Enterprise Resilience Academy: Finance

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Agenda

- MAKING THE CASE FOR RESILIENCE
- GOVERNMENT CHANGE
- TOOLS
- *10 min. break*
- APPLYING FOR FUNDING: Roadmap 
- TAKE ACTION: Funding and Finance Sources 

MAKING THE CASE FOR RESILIENCE

Market Drivers for Housing Sector Climate Resilience

Growing Risk

- Disaster Costs
- Underestimated Risk

Displacement

- Continuity
- Approaches

Insurance

- Flood
- Windstorm
- Property

Mortgages

- Gradual but greater
- Investor questions
- Lending & foreclosing

Property Value

- Effects of damage

Resilience Payback

- Results of building level adaptations

Project Continuum:

Consider the Continuum of Risk Mitigation Solutions Relative to Cost & Effort

Illustrative building resilience solutions drawn from Keep Safe Miami Mitigation Strategies. Mitigating physical risks from climate change presents building owners and developers with choices about how they use their resources.

Source: Keep Safe Miami Funding Guide, IBTS

Cost Avoidance

Show How Risk Mitigation Saves Money in Long-term

National Institute of BUILDING SCIENCES

	ADOPT CODE	ABOVE CODE	BUILDING RETROFIT	LIFELINE RETROFIT	FEDERAL GRANTS
Overall Benefit-Cost Ratio	11:1	4:1	4:1	4:1	6:1
Cost ($ billion)	$1/year	$4/year	$520	$0.6	$27
Benefit ($ billion)	$13/year	$16/year	$2200	$2.5	$160
Riverine Flood	6:1	5:1	6:1	8:1	7:1
Hurricane Surge	not applicable	7:1	not applicable	not applicable	not applicable
Wind	10:1	5:1	6:1	7:1	5:1
Earthquake	12:1	4:1	13:1	3:1	3:1
Wildland-Urban Interface Fire	not applicable	4:1	2:1	not applicable	3:1

Source: NIBS Natural Hazard Mitigation Saves 2019

Figure 1. Stakeholder net benefits resulting from one year of constructing all new buildings to exceed select 2015 IBC and IRC requirements or to comply with 2015 IWUIC.

Resilience Dividends:

Find dividends from resilience measures

- A few resilience measures, such as distributed heating and cooling, **lower utility bill costs** and operation and maintenance costs.
- Many measures may **lower a housing owner's expenditures** on fixing physical damage and relocating tenants due to displacement after a disaster.
- Many measures could **lower** a housing owner's expenses on **insurance premiums.**
- Many measures **may increase a housing owner's income** by decreasing vacancy and increasing occupant satisfaction.

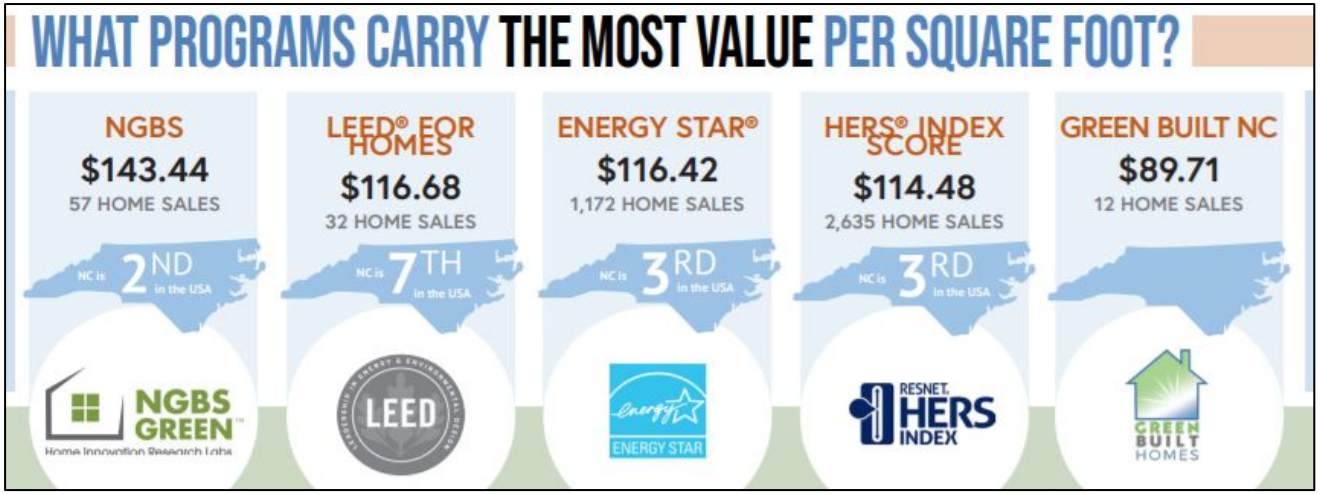
Source SAHLIN. Multifamily Climate Resilience Finance Working Group | Energy Efficiency for All

Investment

Greener Homes are Better Investments

- Homeowners want ***and will pay more*** *for* sustainable features like energy efficient appliances and windows, green building materials, and features that improve air quality.

National Association of Homebuilders



Value per square foot for various green building/energy efficient standards in North Carolina. Credit: National Building Performance Association, *2017 North Carolina: Energy Efficient, Green and High-Performance Home and Building Inventory Report*

A sales price analysis by the North Carolina Building Performance Association showed that high-performance, energy efficient homes have a **9.5% higher average sale price**.

North Carolina Building Performance Association

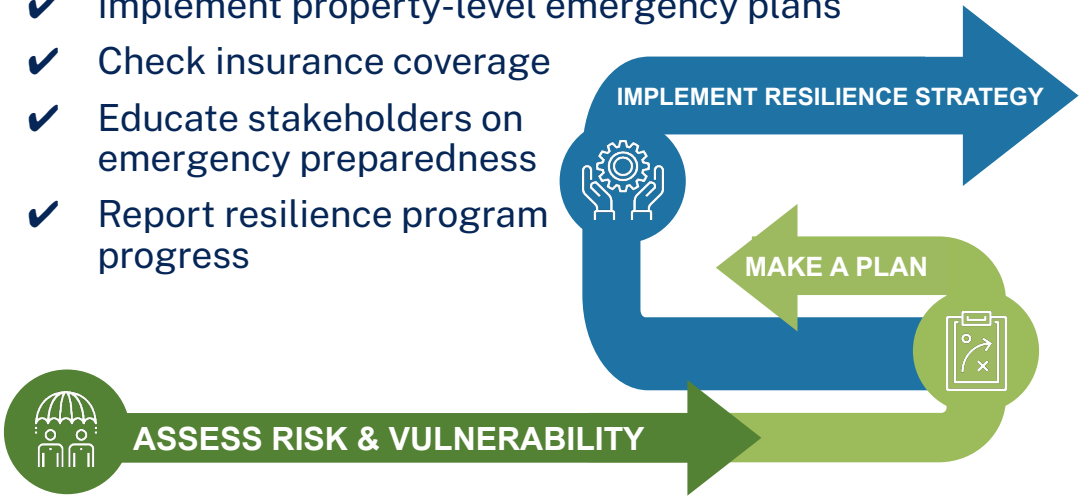
Source: NCBPA 2017 Inventory Report

Banker Conversations

Gather and Share Risk Information

Bankers and investors may increasingly want to know about extreme weather risk information

