



Brookings Conference on Municipal Finance

July 2025

About Ceres

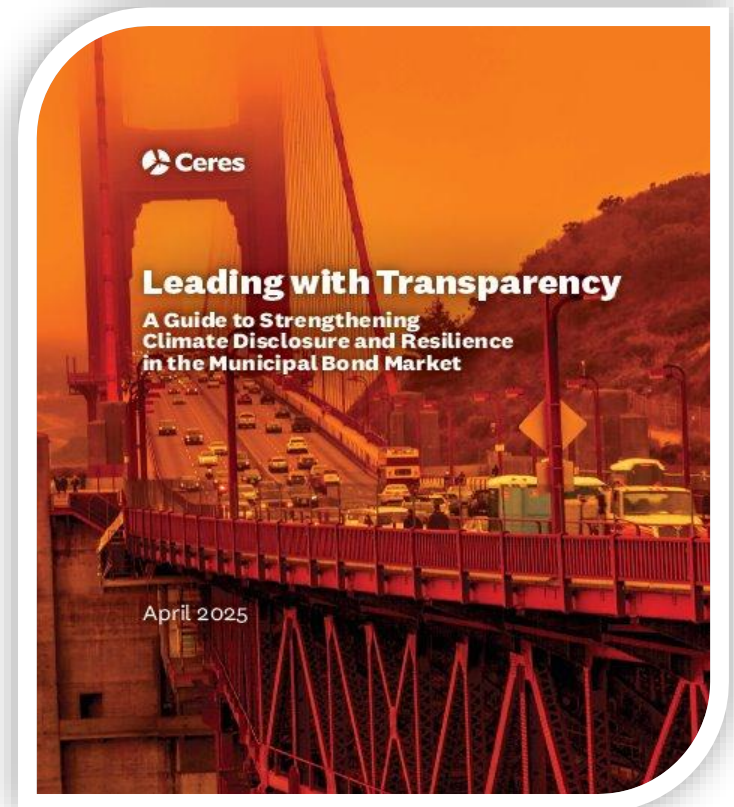
Ceres is a nonprofit advocacy organization working to accelerate the transition to a cleaner, more just, and sustainable world.

Ceres works with the world's **most influential investors and companies** with the greatest impact on our economy to tackle our global sustainability challenges: **climate change, water scarcity and pollution, and nature and biodiversity loss.**

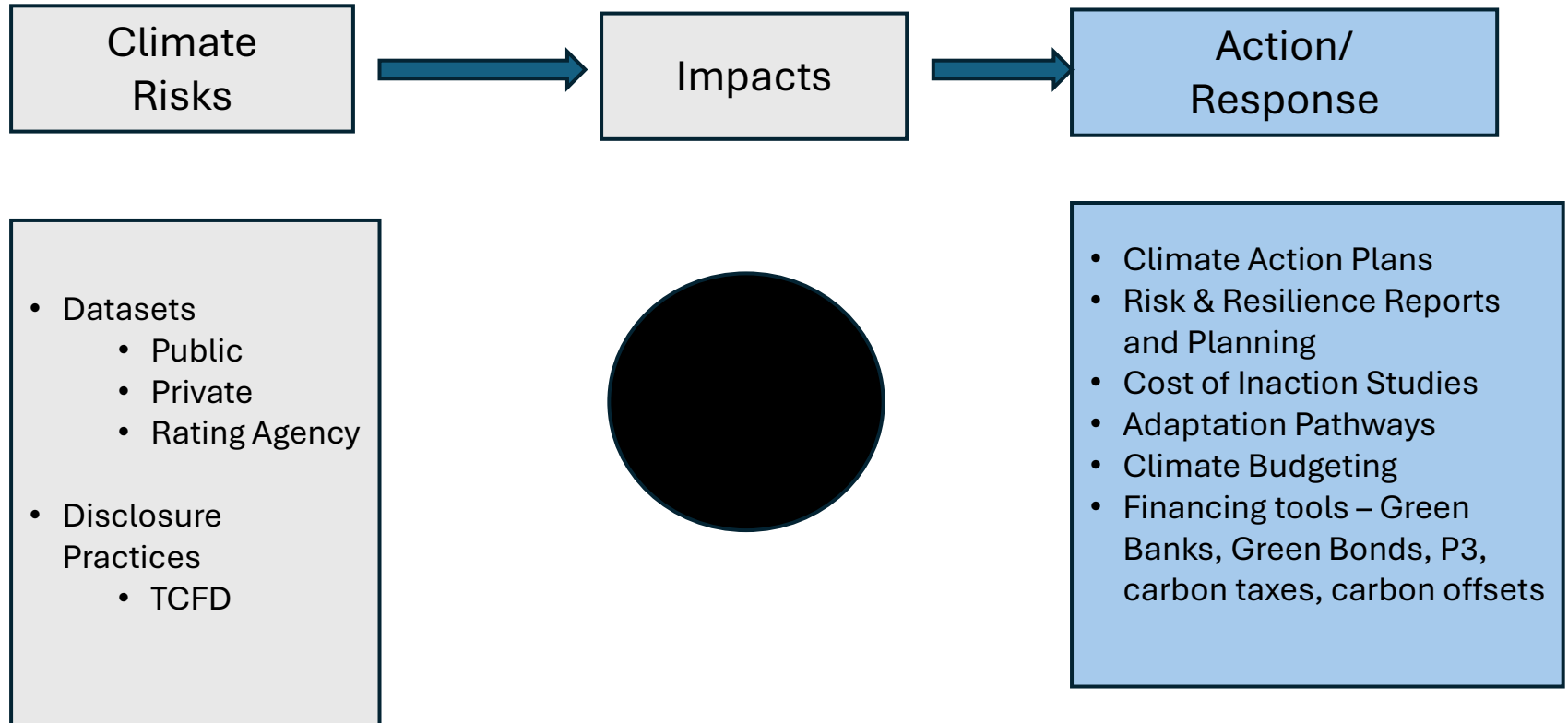
For more information, visit: ceres.org/accelerator.

