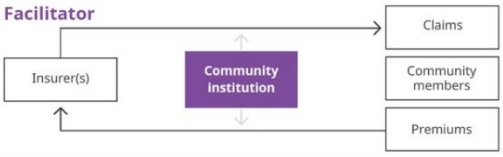
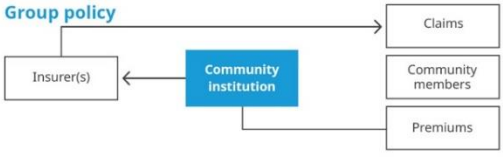
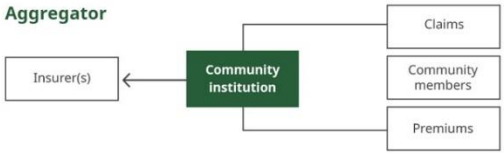
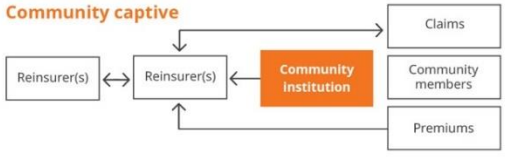


Source: Marsh McLennan

This type of program is flexible and can be created to cover a single hazard or a range of natural disasters for a given community, including flood, but also wildfire, earthquake, and others. Such broad applications can further incentivize a community's risk management efforts — risk reduction, risk communication, and risk transfer — across multiple perils. For flood risk, this could mean levee improvements and/or ecosystem-based interventions, including wetlands enhancements, and more.

Within broad parameters, CBCI has much flexibility in its structure and design, with varying degrees of community responsibilities possible (see Figure 2). These range from a facilitator model, where the community members contract with insurers, to a captive insurer, in which the community establishes and operates its own risk-bearing entity.

Figure 2: CBCI delivery models

Models	Description	Community roles
Facilitator 	The community helps to establish a beneficial arrangement with an insurer for community members. Community members contract directly with the insurer.	Member education; data provision; engage and educate members; administer means-testing program (if any); adopt regulations to encourage or compel purchase' and negotiate discounts for community resilience enhancements.
Group policy 	The community arranges a group policy on behalf of its members (e.g., similar to an employee benefit arrangement). Community may facitlitate premium payment, but the community members maintain a relationship with the insurer for claims management.	Same as facilitator model; plus management of enrollment/ distribution negotiations of premium; and facilitation of payment.
Aggregator 	The community buys bulk parametric catastrophe insurance and makes community members aware of this community benefit, charges for it, such as via taxes, and ensures claims are distributed to members after qualifying events.	Obtain adequate coverage to meet community member recovery needs; ensure premium charge and claims payment mechanisms are in place; and raise awareness of benefit amongst community members.
Community captive 	The community establishes its own risk-bearing entity (e.g., a captive) and uses it to administer policies for members.	Same as group model plus capitalize and govern risk bearing entity; finance portion of risk; purchase reinsurance' manage claims payments; and set insurance policy terms and condistions1.

Degree of community control, resources and expertise required: Low — High

Note: Depending on community objectives, implementing a captive may require licensure procedures or a fronting carrier
Source: Marsh Mclennan

The roadmap to implementing a CBCI program will vary depending on the unique needs of a given project and community. That said, there are five basic components to implementing a program (see Figure 3): defining the need, determining the authority to act, engaging stakeholders, analyzing risk, and transferring the risk. It should be noted that these steps are not necessarily sequential, and there may be back and forth among them depending on local circumstances.

Figure 3: Potential roadmap to CBCI implementation

Source: Marsh McLennan

To facilitate these types of transactions it would be helpful for FEMA to clarify whether the proceeds from a parametric insurance policy (specifically tailored to cover losses not eligible under the Public Assistance program) can count toward the state's Public Assistance matching requirement.

A CBCI pilot program: Boosting financial resilience in NYC neighborhoods

One benefit of community-based catastrophe insurance is the flexibility it allows in defining "community," which can be an agency or municipal government, a neighborhood association, a business improvement district, or any number of entities. The primary requirement is that the involved community has the authority to secure or facilitate insurance coverage on behalf of multiple properties.

Marsh McLennan is currently involved with a project in New York City, which is the nation's first CBCI. The project's goal is to increase the financial resilience of low- and moderate-income households to flood risk. These communities are increasingly vulnerable to flooding and are, in many instances, under-insured or uninsured.