- ✔ Perform risk assessments /physical, social and transition risks
- ✔ Budget and implement resilience measures
- ✔ Develop & implement a resilience policy
- ✔ Implement property-level emergency plans
- ✔ Check insurance coverage
- ✔ Educate stakeholders on emergency preparedness
- ✔ Report resilience program progress



Task Force on Climate-related Financial Disclosures

SUPPORT FOR TCFD RECOMMENDATIONS CONTINUES TO GROW

Support for the TCFD recommendations has accelerated over the past year.[11] Since October 2020, over 1,000 additional organizations have become TCFD supporters, bringing the supporter count to over 2,600 globally.[12] TCFD supporters now represent 89 countries and jurisdictions.

Organizations supporting the TCFD span nearly all sectors of the global economy with a combined market capitalization of over $25 trillion — a 99% increase since last year. This includes 1,069 financial institutions, responsible for assets of $194 trillion, as shown in Figure A2.

Figure A2

Continued Growth in Support for the TCFD

Participant Chat

Any tips for getting your lender to be more generous, with better terms and more money?

Insurance Options

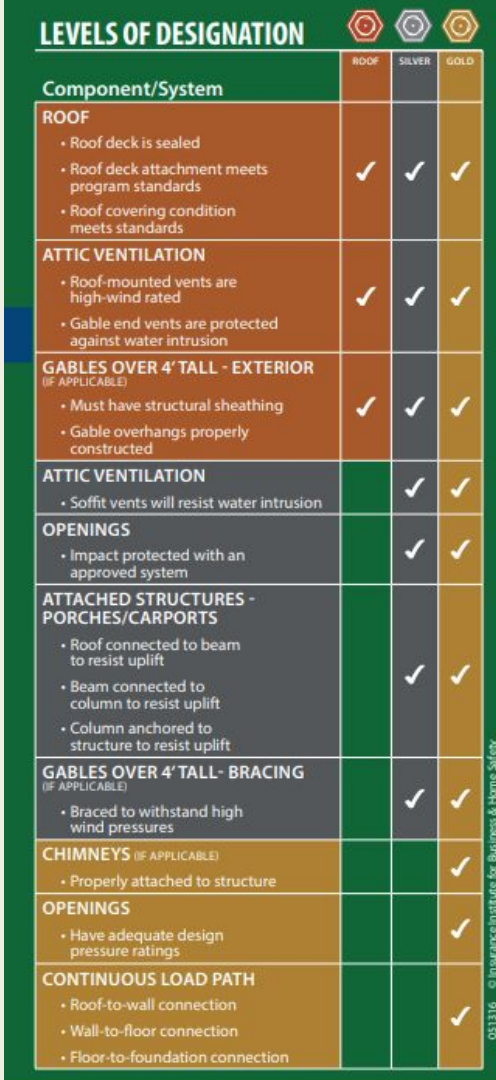
Investigate Insurance Opportunities

FORTIFIED: a nationally recognized resilience building method

- The cost of new home compliance with FORTIFIED standards ranges from zero to 3 percent of hard costs. Retrofits generally cost 18 to 24 cents per square foot.
- In Mississippi, it costs $3,000-5,000 more per 1,800 square foot home to build to FORTIFIED Gold.
- In Florida, where building codes require more resilient features, the additional effort to reach Gold costs $1,000 more per 1,800 square foot.

- FORTIFIED homes have an average **7% increase in resale value.**
- Due to regulations in some states, insurance premiums are reduced for FORTIFIED homes.
  - **Alabama up to 55%; Oklahoma up to 42%; North Carolina up to 19%.**

Source Link: smarthomeamerica.org



Connect

Research Mitigation and Build Rapport

HUD distributes funds to each state on the basis of a statutory formula (population, poverty, incidence of overcrowded housing, and age of housing).

- Neither HUD nor states distribute funds directly to citizens or private organizations;
- All funds (other than administrations and the technical assistance) are distributed **by states** to **units of local government**;
- States administer the program and determine which local projects receive funding.

Therefore:

- Make sure to connect with your Hazard Mitigation Officers (state and/or local)
- Stay abreast on funding being partitioned to your state
- Be your own lobbyist: Give your state what it needs

Useful: https://www.hud.gov/program_offices/field_policy_mgt/localoffices

GOVERNMENT CHANGE

Government Change

Lead by Example

FEMA Building Resilient Infrastructure and Communities (BRIC): National Competition Qualitative Criteria are awarded weighted points via a rubric evaluating to what degree the project meets each separate Qualitative Criteria ranging from “not at all” to “exceeds.”

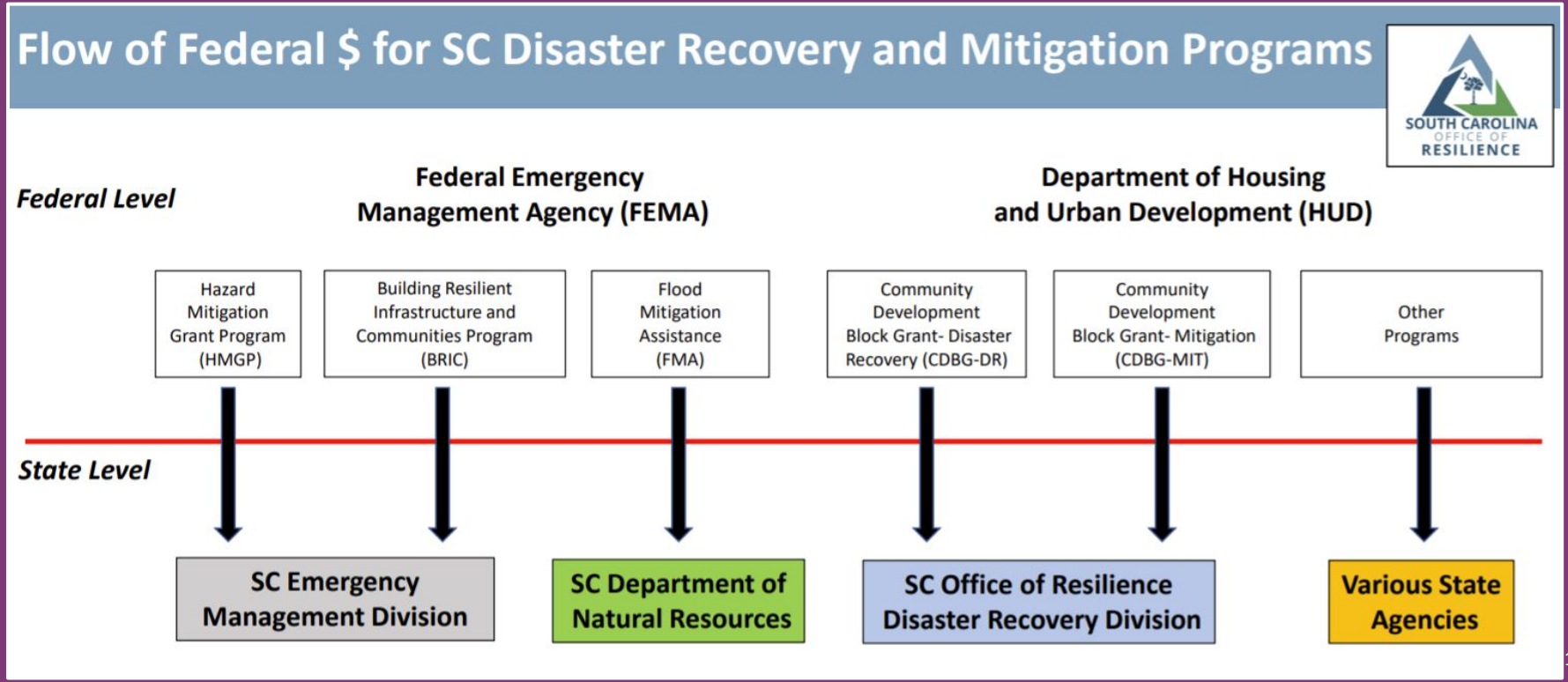
The cost share (cash, donated, third-party in-kind services, materials) for BRIC is as follows:

