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Preserving Local Economies with Energy & Water Finance

The broadcast will begin at 2:00 PM Eastern

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Hello! Welcome to the webcast.



Ariel Miller

Manager, Research & Technical Assistance
Council of Development Finance Agencies
Columbus, OH

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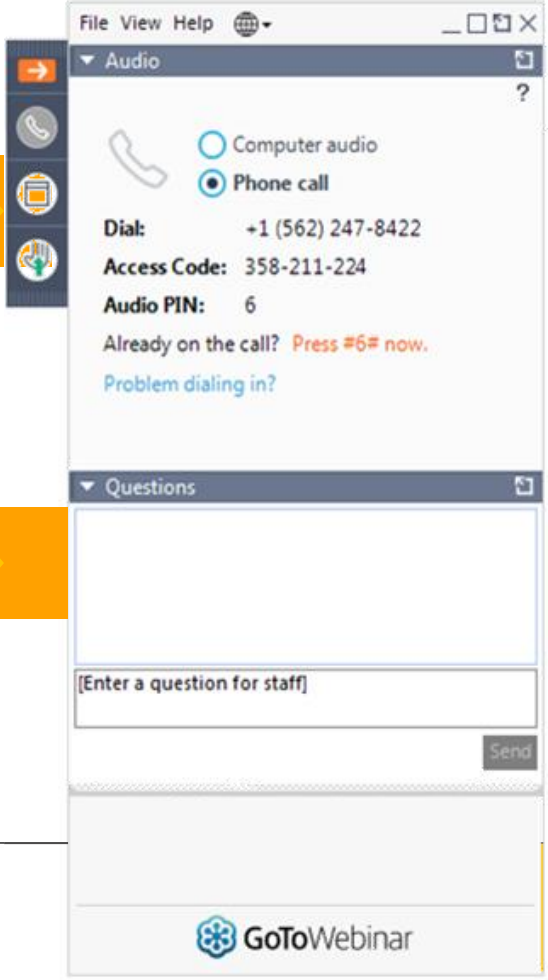
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Submit your questions to the panelists here.



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Panelists

Tammy Davis, Moderator

Vice President, Corporate Trust
The Bank of New York Mellon

Jeffrey Diehl

Executive Director & CEO
Rhode Island Infrastructure Bank

Stacy A. Swann

Chief Executive Officer & Founding
Partner
Climate Finance Advisors, Benefit LLC

Jane Elias

Energy and Sustainability Division
Manager
County of Sonoma, CA

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Tammy Davis

Vice President, Corporate Trust
The Bank of New York Mellon

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Stacy A. Swann

Chief Executive Officer & Founding Partner
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CLIMATE
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Climate Change is Changing Everything

How the Financial Sector is Addressing Climate Risk

Presentation for CDFA/BNY Mellon Development Finance Webcast Series

May 18, 2021

BRINGING FINANCIAL SECTOR EXPERIENCE TO ANSWER DIFFICULT QUESTIONS



OUR BELIEF
HOW WE INVEST MATTERS



A deep understanding of the investment decision making process of Financial Institutions, Banks and Investors



A deep understanding of financial implications and vulnerabilities to investments that result from physical climate risk



Close connections to existing climate risk & resilient investment forums; Sought out expertise on climate risk, finance and operations



Experience bridging the divide between Wall Street and public sector development finance institutions, and public policy and the finance industry





CLIMATE RISKS: 1.5°C VS 2°C GLOBAL WARMING

EXTREME WEATHER

100% increase in flood risk. vs **170%** increase in flood risk.

SPECIES

6% of insects, **8%** of plants and **4%** of vertebrates will be affected. vs **18%** of insects, **16%** of plants and **8%** of vertebrates will be affected.

WATER AVAILABILITY

350 million urban residents exposed to severe drought by 2100. vs **410 million** urban residents exposed to severe drought by 2100.

ARCTIC SEA ICE

Ice-free summers in the Arctic at least once **every 100 years.** vs Ice-free summers in the Arctic at least once **every 10 years.**

PEOPLE

9% of the world's population (700 million people) will be exposed to extreme heat waves at least once every 20 years. vs **28%** of the world's population (2 billion people) will be exposed to extreme heat waves at least once every 20 years.