Recent Ceres Report

“Leading with Transparency: A Guide to Strengthening Climate Disclosure and Resilience in the Municipal Bond Market” ([Link](#))



Current Climate Risk Landscape for Municipal Finance



Climate Change Impacts on Municipal Finance

- **Physical Impacts**

- Asset damage, impairment
- Impact to assessed value, property tax
- Higher costs to construct resilient assets

- **Operational Impacts**

- Sales tax loss
- Higher operating costs due to heating, cooling
- Higher provision of emergency services
- Disaster recovery costs, cleanup
- Increased utility costs
- Reduced operational capacity of assets
- Higher demand for public services
- Impacts to enterprise revenue/profitability
- Insurance costs
- Population shifts

- **Financing Impacts**

- G.O. bonds vs. Revenue bonds
- Ratings

- **Equity Impacts**

- Socio-economic
- Jurisdictional (externalities)

Evaluated in “Up In Smoke”

“Up In Smoke” Follow On

Climate Change Can Results in:

- **Externalities – Spillovers**
 - Fire & Flood
 - Mechanisms needed to coordinate across jurisdictions
- **Equity Impacts – Low Income communities likely at greatest risk**
 - Understand and offset impacts through subsidies and support
- **Weaken Revenues & Financial Position**
 - Public entities need to strengthen analysis and planning for revenue impacts of climate change.
- **Negative Credit Impacts**
 - Effectively address in credit/investor presentations
 - Offsetting business steps



Thank you!

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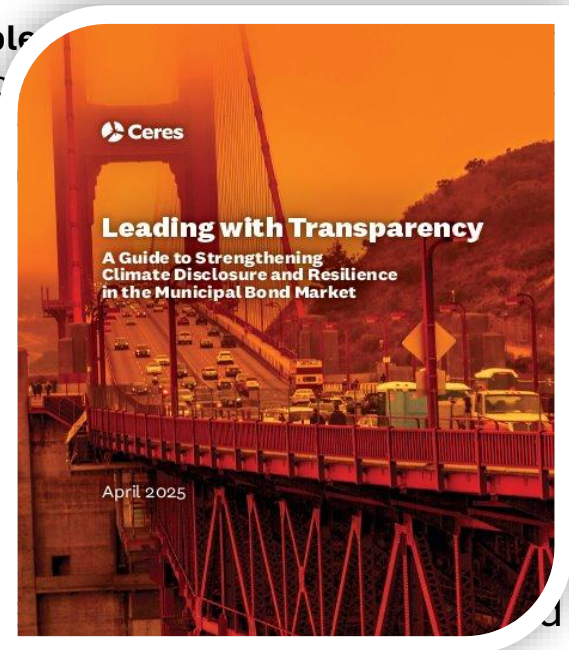
The Ceres Accelerator for Sustainable

Ceres that aims to improve the practice of sustainable investing in capital markets by engaging federal and state pension funds, investors, and corporate boards to act on climate-related financial risk.