- Generally, there is a 75% / 25% non-federal cost share.
- Economically disadvantaged rural communities, also known as small impoverished communities, are eligible for non-federal cost share, up to 90% / 10%.

Government Change

Lead by Example

- FEMA BRIC Prioritizes Projects
- BRIC Funding will Align with JUSTICE40 Initiative



TOOLS

FEMA Cost Tools

Benefit Cost Analysis Toolkit:
Calculator developed using FEMA-approved methodologies and tools to show the cost-effectiveness of your projects.

Pre-Calculated Benefits:
To streamline the grant application process, FEMA provides pre-calculated analyses for several eligible projects

- *Acquisitions and Elevations in the Special Flood Hazard Area (SFHA)*
- *Residential Hurricane Wind Retrofits*
- *Non-Residential Hurricane Wind Retrofits*
- *Individual Tornado Safe Rooms*
- *Hazard Mitigation Grant Program*
- *Post Wildfire Hospital Generators*

Visit: https://www.fema.gov/grants/guidance-tools/benefit-cost-analysis

FEMA Cost Tools

FEMA requires a BCA to validate cost effectiveness of proposed hazard mitigation projects prior to funding.

Results in total benefits divided by total cost > Benefit Cost Ratio.

TOOL ASSISTS WITH:

- Estimating annual hazard risks
- Evaluating Mitigation cost effectiveness
- Developing aggregate benefit-cost models

PRIMARY BENEFITS:

- Determining project requirements
- Demonstrating long-term efficacy and fiscal sustainability
- Helps avoid future costs or losses

NOT INCLUDED:

- Benefits on economic/social/ community development;
- Non-quantifiable benefits: to resilience of community, energy cost savings, reduced pollution/ greenhouse

Guides and Certifications for Resilient Investment

Voluntary certifications and rating systems also help deploy building resilience beyond minimum code requirements. Examples include:

- Enterprise Green Communities 2020
- RELi "Resilience List: USGBC rating system and leadership standard
- The Resilience-based Earthquake Design Initiative for the Next Generation of Buildings (REDi) Rating System

Risk Mitigation

Senior Housing Corp. Case

Palm Beach County awarded McCurdy Senior Housing Corp. $275K in SHIP for a generator for 132 unit Quiet Waters-seniors in Belle Glade, Florida.

- Has a 3,000 gallon diesel fuel tank.
- Keeps residents from having to evacuate- they can shelter in place.
- As the residents are seniors, evacuations or power outages can be very traumatizing.

Regularly maintenance/inspection is a must:

- They have to maintain the diesel fuel tank facility on site.
- The maintenance must be professional, and it must be budgeted.

> "I cannot count how many times we've needed the generator--it runs all units and common spaces."

Joe Glucksman,
Executive Director

READY-TO-FUND RESILIENCE ROADMAP

Preparing to Apply for Funding

Spotlight On:

Rural Neighborhoods (Miami)

"There was a period when we did not build beyond code with extreme weather in mind. Now, we make choices based on longer-term maintenance and insurance operating costs, not on trading off resilience for short-term cost savings."