Guy Carpenter, a business of Marsh McLennan, is working with the City of New York and the non-profit Center for NYC Neighborhoods (CNYCN), as well as the non-profits Environmental Defense Fund and SBP, reinsurer Swiss Re, and insurtech ICEYE, to pilot the program in designated neighborhoods. The pilot was jointly funded by the National Science Foundation and the Department of Homeland Security through a Civic Innovation Challenge award.

The program is built on a parametric basis, described earlier. In the NYC program, payouts will be

made to CNYCN for qualifying flood events based on a mix of satellite data; on-the-ground, real-time sensors; and social media images. Once a qualified event triggers the payment, homeowners will be able to apply for assistance — on their own or with help from CNYCN's network partners. Qualified applicants can then receive a grant up to $15,000 from CNYCN quickly following a major flood.

The intent of these payments is to support residents and their broader communities in getting back to normal faster. It also will allow them to avoid having to make such tough decisions as whether to pay for home flood repairs versus other critical family needs, like healthcare, food, and saving for education.

We are proud to have helped kickstart this innovative program and hope it will cause other communities to establish their own CBCI program. Federal grant funding could be a catalyst here.

A comprehensive flood resilience strategy

Given the scale and complexity of the challenges presented by flood risk, federal, state, and local officials need a clear vision that moves beyond unsustainable paradigms of protection and strikes a balance between addressing crises and fostering resilience. Insurance and risk transfer certainly have an important role to play, but must be combined with a broader, coordinated resilience strategy.

Ideally, insurance would be paired with risk reduction measures such as hazard mitigation, building codes adoption, enforcement, and retrofits, and as well as community resilience planning. While a few states (such as those mentioned earlier) have their own resilience grant programs, the preponderance of resilience grant funding is provided by the federal government.

For example, FEMA's Building Resilient Infrastructure and Communities (BRIC) and Flood Mitigation Assistance (FMA) grant programs, and HUD's Community Development Block Grant – Disaster Resilience (CDBG-DR) programs provide funding for communities to reduce risks and build resilience. These federal grant programs have a demonstrable benefit to society, with an average savings of six dollars for every dollar invested.

Pairing these federal and/or state grants, with risk transfer solutions, such as supplemental flood insurance or CBCI programs, can be a force multiplier. We believe that CBCI projects, like the NYC pilot, demonstrates the value of risk reduction measures alongside the benefits of risk transfer. We would like to see FEMA encourage more such innovation and experimentation.

That said, CBCI and other private risk transfer programs could be more successful if disincentives baked into existing statutes and regulations are addressed. For example, the Stafford Act contains disincentives for homeowners and governments from purchasing insurance because FEMA's recovery programs provide funding to uninsured individuals and state and local governments after a disaster. As such, many individuals wrongly believe they will be made whole by FEMA assistance following a major disaster, including flooding. Meanwhile, governments are not inclined to insure their buildings and infrastructure because they will receive funding that covers most of their losses if the President declares a disaster. Mitigation investment will fall short of desired outcomes without corresponding risk transfer strategies.

Building codes and zoning laws

Local officials have significant influence over resilience of their communities because they can determine how and where residential and commercial structures are sited and built. This is best

demonstrated through zoning and building code ordinances. By requiring that structures be sited outside of flood-prone areas or built to a higher elevation, local officials can reduce flood impacts to their communities. Adopting a flood-resistant building code has been shown to save six dollars for every dollar invested.

The insurance industry and other stakeholders should work with FEMA and consensus-based model code-developing organizations, such as the International Code Council (ICC), to encourage additional flood mitigation opportunities and investments. For example, FEMA and the insurance industry could review ICC model requirements to encourage mitigation investments after a flood loss.

In an era of escalating climate risks and evolving environmental challenges, the insurance industry is at a crossroads. As we witness the increasing frequency and severity of natural hazards like flooding, there is a pressing need for proactive measures to mitigate risks and safeguard the well-being of communities. Embracing the transformative power of retrofits in the built environment is not just a strategy for sustainable urban development; it is a vital step toward fortifying NFIP and private markets against the uncertainties of our changing world.