For more information, visit: [ceres.org](#)

Ceres Report

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Climate Change Poses Growing Risk to Our Communities

The New York Times

Death Toll Rises to 25 as Strong Winds Threaten L.A. Again

AP

WORLD U.S. POLITICS SPORTS ENTERTAINMENT BUSINESS SCIENCE FACT CHECK MORE

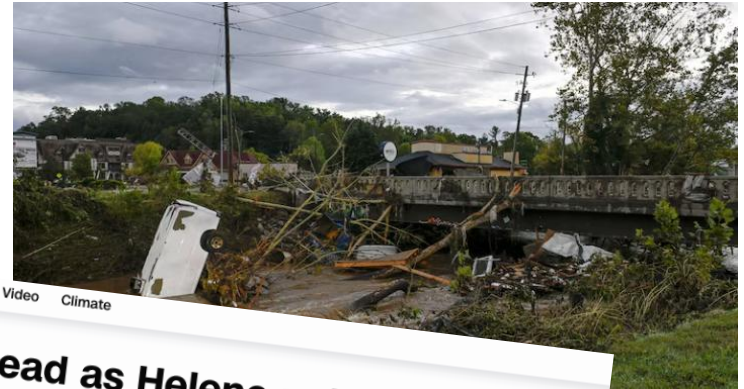
Trump meme coin LIVE Met Gala 2025 Cinco de Mayo Rihanna Justin Tucker released

CLIMATE

Earth breaks yearly heat record and lurches past dangerous warming threshold

Nearly all of US states are facing droughts, an unprecedented number

More than 150 million people and 318m acres of crops are affected by droughts after summer of record heat



Over 50 dead as Helene unleashes life-threatening flooding

Municipal governments are on the front lines—responsible for protecting communities, maintaining essential services, and investing in infrastructure that can withstand future risks.





Climate Risks to Municipal Governments

Extreme weather events will have profound long-term impacts on government organizations, including:

- Loss of assessed value for property tax.
- Losses due to outflow of population from jurisdictions.
- Direct damage to physical infrastructure due to extreme weather events.
- Higher operating expense, including higher heating and cooling bills, and costs related to providing emergency services and relocation expenses.
- Reduced operational capacity of assets.
- High demand for public health and welfare services.





Access to
Capital Critical
for Climate
Resilience

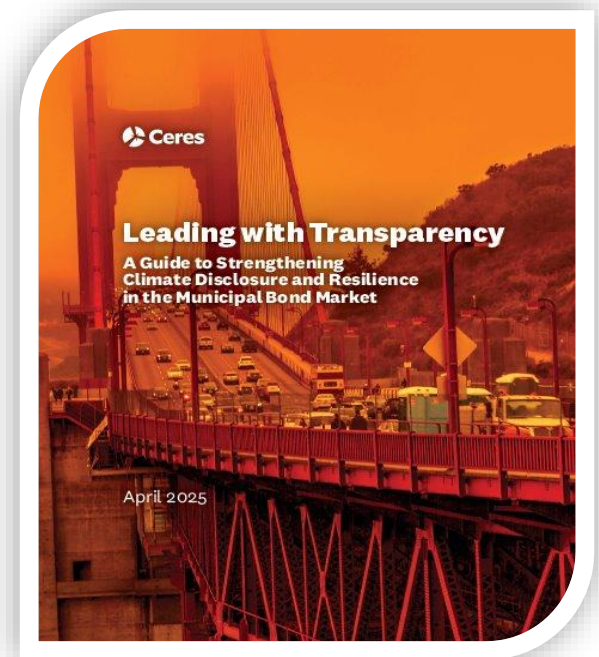
Strong climate disclosure likely to become "price of admission to capital markets"

- The \$4 trillion municipal bond market will be crucial to funding these investments.
- In 2023 alone, \$508 billion in municipal bonds were issued.
- Investors, rating agencies increasingly using tools to assess local governments' climate risks.
 - Wildfires in Los Angeles in 2025 caused \$250 billion in damage—and led to bond downgrades for issuers with over \$70 billion in outstanding debt.
- But climate risks are still under disclosed, despite mounting disasters and rising costs.