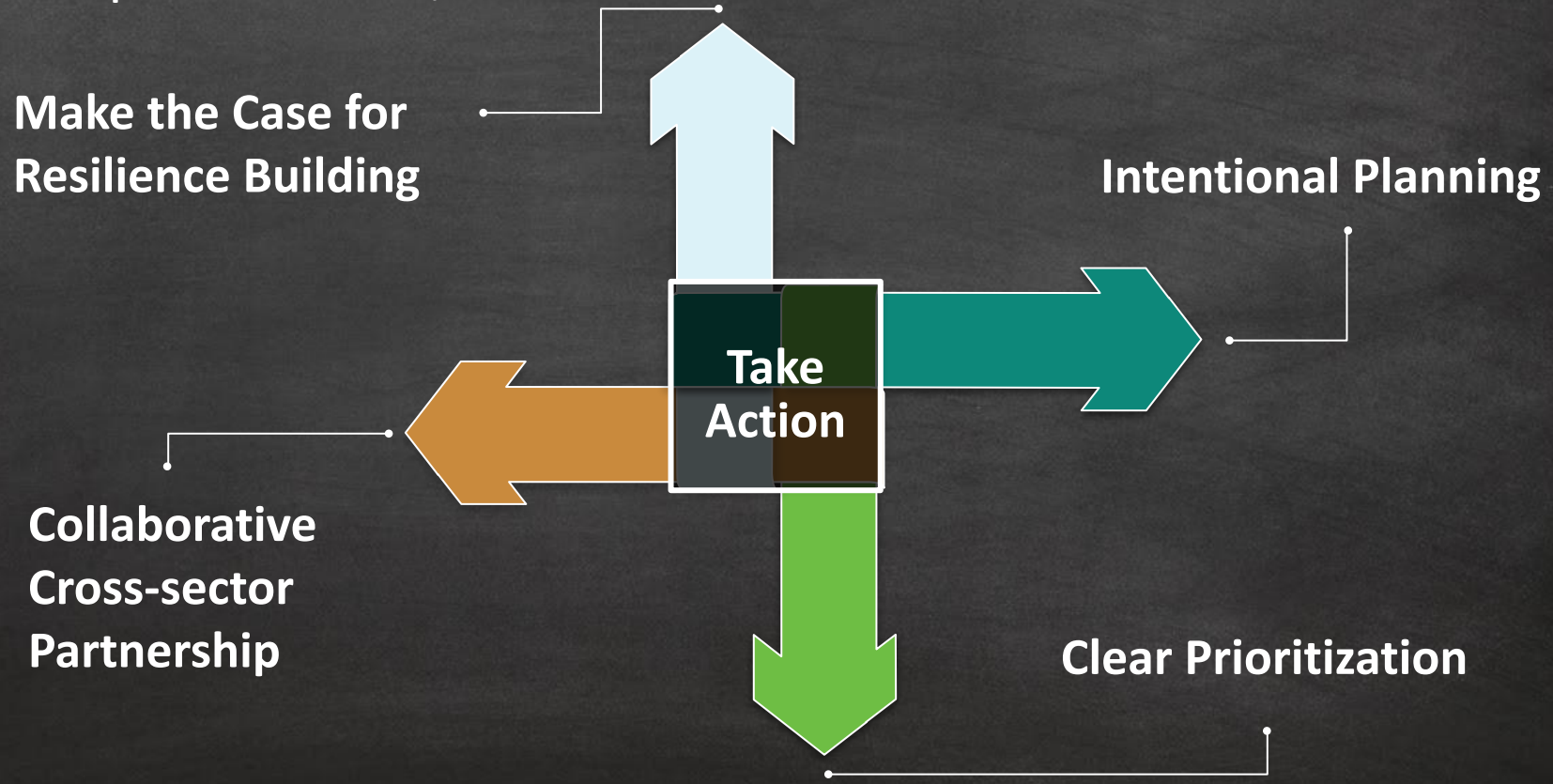
Tips

- ✔ **Consider your organizational approach to debt structuring.**
  - Forgo the short-term cost for the long-term physical stability.
  - Set aside capital as working capital.
- ✔ **Let your insurance profile for flood and wind dictate your choices.**
- ✔ **Look for funding options.**
  - Use Community Development Block Grant Disaster Recovery (CDBG-DR) or HOME funds.
- ✔ **Make conservative choices.**
- ✔ **Know how to make trade-offs that don't sacrifice resilience.**
  - If given a choice between shutters or reducing office space, choose the shutters.
- ✔ **Understand the long-term payback.**
  - Rural Neighborhoods uses materials that will payback over time
  - "The long-term payback makes it the easy choice. Sometimes it is as much as 15% cost increase, but we don't want to own unhealthy and easily damaged buildings in our portfolio."

Source: Keep Safe Miami Funding Guide

ROADMAP

How to Prepare for Resilience $



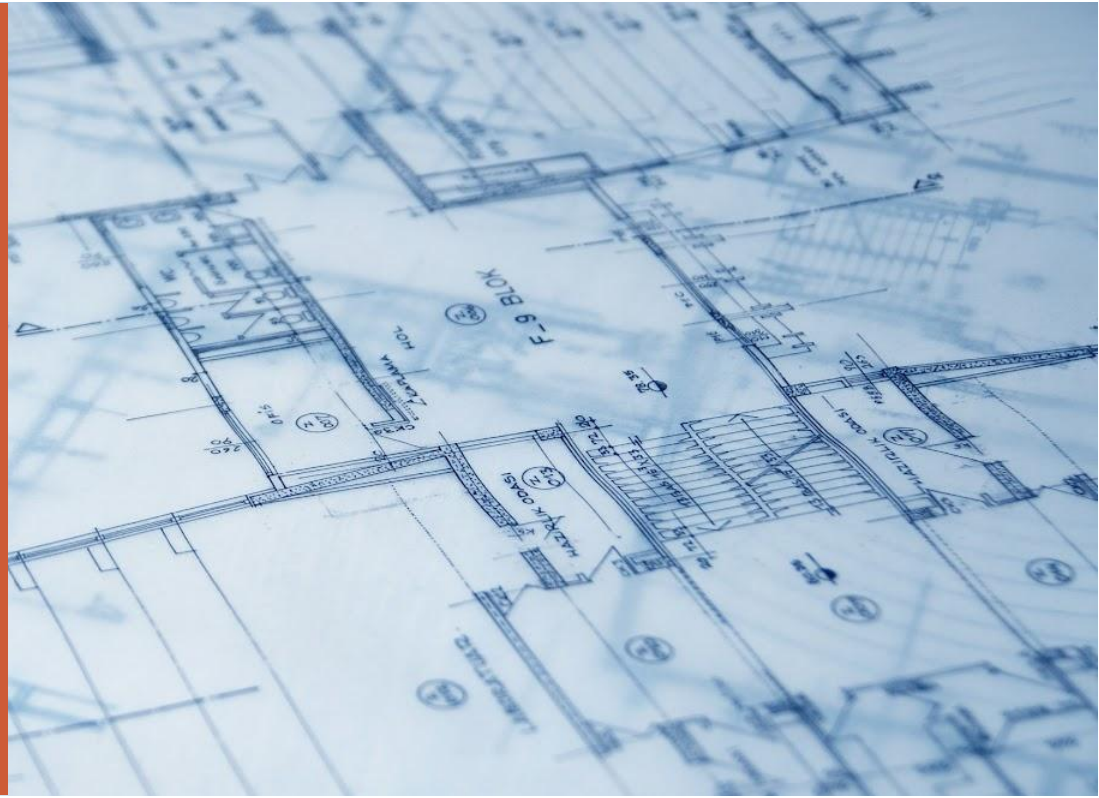
BREAK - 10 minutes

Roadmap

Intentional Planning and Funding Processes

Opportunities to prepare for resilience funding and finance:

- **Stack funding**
  - Leverage several types of funding opportunities
  - Bundle by program, not project
- **Shovel- ready design**



Roadmap

Collaborative Cross-Sector Partnerships

Opportunities to prepare for resilience funding and finance:

- Involve private sector investors, banks/insurance from the get-go

- Strategic partnerships:
  - hazard exploration
  - community co-development
  - data collection
  - risk mitigation
  - project cost benefit analysis

Public Private Partnerships

- Integrative Design Builds Resilience
- Economic development, Open Space, Public Safety, Civic Engagement
- Grasstops and Grassroots Converge in Best Case Resilience
- Community Participation
- Citizen Advisory Groups

Participant Chat

What are some partnership examples that have helped you to attract funds or achieve other aims?