The built environment, ranging from residential homes to commercial properties, is inherently vulnerable to the impacts of flooding. Rising sea levels and extreme weather events pose significant threats, resulting in a surge in insurance claims and payouts. By prioritizing retrofits, we have an opportunity to not only reduce the frequency and severity of claims but also to foster a more resilient and insurable built landscape.

The insurance industry and FEMA should work with national stakeholder organizations that advocate and educate on the importance of retrofits as force multipliers on the state and local levels. For example, BuildStrong America has advocated for the increased funding for retrofits and investments in resilience on the federal and state level before the next disaster, climate impact, or catastrophic failure for over a decade. Joining forces with firefighters, emergency responders, insurers, engineers, architects, contractors and manufacturers, as well as consumer organizations, code specialists, and many others committed to resilience, BuildStrong successfully pushed for the Disaster Recovery Reform Act of 2018,creating FEMA's BRIC program, as well as additional measures to enhance BRIC through proposals like the Resilient AMERICA Act which would create a set aside for building code adoption and enforcement and another set aside for residential retrofits.

The Federal Alliance for Safe Homes (FLASH) is the leading consumer advocate for strengthening homes and safeguarding families from natural and manmade disasters. Through programs like Inspect2Protect—which help local communities and individuals to understand the building code where they live—and The Homeowner's Guide to Insurance, FLASH designs and develops effective and easy-to-use tools and techniques to foster mitigation behavior change.

Stafford Act incentives

FEMA has existing authorities to incentivize state and local governments to reduce their risks and to better protect federal taxpayers from disaster losses. One such authority was granted to FEMA in the 2018 Balanced Budget Act. This authority amends Section 406(b) of the Stafford Act to increase the federal cost share of its Public Assistance programs for communities that take proactive steps to reduce hazards. The resilience measures identified in the statute — mitigation plans, insurance, emergency management programs, building codes, risk ratings, state/local mitigation funding, and tax incentives — aim to reduce financial losses and human suffering and get communities up and

running faster after a disaster. By raising the federal cost share for FEMA Public Assistance on a sliding scale from 75% to up to 85%, a community that takes proactive steps could receive millions of dollars more in post-disaster funding.

We see the implementation of this provision as a significant opportunity to remove existing barriers to resilience investments and a strong incentive for communities to do the right thing before disaster strikes. However, FEMA has not yet implemented this authority. We strongly encourage the full implementation of this provision.

Similarly the Community Disaster Resilience Zones (CDRZ) Act of 2022 amended the Stafford Act to reduce the barriers to entry for vulnerable communities to apply for BRIC grants. President Biden signed the Act into law in December 2022, and FEMA has since announced the first 483 CDRZs in all 50 states and the District of Columbia.

The CDRZs are areas that FEMA deems most in need of hazard mitigation assistance, as identified by a risk analysis tool that considers such factors as social vulnerability, natural hazards loss exposures, and lack of resilience. CDRZ-designated communities are eligible for an increased federal share for BRIC grants, up to 90% (from the current 75%). This should encourage those communities that are unable to afford the previous 25% state/local match to apply for funding that they would have otherwise not pursued.

While the additional funding in both the Public Assistance resilience measures and CDRZ funding would only materialize if a disaster hit a community, it provides a strong incentive for all communities to invest in resilience with the confidence that FEMA would recognize and reward their investments.

Engaging cross-industry stakeholders as co-beneficiaries of resilience investments

More broadly, other industries, such as finance and real estate, can incentivize further flood resilience investments together with the insurance industry and government. The National Institute of Building Sciences (NIBS) developed a roadmap for resilience incentives, specifically focused on residential buildings subject to flood. NIBS identified “co-beneficiaries” of mitigation investments and highlighted how these co-beneficiaries can help pay for such investments (see Figures 4 and 5).