SEA-LEVEL RISE

46 million people impacted by sea-level rise of 48cm by 2100. vs **49 million people** impacted by sea-level rise of 56cm by 2100.

OCEANS

Lower risks to marine biodiversity, ecosystems and their ecological functions and services at 1.5°C compared to 2°C.

CORAL BLEACHING

70% of world's coral reefs are lost by 2100. vs **Virtually all coral reefs are lost** by 2100.

COSTS

Lower economic growth at 2°C than at 1.5°C for many countries, particularly low-income countries.

FOOD

Every half degree warming will consistently lead to lower yields and lower nutritional content in tropical regions.

DAILY HEADLINES TELL THE STORY



The New York Times @nytimes · Apr 22

Climate change is likely to reduce global wealth significantly by 2050, as crop yields fall, disease spreads and rising seas consume cities, a major insurance company warned.

For poor nations, the consequences would be particularly dire.



Climate Change Could Cut World Economy by \$23 Trillion in 2050, Insurance Industry Warns. Poor nations would be hit hardest, but few would escape, says a major insurer. It says how the industry prices insurance.

Opinion Climate change
Joe Biden must take a global lead on climate risk disclosure

Incoming president can use existing regulatory powers to unlock sustainable growth

LAURA TYSON + Add to myFT



Swiss Re Institute
 April 2021
The economics of climate change: no action not an option

- 01 Executive summary
- 02 Key takeaways
- 04 Climate change: economic risks and uncertainties
- 08 Assessing the economic impacts of climate change
- 20 Transition risks: the potential financial implications of moving to a low-carbon economy
- 22 Mitigating climate change risks

Board of Governors of the Federal Reserve System
The Federal Reserve, the central bank of the United States, provides the nation with a safe, flexible, and stable monetary and financial system.

Home > News & Events > Speeches

Speech

February 18, 2021
The Role of Financial Institutions in Tackling the Challenges of Climate Change
 Governor Lael Brainard

At the "2021 IIF U.S. Climate Finance Summit: Financing a Pro Growth Pro Markets Transition to a Sustainable, Low-Carbon Economy" hosted by the Institute of International Finance, Washington, D.C.

Share

I want to thank the Institute of International Finance for inviting me to join this discussion. Let me start by noting that these are my own views and do not necessarily reflect those of the Federal Reserve Board or the Federal Open Market Committee.¹

Climate change is already imposing substantial economic costs and is projected to have a profound effect on the economy at home and abroad.² Future financial and economic impacts will depend on the frequency and severity of climate-related events and on the nature and the speed at which countries around the world transition to a greener economy.³

Climate change and the transition to a low-carbon economy create both risks and opportunities for the financial sector. Financial institutions that do not put in place frameworks to measure, monitor, and manage climate-related risks could face outsized losses on climate-sensitive assets caused by environmental shifts, by a disorderly transition to a low-carbon economy, or by a combination of both. Conversely, robust risk management, scenario analysis, and forward planning can help ensure financial institutions are resilient to climate-related risks and well-positioned to support the transition to a more sustainable economy.

Making Progress on Climate Change
 The economic consequences of climate change are already in evidence. There is growing evidence that extreme weather events related to climate change are on the rise—droughts, wildfires, hurricanes, and heat waves are all becoming more common.⁴ Natural disasters are a major source of losses to households and businesses; one study finds that natural disasters have resulted in more than \$5.2 trillion in losses globally since 1980, more than 70 percent of which was not insured.⁵ Extreme weather events have been shown to disrupt corporate supply chains and impact corporate profitability.⁶ Chronic flooding and sea level rise negatively impact property values.⁷

For 2021, we are asking companies to demonstrate:

- Board and workforce diversity consistent with local market best practice
- An understanding of key stakeholders and their interests
- Plans to align their business with the global goal of net zero GHG emissions by 2050

SEC_News @SEC_News

Acting Chair Allison Herren Lee at @ChathamHouse's "Responsible Business 2021" today: 1/6

3:03 PM · Feb 22, 2021 · Hootsuite Inc.