Where Climate Disclosure is Needed

- Two required disclosures
 - Annual audited financial statements (CAFR)
 - Bond offering documents
- Optional disclosure
 - Climate reporting, Climate Resilience Reports, CDP-ICLEI Track Disclosure tool
- Climate Disclosure in private sector



Audited Financial Statements

- GASB requires reporting of material impact that have occurred to balance sheet and income state
- However, *Management Discussion and Analysis* (MD&A) preface to audited statements should include discussion of "current conditions that have a significant effect on financial position"

Sonoma County Water Agency 2023 Audited Financial Statements "The 2023 fiscal year painted a clear picture of some of the types of extreme weather associated with climate change—beginning in the midst of an historic drought with severely impacted reservoirs, only to progress into heavy winter rains and flooding, low temperatures and even some rarely sighted snow around Sonoma County. Despite heavy winter rains, Sonoma Water delivered 23 percent less water than projected due to historic drought conditions and diligent community conservation efforts prior to the winter rains.... Climate Resiliency: The Sonoma County Climate Action &



Bond Issuance and Official Statements

- Bond offering documents (OS) are required by SEC to include statement of any material risk.
- Current OS disclosure varies widely.
- Best disclosure practices include identification of risks, governance structure, current & planned actions.

OFFICIAL STATEMENT									
New Issue Book-Entry Only	<table><tr><td>RATINGS</td><td></td></tr><tr><td>Moody's:</td><td>Aaa</td></tr><tr><td>Standard & Poor's:</td><td>AAA</td></tr><tr><td>Fitch:</td><td>AAA</td></tr></table> <p>(See "Other Bond Information—Ratings on the Bonds.")</p>	RATINGS		Moody's:	Aaa	Standard & Poor's:	AAA	Fitch:	AAA
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Moody's:	Aaa								
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<p><i>In the opinion of Stradling Yocca Carlson & Rauth LLP, Seattle, Washington ("Bond Counsel"), under existing statutes, regulations, rulings and judicial decisions, and assuming the accuracy of certain representations and compliance with certain covenants and requirements described herein, interest (and original issue discount) on the Bonds is excluded from gross income for federal income tax purposes and is not an item of tax preference for purposes of calculating the federal alternative minimum tax imposed on individuals. See "Legal and Tax Information—Tax Matters" herein with respect to tax consequences relating to the Bonds.</i></p>									
<p>\$45,930,000</p> <p>THE CITY OF SEATTLE, WASHINGTON</p> <p>LIMITED TAX GENERAL OBLIGATION IMPROVEMENT AND REFUNDING BONDS, 2024</p>									
DATED: DATE OF INITIAL DELIVERY	DUE: MAY 1, AS SHOWN ON PAGE 1								
<p>The City of Seattle, Washington (the "City"), will issue its Limited Tax General Obligation Improvement and Refunding Bonds, 2024 (the "Bonds"), as fully registered bonds under a book-entry only system, registered in the name of the Securities Depository.</p> <p>The Depository Trust Company, New York, New York ("DTC"), will act as initial Securities Depository for the Bonds. Individual purchases of the Bonds will be made in Book-Entry Form, in the denomination of \$5,000 or any integral multiple thereof within a maturity of the Bonds. Purchasers will not receive certificates representing their interest in the Bonds. Interest on the Bonds is payable semiannually on each May 1 and November 1, beginning November 1, 2024. The principal of and interest on the Bonds are payable by the fiscal agent of the State of Washington (the "Bond Registrar") (currently U.S. Bank Trust Company, National Association), to DTC, which is obligated in turn to remit such payments to its participants for subsequent disbursement to Beneficial Owners of the Bonds, as described in "Description of the Bonds—Registration and Book-Entry Form" and in Appendix D.</p>									

City and County of Miami, FL: The County is addressing the threat of climate change in the following ways: (1) incorporating climate change goals into the Comprehensive Development Master Plan; (2) conducting regular **community-wide greenhouse gas emissions inventories**; (3) assessing the vulnerability of key public infrastructure and implementing a countywide **Sea Level Rise Strategy** that details key actions and capital projects that reduce risk to current and future flooding while providing a vision for the community to gracefully and equitably adapt to rising sea levels; and (4) implementing policies and initiatives to conserve water, energy, and fuel and protect natural spaces, including Biscayne Bay, that reduce greenhouse gas emissions and negative impacts on the environment. The County's climate change strategy is outlined in **GreenPrint**"



Climate Action Reporting

- Governments also issue reports that include information on sustainability or resilience plans.
- For investors, these documents are often the most detailed information available to the public and investors about governmental climate planning and risks and constitute an important source of information for rating agencies, financial investors and regulators.
- **TCFD (Task Force on Climate-related Financial Disclosures)**
 - Risks, Governance, Strategy, Metrics
- **CDP-ICLEI Track** provides strong centralized repository for risk disclosure.