Figure 4: How resilience provides value

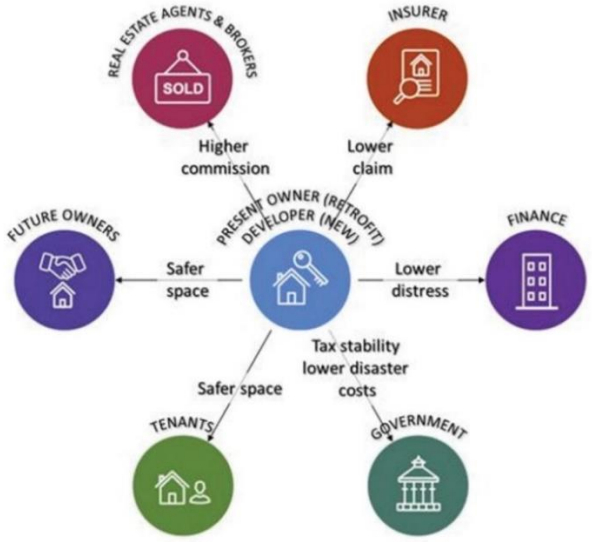
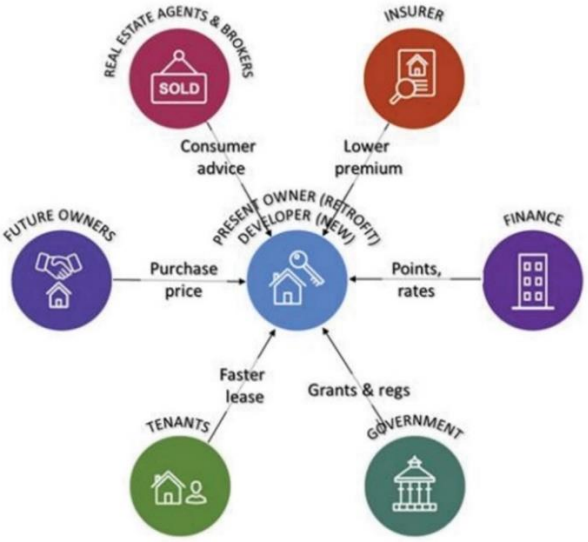


Figure 5: How co-beneficiaries can help pay



Source: "National Institute of Building Sciences", Resilience Incentivization Roadmap 2.0, Page v, Figures ES1-A and ES1-B

As summarized in its report findings, NIBS called out the utility of flood resilience incentives, in the context of co-beneficiaries from multiple industries and governments:

1. **Mitigation saves, but it doesn't do so in proportion to individual stakeholder investments.** Investment in disaster resilience makes financial sense for society — but for individual stakeholders the cost can seem to exceed the benefits.

   For example, the $5,000 it might cost to retrofit an existing house benefits the current owner, future owners, insurers (by limiting the risk of flood-related claims, assuming the property is insured against flood), financial institutions holding the property owner's mortgage, and so forth. The retrofit saves society more than it costs in places with at least a 1-in-100 chance of basement flooding per year. It saves up to 13 times the cost in the highest hazard locations.

   But, to the homeowner paying the entire cost, the investment can seem hard to justify. (Building for flood resilience at the time of initial construction is less expensive and more cost effective, and it makes sense even when flooding occurs less frequently.)

2. **Co-beneficiaries can share the cost of such investments — but they face similar challenges to those of the property owner.** In the $5,000 basement-flood retrofit example, mortgage holders and governments would save in the long run by offering a total of $3,300 in incentives anywhere with at least a 1-in-100 chance of basement flooding per year. Homeowners would end up paying only $1,700 and saving more than they pay in both moderate- as well as high-hazard locations. Why don't co-beneficiaries provide these incentives? Because stakeholders' interests are intertwined but are not aligned.

3. **Public-private coordination is essential.** Stakeholders' interest in addressing the misalignment of incentives is as evident as the complexity of the challenge itself.

Conclusion

While the effects of flooding are felt most acutely in the communities where they occur, the human, economic, and social cost of flooding is felt more broadly. The ripple effects include supply chain disruptions, infrastructure failure, loss of crops, and hardship to the economy. Risk levels today are amplified by climate change, nature loss, and the concentration of people and assets in flood-prone areas. Conventional strategies are insufficient to address these rapidly changing risk levels, which is why we need a shift from a reactive to a proactive approach to flood resilience.

Closing the flood protection gap and improving flood resilience will require even more partnerships between governments and private industry. Together, the public and private sectors can improve community flood mitigation efforts and speed recovery following flood events.

Appendix: Flood market overview

The National Flood Insurance Program

The NFIP is the main source of flood insurance in the US. Created in 1968 to address the lack of a private market for flood coverage, the NFIP is administered by the Federal Emergency Management Agency (FEMA). The NFIP requires occasional congressional reauthorization; the program's current authorization is set to expire on February 2, 2024. Congress has held hearings to discuss long-term reauthorization, information sharing, and other issues, but so far has been unable to reach consensus and needs to perform a robust analysis of reauthorization proposals to extend the program for another multiyear term.