15 Retweets 2 Quote Tweets 30 Likes

SEC_News @SEC_News · Feb 22
 Replying to @SEC_News and @ChathamHouse
 Climate presents risks that are unique in scope, breadth, and complexity, and has the potential to trigger abrupt and disruptive shocks to our financial system, with significant and potentially devastating consequences for the real economy. 2/6

SEC_News @SEC_News · Feb 22
 That's why understanding and responding to climate risk as a systemic risk is a top priority for the SEC. 3/6

SEC_News @SEC_News · Feb 22
 On climate and ESG, I am committed to close cooperation with our international counterparts and to supporting the important multilateral work being done through IOSCO and the FSB. 4/6

SEC_News @SEC_News · Feb 22
 The efforts at convergence by ESG standard setters, the IFRS Foundation's consultation paper on a Sustainability Standards Board, and the increasing coalescence around the TCFD framework, all suggest that we can and will reach a cooperative global solution. 5/6

SEC_News @SEC_News · Feb 22
 I'm pleased to see tremendous will and momentum among regulators, issuers, investors, and the entire scope of market participants to work together to tackle this challenge. 6/6

Key Drivers Accelerating Investor Action on Climate-Related Risks Today

Risk and Impact:



- Growing recognition that climate risk can result in **financial risk and credit risk**
- **Climate-related risks beginning to show in CRAs (IMF; CFA 2020), spreads of Sovereign Bonds for EMs; likely other asset classes in near term**
- Value-at-risk of the global total stock of infrastructure assets ranges from \$4.2 trillion to \$43 trillion between now to 2100 (TCFD).

Investors:



- Investors increasingly looking to **quantify, measure and structure around climate risk**
- Investors increasingly rely on disclosures to assess portfolio risks; **Investors beginning to use TCFD framework in due diligence**
- There is currently no consistent, effective, or comparable method for disclosing climate-related risks and opportunities
- TCFD is the closest 'globally' recognized standard

Policy and Regulatory:



- 2015: Paris Climate Agreement
- **Feb 2021: US Federal Reserve governor [Lael Brainard](#) expressed her support for mandatory climate [disclosures by banks](#).**
- Feb 2021: US SEC Acting Chair [Allison Lee](#) announced plans to strengthen climate disclosure requirements for public companies; SEC now in open comment period for parameters for ESG and climate risk.
- Over 1,900 companies across 78 countries have [expressed](#) their support for TCFD.

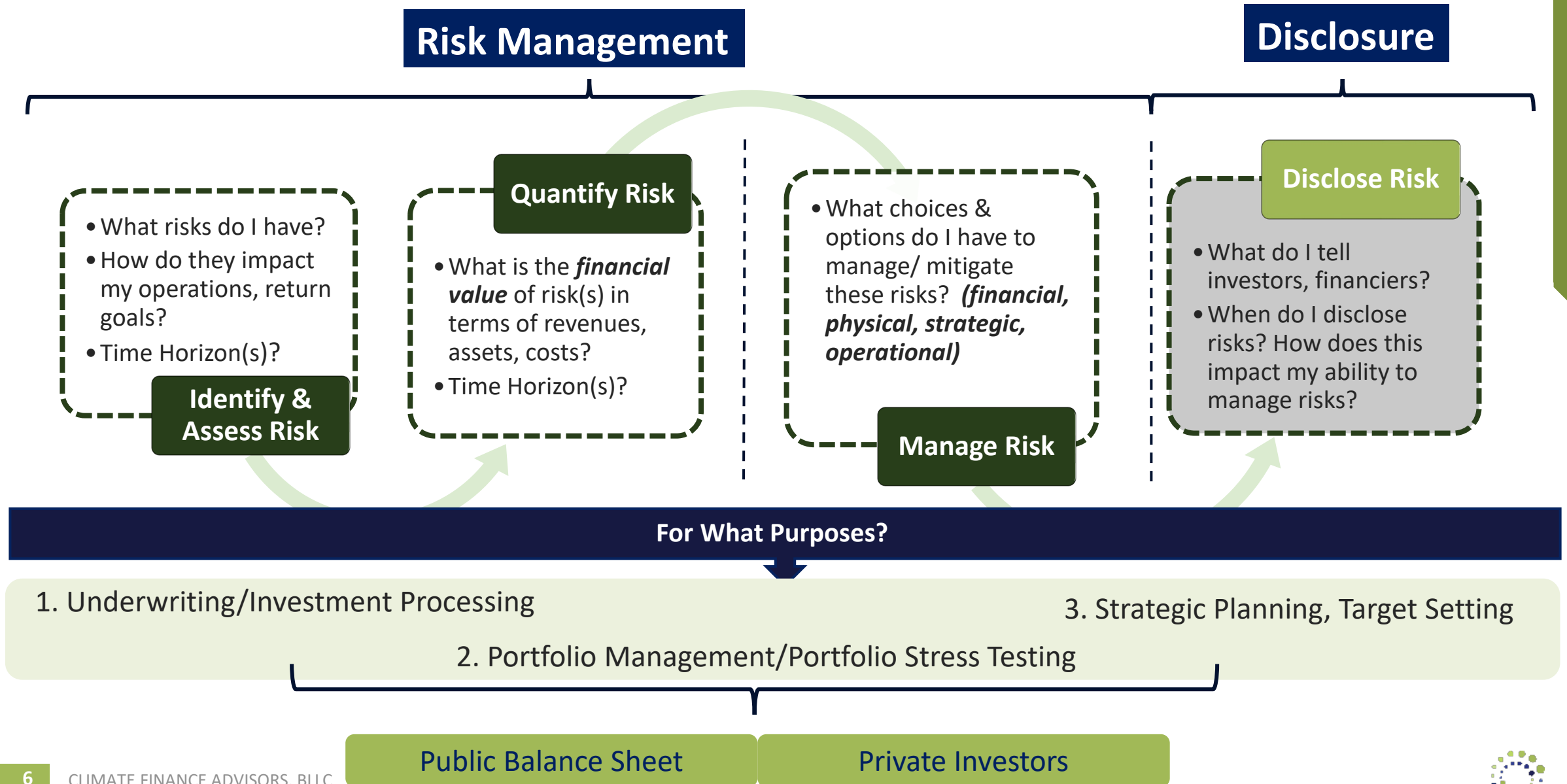
Opportunity:



- **Increasing potential for federal and state policies/programs to incentivize climate investments (e.g. tax credits, loan guarantees, BRIC funding, resilience funds/facilities), including in infrastructure (e.g. water, transport, buildings)**
- Climate resilient infrastructure/market opportunities to create a more sustainable and resilient future
- Market growth related to resource efficiencies, innovation, resilience, and economic advancements are accelerating



2021: Focus on Climate-Risk Management by both Public & Private Investors





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CEO and Founding Partner

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Jeffrey Diehl

Executive Director and CEO
Rhode Island Infrastructure Bank

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RHODE ISLAND
INFRASTRUCTURE BANK

CDFA / BNY Webinar

May 18, 2021

Hub of Infrastructure Investment



Water and Sewer

- Clean Water State Revolving Fund
- Drinking Water State Revolving Fund
- State Water Pollution Abatement Fund
- Community Septic System Loan Program (CSSLP)
- Sewer Tie-In Loan Fund (STILF)
- Water Quality Protection Fund

Road and Bridge

- Municipal Road and Bridge Revolving Fund

Clean Energy

- Efficient Buildings Fund
- Commercial Property Assessed Clean Energy (C-PACE)

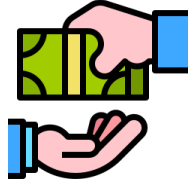
Brownfield Remediation

- Brownfields Revolving Loan Fund

Climate Resilience

- Municipal Resilience Program
- Stormwater Project Accelerator

Investment Highlights Since March 2020



Since the start of COVID-19 lockdowns in mid-March 2020, disbursed **\$103MM+** in funds to municipalities, contractors and vendors for project work completed



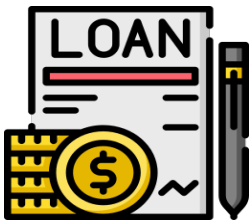
Increased financing for **Resilience projects** and expanded the Municipal Resilience Program to \$2.5mm in funding and now 19 communities



Providing **\$10MM in forgivable loans** for projects that mitigate exposure to lead in drinking water



Expanded Stormwater Accelerator Loan program to support EPA funded programs and 4 new borrowers



Since March 2020, the Bank has closed **29 program loans** with municipal partners and stakeholder action groups worth a cumulative value **exceeding \$109MM**



Since March 2020, the Bank has facilitated the closing of more than **\$73MM in C-PACE loans**

