INFRASTRUCTURE 2022

Strengthening Infrastructure: Mitigating the Climate Crisis
December 6, 2022 | Session Overview

Panel

Gerilee W. Bennett, Acting Director, Hazard Mitigation Assistance, Federal Emergency Management Agency

Jay Harris, Acting Director, National Earthquake Hazards Reduction Program Office, National Institute of Standards and Technology

Stephanie Santell, Senior Climate Advisor, Office of Policy, Office of the Administrator, U.S. Environmental Protection Agency

Moderator

Dr. Jiqiu Yuan, Vice President, Engineering, National Institute of Building Sciences

Infrastructure 2022: Strengthening Infrastructure Overview

On December 6, 2022, NIBS hosted the final session of the four-part Infrastructure 2022 series, which was sponsored by Procore Technologies. The webinar highlighted disaster preparation projects to address worsening natural disasters.

The Infrastructure Investment and Jobs Act (IIJA) is the largest-ever federal investment in climate change. IIJA earmarked $8 billion for wildfire management, $6 billion for drought management, $8.3 billion for water storage and sanitation, and $12.5 billion for flood mitigation. Funds are being filtered through the U.S. Environmental Protection Agency, Federal Emergency Management Agency, U.S. Army Corps of Engineers, and U.S. Department of the Interior to state and local governments.

Our expert panel included Gerilee W. Bennett, Acting Director, Hazard Mitigation Assistance, Federal Emergency Management Agency; Jay Harris, Acting Director, National Earthquake Hazards Reduction Program Office, National Institute of Standards and Technology; and Stephanie Santell, Senior Climate Advisor, Office of Policy, Office of the Administrator, U.S. Environmental Protection Agency. The session was moderated by Dr. Jiqiu Yuan, Vice President of Engineering with NIBS.

The panel discussed community resilience, the role infrastructure plays, challenges and opportunities, and perspectives from researchers, practitioners, federal programs, and policymakers.

A Historic Opportunity

Stephanie Santell, Senior Climate Advisor, Office of Policy, Office of the Administrator, U.S. Environmental Protection Agency, said the Bipartisan Infrastructure Law (BIL) represents the largest appropriation that EPA has ever received.

“With the significant influx of BIL funds, it is imperative that EPA invest in infrastructure projects that can withstand the

effects of climate change for decades to come," she said.

It also is critical that EPA's technical assistance programs are discoverable and accessible to stakeholders as they take steps to make climate-informed investments.

Under both BIL and the Inflation Reduction Act (IRA), EPA plans to make transformational investments to strengthen the nation's resilience to climate change. About $100 billion total is coming to EPA for climate work, infrastructure, and community resilience. This further breaks down to $60 from BIL to fund water infrastructure, environmental clean-ups, pollution prevention, and school buses. The remaining $40 billion is coming from IRA to fund green banks, climate pollution reduction, ports, and environmental and climate justice.

"We're Not Stopping There"

Santell said while the organization is focused on BIL, the EPA has an overarching goal to modernize all funding and financing programs to encourage climate-smart investments.

These include EPA's long-term plans, namely, EPA's fiscal 2022-2026 strategic plan, a Climate Adaptation Action Plan, and 20 office-specific Climate Adaptation Implementation Plans. The organization also has long-term performance goals to measure EPA's progress with mainstreaming adaptation internally and providing assistance to stakeholders externally.

Implementing EPA's climate adaptation goals and priorities comes down to four items:

- Modernizing funding and financing
- Scaling up technical assistance
- Providing climate data, information, and tools
- Focusing on those disproportionately impacted, at risk, and in need

Site references:

- EPA: Bipartisan Infrastructure Law Year One Anniversary Report
- EPA: Climate Adaptation

The National Earthquake Hazards Reduction Program

Jay Harris, Acting Director, National Earthquake Hazards Reduction Program (NEHRP) Office, National Institute of Standards and Technology, explained that NEHRP started as a research and implementation partnership between four agencies: FEMA, NIST, the National Science Foundation, and United States Geological Survey.

The program aims to conduct interdisciplinary research on earthquakes and earthquake effects on communities, structures, buildings, homes, and lifeline infrastructure; monitor earthquake activity and characterize hazards, leading to post-earthquake investigations; develop earthquake-resistant design and construction practices; and develop and promote adoption of effective model building codes and practices for earthquake resilience.

Multi-hazards don't occur within the same lifecycle [as structures], Harris said, adding, "sometimes, they're 50 to 100 years apart."

Building an Earthquake-Resilient Nation

Climate change could exacerbate earthquake consequences on the built environment, for example, those resulting from increased soil saturation from water level rise (liquefaction), Harris said.

The NEHRP strategy spans the spectrum of research to applications. Goals include:

- Advance the understanding of earthquake processes and their consequences
- Enhance existing and develop new information, tools, and practices for protecting the nation from earthquake consequences
- Promote the dissemination of knowledge and implementation of tools, practices, and policies that enhance strategies to withstand and recover from earthquakes
- Learn from post-earthquake investigations to enhance the effectiveness of available information, tools, practices, and polices to improve earthquake resilience

Site references:

- NEHRP
- U.S. Congress: Disaster Resiliency Planning Act
- White House Fact Sheet: National Initiative to Advance Building Codes

IIJA Funds For Community-Wide Mitigation

According to Gerilee W. Bennett, Acting Director, Hazard Mitigation Assistance, Federal Emergency Management Agency, the Infrastructure Investment and Jobs Act provides FEMA with $6.8 billion in additional funding for community-wide mitigation to reduce disaster suffering and avoid future disaster costs.

Highlights include:

- Addressing climate change through mitigation projects
- Establishing a new State and Tribal Cybersecurity Grant program
- Establishing a Revolving Loan Fund to support hazard mitigation
- Reducing community disaster vulnerability
- Helping communities build resilience and bolster their preparedness for future events

Bennett shared several FEMA programs funded by IIJA. These programs include Building Resilience Infrastructure and Communities (BRIC), Flood Mitigation Assistance (FMA), National Dam Safety, Safeguarding Tomorrow Through Ongoing Risk Mitigation (STORM) Revolving Loan Fund, and a new Cybersecurity Grant Program.

Site references:

- FEMA: Building Resilience and Communities (BRIC)
- FEMA: Flood Mitigation Assistance (FMA)
- FEMA: Dam Safety
- FEMA: Safeguarding Tomorrow Revolving Loan Fund Program
- FEMA: State and Local Cybersecurity Grant Program

Learn More About Infrastructure 2022

Infrastructure 2022 was a quarterly series, covering transportation, goods and services, supply chain challenges, and lifelines. To view any of the recorded webinars or for more information, visit Infrastructure 2022.