

## **Surging interest in protecting infrastructure investments from climate damage**

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Alarmed by significant increases in weather-related property damage, the financial community is mobilizing to understand climate change and minimize associated investment risks. The resulting climate-related project resiliency criteria creates opportunities for professional services to navigate community infrastructure and business financing within existing legal fields. Scant greenhouse gas–reduction mandates have been ineffective in preventing climate changes. Similarly, required corporate-climate disclosure remains sporadic and general. Some corporations voluntarily disclose climate-related information in environmental, social, and governance (ESG) publications. In contrast to this greenhouse gas reduction and reporting activity, recent severe weather damage is mobilizing financial industry action to evaluate the climate resiliency of new investments.

### **Investor ability to conduct due diligence prior to infrastructure funding**

Investors conduct their own due diligence prior to providing funding, e.g., bond offerings and debt ratings. They can acquire climate-related information outside of required disclosures and ESG reports. S&P Global Ratings, Resilience Economics, *The Effects of Weather Events on Corporate Earnings Are Gathering Force* (2018). Since bond-funded projects generally have a longer investment cycle than stock investments, future project resiliency is a more critical feature in investment decisions. The bond market value has tripled in the past 15 years and now exceeds stock values. See <https://www.fool.com/knowledge-center/5-bond-market-facts-you-need-to-know.aspx>.

Governmental authorities generally pay for infrastructure through bonds. See Vicki Elmer & Adam Leigland, *Infrastructure Planning and Finance: A Smart and Sustainable Guide for Local Planners*, Routledge (2014). Recent damaging weather events are fueling the popularity of green bonds, which feature positive environmental outcomes. Between 2015 and 2018 green bond issues quadrupled. BusinessGreen, *Green Bond Market Tipped to Return to Strong Growth in 2019* (Dec. 13, 2018). This green bond growth includes bonds within various corporate sectors. See William Sokal, *Red Hot Year for Green Bonds*, Vaneck Insights, Jan. 28, 2020.

Unlike greenhouse gas reduction, analysis of a project’s resiliency depends on the project’s location and asset sector. Thus, investors are interested in specific climate risk and plans to reduce project vulnerabilities. Financial institutions are becoming increasingly involved in developing standards and business terms to guide this specific climate risk analysis.

New weather-adaptive projects are expanding demand for new infrastructure financing. Even if the world achieves the Paris Agreement mitigation objectives, today’s global warming levels will

double. According to a recent analysis, the global adaptation bond demand could range from \$140 billion to \$300 billion by 2030, with a disproportionate demand associated with vulnerable communities. Climate Finance Advisors, *Driving Finance Today for the Climate Resilient Society of Tomorrow for the Global Commission on Adaptation* (July 2019).

### **Banks and investors are leading efforts to protect investments**

Central banks, including those of France, England, and China, are promoting resilient investments. Reed Landberg, *With Climate Losses Rising, Central Banks Push Greener Finance*, Bloomberg (Apr. 17, 2019). This initiative builds on the investor Task Force for Climate-related Financial Disclosures (TCFD). See <http://fsb-tcfd.org>. There are over one thousand TCFD supporters, including major investor fund managers BlackRock, State Street, and Vanguard, developing guidance for decision-useful disclosure, plans, and outcome metrics. Resiliency bond funding has been hampered by unclear criteria for circumscribing risk and monitoring results. Investors are filling this void by developing criteria tailored to differentiate well-defined projects from traditional repair and greenwashing, e.g., criteria developed by the Climate Bond Initiative (CBI) and the World Bank. See <http://www.climatebonds.net>; Alessandro Paneral et al., *Here's Why the Green Market is Set to Keep Growing*, World Economic Forum, Aug. 16, 2016.

The international, investor-focused, not-for-profit CBI seeks to mobilize markets for climate change solutions. See Green Bond Principles, ICMA, Voluntary Process Guidelines for Issuing Green Bonds (June 2018). Although the criteria and certification scheme were established in 2015 (primarily for greenhouse gas mitigation), only 15 percent of green bonds are certified under this more rigorous certification.

In 2018 CBI shifted focus toward climate resilience to address physical damage to infrastructure and systems. Climate Bonds Initiative, Climate Resilience Consulting and World Resources Institute, *Climate Resilience Principles, A framework for assessing climate resilience investments* (Sept. 2019). The principles require the issuer to demonstrate that the investment is “fit-for-purpose” given climate uncertainties. Because climate risk varies with location and business characteristics, fitness requirements are developed through Technical Working Groups to tailor criteria, including measuring anticipated project outcomes, e.g., flooding and water supply infrastructure criteria. See <https://www.climatebonds.net/standard/water>. The European Bank for Reconstruction and Development used CBI’s resilience principles for the first dedicated resilience bond fund. See <https://www.ebrd.com/news/2019/worlds-first-dedicated-climate-resilience-bond-for-us-700m-is-issued-by-ebrd-.html>. This five-year bond issuance raised \$700 million from 40 investors in 15 countries.

### **Accurate project design fosters resiliency, results, and financial incentives**

Specific climate risk identification, planning, and monitoring enhance developer and investor confidence for more favorable investment terms. Capital markets have reacted positively to well-designed bond offerings. The San Francisco Public Utility Commission’s storm water control green bonds sold out in two hours. In 2018 the Dutch Ministry of Finance issued an oversubscribed EUR5 billion adaptive flood control bond, including nature-based solutions. Julie

King, *Considering Bonds to Fund Green and Hybrid Infrastructures*, Water Online, Oct. 8, 2019.

In 2016 Washington, D.C., issued bonds with a tiered financial return structure, allowing the sewer district to evaluate green infrastructure deployment while verifying Potomac River water quality improvement. Financial backers shared in the success with a bonus investment return. Conversely, if results had not been successful, the Washington, D.C., sewer district could recover a payout portion. Co-benefits of this effort included enhanced green space and a training/certification program for local employment.

Another innovation for resilience bonds is the inclusion of insurance features for public authorities to secure advance funding and shift potential damage risk to capital markets. Joseph DeAngelis et al., *Planning for Infrastructure Resilience*, American Planning Association, Dec. 31, 2019, at 103. Governmental entities involve multiple parties to quantify the risk reduction value and apply that amount to fund the project. The investors benefit from any subsequent reduction in weather damage. Shalini Vaijhala & James Rhodes, *Resilience Bonds: a business-model for resilient infrastructure*, Field Action Science Reports, Special Issue 18, Resilient Cities (2018). Hoboken, New Jersey, a densely populated city along the Hudson River, is using this approach for infrastructure with water retention, green spaces, and separating sanitary and sewer lines. See <http://www.refocuspartners.com/projects-clients/#hoboken>.

The newly launched international Coalition for Climate Resilient Investment is developing data and analytical tools to price climate-related physical risk for resilience bonds. The coalition is developing pricing methodologies in time for the Climate Summit in October 2020. See <https://www.wri.org/news/2019/09/release-global-commission-adaptation-launches-year-action-accelerate-climate-adaptation>.

### **Legal services needed for transactional due diligence and terms**

Resiliency funding innovation and volume will likely increase as better geographical/sector-specific data and climate forecasting provide additional investment confidence. Professional services will be needed for due diligence and drafting terms to protect funded assets and allocate responsibility for project uncertainties. Better-designed projects will attract more favorable rates, especially projects with co-benefits that address other future challenges. Furthermore, as the financial industry becomes more sophisticated with integrating climate resiliency into projects, funding opportunities may increase for related greenhouse gas mitigation business strategies.