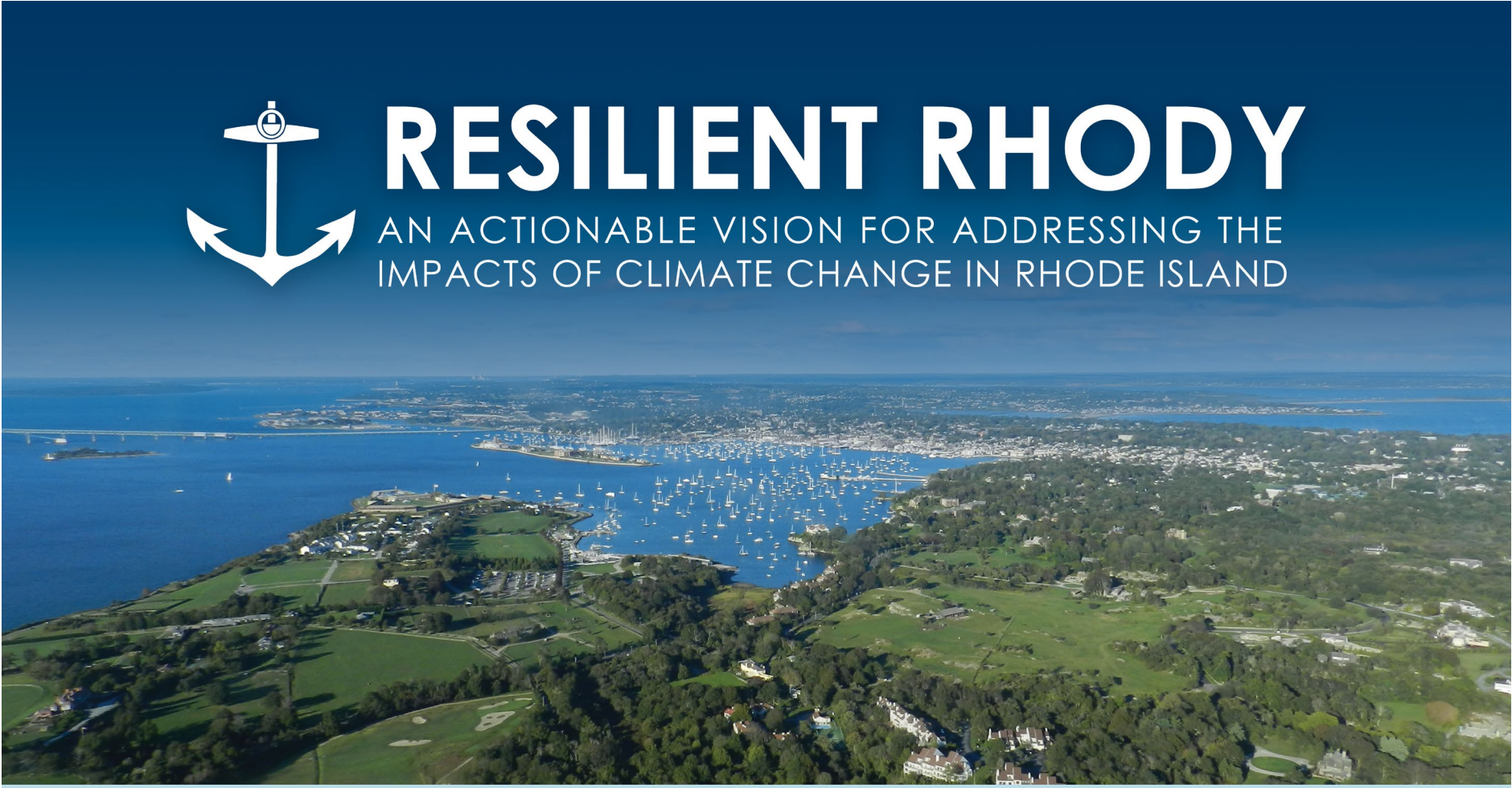


Projects funded via Bank financing having **supported over 3,100 jobs** since the onset of the COVID – 19 Pandemic



Accelerated the **integration of the Bank's digital loan management system**, which provided a COVID safe channel for clients to monitor current loans, make/receive payments and apply for new loans