Federally backed flood policies are available through the following two channels:

- The Write Your Own (WYO) program, a group of roughly 50 insurance companies that use their own licensed agents and producers and are authorized by FEMA to act as a fronting insurer to issue and service NFIP-backed flood policies.
- NFIP Direct, which allows agents not appointed by a WYO insurer to write flood insurance directly through the NFIP.

Although a private flood insurance market has emerged since the NFIP's creation, it is small in comparison — the NFIP accounted for more than 95% of household policies purchased as of 2018. While the number of private policies is likely rising, the NFIP will continue to dominate the market for the foreseeable future. Even with the current public and private market offerings, as much as 85% of American households lack flood coverage.

Various factors explain the poor uptake, including some evidence that expectations of government relief reduce demand. More fundamentally, property owners generally do not fully understand their risk and, more often than not, underestimate it.

For example, property owners often make a buy/don't buy coverage decision based on whether they are "in or out" of a Special Flood Hazard Area (SFHA) — which is defined by FEMA as a zone with a greater than 1% annual probability of flooding.

Property owners outside of SFHAs often consider themselves safe, but, of course, flooding is not confined to administratively defined locations. For example, almost three-quarters of Houston properties that flooded during Hurricane Harvey were outside of SFHAs. And recent modelling indicates that millions of properties with a 1% annual probability of flooding are not even currently listed in SFHAs.

But the low uptake of flood insurance among households outside of SFHAs does not fully explain the protection gap. Even inside SFHAs, only 30% of homeowners are covered, despite a requirement that flood insurance be in place for federally backed mortgages in these areas.

Private flood insurance

Interest by private sector insurers in underwriting flood risks continues to grow, due in large part to improvements in risk technology and analytics that enable insurers to better understand flood risks and exposures.

Types of private flood insurance currently available include:

Primary residential flood, which can mirror NFIP coverage terms or provide enhanced coverage for residential properties.

Commercial "all-risk" is a broad form of coverage designed for large businesses. It can provide protection for various property risks, including flood and business interruption. The amount of coverage available in these policies is typically much greater than in a flood-only policy. However, in recent years, we have seen greater underwriting scrutiny of flood in all-risk programs, and in some instances a deterioration of coverage for specific locations. This amount of coverage is usually unsuitable for small businesses and is not applicable to homeowners.

Excess flood coverage sits on top of underlying private primary coverage or an NFIP policy. Excess flood insurance is available to individuals and businesses, and can provide higher limits of protection as well as enhanced coverages such as additional living expenses and business interruption.

Contents-only coverage was highlighted by Hurricane Ian, which served as a reminder that anywhere it rains, it can flood. The vast majority of people renting homes, apartments, and condos did not have a contents-only flood insurance policy. While both the NFIP and private market offer renters policies, this highlights an opportunity to help renters with this type of coverage for their financial peace of mind.

Standard NFIP coverage	Private market coverage*
Dwelling limits of $250,000	Dwelling limits up to $2 million +
Contents limits of $100,000	Contents and personal property limits up to $1 million
Contents-only limits for renters up to $100,000	Personal property up to $1 million
30-day waiting period	No waiting period or limited period, e.g., 7 days
No additional living expenses are currently offered via NFIP	Potential additional living expenses up to $250,000

+ Some homeowners insurers also provide coverage for flood via endorsement
* Examples of private primary residential flood coverage

Standard NFIP coverage	Private market coverage*
Building limits of $500,000	Building and contents combined limits up to $10 million
Contents limits of $500,000	
30-day waiting period	Often a limited period, e.g., 7 days
Business income coverage is unavailable at the moment	Business income coverage is often available privately

* Examples of private primary commercial flood coverage

Agents as Trusted Advisors

Relationships matter in insurance, and agents often have strong connections with homeowners and businesses in their communities. Talking with clients about their flood exposure and ways they can manage the risk is a good way for agents to demonstrate their value and enhance those relationships.

Source: Marsh McLennan

Torrent Technologies, a Marsh McLennan business, is leading the way to make flood insurance more accessible, with a growing number of product offerings, an intuitive website interface with enhanced auto-populate capabilities, and improved customer experience in all aspects of flood resilience, from buying policies to claims service.