Roadmap

Clear Prioritization

Opportunities to prepare for equitable resilience funding and finance:

- Community co-ownership
- Centering equity in processes and project prioritization

Health

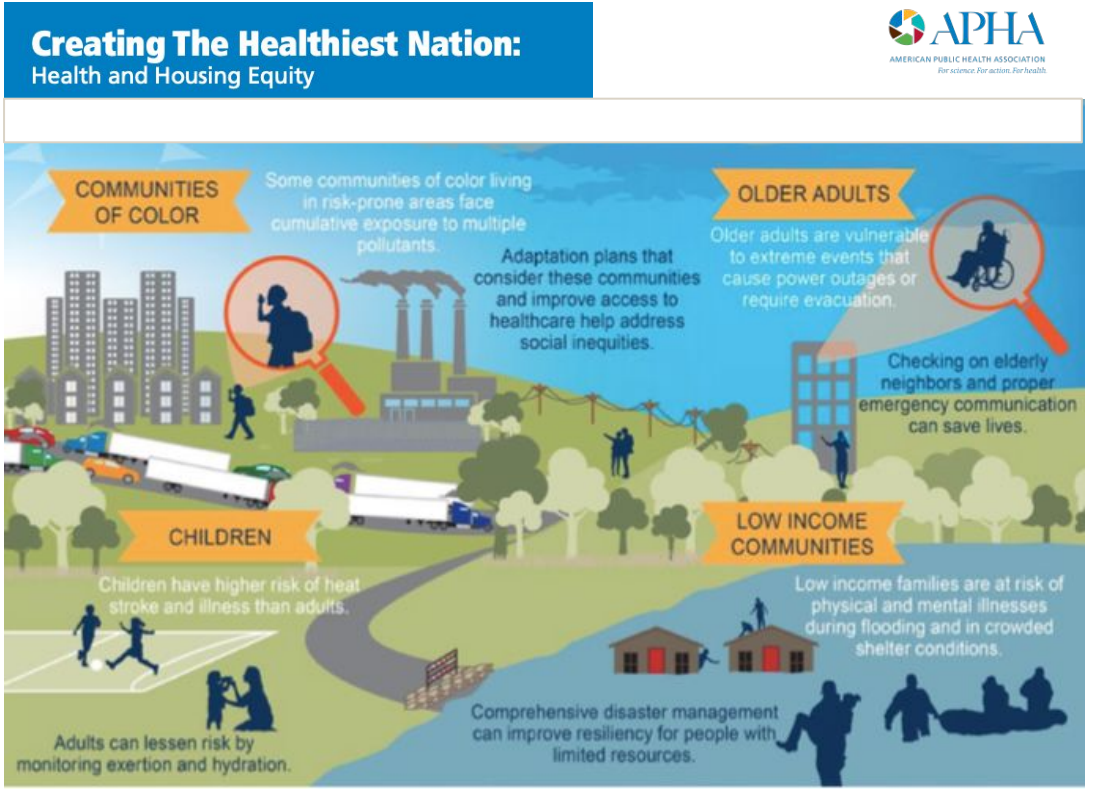
Mitigate growing climate-related health risks:

- **Extreme Heat (respiratory, crime)**

  Look for funders interested in respiratory illness, crime. Elderly, young, recent immigrant and pre-existing conditions at greatest risk for morbidity.

- **Extreme precipitation (mold, sewage)**

  Look for funders interested in environmental justice and related place-based hazards



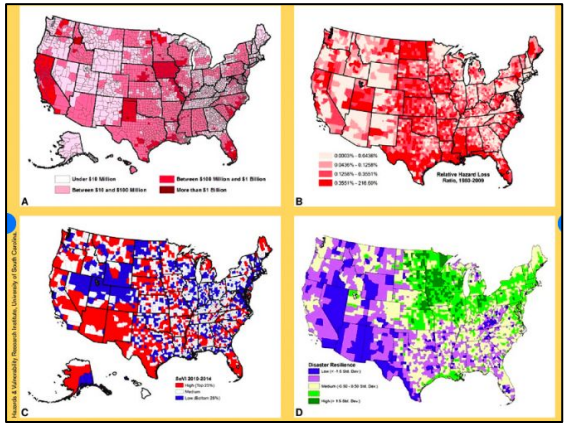
Graphic source: US Global Change Research Program

Equity

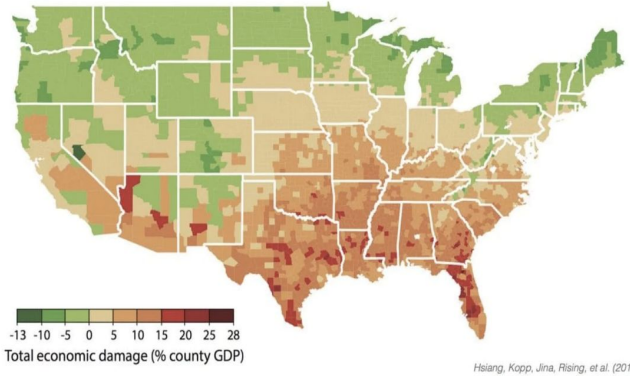
Given Disproportionate Impacts, Focus on Most Vulnerable

- Poorest 1/3 of U.S. counties sustain greater economic hardship from hurricanes, rising sea levels & high temperatures
- Funding considerations should include LMI livelihoods
- Resettlement is a local issue that must be balanced with preserving affordable housing
-

Social Vulnerability to Natural Hazards



Climate Change Driven Economic Damage 2080 to 2099



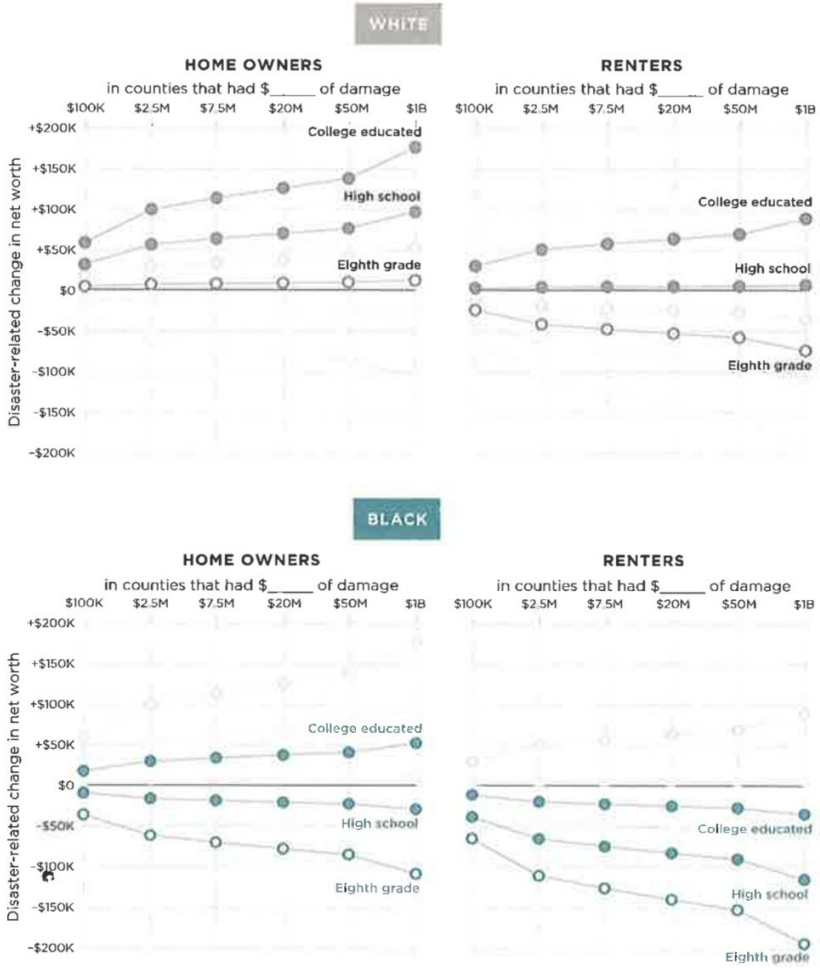
Source: Estimating economic damage from climate change in the US https://www.science.org/doi/10.1126/science.aal4369; Social Vulnerability Index http://artsandsciences.sc.edu/geog/hvri/sovi%C2%AE-0