Statewide Climate Resilience Action Strategy



Aerial view of Newport and Narragansett Bay, photo from Robinson R44 Helicopter by Michael Kagdis, courtesy of Wikimedia Commons

Existing Financing Tools for Climate Resilience

CRITICAL INFRASTRUCTURE AND UTILITIES

FINANCE TOOL	WATER	POWER	TRANSPORTATION
CLEAN WATER STATE REVOLVING FUND	X	X	
DRINKING WATER STATE REVOLVING FUND	X	X	
USDA RURAL DEVELOPMENT LOAN PROGRAM	X	X	
BONDS	X	X	X
RIIB STORMWATER ACCELATOR	X		
EFFICIENT BUILDINGS FUND		X	
WATER INFRASTRUCTURE FINANCE AND INNOVATION FUND	X		
ELECTRIC/GAS RATEPAYER FUNDS		X	
ENERGY SAVINGS PERFORMANCE CONTRACTS		X	
POWER PURCHASE AGREEMENTS		X	
PROPERTY ASSESSED CLEAN ENERGY	X	X	
MUNICIPAL ROAD AND BRIDGE REVOLVING FUND			X
TAX INCREMENT FINANCING	X	X	X

NATURAL SYSTEMS

FINANCE TOOL	COASTAL	INLAND
MITIGATION BANKING	X	X
LAND TRUST	X	X
CLEAN WATER STATE REVOLVING FUND	X	X
DRINKING WATER STATE REVOLVING FUND		X
BONDS	X	X

EMERGENCY PREPAREDNESS

FINANCE TOOL	COASTAL	INLAND
EFFICIENT BUILDINGS FUND	X	X
PROPERTY ASSESSED CLEAN ENERGY	X	X
MUNICIPAL ROAD AND BRIDGE REVOLVING FUND	X	
BONDS	X	X

COMMUNITY RESILIENCE

FINANCE TOOL	COASTAL	INLAND
EFFICIENT BUILDINGS FUND	X	
PROPERTY ASSESSED CLEAN ENERGY	X	X
BONDS	X	X
TAX CREDITS		X
FHA MORTGAGES		X

Municipal Resilience Program

- Developed in partnership between Rhode Island Infrastructure Bank and The Nature Conservancy
- The MRP is **open to all 39 municipalities** in Rhode Island
- The MRP provides technical assistance to **selected municipalities** to complete the “Community Resilience Building” process
- Municipalities will identify priority climate resilience projects and action grant funding is available
- 19 municipalities currently participating in the program