Race

Given racial bias in disaster recovery, identify transformation possible via your projects

Estimated increases in White-Black Wealth Gap 1999-2013 Attributed to Natural Disasters

Source: As Disaster Costs Rise, So Does Inequality,"
https://journals.sagepub.com/doi/full/10.1177/2378023118816795



SOURCE: "AS DISASTER COSTS RISE, SO DOES INEQUALITY," *SOCIUS* (2018)

Roadmap

Make the Case for Resilience Building

Opportunities for Resilience Funding and Finance:

Enhance the business case to improve the bankability of climate resilience projects

Crowd in private investors (combine with other developments happening in your community)

Tools to Help Make the Case-Examples

- **Building Protect with FIT-QM** — IBTS tool to identify strategies for highest risk properties at the building level, with recommendations and resources to help minimize potential harm.
- **Enterprise Portfolio Protect** - Enterprise tool to identify highest risk properties at the portfolio level with recommendations and resources to help minimize potential harm.
- **Washington D.C.'s Resilience Assessment Tool** — This tool focuses on energy and water savings and solar plus storage assessment.

Spotlight On:

St. John Community Development Corporation (Miami)

Key Points

- **Additional measures to avoid larger problems later:**
  "We tried exterior floodproofing, but it wasn't effective. So, we commissioned a drainage study and percolation test"
- **Green building initiatives in resilience strategy:**
  "Increase resident comfort, lower their cost of occupancy… extend the life of our building infrastructure."
- **Resident involvement is key:**
  "We communicate with residents via text before extreme events."
- **Making resilience a priority, getting creative:**
  "We generally use current revenue streams to pay for sustainability priorities. We're looking at our capital infrastructure to stay ahead of risks all the time, and most resilience measures fall into our capital improvement budget."
- **Finding funding to self-insure:**
  "When we have weather impacts on our properties, we opt not to file claims on them," notes Haynes. "With these older buildings, that could really increase our premiums. So, we tend to self-insure on certain events if it is manageable."

Source: Keep Safe Miami Funding Guide

TAKE ACTION:

Funding and Finance Sources

Affordable Housing Resilience Funding And Finance

- Funding sources: grants, loans and incentives.
- Federal, state, local grants where repayment is not expected.
- Financing such as bonds, government loan programs, tax abatements and utility programs.

Sources

Federal Funding

- FEMA's Building Resilient Infrastructure and Communities (BRIC) program (for pre-disaster mitigation)
- FEMA Hazard Mitigation Plan funds (to local governments, public districts, and nonprofits as sub-applicants to the state or tribal government)
  - Fire Mitigation Assistance Grant (FMAG)
  - Flood Mitigation Assistance (FMA) planning and project grants
- FEMA: STORM Act
  - Capitalization grants to states to establish revolving loan funds for projects designed to reduce risks from disaster, natural hazards and other related environmental harm.
  - The STORM Act "will prioritize applications for projects increasing resilience of natural and built infrastructure"

Given Changing Risks, Mitigation is Flexible

- Green Infrastructure is Designed to Change Over Time
- Nature Based Solutions
- Prioritize Communities, Water and Air Quality, Resilience, Habitats
- Mix Concrete and Steel “Grey” Solutions with Green Solutions

Risk Assessment Informs Mitigation Needs in Four Broad Mitigation Categories

Local Plans and Regulations
- Update building codes
- Revise zoning ordinances
- Develop defensible space ordinances

Structure and Infrastructure Projects
- Improve drainage to reduce flood threat
- Integrate green and gray infrastructure
- Acquire-demolish or relocate structures in hazard-prone areas

Natural Systems Protection
- Erosion control
- Wetland restoration
- Riparian buffers

Education and Awareness
- Incentivize drought-tolerant landscaping
- Publish websites and maps
- Install historic high water markers

Sources

Federal Funding

STORM Act highlights include:

- Individual project funding up to $5 million
- Interest rates not more than 1%
- Repayment terms up to 20 years after project completion, or up to 30 years for projects benefiting low-income geographies

Eligible projects under the STORM Act result from or include:

- Drought and prolonged episodes of intense heat
- Severe storms, including hurricanes, tornados, windstorms, cyclones and severe winter storms
- Wildfires, earthquakes, flooding, shoreline erosion, high water levels, storm surges
- Zoning and land use planning
- Establishing and carrying out building code enforcement

Sources

Government Loans

Naturally Occurring Affordable Housing (NOAH):

Preservation Rehabilitation Loan Program Miami-Dade County Public Housing and Community Development

- Rehabilitation loan is from documentary stamp surtax loan funds and is intended for 1–20-unit properties.

CDFI Lending: Solar and Energy Loan Fund (SELF):

for multifamily nonprofit and community energy improvement (extreme wind and heat)

- SELF has flexible unsecured financing options for multifamily, commercial, non-profit and community development energy efficiency and climate resilience rehab projects through a partnership with Inclusive Prosperity Capital (IPC) out of Connecticut

Sources

Federal Funding

HUD: Community Development Block Grant — Mitigation (**CDBG-MIT**)

- Allows eligible grantees in areas affected by recent disasters to perform strategic, high-impact activities to mitigate disaster risks and reduce future losses.

Other: Subnational public grant programs are emerging in places that are especially vulnerable to certain hazards, such as flooding.

SOURCES: STATE
FLORIDA EXAMPLE

State Apartment Incentive Loan (SAIL):
Florida Housing Finance Corporation State Apartment Incentive Loan

SAIL loans are available for multifamily affordable housing construction or rehab

Sources
State Florida Examples

RFA Due Date	Type of Financing	HOME	SAIL	HC-Medium County	HC-Large County	National Housing Trust Fund	Grant Funding for Developmental Disabilities	Total
1.25.22	Financing for Construction of Small Rural Developments	$20,000,000						$20,000,000.00
3.24.22	Financing for Smaller Permanent Supporting Housing Developments for Persons with Special Needs		$9,350,000.00					$9,350,000.00
2.15.22	Housing Credit (HC) and Financing to Develop Housing for Homeless Persons		$10,250,000.00	$ 1,700,000.00	$ 2,375,000.00	TBD		$14,325,000.00
2.25.22	Financing Farmworker and Commercial Finishing Worker Housing		$5,125,000.00					$5,125,000.00
3.30.22	Financing to Develop Housing for Persons with Disabling Conditions/Developmental Disabilities		$4,000,000	$2,750,000			TBD	$6,750,000.00
5.22	Financing for the Construction of Workforce Housing		$5,520,000	$1,500,000*				$7,020,000.00

Sources

City Illustrative, Miami Example

Miami Forever Bond

- Allocates $100M in part to create and preserve affordable housing units in order to build a stronger more resilient Miami.
- To apply for resources, you must access the City of Miami pipeline application, through which the City is seeking proposals for construction/permanent financing needs associated with construction/rehabilitation of affordable multi-family rental housing projects and homeownership
- Properties under this RFP must be located in the City of Miami and must be made available for rental and/or homeownership by individuals or families with extremely low to workforce incomes adjusted for family size

Sources:

Tax Abatement/Utility Program

Envelope efficiency, Renewable Energy (RE) plus energy storage:

- Electric, natural gas utility programs incentivize investments
- Government agencies, green banks, and other public entities support investments

Efficiency and RE plus energy storage projects:

- Loan products: Traditional and specialized products (e.g., energy services contracts).

Resilience projects that create savings or a revenue stream:

- State revolving funds can provide a source of financing

Enterprise

Source SAHLIN. *Multifamily Climate Resilience Finance Working Group | Energy Efficiency for All*


Q
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A

Thank You

Enterprise

IBTS®

Appendix

Websites from presentation:

Title	Site
Keep Safe Miami Funding Guide	https://www.enterprisecommunity.org/solutions-and-innovation/emergency-management/keep-safe-miami
SAHLIN: Multifamily Climate Resilience Finance Working Group | Energy Efficiency for All	https://sahlln.energyefficiencyforall.org/climateresilience
NCBPA 2017 Inventory Report	http://buildingnc.org/wp-content/uploads/NCBPA-2017-Inventory-Report_030918.pdf
Enterprise Green Communities 2020	https://www.enterprisecommunity.org/impact-areas/resilience/green-communities
Insurance Institute for Business & Home Safety FORTIFIED building method	https://ibhs.org/fortified/
RELi--Resilience List: USGBC rating system and leadership standard	https://gbci.org/reli#:~:text=Resilient%20design%20for%20a%20changing,holistic%20approach%20to%20resilient%20design.&text=Resilience%20is%20more%20than%20physically,economic%20disruption%20and%20resource%20depletion.
U.S. Resiliency Council Building Rating System	https://www.usrc.org/
The Resilience-based Earthquake Design Initiative for the Next Generation of Buildings (REDi) Rating System	https://www.arup.com/perspectives/publications/research/section/redi-rating-system

Appendix

Title	Site
FEMA STORM Act	https://www.congress.gov/bill/116th-congress/senate-bill/3418/text
FEMA benefit-cost analysis tool	https://www.fema.gov/benefit-cost-analysis
Washington D.C.'s Resilience Assessment Tool	https://doee.dc.gov/sites/default/files/dc/sites/ddoe/service_content/attachments/DOEE_Assessment Tool Public Outreach.pdf
Building Protect with FIT-QM	https://fit-qm.ibts.org/
HUD: Community Development Block Grant — Mitigation (CDBG-MIT)	https://www.hudexchange.info/programs/cdbg-mit/overview/
State Apartment Incentive Loan	https://www.floridahousing.org/programs/developers-multifamily-programs/competitive
Pre-Calculated Benefits: To streamline the grant application process, FEMA provides pre-calculated analyses for several eligible projects	https://www.fema.gov/grants/guidance-tools/benefit-cost-analysis
Naturally Occurring Affordable Housing (NOAH): Preservation Rehabilitation Loan Program Miami-Dade County Public Housing and Community Development	https://www.miamidade.gov/global/housing/requests.page
CDFI Lending: Solar and Energy Loan Fund (SELF) : for multifamily nonprofit and community energy improvement (extreme wind and heat)	https://solarenergyloanfund.org/loan/multifamily-non-profit-and-community-energy-improvement-loans/
10 essential FEMA BRIC tips for state and local governments	https://www.icf.com/insights/disaster-management/fema-bric-ten-tips
Natural Hazard Mitigation Saves: 2019 Report	https://www.nibs.org/projects/natural-hazard-mitigation-saves-2019-report

Appendix

Websites for Emerging Trends:

Emerging Trend	Selected Resources (Examples)
Emerging Trend 1: Risk Information Will Begin to Include Extreme Weather Risks	TCFD, Global Reporting Initiative (GRI), Climate Disclosure Project (CDP), NAR 1, 2, and 3
Emerging Trend 2: Social Inequality Will Grow as Extreme Weather Disproportionately Affects Lower Income Americans	Journal Article in *Science*, US Global Change Research Program Forth National Climate Assessment, The New York Times Magazine, International Displacement Monitoring Center
Emerging Trend 3: Extreme Weather Will Have an Increasing Impact on Home Values	Climate Central, Rocky Mountain Institute
Emerging Trend 4: Homeowners that Can Will Migrate from Flood and Fire Risk	Rolling Stone, The Brookings Institution
Emerging Trend 5: Resilience Will Become a Competitive Advantage	National Institute of Building Sciences (NIBS), Business Continuity Institute, PwC
Emerging Trend 6: Extreme Weather Risk is Investment Risk	BlackRock, Task Force on Climate-related Financial Disclosures (TCFD)

Appendix

Dividends from Resilience Measures

Resilience Measure	Resilience Dividends				
	Lower utility bill costs	Lower ongoing operation and maintenance costs	Lower costs of post-disaster recovery	Lower insurance premiums	Higher occupant satisfaction and lower vacancy
Wet floodproofing	-	-	✓	✓	✓
Dry floodproofing	-	-	✓	✓	✓
Site perimeter floodproofing	-	-	✓	✓	✓
Resilient elevators	-	-	✓	✓	✓
Backflow prevention valves	-	-	✓	✓	✓
Sump pumps	-	-	✓	✓	✓
Envelope efficiency	✓	✓	✓	✓	✓
Elevated equipment	-	-	✓	✓	✓
Elevated living space	-	-	✓	✓	✓
Surface stormwater management	-	✓	✓	✓	✓
Window shading	✓	✓	✓	✓	✓
Distributed heating and cooling	✓	✓	✓	✓	✓
Maintaining backup power to critical systems	-	-	✓	✓	✓
Emergency lighting	-	-	✓	✓	✓
Access to potable water	-	-	✓	✓	✓
Building community ties	-	-	✓	✓	✓
Creating community resilience spaces	-	-	✓	✓	✓
Developing an emergency management manual	-	-	✓	✓	✓
Organizing for community resilience	-	-	✓	✓	✓

KEY:

✓ There are well-known methodologies for quantifying this dividend for this measure, and the dividend is widely available to owners and lenders for inclusion in financial analysis.

✓ There are well-known methodologies for quantifying this dividend for this measure, but the dividend is not widely available to owners and lenders for inclusion in financial analysis.

✓ This resilience dividend theoretically exists for this measure, and it seems feasible to develop a methodology for quantifying this dividend for inclusion in financial analysis.

✓ In theory, this resilience dividend exists for this measure, but it would be exceedingly difficult to develop a methodology for quantifying this dividend for inclusion in financial analysis.