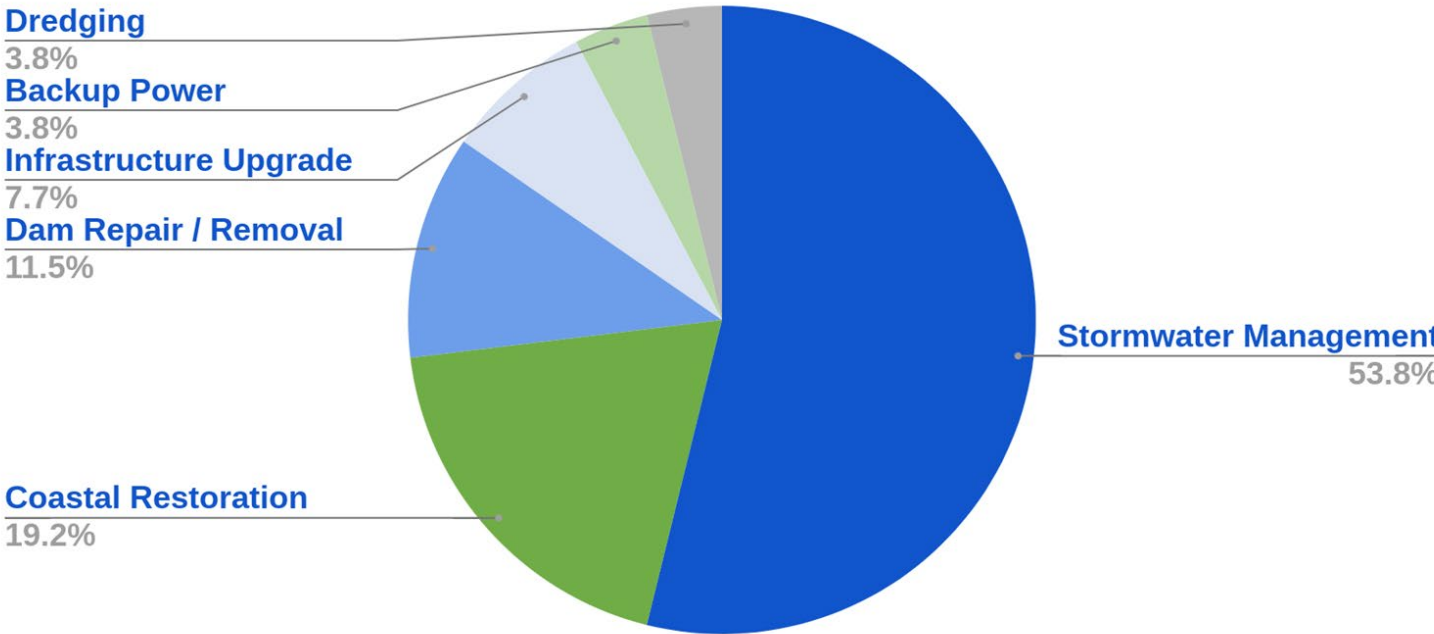


Municipal Resilience Program Projects Funded

Projects Implemented:

- RIIB has already committed **\$2.5mm in action grant funding to 24 projects** in 2019 and 2020
- The MRP has further **catalyzed over \$6mm in funding from outside of RIIB** to support implementation of 8 MRP identified projects
- The recent Beaches, Clean Water & Green Economy Bond allocated **\$7mm to MRP identified resilience projects**

MRP Funded Project Types
(\$2.5mm MRP Action Grants + \$6mm Catalyzed Funding)



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PACE Financing Beyond Energy

Climate, Energy, Resiliency
Financing for Residential and
Commercial

May 18, 2021

Jane Elias, Energy and Sustainability Division Manager
County of Sonoma

PACE Legislation

State Legislation

Since authorizing legislation was passed in 2008, allowing PACE financing with Assembly Bill 811, California has amended the legislation over 20 times.

2011: AB184 Seismic

2018: SB465 Wildfire Safety

Federal Legislation

PACE bills introduced or bills that included a PACE provision.

financing

over 100 improvements made affordable

Including Energy efficiency, Wildfire safety and Seismic strengthening.



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- Seismic Strengthening and Wildfire Safety Improvements



Home Hardening

Wildfire Safety

1. Hardscaping/Defensible Space
2. Roof
3. Gutters and Downspouts
4. Vents
 - Attic
 - Eave
 - Foundation
5. Windows and Doors
6. Decks
7. Siding

Seismic Strengthening

1. Strengthening
2. Bracing
3. Bolting
4. Shear Walls



Home Hardening and Co-benefits

- Energy Efficiency/Comfort/Indoor Air Quality
 - High Performance Windows
 - Air Sealing
 - Opportunity to add insulation when re-siding
 - Cool roof when re-roofing
- Home Insurance Premiums (especially in Wildland Urban Interface areas)
- Enhanced resale value
- And more.....

advice

LEARN, BE READY
& RESILIENT

planning

DESIGN YOUR
PROJECT

resources

FIND MONEY,
INCENTIVES & REBATES

results

MAKE A DIFFERENCE



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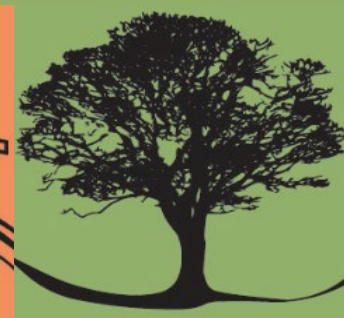
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Friday, May 21, 2021

1:00 PM - 2:00 PM Eastern

Advanced Tax Increment Finance WebCourse

May 26-27, 2021

Daily: 12:00 - 5:00 PM Eastern

Advanced Bond Finance WebCourse

May 24-25, 2021

Daily: 12:00 - 5:00 PM Eastern

**CDFA Rural Development Finance Webinar Series:
Assembling Capital for Rural Development**

Tuesday, June 1, 2021

2:00 PM - 3:00 PM Eastern

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