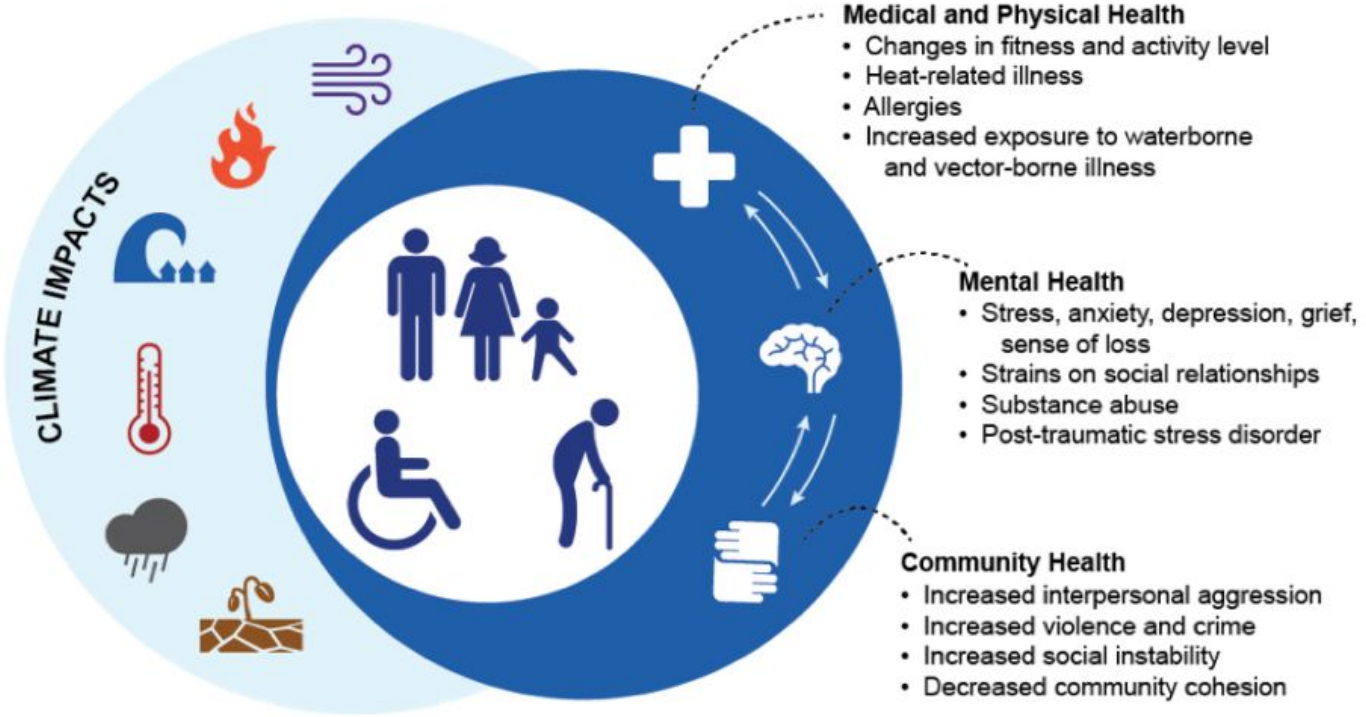
- There is no resilience dividend of this type for this measure.

Source SAHLIN. Multifamily Climate Resilience Finance Working Group | Energy Efficiency for All

Useful Acronyms & Abbreviations

- BCA Benefit-Cost Analysis
- CDBG Community Development Block Grant
- CDBG-DR Community Development Block Grant – Disaster Recovery
- CFR Code of Federal Regulations
- DOB Duplication of Benefits
- EHP Environmental Planning and Historic Preservation
- EPA Environmental Protection Agency
- FEMA Federal Emergency Management Agency
- FHA Federal Housing Administration
- FMA Flood Mitigation Assistance
- HMA Hazard Mitigation Assistance
- HMGP Hazard Mitigation Grant Program
- HUD Department of Housing and Urban Development
- ICC Increased Cost of Compliance
- NEMIS-MT National Emergency Management Information System – Mitigation module
- NFIP National Flood Insurance Program
- PDM Pre-Disaster Mitigation
- POP Period of Performance
- SBA Small Business Administration
- SFHA Special Flood Hazard Area
- SOW Scope of Work
- USDA U.S. Department of Agriculture

Useful Under Roadmap: Race



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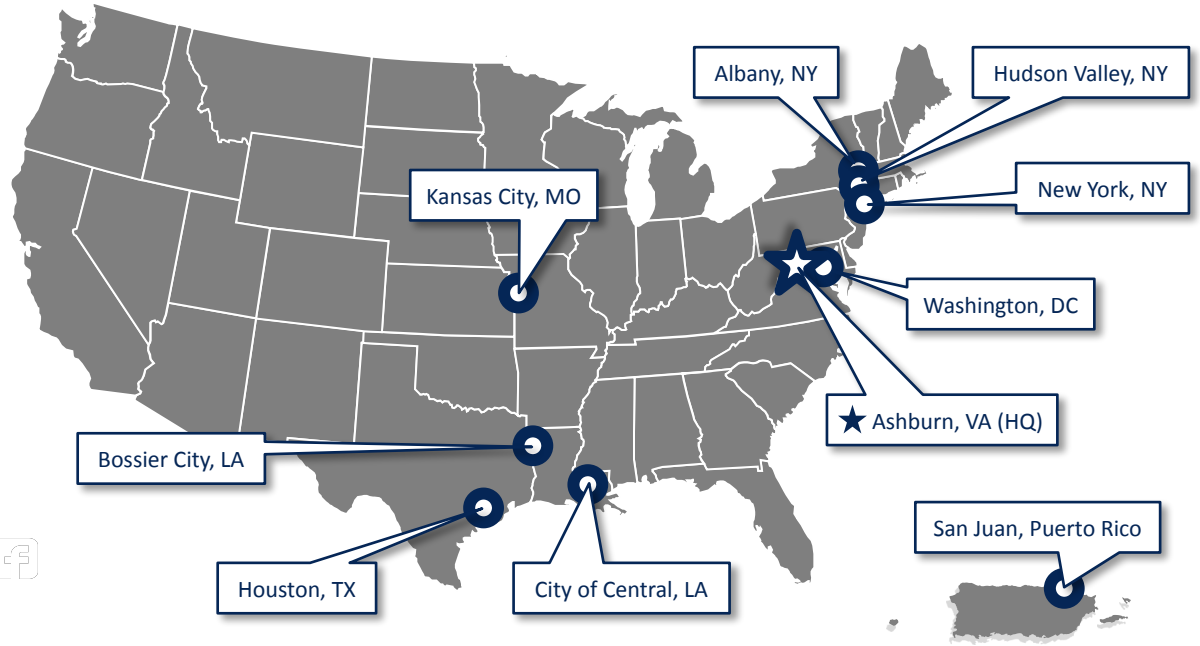

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